



# → THE EARTH OBSERVATION HANDBOOK 2012 | Key Tables



#### Introduction

The Earth Observation Handbook, prepared by the European Space Agency (ESA) in support of the Committee on Earth Observation Satellites (CEOS), presents the main capabilities of satellite Earth observations, their applications, and a comprehensive over- view of present and planned civil space agency Earth observation satellite missions and their instruments. The plans of more than 30 space agencies for missions, instruments and measurements during the coming decades are surveyed and captured in the report - making it the most up-to-date and comprehensive statement of governmental Earth observation programmes available.

The print edition of the EO Handbook is published every few years, and is always keenly anticipated by the space community for its insights into future trends world-wide in remote sensing programmes. The database which serves as the foundation for the missions, instruments, and measurements information at the heart of the Handbook content is updated annually and is always available on-line at:

#### http://database.eohandbook.com

The CEOS database is the only official, consolidated statement of the Earth observation programmes and plans of all the world's civil space agencies. The database is the cornerstone of the efforts of CEOS coordination on gaps and overlaps to optimise global observations in support of key societal needs such as climate change information. The 2012 survey of CEOS space agencies is complete as of April 2012, and the database has been updated with the results. The database now features details of 260 Earth observing satellite missions and 784 instruments (396 distinct instruments, some being repeats), which are currently operating or planned for launch in the next 15 years - funded and operated by around 30 space agencies worldwide. The database allows users to filter, export and analyse this information in support of their analyses and planning.

The ESA team has prepared this printable PDF of key tables based on the 2012 database contents. It is hoped that this document will provide an solution of value to those many users who welcome having a bookshelf reference to hand.

The contents are as follows:

- 1. Table of recent launches
- 2. Table of upcoming launches
- 3. A-Z table of satellite missions
- 4. A-Z table of satellite instruments

### Recent & upcoming launches

15 missions were launched by CEOS agencies from the start of April 2011 through to end April 2012 (the cut-off date for inputs to this publication).

Mission	Agency	Launch date
RESOURCESAT-2 (Resource Satellite-2)	ISRO	Apr 2011
YOUTHSAT	ISRO	Apr 2011
SAC-D/Aquarius	CONAE / NASA	Jun 2011
HY-2A (Ocean dynamics satellite A)	NSOAS / CAST	Aug 2011
Sich-2	NSAU	Aug 2011
RASAT (RASAT Remote Sensing Satellite)	TUBITAK	Aug 2011
NigeriaSat-2	NASRDA	Aug 2011
NigeriaSat-X	NASRDA	Aug 2011
MEGHA-TROPIQUES	CNES / ISRO	Oct 2011
Suomi NPP (Suomi National Polar-orbiting Partnership)	NASA / NOAA / DoD (USA)	Oct 2011
Pleiades 1	CNES	Dec 2011
FY-2F (FY-2F Geostationary Meteorological Satellite)	NSMC-CMA / NRSCC	Jan 2012
LARES (LAser RElativity Satellite)	ASI	Feb 2012
Meteor-3M N2	ROSKOSMOS / ROSHYDROMET	Apr 2012
RISAT-1 (Radar Imaging Satellite)	ISRO	Apr 2012

18 missions are planned for launch from the start of May 2012 through to end December 2012.

Mission	Agency	Launch
KOMPSAT-3 (Korea Multi-Purpose Satellite -3)	KARI / DLR	May 2012
GCOM-W1 (Global Change Observation Mission-W1)	AXA	May 2012
KOMPSAT-5 (Korea Multi-Purpose Satellite -5)	KARI	May 2012
Meteosat-10 (Meteosat Second Generation-3)	EUMETSAT / ESA	Jun 2012
SARAL (Satellite with ARgos and ALtiKa)	CNES / ISRO	Jun 2012
Kanopus-V N1 (Kanopus-V Environmental Satellite N1)	ROSKOSMOS / ROSHYDROMET	Jun 2012
Resurs P N1 (Resurs P Environmental Satellite N1)	ROSKOSMOS / ROSHYDROMET	Jul 2012
Swarm (Earth's Magnetic Field and Environment Explorers)	ESA / CNES / CSA	Jul 2012
Metop-B (Meteorological Operational Polar Satellite - B)	EUMETSAT / ESA	Jul 2012
Meteor-M N2 (Meteor-M Meteorological Satellite N2)	ROSHYDROMET / ROSKOSMOS	Sep 2012
DMSP F-19 (Defense Meteorological Satellite Program F-19)	NOAA	Oct 2012
CBERS-3 (China Brazil Earth Resources Satellite - 3)	INPE / CRESDA	Nov 2012
Elektro-L N2 (Geostationary Operational Meteorological Satellite - 2)	ROSHYDROMET / ROSKOSMOS	Nov 2012
FY-3C (FY-3C Polar-orbiting Meteorological Satellite)	NSMC-CMA / NRSCC	Dec 2012
INSAT-3D (Indian National Satellite - 3D)	ISRO	Dec 2012
HJ-1C (Disaster and Environment Monitoring and Forecast Small Satellite Constellation C)	CRESDA / CAST / NRSCC	Dec 2012
AISSat-2 (Automatic Identification System Satellite-2)	NSC	Dec 2012
HY-2B (Ocean dynamics satellite B)	NSOAS / CAST	Dec 2012

### A-Z table of satellite missions

CEOS agencies are operating or planning 260 individual satellite Earth observation missions in the 2012 - 2027 period. The table below presents their main characteristics. Please refer to the missions table in the on-line database for the ability to export or analyse this data in more detail:

http://database.eohandbook.com/database/missiontable.aspx

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
Mission 3D Winds Three Dimensional Tropospheric Winds from Space Based Lidar NASA	Considered	2030		Applications Phase-3 DB Mission, launch order unknown, 3-year nominal mission. Tropospheric winds for weather forecasting and pollution transport.	Insuments HDWL (3D Winds)	Type: Sun-synchronous Altitude: 400 km Period: Inclination: 97.03 deg Repeat cycle: 12 days LST: 6:00
ACE Aerosol Clouds and Ecosystem Mission NASA	Considered	2020	2023	Phase-2 DS Mission, launch order unknown, 3-year nominal mission. Aerosol and cloud profiles for climate and water cycle; ocean colour for open ocean biogeochemistry.	Cloud radar (ACE), Next Gen APS (ACE), Multi-band UV/VIS Spectrometer (ACE), HSRL (ACE)	Longitude (ff geo): Asc/des: Ascending URL: decadal.gsfc.nasa.gov/3d-winds.html Type: Sun-synchronous Altitude: 650 km Period: Inclination: 98.2 deg Repeat cycle:
ACRIMSAT Active Cavity Radiometer Irradiance	Currently being flown	20 Dec 1999	Sep 2013	5-year nominal mission life, currently in extended operations. Will sustain long-term solar luminosity database by providing measurements of total solar irradiance and the solar constant.	ACRIM III	LST: 13:00 Longitude (if geo): Ascidesc: Ascending URL: dsm.gstc.nasa.gov/ace/science.html Type: Sun-synchronous Altitude: 716 km Period: 90 mins
Monitor NASA						Inclination: 98.13 deg Repeat cycle: LST: 10:50 Longitude (if geo): Asc/desc: Descending URL: acrim jpl.nasa.gov/
ADM-Aeolus Atmospheric Dynamics Mission (Earth Explorer Core Mission) ESA	Approved	Feb 2014		products used for study of atmospheric dynamics, including global transport of energy, water, aerosols, and chemicals.	ALADIN	Type: Sun-synchronous Altude: 405 km Period: 925 mins Incination: 97.01 deg Repeat cycle: 7 days LST: 1800 Longitude (fig eo): Asc/desc: Ascending URL: www.esa.in/rekport/esaLP/aeolus.html
AISSat-1 Automatic Identification System Satellite-1 NSC	Currently being flown	12 Jul 2010		Demonstrate and extend access to AIS (Automatic Identification System) signals beyond the land-based AIS system operated by the Norwegian Coastal Administration today. Observe ship traffic in the High North.		Type: Sun-synchronous Altitude: Period: Incination: Repeat cycle: Longitude (fg.co): Asc/desc: Descending URL:
AISSat-2 Automatic Identification System Satellite-2 NSC	Approved	Dec 2012	Dec 2015	Demonstrate and extend access to AIS (Automatic Identification System) signals beyond the land-based AIS system operated by the Norwegian Coastal Administration today. Observe ship traffic in the High North.	SDR	Type: Sun-synchronous Alttude: Penod: Incination: Repeat cycle: LSI: TBb (if gec): Ascides: Descending URL:
ALOS-2 Advanced Land Observing Satellite-2 JAXA	Approved	Jan 2013		Erwironmental monitoring, disaster monitoring, civil planning, agriculture and forestry. Earth resources, land surface.	L-Band SAR (ALOS-2)	Type: Sun-synchronous Althude: 626 km Period: 100 mins Inclination: 97.9 deg Repeat cycle: 14 days LST: 12:000 Longitude (rif geo): Asc/desc: Descending URL: www.jasc.iptorojects/sat/alos2/index_e.html
ALOS-3 Advanced Land Observing Satellite-3 JAXA	Planned	2014		Carborgaphy, digital terrain models, environmental monitoring, disaster monitoring, civil planning, agriculture and forestry, Earth resources, land surface.	Optical Sensor, HISUI	Type: Sun-synchronous Alttude: Period: Inclination: Repeat cycle: LST: 13:30 Longitude (if geo): Asc/des: Descending URL:
AMAZONIA-1 Amazonia 1 INPE	Approved	Dec 2014		Earth resources, environmental monitoring, land surface.	AWFI	Type: Sun-synchronous Altilude: 752 Van Period: 99.9 mins Indination: 98.4 deg Repeat cycle: 26 days LST: Longitude (if geo): Asc/des: Descending URL: www.inpe.br
Aqua Aqua (formeriy EOS PM-1) NASA / JAXA / INPE	Currently being flown	04 May 2002		precipitationand radiativeproperties, air/seafluxes of energy andmoisture, sea ice extentand heat exchange with the atmosphere.	AIRS, MODIS, CERES, HSB, AMSR- E, AMSU-A	Altitude: 705 km Period: 98.8 mins Inclination: 98.2 deg Repeat cycle: 16 days LST: 13.30 Longitude (ff geo): Asc/desc: Ascending URL: www.sfc.nsas.gov
Arctica ROSHYDROMET	Approved	Dec 2015		Meteorology, oceanography, including loe cover monitoring and disaster monitoring in the Arclic region. The payload and design of the satellities is similar to the ones in the Electro-L series. Molniya orbit.		Type: Highly elliptical Altitude: Period: 718 mins Inclination: Repeat cyde: 1 days Longitude (fl goe): Asc/das: IVA URL:
Arkon-2M ROSKOSMOS	Planned	2013		Earth observations and weather information.	Arkon-2M SAR	Type: Sun-synchronous Altitude: 500 km Period: Indination: Repeat cycle: LST: Longitude (if geo): Asc/desc: URL: www.federalspace.ru
ASCENDS Active Sensing of CO2 Emissions over Nights, Days, and Seasons NASA	Considered	2020		Phase-2 DS Mission, launch order unknown, 3-year nominal mission. Dayingha, all-lattude, all-season CO2 column integrals for climate emissions.	CO2 LIDAR (ASCENDS)	Type: Sun-synchronous Altitude - 450 km Period: 97.3 mins Incination: 55.1 (10.30) 55.1 (10.30)
Aura Aura (formerly EOS Chemistry) NASA / NSO / FMI / UKSA	Currently being flown	15 Jul 2004	Sep 2013	5-year rominal mission life, currently in extended operations. Chemistry and dynamics of Earth's atmosphere from the ground through the stratosphere.	MLS (EOS-Aura), TES, HIRDLS, OM	Type: Sun-synchronous Altude: 705 fm Period: 98.8 mins Indination: 98.2 deg Repeat cycle: 16 days LST: 13.38 Longitude (if geo): Asc/desc: Ascending URL: aura g56 masa.gov/
CALIPSO Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations NASA / CNES	Currently being flown	28 Apr 2006		Measurements of aerosol and cloud properties for climate predictions, using a 3 channel lider and passive instruments in formation with Aqua and CloudSat for coincident observations of radiative fluxes and atmospheric state.	WFC, IIR, CALIOP	Type: Sun-synchronous Altude: 706 Km Period: 98.8 mins Indination: 98.2 deg Ref:at cycle: Congluide (fg.goc) Aac/desc: Ascending URL: www.calipto.larc.nasa.gov/
CARTOSAT-1 Cartography Satellite - 1 (IRS P5) ISRO	Currently being flown	05 May 2005	Dec 2012	High precision large-scale cantographic mapping of 1:10000 scale and thematic applications (with merged XS data) at 1:4000 scales.	PAN (Cartosat-1)	Type: Sun-synchronous Altitude: 618 km Period: 97 mins Incination: 97.87 deg Repeat cycle: 5 days Longtlude (/f geo): Asc/dsc: Descending URL: www.isro.org/

	Status		EOL Date	Applications	Instruments	Orbit Details & URL
CARTOSAT-1A	Considered	2014	2019	Ensure the continuity of high resolution imaging capability with multispectral capability, stereo imaging and hyperspectral	PAN (RS-1A)-MX, MX (RS-1A)-VNIR, HYSI (RS-1A)-VNIR, HYSI (RS-1A)-	Type: Sun-synchronous Altitude:
Cartography Satellite -1A				imaging.	SWIR	Period: Inclination:
ISRO						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
CARTOSAT-1B	Considered	2017	2022	Ensure the continuity of high resolution imaging capability with	PAN (RS-1A)-MX, MX (RS-1A)-VNIR,	URL:
	Considered	2017	2022	multispectral capability, stereo imaging and hyperspectral	HYSI (RS-1A)-VNIR, HYSI (RS-1A)-	Altitude:
Cartosat -1B				imaging.	SWIR	Period: Inclination:
ISRO						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
CARTOSAT-2	Currently being flown	10 Jan 2007	Dec 2012	High precision large-scale cartographic mapping of 1:10000 scale	PAN (Cartosat-2)	URL: Type: Sun-synchronous
Cartography Satellite - 2				and thematic applications (with merged XS data) at 1:4000 scales.		Altitude: 635 km Period: 97.4 mins
ISRO						Inclination: 97.87 deg Repeat cycle: 5 days
						LST: 9:30 Longitude (if geo):
						Asc/desc: Descending URL: www.isro.org/
CARTOSAT-2A	Currently being flown	28 Apr 2008	Apr 2013	High precision large-scale cartographic mapping of 1:10000 scale and thematic applications (with merged XS data) at 1:4000	PAN (Cartosat-2A/2B)	Type: Sun-synchronous Altitude: 635 km
Cartography Satellite - 2A				scales.		Inclination: 97.4 mins Inclination: 97.87 deg
ISRO						Repeat cycle: 5 days LST: 9:30
						Longitude (if geo):
						Asc/desc: Descending URL:
CARTOSAT-2B	Currently being flown	12 Jul 2010	Jul 2015	High precision large-scale cartographic mapping of 1:10000 scale and thematic applications (with merged XS data) at 1:4000	PAN (Cartosat-2A/2B)	Type: Sun-synchronous Altitude: 635 km
Cartography Satellite - 2B				scales.		Period: 97.4 mins Inclination: 97.87 deg
ISRO						Repeat cycle: 5 days LST: 9:30
						Longitude (if geo): Asc/desc: Descending
CARTOSAT-2C	Considered	2013	2047	High precision large-scale cartographic mapping and thematic	HRMX	Type: Sun-synchronous
Cartography Satellite - 2C	2.510100180	2013	2017	applications with MX data at 1:4000 scales.		Altitude: 635 km Period: 97.4 mins
						Inclination: 97.87 deg
ISRO						Repeat cycle: 5 days LST: 9:30
						Longitude (if geo): Asc/desc: Descending
CARTOSAT-2D	Considered	2016	2022	High precision large-scale cartographic mapping and thematic	HRMX	URL: Type: Sun-synchronous
Cartography Satellite - 2D				applications with MX data at 1:4000 scales.		Altitude: 635 km Period: 97.4 mins
ISRO						Inclination: 97.87 deg Repeat cycle: 5 days
						LST: 9:30 Longitude (if geo):
						Asc/desc: Descending
CARTOSAT-3	Planned	2015	2020	Suitable for cadastral and infrastructure mapping and analysis.	PAN (Cartosat-3/3A)	Type: Sun-synchronous
Cartography Satellite - 3						Altitude: Period:
ISRO						Inclination: Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: Descending
CARTOSAT-3A	Considered	2018	2023	Suitable for cadastral and infrastructure mapping and analysis.	PAN (Cartosat-3/3A)	Type: Sun-synchronous Altitude:
Cartography Satellite - 3A						Period: Inclination:
ISRO						Repeat cycle:
						Longitude (if geo):
		Nov 0010	Nov 0045			Asc/desc: Descending URL: www.isro.org/
CBERS-3	Approved	Nov 2012	Nov 2015	Earth resources, environmental monitoring, land surface.	WFI-2, MUX, DCS , IRS, PAN (CBERS)	Asc/desc: Descending URL: www.isro.org/ Type: Sun-synchronous Altitude: 778 km
China Brazil Earth Resources Satellite - 3	Approved	Nov 2012	Nov 2015	Earth resources, environmental monitoring, land surface.		Asc/desc: Descending URL: www.isro.org/ Type: Sun-synchronous Altitude: 778 km Period: 100.3 mins Inclination: 98.5 deg
	Approved	Nov 2012	Nov 2015	Earth resources, environmental monitoring, land surface.		Asc/desc: Descending URL: www.iso.org/ Type: Sun-synchronous Altitude: 778 Mm Period: 100.3 mins Incination: 98.5 deg Repeat cycle: 26 days LST: 10.30
China Brazil Earth Resources Satellite - 3	Approved	Nov 2012	Nov 2015	Earth resources, environmental monitoring, land surface.		Ascides: Descending URL: www.iso.org/ Type: Sun-synchronous Altude: 778 M Period: 100.3 mins Incination: 98.5 deg Repeat cycle: 26 days Longitude (if geo): Ascides: Descending
China Brazil Earth Resources Satellite - 3						Asc/desc: Descending URL: www.isc. org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Period: 100.3 mins Repeat cycle 2 days LST: 100.2 LST: 100.2 Compluted (if geo): Asc/desc: Descending URL: www.cbers.inpe.bt/reinprogramas/cbers3.4.htm
China Brazil Earth Resources Satellite - 3 INPE / CRESDA	Approved Approved	Nov 2012 Jun 2014		Earth resources, environmental monitoring, land surface.	(CBERS)	Ascides: Descending URL: www.iso.org/ Type: Sun-synchronous Altude: 778 M Period: 100.3 mins Incination: 98.5 deg Repeat cycle: 26 days Longitude (if geo): Ascides: Descending
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4					(CBERS) WFI-2, MUX, DCS , IRS, PAN	Asc/desc: Descending URL: www.isc. org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Inclinator: 085 deg Repeat cycle: 26 days Longhute (if geo): Asc/desc: Descending URL: www.cbers.inge.bt/reinprogramas/cbers3-4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclinator: 95 deg
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4					(CBERS) WFI-2, MUX, DCS , IRS, PAN	Asc/desc: Descending URL: www.isc. org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Incination: 95.6 deg Repeat cycle: 26 days Longitude: Descending URL: www.cbers.inge.bfreinprogramas/cbers3-4.htm Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Incination: 95.6 deg Repeat cycle: 26 days LST: 10.30
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4					(CBERS) WFI-2, MUX, DCS , IRS, PAN	Asc/desc: Descending URL: www.isc. roorg/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Incinator: 956 deg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.sbers.inge.br/en/programas/cbers3-4.htm Mitude: 776 km Period: 100.3 mins Incination: 95 deg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending Descending Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4			Jun 2017	Earth resources, environmental monitoring, land surface.	(CBERS) WFI-2, MUX, DCS , IRS, PAN	Asc/desc: Descending URL: www.isco.org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Incination: 98 5 deg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.cbers.inge.br/en/programasicbers3-4.htm Type: Sun-synchronous Altude: 778 im Incination: 98 5 deg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.cbers.inge.br/en/programasicbers3-4.htm URL: www.cbers.inge.br/en/programasicbers3-4.htm URL: www.cbers.inge.br/en/programasicbers3-4.htm
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat	Approved	Jun 2014	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS)	Asc/desc: Descending URL: www.isco.org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Incinator: 95 6 dg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Period: 100.3 mins Incination: 95 6 dg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous URL: www.cbers.inge.br/en/programas/cbers3-4.htm URL: www.cbers.inge.br/en/programas/cbers3-4.htm URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Altude: 705 km Period: 88 mins
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA	Approved	Jun 2014	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. 3-cloudSat will use advanced radar to "silce" through clouds to see	(CBERS) WFI-2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat)	Asc/desc: Descending URL: www.isc.org/ URL: www.isc.org/ Pref: 00.3 mins heinator. 09.5 days Hutted: 77.8 m Period: 100.3 mins heinator. 09.5 days LST: 107.3 db 20.5 days LST: 107.4 db 20.5 days LST: 107.4 db 20.5 days HUL: www.cbers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Hutted: 77.8 m Period: 100.3 mins Inclination: 09.5 deg Repeat cycle: 26 days Longitude (if geo): Asc/desc: Descending URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm URL: www.cbers.inpe.br/en/programas/cbers3-4.htm
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat	Approved	Jun 2014	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study couds on	(CBERS) WFI-2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat)	Asc/desc: Descending URL: www.isc.org/ Type: Sun-synchronous Alfulue: 778 w Indination: 39.5 deg Repeat-cycle: 26 days LST: 10:30 Longitude (17 epc): Asc/desc: Descending URL: www.cbes: nipe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbers.inpe.br/en/programas
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA	Approved Currently being flown	Jun 2014 28 Apr 2006	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. S-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat)	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Anthude: 778 w Period: 00.98 5 deg Repeat cycle: 26 days LST: 10.30 Longitude (if eoc): Asc/desc: Descending URL: www.obers.inpe.th/en/programas/cbers3-4.htm Type: Sun-synchronous Mutude: 778 w Period: 100.3 mins Inclinator: 08 5 deg LST: 100.3 mins Inclinator: 08 2 deg Repeat cycle: Repeat cycle: Longitude (if geo): Asc/desc: Assending URL: www.obers.ins Inclinator: 08 2 deg Repeat cycle: Inclinator: 08 2 deg Inclinator: 08 2 deg Repeat cycle: Inclinator: 08 2 deg Repeat cycle: Inclinator: 08 2 deg Inclinator: 08 2 deg Repeat cycle: Inclinator: 08 2 deg Inclinator: 08 2 deg Repeat cycle: Inclinator: 08 2 deg Inclinator: 0
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat	Approved	Jun 2014	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study couds on	(CBERS) WFI-2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat)	Ascides: Descending URL: www.isc. logo.org/ URL: www.isc.org/ Antude: 778 km Period: 100.3 mins Inclination: 082 days Repeat cycle: 26 days Longhube (if geo): Ascides: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 985 deg Repeat cycle: 26 days Longhube (if geo): Ascides: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 776 km Antude: 776 km Antude: 705 km Ascides: Descending URL: Start 2015 Antude: 105 km Antude: 105 km Ascides: Descending Ascides: Descending Ascides: Descending
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic,	Approved Currently being flown	Jun 2014 28 Apr 2006	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. S-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/desc: Descending URL: www.isc.org/ Type: Sun-synchronous Altude: 778 km Period: 100.3 mins Inicinator: 085 deg Repeat cycle: 26 days Longhube (fi (poc): Asc/desc: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inicination: 085 deg Repeat cycle: 26 days Longhube (fi geo): Asc/desc: Descending URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 776 km Period: 180 mins Inclination: 082 deg URL: Www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Altude: 776 km Period: 180 mins Inclination: 082 deg Inclination: 082 deg Incl
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite	Approved Currently being flown	Jun 2014 28 Apr 2006	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. S-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Ascides: Descending URL: www.isc.org/ URL: www.isc.org/ Antude: 778 m Period: 100.3 mins Inicitation: 95 6 dg Repeat cycle: 26 days IST: 10.30 IST: 10.30 IST: 10.30 INL: www.cbers.inee.br/en/programas/cbers3-4.htm Type: Sun-synchronous INL: www.cbers.inee.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inicitation: 95 6 dg Repeat cycle: 26 days IST: 10.30 IST: 10.30 INL: www.cbers.inee.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 776 km Period: 98.8 mins Inicitation: 952 deg Repeat cycle: IST: 11.30 INL: Seending URL: www.cbers.inee.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 705 km Period: 98.8 mins Inicitation: 952 deg Repeat cycle: IST: 11.30 URL: www.cbers.inge.br/en/programas/cbers3-4.htm Type: Sun-synchronous Antude: 705 km Period: 98.8 mins Inicitation: 98.2 deg Repeat cycle: IST: 11.30 URL: doublest atmos colostate.edu/ Type: Goudsati atmos col
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic,	Approved Currently being flown	Jun 2014 28 Apr 2006	Jun 2017 Sep 2013	Earth resources, environmental monitoring, land surface. S-year nominal mission life, currently in extended operations. CoudSat will use advanced radar to "silce" through clouds to see their vertical structure, providing a completely new observational apability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Alluda: 778 w Inclination: 39.5 deg Repeat-cycle: 26 days LST: 10:30 Longitude (If geo): Asc/desc: Descending URL: www.cbes: nipe.br/nriprogramasicbers3-4.htm Type: Sun-synchronous Mitude: 778 w Periodi no: 39.5 deg Repeat-cycle: 26 days LST: 10:30 Longitude (If geo): Asc/desc: Descending URL: www.cbes: nipe.br/nriprogramasicbers3-4.htm Type: Sun-synchronous Repeat-cycle: 26 days LST: 10:30 Longitude (If geo): Asc/desc: Descending URL: www.cbes: nipe.br/nriprogramasicbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbes: nipe.br/nriprogramasicbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbes: associate edu/ Type: Geostationary Altude: 76 Longitude (If geo): Asc/desc: Associate edu/ Type: Geostationary Altude: 76 Longitude (If geo): Astrodesc: Associate edu/ Type: Geostationary Altude: 76 Longitude (If geo): LST: 13:01 Longitude (If geo): LST: 13:01 Longitude (If geo): LST: 13:01 Longitude (If geo): LST: 10:00 LST: 10:00
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010	Jun 2017 Sep 2013 Dec 2017	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CloudSat will use advanced radar to "slice" through clouds to see advanced radar to "slice" through clouds to see trapability from space. One of first stabilities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Altude: 778 w Period: 100.3 miles Repeat cycle: 2 days LST: 100.3 miles (f geo): Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 w Period: 100.3 miles Inclination: 936 J day Rept at cycle: 25 days Longhube (f geo): Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 w Period: 100.3 miles Inclination: 936 J day Rept at cycle: 25 days Longhube (f geo): Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Mitude: 705 w Period: 98.8 miles Inclination: 98.2 day Repeat cycle: LST: 13.30 URL: dowdsat at mis colostate.edu/ Type: Geostationary Altude: Period: Inclination: Repeat cycle: LST: Longhube (f geo): Aserdesc: Mae
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China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010	Jun 2017 Sep 2013 Dec 2017	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CloudSat will use advanced radar to "slice" through clouds to see advanced radar to "slice" through clouds to see trapability from space. One of first stabilities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Anthude: 778 w Period: 100.3 miles Period: 100.3 miles Period: 100.3 miles Repeat cycle: 26 days LST: 100.3 miles Inclination: 92 days Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Anthude: 778 w Period: 100.3 miles Inclination: 92 days Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Anthude: 778 w Period: 100.3 miles Inclination: 92 days Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Anthude: 705 w Period: 92.8 miles Inclination: 92.2 days Lengthude (figeo): Lengthude: Ascending URL: dowsdat atms colostate.edu/ Type: Gesdatationary Anthude: 705 Longthude (figeo): Longthude (figeo): Longthu
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010	Jun 2017 Sep 2013 Dec 2017	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CloudSat will use advanced radar to "slice" through clouds to see advanced radar to "slice" through clouds to see trapability from space. One of first stabilities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Altude: 778 M Period: 100.3 mins Asc/des: Descending URL: www.desc.inspe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 M Period: 100.3 mins Inclination: 95 deg Repeat cycle: 20 days Longhube (if geo): Asc/desc: Descending URL: www.desc.inspe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 M Period: 100.3 mins Inclination: 95 deg Repeat cycle: 20 days Longhube (if geo): Asc/desc: Descending URL: www.desc.inspe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 705 M Period: 828 mins Inclination: 92 deg Repeat cycle: Longhube (if geo): Asc/desc: Descending URL: www.desc.inspe.tr/en/programas/cbers3-4.htm Type: Geostalionary Altude: 705 M Period: B28 mins Inclination: 82 deg Repeat cycle: LST: 13:30 Altude: 705 Asc/desc.inspe.tr/en/programs/cbers3-4.htm Type: Geostalionary Altude: 705 Asc/desc.inspe.tr/en/programs/cbers3-4.htm Type: Geostalionary Altude: 705 Asc/desc.inspe.tr/en/programs/cbers3-4.htm Type: Geostalionary Altude: 705 Asc/desc.inspe.tr/en/programs/cbers3-4.htm Type: Geostalionary Altude: 705 Asc/desc.inspe.tr/en/programs/cbers3-4.htm Type: Asc/desc.inspe.tr/en/programs/cbers3-4.htm
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 CONstellation Observing System for Meteorology, Ionosphere and Climate-1	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010	Jun 2017 Sep 2013 Dec 2017	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. CloudSat will use advanced radar to "slice" through clouds to see advanced radar to "slice" through clouds to see trapability from space. One of first stabilities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc. org/ Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 98.5 days LST: 100.3 mins Inclination: 98.5 days Asc/des: Descending URL: www.obers.inpe.br/en/programas/cbers3.4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 98.5 days Longitude (ff geo): Longitude (ff geo): Longitude (ff geo): Longitude (ff geo): Asc/des: Ascending URL: www.obers.inpe.br/en/programas/cbers3.4.htm Type: Sun-synchronous Antude: 705 days Longitude (ff geo): Longitude (ff geo): Longitude (ff geo): Longitude (ff geo): Longitude (ff geo): Asc/des: Ascending URL: doubsat atmos.colostate.edu/ Type: Goodatomary Antude: 705 Longitude (ff geo): Asc/des: KAcending URL: choustat atmos.colostate.edu/ Type: Inclination: Repeat cycle: LST: Longitude (ff geo): Asc/des: KAcending Antude: 705 Heriod: 100 mins Inclination: 72 dag Repeat cycle: Longitude (ff geo): Asc/des: KAcending Hiching: 72 dag Repeat cycle: Longitude (ff geo): Asc/des: KAcending
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for Meteorological Satellite	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChoudSu will use advanced radia for "slice" through clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, lonosphere and climate.	(CBERS) WFF-2, MUX, DCS, IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Altude: 778 w Profilation: 93.5 deg Repeat cycle: 26 days LST: 10.30 Longitude (if eoc): Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Computed (if geo): Asc/desc: Ascending URL: www.obers.inpe.br/en/programas/cbers3-4.htm Type: Computed with geo): Asc/desc: Ascending URL: coductat atmos.colostate.edu/ Type: Coductat atmos.colostate.edu/ Type: Coductat atmos.colostate.edu/ Type: Inclined.non-sun-synchronous Altude: 80 Min Enclination: 72 deg Repeat cycle: Longitude (if geo): Asc/desc: Ascending URL: URL: Descender (if geo): Asc/desc: ViA URL: Descender (if geo): Asc/desc: Ascending URL: Descender (if geo): Asc/desc: Ascending URL: Descender (if geo): Asc/desc: Ascending URL: Descender (if geo): Asc/desc: Ascending URL: Descender (if geo): Asc/desc: Ascending URL: Descender: Ascending URL: Barrier (if geo): Asc/desc: Ascending URL: Barrier (if geo): Asc/desc: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending URL: Descender: Ascending Descender: Ascending Descender: Ascending Descender: Ascending Descender: Ascending Descender: Ascending D
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China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 COSMIC-1/FORMOSAT-3 FM1 COnstellation Observing System for Meteorology, Ionosphere and Climate-1 NSPO / NOAA / UCAR COSMIC-2/FORMOSAT-3 FM2 CONStruct-2/FORMOSAT-3 FM2 FM2 FM2 FM2 FM2 FM3 FM3 FM3 FM3 FM3 FM3 FM3	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChoudSu will use advanced radia for "slice" through clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, lonosphere and climate.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Anthude: 778 w Period: 100.3 miles Period: 100.3 miles Period: 100.3 miles LST: 100.3 miles Asc/des: Descending URL: www.obers.inpe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 w Period: 100.3 miles Inclination: 95.6 dg Repeat cycle: 20 days Longhube (if geo): Asc/des: Descending URL: www.obers.inpe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 w Period: 100.3 miles Inclination: 95.6 dg Repeat cycle: 20 days Longhube (if geo): Asc/des: Descending URL: www.obers.inpe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 705 w Period: 82.8 miles Longhube (if geo): Longhube (if geo): Longhube (if geo): Longhube (if geo): Longhube (if geo): Longhube (if geo): Asc/des: Ad- Asc/des: Ad- Net descending URL: dow.ubet atmos colostate.edu/ Type: Gestationary Antude: Sac/des: Ad- Repeat cycle: LST: Longhube (if geo): Asc/des: Ad- Repeat cycle: LST:
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 COSMIC-1/FORMOSAT-3 FM1 COnstellation Observing System for Meteorology, Ionosphere and Climate-1 NSPO / NOAA / UCAR COSMIC-2/FORMOSAT-3 FM2 CONStruct-2/FORMOSAT-3 FM2 FM2 FM2 FM2 FM2 FM3 FM3 FM3 FM3 FM3 FM3 FM3	Approved Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChoudSu will use advanced radia for "slice" through clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellities to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, lonosphere and climate.	(CBERS) WFL2, MUX, DCS , IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/desc: Descending URL: www.isc.org/ Type: Sun-synchronous Anthude: 778 w Period: 100.3 mins Period: 100.3 mins Asc/desc: Descending URL: www.obers.inpe.th/reinprogramas/cbers3-4.htm Type: Sun-synchronous Mitude: 778 w Period: 100.3 mins Incinator: 95 deg Repeat cycle: 25 days SUN Straight Str
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for Meteorological Satellite Costellation Observing System for Meteorological Satellite Costellation Observing System for Meteorological Satellite Costellation Observing System for Meteorological Sources and Climate-1 NSPO / NOAA / UCAR COSMIC-2/FORMOSAT-3 FM2 Constellation Observing System for Meteorological Sources and Climate-2 NSPO / NOAA / UCAR	Approved Currently being flown Currently being flown Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChourSat will use advanced made for "slice" firrough clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, ionosphere and climate. Meteorology, ionosphere and climate.	(CBERS) WFF-2, MUX, DCS, IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/desc: Descending URL: www.iso.org/ Type: Sun-synchronous Antude: 778 w Period: 100.3 mins hutude: 778 w Period: 100.3 mins hoppmatr. www.bers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.cbers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Asc/desc: Ascending URL: www.cbers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Antude: 708 Hutude: 708 Asc/desc: Ascending URL: www.cbers.inpe.bt/enjorgramas/cbers3.4.htm Type: Sun-synchronous Antude: 708 Repeat cycle: LST: 10.30 Longitude (If geo): Asc/desc: Ascending URL: Colustat atmos: colostate.edu/ Type: Colustationary Period: 100 mins Inclination: 72 deg Inclination: 72 deg Hutude: 708 Asc/desc: Ascending URL: Colustat: atmos: colostate.edu/ URL: Colustat: atmos: colostate.edu/ Type: Inclined.con-sun-synchronous Attude: 706 km Period: 100 mins Inclination: 72 deg Repeat cycle: LST: Longitude: (If geo): Asc/desc: Ascending URL: Colustat: atmos: colostate.edu/ Type: Inclined.con-sun-synchronous Attude: 711 km Period: 100 mins Attude: 711 km Period: 100 mins Attude: 711 km Period: 100 mins Period: 100 mins
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for Meteorology, Ionosphere and Climate-1 NSPO / NOAA / UCAR	Approved Currently being flown Currently being flown Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChourSat will use advanced made for "slice" firrough clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, ionosphere and climate. Meteorology, ionosphere and climate.	(CBERS) WFF-2, MUX, DCS, IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/des: Descending URL: www.isc.org/ URL: www.isc.org/ URL: www.isc.org/ Partod: TrX M Partod: 100.38 5 deg Partod: 100.38 5 deg Null: www.obers.inpe.bfr/inforgramas/cbers3-4.htm Type: Sun-synchronous Asc/des: Descending URL: www.obers.inpe.bfr/inforgramas/cbers3-4.htm Type: Ges Asc/des: Ascending URL: wow.obers.inpe.bfr/inforgramas/cbers3-4.htm Type: Gestationary Altude: 70 ber Asc/des: Ascending URL: Gestationary Altude: 100 mins Inclination: 22 deg Repeat cycle: URL: URL: Inforded: Inforg): Asc/des: KAscending URL: URL: Inforded: Inforg): Asc/des: Vi/A URL: Informed: Inforge: Stationary Altude: 80 bm Partod: 100 mins Inclination: 22 deg Repeat cycle: LST: Longlude (If geo): Asc/des: Ascending URL: WRL: Bartodes: Inforge: Stationary Altude: 80 bm Partod: 100 mins Inclination: 22 deg Repeat cycle: LST: Longlude (If geo): Asc/des: Ascending URL: WRL: Bartodes: Inforge: Longlude (If geo): Asc/des: Ascending URL: WRL: Bartodes: Inforge: Longlude (If geo): Asc/des: Ascending URL: Bartodes: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des: Ascending WRL: Bartodes: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des: Ascending URD: Inforge: Longlude (If geo): Asc/des:
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS COMMUNICATION (USA) / CSA COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for Meteorology, Ionosphere and Climate-2 NSPO / NOAA / UCAR COSMIC-2/FORMOSAT-3 FM3 CONSTELLATION (USA) / CSA	Approved Currently being flown Currently being flown Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChourSat will use advanced made for "slice" firrough clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, ionosphere and climate. Meteorology, ionosphere and climate.	(CBERS) WFF-2, MUX, DCS, IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/des: Descending URL: www.isc.org/ Type: Sun-synchronous Anthude: 778 wm Period: 100.3 mine Period: 100.3 mine Repeat cycle: 2 days LST: 100.3 mine MULL: www.descent.geb.t/reforgoramas/cbers3-4.htm Type: Sun-synchronous Asc/desc: Descending URL: www.descent.geb.t/reforgoramas/cbers3-4.htm Type: Sun-synchronous Asc/desc: Ascending URL: doudsat atmos colostate.edu/ Type: Gestationary Altude: 70 HUL: doudsat atmos colostate.edu/ Type: Gestationary Altude: 70 HUL: doudsat atmos colostate.edu/ Type: Gestationary Altude: 70 HUL: doudsat atmos colostate.edu/ Type: Inclined.non-sun-synchronous Altude: 80 Mutude: 70 HUL: doudsat atmos colostate.edu/ HUL: www.commu.cum.edu/ HUL: doudsat atmos colostate.edu/ HUL: www.commu.cum.edu/ HUL: doudsat atmos colostate.edu/ HUL: doudsat atmos colosta
China Brazil Earth Resources Satellite - 3 INPE / CRESDA CBERS-4 China Brazil Earth Resources Satellite - 4 INPE / CRESDA CloudSat NASA / DoD (USA) / CSA COMS Communication, Oceanographic, Meteorological Satellite KARI COSMIC-1/FORMOSAT-3 FM1 Constellation Observing System for Meteorology, Ionosphere and Climate-1 NSPO / NOAA / UCAR COSMIC-2/FORMOSAT-3 FM2 Constellation Observing System for Meteorology, Ionosphere and Climate-2 NSPO / NOAA / UCAR COSMIC-3/FORMOSAT-3 FM3 CONSULT-3/FORMOSAT-3	Approved Currently being flown Currently being flown Currently being flown Currently being flown	Jun 2014 28 Apr 2006 26 Jun 2010 14 Apr 2006 14 Apr 2006	Jun 2017 Sep 2013 Dec 2017 Mar 2013 Mar 2013	Earth resources, environmental monitoring, land surface. 3-year nominal mission life, currently in extended operations. ChourSat will use advanced made for "slice" firrough clouds to see their vertical structure, providing a completely new observational capability from space. One of first satellites to study clouds on global basis. Will fly in formation with Aqua and CALIPSO. Korea's geostationary meteorological satellite series. Meteorology, ionosphere and climate. Meteorology, ionosphere and climate.	(CBERS) WFF-2, MUX, DCS, IRS, PAN (CBERS) CPR (CloudSat) GOCI, MI GOX	Asc/des: Descending URL: www.iso.org/ Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 98.5 dags LST: 100.3 mins Inclination: 98.5 dags LST: 100.3 mins Inclination: 98.5 dags Asc/des: Descending URL: www.cens: inpe.br/en/programas/cbers3.4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 98.5 dag Repeat cycle: 26 days Longitude (fi geo): Asc/des: Ascending URL: www.cens: inpe.br/en/programas/cbers3.4.htm Type: Sun-synchronous Antude: 778 km Period: 100.3 mins Inclination: 98.2 dag Repeat cycle: 26 days Longitude (fi geo): Asc/des: Ascending URL: www.cens: inpe.br/en/programas/cbers3.4.htm Type: Sun-synchronous Antude: 705 km Period: 100 mins Inclination: 98.2 dag Repeat cycle: LST: Longitude (fi geo): Asc/des: Ascending URL: Colustat atmos.colostate.edu/ Type: Inclination: 72 dag Repeat cycle: LST: Longitude (fi geo): Asc/des: Ascending URL: Mww.cens.com Period: 100 mins Inclination: 72 dag Repeat cycle: LST: Longitude (fi geo): Asc/des: Ascending URL: Colustate: Longitude (fi geo): Longitude (fi geo): Asc/des: Ascending URL: Colustate: Longitude (fi geo): Asc/des: Ascending URL: Colustate: Longitude (fi geo): Asc/des: Ascending Longitude (fi geo): Longitude (fi geo): Longit

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
COSMIC-4/FORMOSAT-3 FM4 Constellation Observing System for Meteorology, lonosphere and Climate-4 NSPO / NOAA / UCAR	Currently being flown	14 Apr 2006		Meteorology, lonosphere and climate.	GOX	Type: Inclined, non-sun-synchronous Altitude: 800 km Period: 100 mins Inclination: 72 deg Repeat cycle: LST.
COSMIC-5/FORMOSAT-3 FM5	Currently being flown	14 Apr 2006	Mar 2013	Meteorology, ionosphere and climate.	GOX	Losi: Longitude (if geo): Asc/desc: Ascending URL: www.cosmic.ucar.edu/ Type: Inclined, non-sun-synchronous Altitude: 800 km
Constellation Observing System for Meteorology, lonosphere and Climate-5 NSPO / NOAA / UCAR						Period: 100 mins Inclination: 72 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending
COSMIC-6/FORMOSAT-3 FM6 Constellation Observing System for Meteorology, Ionosphere and Climate-6 NSPO / NOAA / UCAR	Currently being flown	14 Apr 2006	Mar 2013	Meteorology, lonosphere and climate.	GOX	URL: www.cosmic.ucaredu/ Type: Inclined, non-sun-synchronous Altitude: 800 km Period: 100 mins Inclination. 72 deg Repeat cycle: LST: Longitude (if geo):
COSMO-SkyMed 1 COnstellation of small Satellites for	Currently being flown	08 Jun 2007	Jun 2014	Environmental monitoring, surveillance and risk management applications, environmental resources management, maritime management, earth topographic mapping, law enforcement,	SAR 2000	Ascides: Ascending URL: www.cosmic.ucar.edu/ Type: Sun-synchronous Altitude: 620 km Period: 97.1 mins
Mediterranean basin Observation - 1 ASI / MiD (Italy)				informative / science applications.		Inclination: 97.8 deg Repeat cycle: 16 days LST: 6:00 Longitude (f geo): Asc/desc: Ascending
COSMO-SkyMed 2 COnstellation of small Satellites for Mediterranean basin Observation - 2 ASI / MID (Italy)	Currently being flown	09 Dec 2007		Environmental monitoring, surveillance and risk management applications, environmental resources management, maritime management, earth topographic mapping, law enforcement, informative / science applications.	SAR 2000	URL: www.asil/ten/actifu/yearth_observation/cosmoskymed Type: Sun-synchronous Altitude: 620 km Period: 97.1 mins Inclination: 97.8 deg Repeat cyde: 16 days LST: 6.00 Longitude (if geo):
COSMO-SkyMed 3 COnstellation of small Satellites for	Currently being flown	25 Oct 2008		Environmental monitoring, surveillance and risk management applications, environmental resources management, maritime management, earth topographic mapping, law enforcement,	SAR 2000	Exclusion (r) geo, Asc/desc. Ascending URL: www.asi.it/en/activity/earth_observation/cosmoskymed_ Type: Sun-synchronous Altitude: 620 km Period: 97.1 mins
COnstellation of small Satellites for Mediterranean basin Observation - 3 ASI / MiD (Italy)				informative / science applications.		Inclination: 97.8 deg Repeat cycle: 16 days LST: 6:00 Longitude (if geo): Asc/desc: Ascending
COSMO-SkyMed 4 COnstellation of small Satellites for Mediterranean basin Observation - 4	Currently being flown	06 Nov 2010	Nov 2017	Environmental monitoring, surveillance and risk management applications, environmental resources management, maritime management, earth topographic mapping, law enforcement, informative / science applications.	SAR 2000	URL: www.asi.it/en/acd/wit/earth_observation/cosmoskymed_ Type: Sun-synchronous Altitude: 620 km Period: 97.1 mins Inclination: 97.8 deg
ASI / MiD (Italy) CryoSat-2	Currently being flown	08 Apr 2010	Dec 2013	To determine fluctuations in the mass of the Earth's major land	DORIS-NG SIRAL Laser Reflectors	Repeat cycle: 16 days LST 6:00 Longitude (if geo): Asc/des: Ascending URL: www.asi.it/en/activit/arth- observation/cosmoskymed Type: Inclined, non-sun-synchronous
CryoSat-2 (Earth Explorer Opportunity Mission) ESA		00747 2010	5001010	and marine ice fields.	(ESA)	Altitude: 717 km Period: 100 mins Inclination: 92 deg Repeat cycle: 369 days L51: 0.25 degree nodal regression per day Longitude (if geo): Asc/desc: N/A
CSG-1	Approved	Jun 2015	Jun 2022	Environmental monitoring, surveillance and risk management	SAR-2000 S.G.	URL: www.esa.int/cryosat Type: Sun-synchronous Altitude: 620 km
COSMO-SkyMed Second Generation - 1 ASI / MiD (Italy)				applications, environmental resources management, maritime management, each topographic mapping, law enforcement, informative / science applications.		Altitude: 620 km           Period: 97.1 mins           Indination: 97.8 deg           Repeat cycle: 16 days           LST: 6.00           Longitude (if geo):           Asc/desc:: Ascending           URL: www.salit
CSG-2 COSMO-SkyMed Second Generation - 2 ASI / MID (Italy)	Approved	Jun 2016	Jun 2023	Environmental monitoring, surveillance and risk management applications, environmental resources management, maritime management, earth topographic mapping, law enforcement, informative / science applications.	SAR-2000 S.G.	Type: Sun-synchronous Altitude: 620 km Period: 97.1 mins Indination: 97.8 deg Repeat cycle: 16 days Longtlude (if geo): Ascrides: Ascending Ascrides: Ascending
Diademe 1&2	Currently being flown	15 Feb 1967	Dec 2050	Geodetic measurements using satellite laser ranging.	RRA	URL: www.asi.itt Type: Inclined, non-sun-synchronous Altitude: 1200 km Period: 108 mins Inclination: 40 deg
						Repeat cycle: LST: Longitude (if geo): Asc/desc: TBD VRL: qalileo.crt.qo.jp/iirs/diademe.html
DMSP F-14 Defense Meteorological Satellite Program F-14 NOAA	Currently being flown	04 Apr 1997		The long-term meteorological programme of the US Department of Defense (DO)- with the objective to collect and disseminate worldwide atmospheric, oceanographic, solar-geophyscial, and cloud cover data on a daily basis.	OLS, SSM/I, SSM/T-1, SSM/T-2, SSB/X-2, SSI/ES-2, SSJ/4, SSM	Type: Sun-synchronous Altlude: 833 km Period: 101 mins Inclination: 88.7 deg Repeat cycle: L51: 20.29 Longitude (if geo): Ascides: Ascending
DMSP F-15 Defense Meteorological Satellite Program F-15 NOAA	Currently being flown	12 Dec 1999	May 2013	The long-term meteorological programme of the US Department of Defense (DoD) – with the objective to collect and disseminate workfowlde doud cover data on a daily basis. (Primary operational satellite).	ols, SSM/I, SSM/T-1, SSM/T-2, SSI/ES-2, SSJ/4, SSM	URL: drsp.ngd.cnoa.g.gov/drsp.html Type: Sun-synchronous Altitude: 833 km Period: 101 mins Indination: 95.9 deg Repeat cycle: LST: 20.29 Longitude (if geo): Asc/dss:: Ascending
DMSP F-16 Defense Meteorological Satellite Program F-16 NOAA	Currently being flown	18 Oct 2003	Oct 2012	The long-term meteorological programme of the US Department of Defense (DoD) - with the objective to collect and disseminate worldwide cloud cover data on a daily basis.	ols, SSM/IS, SSM, SSI/ES-3, SSJ/5, SSULI, SSUSI	URL: dmsp.ngdc.noas.gov/dmsp.html Type: Sun-synchronous Altitude: 833 km Period: 101 mins Inclination: 98.9 deg Repeat cycle: LST: 21:32 Longitude (if geo):
DMSP F-17 Defense Meteorological Satellite Program F-17 NOAA	Currently being flown	04 Nov 2006	Jun 2013	The long-term meteorological programme of the US Department of Defense (DoD) - with the objective to collect and disseminate worldwide cloud cover data on a daily basis.	ols, SSM/IS, SSM, SSI/ES-3, SSULI, SSUSI	Asodesc: Aseending URL: dnsp.npdk.neaa.gov/dmsp.html Type: Sun-synchronous Altitude: 850 km Period: 101 mins Inclination: 937.deg Repeat cycle: LST:
DMSP F-18 Defense Meteorological Satellite Program F-18	Currently being flown	18 Oct 2009	Apr 2014	The long-term meteorological programme of the US Department of Defense (DoD) - with the objective to collect and disseminate worldwide cloud cover data on a daily basis.	ols, SSM/IS, SSM, SSI/ES-3, SSULI, SSUSI	Longtude (if geo): Asc/desc: Ascending URL: dmsp.ngdc.noaa.gov/dmsp.html URL: dmsp.ngdc.noaa.gov/dmsp.html URL: dm: 850 km Period: 101 mins Inicination: 987. deg
NOAA						Inclination: sol.7 deg Repeat cycle: LST: Longitude (if geo): Asc/des:: Ascending URL: dmsp.ngdc.noaa.gov/dmsp.html

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
DMSP F-19	Approved	Oct 2012	Oct 2017	The long-term meteorological programme of the US Department of Defense (DoD) - with the objective to collect and disseminate	OLS, SSM/IS, SSM, SSI/ES-3, SSULI, SSUSI	Type: Sun-synchronous Altitude: 833 km
Defense Meteorological Satellite Program F-19				worldwide cloud cover data on a daily basis.	550EI, 55051	Period: 101 mins
						Inclination: 98.7 deg Repeat cycle:
NOAA						LST: Longitude (if geo): Asc/desc: Ascending
						Asc/desc: Ascending URL: dmsp.ngdc.noaa.gov/dmsp.html
DMSP F-20	Approved	Jun 2014	Jun 2019	The long-term meteorological programme of the US Department of Defense (DoD) - with the objective to collect and disseminate	OLS, SSM/IS, SSM, SSI/ES-3, SSULL SSUSI	Type: Sun-synchronous Altitude: 850 km
Defense Meteorological Satellite Program				worldwide cloud cover data on a daily basis.	00001,00001	Period: 101 mins Inclination: 98.7 deg
F-20						Repeat cycle:
NOAA						LST: Longitude (if geo):
						Asc/desc: Ascending URL: dmsp.ngdc.noaa.gov/dmsp.html
DSCOVR	Approved	Jul 2014	Jul 2016	Measure a combination of solar phenomena and earth climate measurements. Provides 15 min warning for solar storms (CME)	NISTAR, EPIC	Type: TBD Altitude:
Deep Space Climate Observatory				events.		Period: Inclination:
NOAA / NASA						Repeat cycle: 1 days LST:
						Longitude (if geo): Asc/desc:
EarthCARE	Approved	Nov 2015	Nov 0040		CPR (EarthCARE), ATLID, BBR	URL:
Eannoare	Арргочец	1407 2013	1100 2010	interactions and of the Earth's radiative balance towards	(EarthCARE), MSI (EarthCARE)	Type: Sun-synchronous Altitude: 393 km
ESA / JAXA				enhancing climate and numerical weather prediction models. The 2 active and 2 passive instruments of EarthCARE make unique		Period: Inclination: 97 deg
				data product synergies possible.		Repeat cycle: 25 days LST:
						Longitude (if geo): Asc/desc: Descending
Elektro-L N1	Currently being flown	20 Jan 2011	Dec 2018	Hydrometeorology, heliogeophysics, climatology, DCS, S&R.	MSU-GS, DCS , GGAK-E, S&R	URL: www.esa.int/export/esaLP/earthcare.html Type: Geostationary
Geostationary Operational Meteorological						Altitude: 36000 km Period:
Satellite - 1						Inclination: Receat cycle:
ROSHYDROMET / ROSKOSMOS						LST:
						Longitude (if geo): -76 Asc/desc: N/A
Elektro-L N2	Approved	Nov 2012	Nov 2018	Hydrometeorology, heliogeophysics, climatology, DCS, S&R.	MSU-GS, DCS , GGAK-E, S&R	URL: planet.iitp.ru Type: Geostationary
Geostationary Operational Meteorological Satellite - 2						Altitude: 36000 km Period:
						Inclination: Repeat cycle:
ROSHYDROMET / ROSKOSMOS						LST: Longitude (if geo): -76
						Asc/desc: N/A URL: planet.iitp.ru
Elektro-L N3	Planned	2015	2022	Hydrometeorology, heliogeophysics, climatology, DCS, S&R.	MSU-GS, DCS , GGAK-E, S&R	Type: Geostationary Altitude: 36000 km
Geostationary Operational Meteorological Satellite - 3						Period: Inclination:
ROSHYDROMET / ROSKOSMOS						Repeat cycle: IST
ROSHTDROMET/ROSKOSMOS						Longitude (if geo): 14.5
						Asc/desc: N/A URL: planet.iitp.ru
EnMAP	Approved	Dec 2015	Dec 2020	Hyperspectral imaging, land surface, geological and environmental investigation.	HSI	Type: Sun-synchronous Altitude: 650 km
Environmental Mapping & Analysis Program						Period: 97.5 mins Inclination:
DLR						Repeat cycle: 21 days LST: 11:00
						Longitude (if geo): Asc/desc: Descending
Environsat-1	Considered	2013	2017	Monitoring of greenhouse gases, aerosols and other atmospheric	HRSS-1. HRVS-1A/-1B	URL: www.enmap.org/
Environmental Satellite - 1				trace gases which are responsible for global warming.		Type: Altitude: Period:
ISRO						Inclination: Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: URL:
Environsat-2	Considered	2016	2020	Monitoring of greenhouse gases, aerosols and other atmospheric trace gases which are responsible for global warming.	HRSS-1, HRVS-1A/-1B	Type: Altitude:
Environmental Satellite - 2				trace gases which are responsible for global warming.		Period: Inclination:
ISRO						Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: URL:
Envisat	Currently being flown	01 Mar 2002	Dec 2013	Physical oceanography, land surface, ice and snow, atmospheric chemistry, atmospheric dynamics/water and energy cycles.	mode) ASAR (wave mode)	Type: Sun-synchronous Altitude: 782 km
Environmental Satellite					ENVISAT Comms, MERIS, MIPAS, ASAR, GOMOS, SCIAMACHY, RA-2,	Period: 100.5 mins Inclination: 98.52 deg
ESA					AATSR	Repeat cycle: 35 days LST: 10:30
						Longitude (if geo): Asc/desc: Descending
EPS-SG-a	Planned	2019	2007	Meteorology, climatology. EPS-SG-a carries the Sentinel-5	ATMS, METimage, IASI-NG, 3MI, RC	URL: envisat.esa.int/
EUMETSAT Polar System, second		2019	2021	mission. 3 satellites (TBC).	, me ringe, indi-no, avii, no	Altitude: Period:
generation						Inclination:
EUMETSAT / NOAA / DLR / EC / CNES /						Repeat cycle: 29 days LST: Longitude (f. gap):
ESA						Longitude (if geo): Asc/desc: N/A
						URL: www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?
EPS-SG-b	Planned	2020	2028	Meteorology, climatology. 2 satellites (TBC).	RO, MWI-Precip, MWI-Cloud, SCA	Type: Sun-synchronous Altitude:
EUMETSAT Polar System, second generation						Period: Inclination:
EUMETSAT / EC / ESA						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
						WRL: www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?
FY-1D	Currently being flown	15 May 2002	Dec 2012	Meteorology, environmental monitoring.	MVISR (10 channels)	Altitude: 863 km
FY-1D Polar-orbiting Meteorological Satellite						Period: 102.3 mins Inclination: 98.8 deg
						Repeat cycle:
NSMC-CMA / NRSCC						LST: 9:00 Longitude (if geo):
					N/000 (5) 0	Asc/desc: Descending URL: fy3.satellite.cma.gov.cn/arssen/
51/00					IVISSR (EY-2)	Type: Geostationary
FY-2D	Currently being flown	08 Dec 2006	Dec 2012	Meteorology and environmental monitoring; data collection and redistribution.		Altitude: 36000 km
FY-2D FY-2D Geostationary Meteorological Satellite	Currently being flown	08 Dec 2006	Dec 2012	Meteorology and environmental monitoring; data collection and redistribution.		Altitude: 36000 km Period: Inclination:
FY-2D Geostationary Meteorological	Currently being flown	08 Dec 2006	Dec 2012	Meteorology and environmental monitoring; data collection and redistribution.		Altitude: 36000 km Period: Inclination: Repeat cycle: LST:
FY-2D Geostationary Meteorological Satellite	Currently being flown	08 Dec 2006	Dec 2012	Meteorology and environmental monitoring; data collection and redistribution.		Altitude: 36000 km Period: Inclination: Repeat cycle: LST: Lonjitude (if geo): -86.5
FY-2D Geostationary Meteorological Satellite NSMC-CMA / NRSCC				redistribution.		Altitude: 36000 km Period: Indination: Repeat cycle: LST: Longitude (if geo): -86.5 Asc/desc: N/A URL: h/3 satellite.cma.gov.cn/arssen/
FY-2D Geostationary Meteorological Satellite NSMC-CMA / NRSCC FY-2E	Currently being flown	08 Dec 2006 26 Dec 2008		Meteorology and environmental monitoring; data collection and redistribution.		Altitude: 36000 km Period: Indination: Repeat cycle: LST: Longitude (if geo): -88.5 Asc/desc: N/A URL: fv3.satellite.cma.gov.cn/arssen/ Type: Geostationary Altitude: 36000 km
FY-2D Geostationary Meteorological Satellite NSMC-CMA / NRSCC				redistribution. Meteorology and environmental monitoring; data collection and		Altitude: 36000 km Period: Inclination: Repeat cycle: LST: Longitude (if geo): -88.5 Asc/desc: N/A URL: fv3.satellite.cma.gov.cn/arssen/ Type: Ceostationary Altitude: 36000 km Period: Inclination:
FY-2D Geostationary Meteorological Satellite NSMC-CMA / NRSCC FY-2E FY-2E Geostationary Meteorological				redistribution. Meteorology and environmental monitoring; data collection and		Altitude: 36000 km Period: Inclination: Repeat cycle: LST: Longitude (if geo): -86.5 Asc/desc: N/A URL: fy3.astellite.cma.gov.cn/arssen/ Type: Ceostationary Altitude: 36000 km Period: Inclination: Repeat cycle: LST:
FY-2D Geostationary Meteorological Satellite NSMC-CMA / NRSCC FY-2E FY-2E Geostationary Meteorological Satellite				redistribution. Meteorology and environmental monitoring; data collection and		Altitude: 36000 km Period: Inclination: Repeat cycle: LST: Longitude (If (pop): -86.5 ASRL: pro: 26.5 ASRL: pro: 26.5 ASRL: pro: 26.5 ASRL: pro: 26.5 Period: Inclination: Repeat cycle: September 20.5 Period: Inclination: Repeat cycle: September 20.5 Period: Inclination: Repeat cycle: September 20.5 Period: Perio

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
FY-2F	Currently being flown	13 Jan 2012		Meteorology and environmental monitoring; data collection and redistribution.	IVISSR (FY-2)	Type: Geostationary Altitude: 36000 km
FY-2F Geostationary Meteorological				redistribution.		Period:
Satellite						Inclination: Repeat cycle:
NSMC-CMA / NRSCC						LST: Longitude (if geo):
						Asc/desc: N/A URL:
FY-2G	Planned	2013	2016	Meteorology and environmental monitoring; data collection and		Type: Geostationary
FY-2G Geostationary Meteorological				redistribution.		Altitude: 36000 km Period:
Satellite						Inclination: Repeat cycle:
NSMC-CMA / NRSCC						LST: Longitude (if geo):
						Asc/desc: N/A
FY-2H	Planned	2015	2018	Meteorology and environmental monitoring; data collection and		URL: Type: Geostationary
FY-2H Geostationary Meteorological				redistribution.		Altitude: 36000 km Period:
Satellite						Inclination: Repeat cycle:
NSMC-CMA / NRSCC						LST:
						Longitude (if geo): Asc/desc: N/A
FY-3A	Currently being flown	27 May 2008	Dec 2012	Meteorology and environmental monitoring; data collection and redistribution.	IRAS, MWAS, MWHS, MWRI, VIRR,	URL: Type: Sun-synchronous
FY-3A Polar-orbiting Meteorological				redistribution.	ERM, MERSI, MWTS, TOU/SBUS, SEM, SIM	Altitude: 830 km Period: 101 mins
Satellite					02.11, 0.11	Inclination: 98.753 deg
NSMC-CMA / NRSCC						Repeat cycle: LST: 10:10
						Longitude (if geo): Asc/desc: Descending
FY-3B	Currently being flown	05 Nov 2010	Dec 2013	Meteorology and environmental monitoring; data collection and	IRAS, MWAS, MWHS, MWRI, VIRR,	URL: fy3.satellite.cma.gov.cn/arssen/ Type: Sun-synchronous
FY-3B Polar-orbiting Meteorological				redistribution. (Experimental pre-cursor to FY-3C).	ERM, MERSI, MWTS, TOU/SBUS, SEM, SIM	Altitude: 830 km Period: 101 mins
Satellite					SEW, SIM	Inclination: 98.753 deg
NSMC-CMA / NRSCC						Repeat cycle: LST: 14:00
						Longitude (if geo): Asc/desc: Ascending
EVac	Approved	D- 00/2	D- 00-	Motoorology and onvices		URL: fy3.satellite.cma.gov.cn/arssen/
FY-3C	Approved	Dec 2012	Dec 2015	Meteorology and environmental monitoring; data collection and redistribution. (Operational follow-on to FY-3B).	IRAS, IMWAS, MIRAS, MWRI, VIRR, ERM, MERSI, TOU/SBUS, SIM,	Altitude: 830 km
FY-3C Polar-orbiting Meteorological Satellite					MWHS-2, MWTS-2, SES, SIM-2	Period: 101 mins Inclination: 98.753 deg
NSMC-CMA / NRSCC						Repeat cycle: LST: 10:00
						Longitude (if geo):
						Asc/desc: Descending URL: fy3.satellite.cma.gov.cn/arssen/
FY-3D	Approved	Dec 2014	Dec 2017	Meteorology and environmental monitoring; data collection and redistribution.	IMWAS, MIRAS, MWRI, ASI, GAMI, GNOS, MERSI-2, MWHS-2, MWTS-	Type: Sun-synchronous
FY-3D Polar-orbiting Meteorological Satellite					2, SES	Period: 101 mins Inclination: 98.753 deg
						Repeat cycle: LST: 14:00
NSMC-CMA / NRSCC						LST: 14:00 Longitude (if geo):
						Asc/desc: Ascending URL: fy3.satellite.cma.gov.cn/arssen/
FY-3E	Planned	2017	2020		IMWAS, MIRAS, SIM, ASI, ERM-2,	Type: Sun-synchronous
FY-3E Polar-orbiting Meteorological				redistribution.	GNOS, MERSI-2, MWHS-2, MWTS- 2, OMS, SES, WindRAD, SIM-2	Period: 101 mins
Satellite						Inclination: 98.753 deg Repeat cycle:
NSMC-CMA / NRSCC						LST: 10:00 Longitude (if geo):
						Asc/desc: Descending
FY-3F	Planned	2019	2022	Meteorology and environmental monitoring; data collection and	IMWAS, MIRAS, MVIRS, MWRI, ASI,	URL: fy3.satellite.cma.gov.cn/arssen/ Type: Sun-synchronous
FY-3F Polar-orbiting Meteorological				redistribution.	GAMI, GNOS, MERSI-2, MWHS-2, MWTS-2, SES	Altitude: 830 km Period: 101 mins
Satellite						Inclination: 98.753 deg
NSMC-CMA / NRSCC						Repeat cycle: LST: 14:00
						Longitude (if geo): Asc/desc: Ascending
FY-3G	Considered	2021	2024	Meteorology and environmental monitoring; data collection and	IMWAS, MIRAS, MVIRS, ASI, ERM-	URL: fy3.satellite.cma.gov.cn/arssen/ Type: Sun-synchronous
FY-3G Polar-orbiting Meteorological				redistribution.	2, GNOS, MERSI-2, MWHS-2, MWTS-2, OMS, WindRAD, SIM-2	Attitude: Period:
Satellite					WW13-2, OW3, WINDRAD, SIWI-2	Inclination:
NSMC-CMA / NRSCC						Repeat cycle: LST: 10:00
						Longitude (if geo): Asc/desc: Descending
<b>P</b> 22.4.4	Amound	Dec 0044	D 0047	Made and an inclusion whether a factor of the second state and	111 1100	URL: fy3.satellite.cma.gov.cn/arssen/
FY-4A	Approved	Dec 2014	Dec 2017	Meteorology and environmental monitoring; data collection and redistribution.	LW, WO31	Type: Geostationary Attitude: 36000 km
FY-4A Geostationary Meteorological Satellite						Period: Inclination:
NSMC-CMA / NRSCC						Repeat cycle: LST:
						Longitude (if geo): -105
						Asc/desc: N/A URL: fy3.satellite.cma.gov.cn/arssen/
FY-4B	Planned	2017	2020	Meteorology and environmental monitoring; data collection and redistribution.	LM, MCSI	Type: Geostationary Altitude: 36000 km
FY-4B Geostationary Meteorological Satellite						Period: Inclination:
						Repeat cycle: LST:
NSMC-CMA / NRSCC						Longitude (if geo): -105
						Asc/desc: N/A URL: fv3 satellite cma gov cn/arssen/
FY-4C	Planned	2020	2023	Meteorology and environmental monitoring; data collection and redistribution.	LM, MCSI	Type: Geostationary Altitude: 36000 km
FY-4C Geostationary Meteorological						Period:
Satellite						Inclination: Repeat cycle:
NSMC-CMA / NRSCC						LST: Longitude (if geo): -105
						Asc/desc N/A URL: fy3.satellite.cma.gov.cn/arssen/
FY-4D	Planned	2023	2026	Meteorology and environmental monitoring; data collection and	LM, MCSI	Type: Geostationary Altitude: 36000 km
FY-4D Geostationary Meteorological				redistribution.		Period:
Satellite						Inclination: Repeat cycle:
NSMC-CMA / NRSCC						LST: Longitude (if geo): -105
						Asc/desc: N/A
FY-4E	Planned	2026	2029	Meteorology and environmental monitoring; data collection and	LM, MCSI	URL: fy3.satellite.cma.gov.cn/arssen/ Type: Geostationary
FY-4E Geostationary Meteorological				redistribution.		Altitude: 36000 km Period:
Satellite						Inclination:
NSMC-CMA / NRSCC						Repeat cycle: LST:
						Longitude (if geo): -105 Asc/desc: N/A
GACM	Considered	2030	0000	Phase-3 DS Mission, launch order unknown, 3-year nominal	UV Spectrometer (GACM), IR	URL: fy3.satellite.cma.gov.cn/arssen/ Type: Sun-synchronous
	00.18100100	2030	2033	mission. Ozone and related gases for intercontinental air quality	Spectrometer(GACM), Microwave	Altitude:
Global Atmospheric Composition Mission				and stratospheric ozone layer prediction.	limb sounder (GACM)	Period: Inclination:
NASA						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
						Asc/desc: URL: decadal.gsfc.nasa.gov/gacm.html

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
GCOM-C1	Approved	Dec 2013		Understanding of climate change mechanism.	SGLI	Type: Sun-synchronous Altitude: 800 km
Global Change Observation Mission-C1						Period: 98 mins
JAXA						Inclination: 98.6 deg Repeat cycle:
						LST: 10:30
						Longitude (if geo): Asc/desc: Descending URL: www.jaxa.jp/projects/sat/gcom/index_e.html
GCOM-C2	Planned	2017	2022	Understanding of climate change mechanism.	SGLI	Type: Sun-synchronous
Global Change Observation Mission-C2						Altitude: 800 km Period: 98 mins
JAXA						Inclination: 98.6 deg Repeat cycle:
						LST: 10:30 Longitude (if geo):
						Asc/desc: Descending
GCOM-C3	Planned	2021	2026	Understanding of climate change mechanism.	SGLI	URL: www.jaxa.jp/projects/sat/gcom/index_e.html Type: Sun-synchronous
Global Change Observation Mission-C3						Altitude: 800 km Period: 98 mins
JAXA						Inclination: 98.6 deg
						Repeat cycle: LST: 10:30
						Longitude (if geo): Asc/desc: Descending
GCOM-W1	Currently being flown	18 May 2012	May 2017	Understanding of water circulation mechanism.	AMSR-2	URL: www.jaxa.jp/projects/sat/gcom/index_e.html Type: Sun-synchronous
Global Change Observation Mission-W1						Altitude: 700 km Period: 98 mins
JAXA						Inclination: 98.2 deg
						Repeat cycle: LST: 13:30
						Longitude (if geo): Asc/desc: Ascending
GCOM-W2	Planned	2016	2021	Understanding of water circulation mechanism.	AMSR-2	URL: www.jaxa.jp/projects/sat/gcom/index_e.html Type: Sun-synchronous
Global Climate Observation Mission-W2						Altitude: 700 km Period: 98 mins
JAXA						Inclination: 98.2 deg Repeat cycle:
						LST: 13:30
						Longitude (if geo): Asc/desc: Ascending
GCOM-W3	Planned	2020	2025	Understanding of water circulation mechanism.	AMSR-2	URL: www.jaxa.jp/projects/sat/gcom/index e.html
Global Change Observation Mission-W3						Type: Sun-synchronous Altitude: 700 km Period: 98 mins
JAXA						Inclination: 98.2 deg
						Repeat cycle: LST: 13:30
						Longitude (if geo): Asc/desc: Ascending
GEO-CAPE	Considered	2020	2023	Phase-2 DS Mission, launch order unknown, 3-year nominal	UV/Vis Near IR Wide Imaging	URL: www.jaxa.jp/projects/sat/gcom/index_e.html Type: Geostationary
Geostationary Coastal and Air Pollution		2020	2023	mission. Atmospheric gas columns for air quality forecasts; ocean colour for coastal ecosystem health and climate emissions.	Spectrometer (Geo-Cape), Event Imaging Spectrometer from GEO	Altitude: 42000 km Period:
Events				colour for coastal ecosystem nealth and climate emissions.	(GeoCape), IR Correlation	Inclination:
NASA					Radiometer (GeoCape)	Repeat cycle: 1 days LST:
						Longitude (if geo): 80 Asc/desc: N/A
	A	May 2047	Inc. 0004		Advanced MI	URL: geo-cape.larc.nasa.gov/
GeoKOMPSAT-2A	Approved	May 2017	Jan 2024	Korea's geostationary meteorological satellite series.	Advanced MI	Type: Geostationary Altitude:
Geostationary Korea Multi-Purpose Satellite-2A						Period: Inclination:
KARI						Repeat cycle: LST:
						Longitude (if geo):
						Asc/desc: N/A URL:
GeoKOMPSAT-2B	Approved	May 2018	Apr 2025	Korea's geostationary oceanographic and environmental satellite.	Advanced GOCI, GEMS	Asc/desc: N/A URL:
Geostationary Korea Multi-Purpose	Approved	May 2018	Apr 2025	Korea's geostationary oceanographic and environmental satellife.	Advanced GOCI, GEMS	Asc/desc: N/A URL: Type: Geostationary Altitude: Period:
Geostationary Korea Multi-Purpose Satellite-2B	Approved	May 2018	Apr 2025	Korea's geostationary oceanographic and environmental satellite.	Advanced GOCI, GEMS	Asc/desc: N/A URL: Type: Ceostationary Altitude: Period: Inclination: Repeat cycle:
Geostationary Korea Multi-Purpose	Approved	May 2018	Apr 2025	Korea's geostationary oceanographic and environmental satellite.	Advanced GOCI, GEMS	Ascides: N/A URL: URL: URL: Prop: Geostationary Altude: Periodium Repeat cycle: LST: LST: Longitude (if geo):
Geostationary Korea Multi-Purpose Satellite-2B KARI	Approved					Ascides: N/A URL: URL: Altude: Period: Inclination: Repeat cycle: Sunglude (f geo): Ascides: URL:
Geostationary Korea Multi-Purpose Satellite-2B	Approved	May 2018 Dec 2013		Crop assessment, vegetation dynamics, drought assessment;	Advanced GOCI, GEMS HRMX-VNIR, HYSI-SWIR, HYSI- VNIR HRMX-TIR	Ascides: N/A URL: URL: Altude: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Ascidesc: URL: URL: URL:
Geostationary Korea Multi-Purpose Satellite-2B KARI					HRMX-VNIR, HYSI-SWIR, HYSI-	Ascides: N/A URL: URL: URL: Altitude: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Ascidesc: URL: URL: URL: Period: Period:
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT				Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities,	HRMX-VNIR, HYSI-SWIR, HYSI-	Ascides: N/A URL: URL: URL: Altitude: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Ascidesc: URL: Type: Geostationary Altitude: 38000 km Period: Inclination: Repeat cycle:
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER				Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities,	HRMX-VNIR, HYSI-SWIR, HYSI-	Ascides: N/A URL: URL: URL: URL: Previou Repeat cycle: LST: Longitude (rf geo): Ascidesc: URL: URL: URL: URL: LST: LST: LST: LST: LST: LST: LST: LS
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER				Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities,	HRMX-VNIR, HYSI-SWIR, HYSI-	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repeat cycle: LST: UngsUde (if geo): Ascidesc: URp: Geostationary Altude: 3000 km Period Period LST: Longlude (if geo): Ascides: NA
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER			Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Ascidesc: URD: Geostationary Altude: 3000 km Period Datude: Sociesc: LST: Longitude (if geo): Ascidesc: LST: Longitude (if geo): Ascidesc: NA URL: Nacidesc: NA URL:
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO	Approved	Dec 2013	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR	Ascides: N/A URL: URL: URL: URL: URL: Altude: Period: Department Period: LST: LST: LST: LST: LST: URL: URL: URL: URL: URL: URL: URL: LST: LST: LST: LST: LST: LST: LST: LS
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer	Approved	Dec 2013	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS	Ascides: N/A URL: URL: URL: URL: URL: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Ascidesc: URL: URL: Vipe: Geostationary Attitude: S0000 km Attitude
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE	Approved	Dec 2013	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unjude cata set required to formulate global and regional models	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS	Ascides: N/A URL: URL: URL: URL: URL: URL: Ascides: URL: URL: URL: URL: URL: URL: URL: URL
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer	Approved	Dec 2013	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unjude cata set required to formulate global and regional models	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repeat cycle: LST: Model (f geo): LST: URL: URL: URL: URL: URL: URL: URL: URL
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer	Approved	Dec 2013	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geold. Meteorology (primary mission), search and rescue, space	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repeat cycle: LST: URL: URL: URL: URL: URL: URL: URL: URL
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental	Approved Currently being flown	Dec 2013 17 Mar 2009	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repeat cycle: LST: URL: URL: URL: URL: URL: URL: URL: URL
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental Satellite - 12	Approved Currently being flown	Dec 2013 17 Mar 2009	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamites, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering,	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES	Ascides: N/A URL: URL: URL: Prof. Geostationary Altude: Period: Inclination: Repeat cycle: Longitude: URL: Construction URL: Construction URL: Construction URL: Construction URL: Construction URL: Construction URL: Construction Constructio
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental	Approved Currently being flown	Dec 2013 17 Mar 2009	Dec 2022	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamites, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and levelling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering,	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES	Ascides: N/A URL: URL: URL: Altude: Period: Inclination: Repart cycle: Constant of geo: Ascidesc: URL: URL: URL: URL: URL: URL: URL: URL
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Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental Satellite - 12 NOAA GOES-13 GOES-14 Geostationary Operational Environmental Satellite - 14 NOAA GOES-15 Geostationary Operational Environmental Satellite - 15 NOAA	Approved Currently being flown Currently being flown Currently being flown Currently being flown	Dec 2013 17 Mar 2009 23 Jul 2001 24 May 2006 27 Jun 2009	Dec 2022 Dec 2012 Oct 2013 Jun 2015 Dec 2019 Jan 2017	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and leveling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX.	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES Comms, SEM (GOES), LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT	Aecides: N/A URL: URL: URL: URL: URL: URL: URL: URL:
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental Satellite - 12 NOAA GOES-13 GOES-13 GOES-14 Geostationary Operational Environmental Satellite - 13 NOAA GOES-15 Geostationary Operational Environmental Satellite - 15	Approved Currently being flown	Dec 2013 17 Mar 2009 23 Jul 2001 24 May 2006 27 Jun 2009 04 Mar 2010	Dec 2022 Dec 2012 Oct 2013 Jun 2015 Dec 2019 Jan 2017	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and leveling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX.	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES Comms, SEM (GOES), LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT	Aecides: N/A URL: URL: URL: URL: URL: URL: URL: URL:
Geostationary Korea Multi-Purpose Satellite-28 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental Satellite - 12 NOAA GOES-13 Geostationary Operational Environmental Satellite - 14 NOAA GOES-15 Geostationary Operational Environmental Satellite - 15 NOAA GOES-15 Geostationary Operational Environmental Satellite - 15 NOAA	Approved Currently being flown	Dec 2013 17 Mar 2009 23 Jul 2001 24 May 2006 27 Jun 2009 04 Mar 2010	Dec 2022 Dec 2012 Oct 2013 Jun 2015 Dec 2019 Jan 2017	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and leveling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX.	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES Comms, SEM (GOES), LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT	Aecides: N/A URL: URL: URL: URL: URL: URL: URL: URL:
Geostationary Korea Multi-Purpose Satellite-29 KARI GISAT GEO HR IMAGER ISRO GOCE Gravity Field and Steady-State Ocean Circulation Explorer ESA GOES-12 Geostationary Operational Environmental Satellite - 12 NOAA GOES-13 Geostationary Operational Environmental Satellite - 13 NOAA GOES-14 Geostationary Operational Environmental Satellite - 14 NOAA GOES-15 Geostationary Operational Environmental Satellite - 15 NOAA GOES-16 Geostationary Operational Environmental Satellite - 16 NOAA	Approved Currently being flown	Dec 2013 17 Mar 2009 23 Jul 2001 24 May 2006 27 Jun 2009 04 Mar 2010	Dec 2022 Dec 2012 Oct 2013 Jun 2015 Dec 2019 Jan 2017	Crop assessment, vegetation dynamics, drought assessment; quick monitoring of disasters, natural hazard and calamities, episodic events and short term events. Research in steady-state ocean circulation, physics of Earth's interior and leveling systems (based on GPS). Will also provide unique data set required to formulate global and regional models of the Earth's gravity field and geoid. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX. On-orbit spare. Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering, WEFAX.	HRMX-VNIR, HYSI-SWIR, HYSI- VNIR, HRMX-TIR EGG, Laser Reflectors (ESA), GPS (ESA), SSTI, LRR DCS (NOAA), S&R (GOES), WEFAX, SXI, Sounder, Imager, GOES Comms, SEM (GOES), LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT S&R (GOES), SXI, Sounder, Imager, GOES Comms, SEM (GOES), A- DCS4, LRIT	Aacidaes: N/A URL: URL: URL: URL: Appe: Goostationary Altude: Period: Inclination: Repart cycle: Longlude (f geo): Aacidaes: URL: URL: URL: URL: URL: URL: URL: URL

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
GOES-S	Approved	Feb 2017	Oct 2028	Meteorology (primary mission), search and rescue, space environment monitoring, data collection platform, data gathering,	ABI, GLM, Magnetometer (NOAA), EXIS, SEISS, SUVI, DCS (GOES-R)	Type: Geostationary Altitude: 36000 km
Geostationary Operational Environmental				WEFAX.	2010, 32100, 3041, 200 (002047)	Period:
Satellite - S						Inclination: Repeat cycle:
NOAA						LST: Longitude (if geo):
						Longitude (if geo): Asc/desc: N/A URL: www.goes-r.gov/
GOSAT	Currently being flown	23 Jan 2009	Jan 2014	Observation of greenhouse gases.	TANSO-CAI, TANSO-FTS	Type: Sun-synchronous Altitude: 666 km
Greenhouse gases Observing SATellite						Period: 98.18 mins
JAXA / MOE (Japan) / NIES (Japan)						Inclination: 98.06 deg Repeat cycle: 3 days
						LST: 13:00 Longitude (if geo):
						Asc/desc: Descending URL: www.jaxa.jp/projects/sat/gosat/index_e.html
GOSAT Follow-On	Planned	2016	2021	Observation of greenhouse gases.	FTS	Type:
Greenhouse gases Observing SATellite						Altitude: Period:
Follow-On						Inclination: Repeat cycle:
JAXA / MOE (Japan) / NIES (Japan)						LST: Longitude (if geo):
						Asc/desc: Descending
GPM Core	Approved	Feb 2014	Feb 2017	3-year nominal mission life, 5-year goal. Study of global	GMI, DPR	Type: Inclined, non-sun-synchronous Altitude: 407 km
Global Precipitation Measurement Mission	h			precipitation, evaporation, and cycling of water are changing. The mission comprises a primary spacecraft with active and passive		Period: 95 mins
Core spacecraft				microwave instruments, and a number of 'constellation spacecraft' with passive microwave instruments.		Inclination: 65 deg Repeat cycle:
NASA / JAXA						LST: Longitude (if geo):
						Asc/desc: TBD URL: gpm.gsfc.nasa.gov
GRACE	Currently being flown	17 Mar 2002	Sep 2013	5-year nominal mission life, currently in extended operations.	GRACE instrument	Type: Inclined, non-sun-synchronous
Gravity Recovery and Climate Experiment				Extremely high precision gravity measurements for use in construction of gravity field models. GRACE consists of two		Altitude: 400 km Period: 94 mins
NASA / DLR				satellites (A, B) serving one mission.		Inclination: 89 deg Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: TBD URL: www.csr.utexas.edu/grace/
GRACE FO	Planned	2017	2022	5-year nominal mission life, currently in extended operations.	GRACE instrument	Type: Inclined, non-sun-synchronous
Gravity Recovery and Climate Experiment				Extremely high precision gravity measurements for use in construction of gravity field models. GRACE consists of two		Altitude: Period:
- Follow-on				satellites (A, B) serving one mission.		Inclination: Repeat cycle:
NASA / DLR						LST:
						Longitude (if geo): Asc/desc:
GRACE-II	Considered	2030	2033	Phase-3 DS Mission, launch order unknown, 3-year nominal	GRACE instrument	URL: Type: Inclined, non-sun-synchronous Altitude:
Gravity Recovery and Climate Experiment				mission. High temporal resolution gravity fields for tracking large scale water movement.		Period:
NASA						Inclination:
NASA						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
						URL: eospso.gsfc.nasa.gov/eos_homepage/mission_profiles/show
HJ-1C	Approved	Dec 2012	Dec 2014	Disaster and environment monitoring and forecasting.	S-Band SAR	mission.php?id=83
		Dec 2012	Dec 2014	Disaster and environment monitoring and forecasting.	o-ballu oArt	Type: Sun-synchronous Altitude: 499 km
Disaster and Environment Monitoring and Forecast Small Satellite Constellation C						Period: Inclination: 97.3 deg
CRESDA / CAST / NRSCC						Repeat cycle: 31 days LST: 6:00
						Longitude (if geo): Asc/desc: Descending
						URL: http://www.cresda.com/
HY-2A	Currently being flown	16 Aug 2011	Dec 2012	Detecting ocean surface temperature, wind field, wave and topography.	RAD, SCAT, ALT	Type: Sun-synchronous Altitude: 963 km
Ocean dynamics satellite A						Period: Inclination: 99.3 deg
NSOAS / CAST						
						Repeat cycle: 14 days
						LST 6:00
						LST: 6:00 Longitude (if geo): Asc/desc: Descending URL: www.naoas.gov.cn/
HY-2B	Planned	2012	2015	Detecting ocean surface temperature, wind field, wave and topography.	RAD, SCAT, ALT	LST: 6:00 Longitude (if geo): Asc/desc: Descending
HY-2B Ocean dynamics satellite B	Planned	2012	2015	Detecting ocean surface temperature, wind field, wave and topography.	RAD, SCAT, ALT	LST: 6:00 Longitude (figeo): Asc/desc: Descending URL: www.naoas.gov.cn/ Type: Sun-synchronous Altitude: 963 km Period:
	Planned	2012	2015		RAD, SCAT, ALT	LST: 6:00 Longitude (if geo): Asc/desc: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Period: Inclination: 99.3 deg Repeat.cycle: 14 days
Ocean dynamics satellite B	Planned	2012	2015		RAD, SCAT, ALT	LST: 6:00 Longlude (fl geo): Asc/desc: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Altitude: 963 Atm Period: Inclination: 99.3 deg Repeat cycle: 14 days IST: 6:00 I
Ocean dynamics satellite B NSOAS / CAST				lopography.		LST: 6:00 Longitude (if geo): Asc/desc: Descending URL: www.nases.gov.cn/ Type: Sun-synchronous Altitude: 963 von Natitude: 963 von Natitude: 963 von LST: 6:00 Longitude (if geo): Asc/desc: Descending URL: www.nases.gov.cn/
Ocean dynamics satellite B NSOAS / CAST HY-2C	Planned	2012 2015			RAD, SCAT, ALT RAD, SCAT, ALT	LST: 6:00 Longlude (f) geo): Asc/desc: Descending URL: www.nases.gov.cn/ Type: Sun-synchronous Altude: 963 VM Period: 0:0.3 deg Inclinate.vice.1 days LST: 6:0 LST: 6
Ocean dynamics satellite B NSOAS / CAST				topography: Detecting ocean surface temperature, wind field, wave and		LST: 6:00           LST: 6:00           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altitude: 963 Mm           Period:           Incination: 99.3 deg           Repeat cycle: 14 days           LST: 6:00           Longlude (ff gec):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altitude: 963 km           Period:
Ocean dynamics satellite B NSOAS / CAST HY-2C				topography: Detecting ocean surface temperature, wind field, wave and		LST: 6:00 Longlube (If geo): Asc/desc: Descending URL: www.naces.gov.cn/ Type: Surt-synchronous Period: Inclination: 99:3 deg Repeat-cycle: 14 days LST: 6:00 Longlube (If geo): Asc/desc: Descending URL: www.naces.gov.cn/ Type: Surt-synchronous Period: Inclination: 99:3 deg Repeat-cycle: 14 days
Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C				topography: Detecting ocean surface temperature, wind field, wave and		LST: 6:00 Longlube (if geo): Asc/desc: Descending URL: www.nases.gov.cn/ Type: Sun-synchronous Ablube: 963 wm Hallube: 963 wm
Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST	Planned	2015	2018	topography: Detecting ocean surface temperature, wind field, wave and topography.	RAD, SCAT, ALT	LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Adiudo: 903 Million           Mallade: 903 Million           Holling: 100 Million           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Antude: 963 Million           Vell: www.naces.gov.cn/           Type: Sun-synchronous           Antude: 963 Million           Period:           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Antude: 963 Adg           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           URL: www.naces.gov.cn/
Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST HY-2D			2018	topography: Detecting ocean surface temperature, wind field, wave and		LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naose.sov.cn/           Type: Sun-synchronous           Aditude: 963 wm           Braination: 99.3 deg           Repeat cycle: 1 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naos.gov.cn/           Type: Sun-synchronous           Altide: 963 deg           Repeat cycle: 1 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naos.gov.cn/           Type: Sun-synchronous           Altide: 963 deg           Repeat cycle: 1 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naose.gov.cn/           Type: Sun-synchronous           Altide: 963 km
Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST	Planned	2015	2018	topography: Detecting ocean surface temperature, wind field, wave and topography: Detecting ocean surface temperature, wind field, wave and	RAD, SCAT, ALT	LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 Van           Period:           Ingenat.opic.           DB age/desc: Descending           URL: www.naces.gov.cn/           LST: 6:00           LST: 6:00           LST: 6:00           LST: 6:00           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 Van           Period:           Incination: 99.3 deg           Repeat.cycle: 14 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           URL www.naces.gov.cn/           Type: Sun-synchronous           URL www.naces.gov.cn/           Type: Sun-synchronous           Period:           Incination: 99.3 deg           Period:           Incination: 99.3 deg
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Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST HY-2D Ocean dynamics satellite D	Planned	2015	2018	topography: Detecting ocean surface temperature, wind field, wave and topography: Detecting ocean surface temperature, wind field, wave and	RAD, SCAT, ALT	LST: 6:00 LST: 6:00 Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Period: Inclination: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Ablude: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Ablude: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Ablude: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Ablude: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): Asc/des: Descending URL: www.naces.gov.cn/ Type: Sun-synchronous Ablude: 99:3.deg Repeat-cycle: 1: days LST: 6:00 Longitude (If geo): LST: 6:00
Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST HY-2D Ocean dynamics satellite D NSOAS / CAST	Planned	2015 2019	2018 2022	topography: Detecting ocean surface temperature, wind field, wave and topography. Detecting ocean surface temperature, wind field, wave and topography.	RAD, SCAT, ALT RAD, SCAT, ALT	LST: 6:00           Longitude (if geo):           Aac/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Ablind:           Maind:           Inclination: 99.3 deg           Repeat-cycle: 1 days           LST: 6.00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 deg           Repeat cycle: 1 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 deg           Repart cycle: 14 days           LST: 6:00           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 deg           Repart cycle: 14 days           Longitude (if geo):           Asc/desc: Descending           URL: www.naces.gov.gov.gov.gov.gov.gov.gov.gov.gov.gov
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Ocean dynamics satellite B NSOAS / CAST HY-2C Ocean dynamics satellite C NSOAS / CAST HY-2D Ocean dynamics satellite D NSOAS / CAST HY-3A	Planned	2015 2019	2018 2022 2022	topography: Detecting ocean surface temperature, wind field, wave and topography. Detecting ocean surface temperature, wind field, wave and topography. Ocean monitoring, environmental protection, coastal zone survey.	RAD, SCAT, ALT RAD, SCAT, ALT	LST: 6:00           LST: 6:00           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Adlude: 963 W           Replat. (dv. North States)           Replat. (dv. North States)           LST: 6:00           Longlude (fg.gov):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 Adg           Repeat cycle: 14 days           LST: 6:00           Longlude (fg.gov):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 Adg           Repeat cycle: 14 days           LST: 6:00           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 MB           Period:           Incination: 99.3 deg           Repeat cycle: 14 days           LST: 6:00           Longlude (fg.gov):           Asc/desc: Descending           URL: www.naces.gov.cn/           Type: Sun-synchronous           Altude: 963 Cesending           URL: www.naces.gov.cn/           Type: Sun-synchronous
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Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
ICESat-II	Planned	2016	2018	Early 2015 launch expected (after SMAP), 3-year nominal	ATLAS	Type: Inclined, non-sun-synchronous
Ice, Cloud, and Land Elevation Satellite II				mission life. Continue the assessment of polar ice changes and measure vegetation canopy heights, allowing estimates of		Altitude: 600 km Period: 97 mins
NASA				biomass and carbon in aboveground vegetation in conjunction with related missions, and allow measurements of solid earth		Inclination: 94 deg Repeat cycle: 183 days
NAUA				properties.		LST:
						Longitude (if geo): Asc/desc: TBD
IMS-1	Currently being flown	28 Apr 2008	Dec 2012	Micro-satellite for Third World countries for natural resources	MxT, HySI (IMS-1)	URL: icesat.gsfc.nasa.gov/index.php Type: Sun-synchronous
	currently being town	207072000	5002012	monitoring and management .	inixi, rijer (inio rj	Altitude: 632 km
Indian Mini Satellite-1						Period: 97 mins Inclination: 97.92 deg
ISRO						Repeat cycle: 22 days LST: 9:30
						Longitude (if geo):
						Asc/desc: Descending URL:
Ingenio	Approved	Jan 2014	Jan 2021	Cartography, land use, urban management, water management, agriculture and environmental monitoring, risk management and	PAN+MS (RGB+NIR), UVAS	Type: Sun-synchronous Altitude: 685 km
CDTI / ESA				security.		Period: 98 mins Inclination: 98 deg
001112011						Repeat cycle: 49 days
						LST: 10:30 Longitude (if geo):
						Asc/desc: Descending URL:
INSAT-3A	Currently being flown	04 Apr 2003	Apr 2013	Meteorology, data collection and communication, search and rescue.	VHRR, DRT-S&R, CCD camera	Type: Geostationary Altitude: 36000 km
Indian National Satellite - 3A				163006.		Period:
ISRO						Inclination: Repeat cycle:
						LST: Longitude (if geg): -94
						Longitude (if geo): -94 Asc/desc: N/A URL: www.isro.org/
INSAT-3D	Approved	Dec 2012	Dec 2019	Meteorology, data collection and communication, search and	Imager (INSAT), Sounder (INSAT)	Type: Geostationary
Indian National Satellite - 3D				rescue.		Altitude: 36000 km Period:
ISRO						Inclination: Repeat cycle:
						LST:
						Longitude (if geo): -93.5 Asc/desc: N/A
INSAT-3DR	Approved	Dec 2013	Dec 2020	Meteorology, data collection and communication, search and	Imager (INSAT), Sounder (INSAT)	URL: www.isro.org/ Type: Geostationary
Indian National Satellite - 3DR				rescue.		Alitude: 36000 km Period:
						Inclination:
ISRO						Repeat cycle: LST:
						Longitude (if geo): -93.5 Asc/desc: N/A
INICAT 2DC	Approved	D- 00-	D- 00-	Metaorology data colleget and any set of	Imagar (INCAT) Or with (INCAT)	URL: www.isro.org/
INSAT-3DS	Approved	Dec 2015	Dec 2022	Meteorology, data collection and communication, search and rescue.	Imager (INSAT), Sounder (INSAT)	Type: Geostationary Altitude: 36000 km
Indian National Satellite - 3DS						Period: Inclination:
ISRO						Repeat cycle: LST:
						Longitude (if geo): -93.5 Asc/desc: N/A
						URL: www.isro.org/
ISS/JEM	Currently being flown	10 Sep 2009	Apr 2020	Scientific experiments on orbit.	SMILES	Type: Inclined, non-sun-synchronous Altitude: 407 km
International Space Station/Japanese Experiment Mo						Period: 93 mins Inclination: 51.6 deg
						Repeat cycle:
JAXA						LST: Longitude (if geo):
						Asc/desc: Ascending URL: iss.jaxa.jp/iss/index_e.html
Jason-1	Currently being flown	07 Dec 2001	Sep 2013	3-year nominal mission life, currently in extended operations.	LRA, JMR, DORIS-NG, POSEIDON-	Type: Inclined, non-sun-synchronous
		07 080 2001		Physical oceanography geodesy/gravity climate monitoring	2 (SSALT-2) TRSR	Altitude: 1336 km
Ocean surface topography		07 200 2001		Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.	2 (SSALT-2), TRSR	Altitude: 1336 km Period: 112.4 mins
Ocean surface topography NASA / CNES		07 Dec 2001		Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.	2 (SSALT-2), TRSR	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days
		07 060 2001		Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.	2 (SSALT-2), TRSR	Altitude: 1336 km Period: 112 4 mins Inclination: 66 deg Repeat cycle: 10 days LST:
		07 260 2001		Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.	2 (SSALT-2), TRSR	Altitude: 1336 km Period: 1124 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/desc: N/A
	Approved	Apr 2014		marine meteorology. 3-year nominal mission life, currently in extended operations.	2 (SSALT-2), TRSR AMR, POSEIDON-3B	Altitude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days 15.0 gitude (if geo): Ascrifest: VM. Ascrifest: VM. URL: sealevel.ipl.nasa.gov/mission/jason-1.html URL: sealevel.ipl.nasa.gov/mission/jason-1.html
NASA / CNES Jason-3				marine meteorology.		Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Defade: TWA URL: sealewel jain nasa gov/mission/jason-1.html URL: sealewel jain nasa gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1336 km Period: 112.4 mins
NASA / CNES				marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring,		Altitude: 1336 km Period: 1122 / mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/desc: N/A URL: sealevel ipi.inasa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1338 km Period: 1124 mins Inclination: 66 deg
NASA / CNES Jason-3				marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring,		Altitude: 1336 km Period: 1122 / mins Inclination: 66 deg Repeat cycle: 10 days LST. Longitude (if geo): Asc/desc: N/A URL: sealevel ipi.Inasa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1338 km Period: 1124 mins Inclination: 66 deg Repeat cycle: 10 days LST.
NASA / CNES Jason-3				marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring,		Altitude: 1336 km Period: 1122 / mins Inclination: 66 deg Repeat cycle: 10 days LST: Longlitude (figeo): Asc/desc: N/A URL: sealevel ip.in.asa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1338 km Period: 1124 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longlitude (figeo): Asc/desc: N/A
NASA / CNES Jason-3			Apr 2017	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanooraphic, and solar-		Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS optitude (if geo): Ascrides: VA Ascrides: VA URL: sealevel.jpl.nasa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LSI: LSI: Ascrides: VA URL: sexpent roke: 10 days LSI: LSI: Ascrides: VA URL: sexpent roke: 10 days
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1	Approved	Apr 2014	Apr 2017	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental	AMR, POSEIDON-38	Altitude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: URL: sealevel (pl.nasa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1336 km Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (fi geo): Aac/des: WA URL: URL: Type: Sun-synchronous Altitude: 4336 km
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1	Approved	Apr 2014	Apr 2017	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanooraphic, and solar-	AMR, POSEIDON-38	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: URL: sealevel (pl.nasa.gov/mission/jason-1.html Type: Inclined, non-sun-synchronous Altitude: 1336 km Periodialitor: 66 deg Repeat cycle: 10 days LST: Longitude (fi geo): Aac/des: WA URL: Type: Sun-synchronous Altitude: 230 km Altitude: 240 km Period: 101 mins Inclination: 98.75 deg
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1	Approved	Apr 2014	Apr 2017	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental	AMR, POSEIDON-38	Altitude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: URL: sealevel; ji Inasa.gov/mission/jason-1.html Type: Inclined; non-sun-synchronous Altitude: 1338 km Period: 112.4 mins Inclination: 66 days Ref Longitude (fi geo): Ascides: N/A URL: Type: Sun-synchronous Altitude: 230 km Period: 101 mins Inclination: 86 Jason Period: 101 mins Inclination: 86.75 deg Repeat cycle: LST: 13.30
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1	Approved	Apr 2014	Apr 2017	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental	AMR, POSEIDON-38	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longhate: With LST: Longhate: With URL: sealewel jain nasa govimission/jason-1.html URL: sealewel jain nasa govimission/jason-1.html URL: sealewel jain nasa govimission/jason-1.html URL: sealewel jain nasa govimission/jason-1.html Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longhuted (If geo): Asc/desc: N/A URL: URL: URL: URL: LST: 13:30 Longhuted (If geo): LST: 13:30 Longhuted (If geo):
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA	Approved Approved	Apr 2014 Jul 2017	Apr 2017 Jun 2023	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection.	AMR, POSEIDON-3B Cris, Ceres, VIIRS, ATMS, OMPS	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): AREL sealewci joi nasa.gov/mission/iason-1.html Type: Inclined, non-sun-synchronous Altitude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/desc: N/A URL: URL: URL: LST: 1320 LST: 1320 LS
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2	Approved	Apr 2014	Apr 2017 Jun 2023	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection.	AMR, POSEIDON-38	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Aac/des: IVA Mittude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Aac/des: IVA URL: LST: Longitude (if geo): Aac/des: IVA URL:
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JUPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2	Approved Approved	Apr 2014 Jul 2017	Apr 2017 Jun 2023	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Note that free- hyper options are being considered for the A-DCS4 and SARSAT	AMR, POSEIDON-3B Cris, Ceres, VIIRS, ATMS, OMPS Cris, VIIRS, ATMS, TSIS, OMPS, A-	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/des: IVA Upps: redined; Ions-sun-synchronous Altitude: 1338 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/des: IVA URL: URL
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2	Approved Approved	Apr 2014 Jul 2017	Apr 2017 Jun 2023	marine meteorology.  3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.  Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Not that free- fiver options are being considered part of the JPSS	AMR, POSEIDON-3B Cris, Ceres, VIIRS, ATMS, OMPS Cris, VIIRS, ATMS, TSIS, OMPS, A-	Altitude: 1336 km Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Next Constant, 2000 LST: Next Constant, 2000 LST: Next Constant, 2000 Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (If geo): Asternet: NA Altitude: 224 km Period: 112.4 mins Inclination: 98.75 deg Repeat cycle: LST: 13:00 Longitude (If geo): Asternet: Asternet: LST: 13:00 Longitude (If geo): Asternet: Asternet: Asternet: Asternet: LST: 13:00 Longitude (If geo): Asternet: Asternet: Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13:00 Longitude (If geo): Asternet: Asternet: Asternet: Asternet
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JUPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2	Approved Approved	Apr 2014 Jul 2017	Apr 2017 Jun 2023	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Note that free- hyper options are being considered for the A-DCS4 and SARSAT	AMR, POSEIDON-3B Cris, Ceres, VIIRS, ATMS, OMPS Cris, VIIRS, ATMS, TSIS, OMPS, A-	Altitude: 1336 km Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Distribution: 66 deg Repeat cycle: 10 days LST: Distribution: 68 deg Repeat cycle: 10 days LST: Longtude (If geo): Longtude (If geo): Aac/des: NA URL: server, Sectore Altitude: 824 km Period: 112.4 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longtude (If geo): Aac/des: Ascome LST: Longtude (If geo): Aac/des: KNA URL: LST: 13:30 Longtude (If geo): Aac/des: Ascome LST: 13:30 Longtude (If geo): Aac/des: Ascome Altitude: 824 km Period: 110 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longtude (If geo): Aac/des: Ascome LST: 13:30 Longtude (If geo): Aac/des: LST: 13:30 Longtude (If geo): Aac/des: LST: 13:30 Longtude (If geo): LST: 13:30 LST: 13:30
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JUPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA	Approved Approved	Apr 2014 Jul 2017 Jan 2023	Apr 2017 Jun 2023 Oct 2025	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Sea th SARSAT isetumenta, though these are considered part of the JPSS system.	AMR, POSEIDON-3B Cris, Ceres, Viirs, Atms, omps Cris, Viirs, Atms, Tsis, omps, A- DCS4, SARSAT, ERBS	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS: 0; fulled (f geo): Ascrides: WA Ascrides: WA URL: sealevel.jpl.nasa.gov/mission/iason-1.html Type: Inclined, non-sum-synchronous Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS: Type: Sun-synchronous Altitude: 824 km Period: 112.4 mins Inclination: 98.75 deg Repeat cycle: 1000 LS: 1330 URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ URL: www.nexds.noaa.gov/jps/ LS: 1330 LS: 1330 LS
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1	Approved Approved	Apr 2014 Jul 2017	Apr 2017 Jun 2023 Oct 2025	marine meteorology.  3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology.  Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Not that free- fiver options are being considered part of the JPSS	AMR, POSEIDON-3B Cris, Ceres, VIIRS, ATMS, OMPS Cris, VIIRS, ATMS, TSIS, OMPS, A-	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (1 (peo): Longitude (1 (peo): Longitude (1 (peo): Longitude (1 (peo): Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (1 (peo): Asc/des: N/A URL: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: URL: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: URL: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: Mutude: 835 km Period: 101 mins Inclination: 96.75 deg Repat cycle: LST: 13.30 Longitude (1 (peo): Asc/des: Ascending URL: www.neshs.noaa_govjpss/ Type: Sun-synchronous Altitude: 835 km Period: 101 mins Inclination: 96.75 deg Repat cycle: LST: 45.5 deg Repat cyc
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JUPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA	Approved Approved	Apr 2014 Jul 2017 Jan 2023	Apr 2017 Jun 2023 Oct 2025	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Sea th SARSAT isetumenta, though these are considered part of the JPSS system.	AMR, POSEIDON-3B Cris, Ceres, Viirs, Atms, omps Cris, Viirs, Atms, Tsis, omps, A- DCS4, SARSAT, ERBS	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS: 0; Hold of (1,960): Ascrides: 110.4 Ascrides: 110.4 Ascrides: 110.4 Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS: Inclination: 66 deg Repeat cycle: 10 days LS: Ascrides: 110.4 Ascrides: 110.4 Ascrides: 110.4 Def LS: Ascrides: 110.4 Def LS:
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NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite	Approved Approved	Apr 2014 Jul 2017 Jan 2023	Apr 2017 Jun 2023 Oct 2025	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Sea th SARSAT isetumenta, though these are considered part of the JPSS system.	AMR, POSEIDON-3B Cris, Ceres, Viirs, Atms, omps Cris, Viirs, Atms, Tsis, omps, A- DCS4, SARSAT, ERBS	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Devide: 10 days LST: Devides: 10 days Devides: 10.4 URL: sealewel jni nasa gov/mission/jason-1.html URL: sealewel jni nasa gov/mission/jason-1.html URL: sealewel jni nasa gov/mission/jason-1.html Proje: distance of the sealewel jni Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (If geo): Aac/des: IVA Asc/des: IVA Asc/des: IVA Asc/des: IVA Period: 112 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longitude (If geo): Aac/des: Ascending URL: www.needis.noaa_gov/jpss/ Type: Sun-synchronous Altitude: 825 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longitude (If geo): Aac/des:: Ascending URL: www.needis.noaa_gov/jpss/ Type: Geostationary Asc/des:: Ascending URL: www.needis.noaa_gov/jpss/ Type: Geostationary Astude: 630 km Period: Hitude: 800 km Period: LST: 13:30 Longitude (If geo): Asc/des:: Ascending URL: www.needis.noaa_gov/jpss/ Type: Geostationary Astude: 600 km Period: LST: 13:30 Longitude (If geo): Asc/des:: Ascending URL: www.needis.noaa_gov/jpss/ Type: Geostationary Astude: 600 km Period: LST: 13:30 Longitude (If geo): Asc/des:: Ascending LST: www.needis.noaa_gov/jpss/ Type: Geostationary Astude: 600 km Period: LST: 13:30 Longitude (If geo): Asc/des:: Ascending LST: www.needis:: Ascending LST: www.needis.noaa_gov/jpss/ Type: Geostationary Astude:: CST: CST: CST: CST: CST: CST: CST: CS
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NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO	Approved Approved Currently being flown	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002	Apr 2017 Jun 2022 Oct 2026 Dec 2012	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesylgravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Net Haf free- flyer options are being considered for the A-DCS4 and SARSAT Meteorological applications. Meteorological applications.	AMR, POSEIDON-3B Cris, Ceres, Viirs, Atms, OMPS Cris, Viirs, Atms, TSIS, OMPS, A- DCS4, SARSAT, ERBS	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): ARE. assalwed in nasa owimission[ason-1.html Type: Inclined; non-sun-synchronous Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude (if geo): Asc/des: NA URL: URL: URL: LST: 13:30 Longitude (if geo): Asc/des: Ascending URL: LST: 13:30 LST: 13:3
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NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N1 Kanopus-V N1	Approved Approved Currently being flown Approved	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Net that free- flyer options are being considered for the A-DCS4 and SARSAT mentoring instrument, hough these are considered part of the JPSS system. Meteorological applications: Land surface, disaster monitoring.	AMR, POSEIDON-38 Cris, Ceres, Viirs, Atms, OMPS Cris, Viirs, Atms, Tsis, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200	Altitude 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LS optimulation: 66 deg Repeat cycle: 10 days LS optimulation: 66 deg Revides: 10.4 mins Inclination: 66 deg Repeat cycle: 10 days LS optimulation: 66 deg Repeat cycle: 10 days LS optimulation: 66 deg Repeat cycle: 10 days LS optimulation: 68 deg Repeat cycle: 10 days LS optimulation: 78 deg Repeat cycle: 10 days LS optimulation: 10 days Period: 101 mins Inclination: 98 deg Repeat cycle: 10 days LS optimulation: 10 days LS optimulation: 10 days Period: 101 mins Inclination: 98 deg Repeat cycle: 10 days LS optimulation: 10 days Altitude: 3000 km Period: 101 mins Inclination: 98 deg Repeat cycle: LS optimulation: 10 days LS optimulation: 10
NASA / CNES Jason-3 NASA / NOAA / CNES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N2 Kanopus-V N2 Kanopus-V N2	Approved Approved Currently being flown Approved	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Net that free- flyer options are being considered for the A-DCS4 and SARSAT mentoring instrument, hough these are considered part of the JPSS system. Meteorological applications: Land surface, disaster monitoring.	AMR, POSEIDON-38 Cris, Ceres, Viirs, Atms, OMPS Cris, Viirs, Atms, Tsis, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longthee: WA URL: sealewel jin nass gov/mission/jason-1.html URL: sealewel jin nass gov/mission/jason-1.html URL: sealewel jin nass gov/mission/jason-1.html Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longthufe (If geo): Aac/des: WA URL: senyenchronous Altitude: 824 km Period: 112.4 mins Inclination: 96.75 deg Repeat cycle: LST: 13.30 Longthufe (If geo): Aac/des: Ascending URL: www.redis nosa gov/jass/ Type: Sun-synchronous Altitude: 824 km Period: 101 mins Inclination: 96.75 deg Repeat cycle: LST: 13.30 Longthufe (If geo): Aac/des: Ascending URL: www.redis nosa gov/jass/ Type: Sun-synchronous Altitude: 835 km Period: 101 mins Inclination: Ref: Geostationary Altitude: 835 km Period: 101 mins Inclination: Ref: Geostationary Altitude: 835 km Period: 101 mins Period: 101 mins Period: 101 mins Period: 102 m
NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N2	Approved Approved Currently being flown Approved	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; global and regional environmental monitoring, search and rescue, data collection. Net that free- flyer options are being considered for the A-DCS4 and SARSAT mentoring instrument, hough these are considered part of the JPSS system. Meteorological applications: Land surface, disaster monitoring.	AMR, POSEIDON-38 Cris, Ceres, Viirs, Atms, OMPS Cris, Viirs, Atms, Tsis, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude: (fi (po)): Longitude: (fi (po)): Longitude: (fi (po)): Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longitude: (fi (poc)): Asc/dest: NA URL: Marking Second Second Second Second Second Second Second Second Period: 112.4 mins Inclination: 96.75 deg Repeat cycle: LST: 13.30 Longitude: (fi (poc)): Asc/dest: Ascending URL: Well: URL: LST: 13.30 Longitude: (fi (poc)): Asc/dest: Ascending URL: URL: URL: URL: URL: URL: URL: Second Second
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NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N1 Kanopus-V N2 Kanopus-V N3 Kanopus-V N3 Kanopus-V N4 Kanopus-V N4 Kanopus-N4 Kanopus-V N4 Kanopus-V N4 Kanopus-V N4	Approved Approved Currently being flown Approved Considered	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012 2013	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Net that free- fiver options are being considered for the ADCS4 and SARSAT instruments, hough these are considered part of the JPSS system. Meteorological applications. Land surface, disaster monitoring. Land surface, disaster monitoring.	AMR, POSEIDON-3B CriS, CERES, VIIRS, ATMS, OMPS CriS, VIIRS, ATMS, TSIS, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200 PSS, MSS (Kanonpus), MSU-200	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Bootdes: NA URL: sealewel joi nasa gov/mission/jason-1.html URL: sealewel joi nasa gov/mission/jason-1.html URL: sealewel joi nasa gov/mission/jason-1.html URL: sealewel joi nasa gov/mission/jason-1.html Period: 112.4 mins Inclination: 66 deg Repeat cycle: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 104 Altitude: 624 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longitude (if geo): Aac/des:: Ascending URL: www.nedsin.noag.gov/jass/ Type: Sun-synchronous Altitude: 824 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13:30 Longitude (if geo): Aac/des:: Ascending URL: www.nedsin.noag.gov/jass/ Type: Sun-synchronous Altitude: 3000 km Period: 101 Repeat cycle: LST: 13:30 Longitude (if geo): Aac/des:: Ascending URL: www.nedsin.noag.gov/jass/ Type: Geostationary Altitude: 3000 km Period: 101 Repeat cycle: LST: 13:30 Longitude (if geo): Aac/des:: Ascending URL: www.nedsin.noag.gov/jass/ Type: Geostationary Altitude: 3000 km Period: 101 Repeat cycle: LST: LST: 12:30 Longitude (if geo):-33 Asc/des:: N/A URL: www.nedsin.noag.gov/jass/ Type: Geostationary Altitude: 600 km Period: 101 Repeat cycle: LST: L
NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N1 Kanopus-V N2 Kanopus-V	Approved Approved Currently being flown Approved Considered	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012 2013	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Net that free- fiver options are being considered for the ADCS4 and SARSAT instruments, hough these are considered part of the JPSS system. Meteorological applications. Land surface, disaster monitoring. Land surface, disaster monitoring.	AMR, POSEIDON-3B CriS, CERES, VIIRS, ATMS, OMPS CriS, VIIRS, ATMS, TSIS, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200 PSS, MSS (Kanonpus), MSU-200	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longthee: UNA URL: sealewel jin nasa gov/mission/jason-1.html URL: sealewel jin nasa gov/mission/jason-1.html URL: sealewel jin nasa gov/mission/jason-1.html URL: sealewel jin nasa gov/mission/jason-1.html Period: 112.4 mins Inclination: 66 deg Repeat cycle: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 104 Altitude: 824 km Period: 112.4 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fg eo): Aaccless: Ascending URL: www.needis.no.ag.gov/jass/ Type: Sun-synchronous Altitude: 835 km Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fg eo): Aaccless: Ascending URL: www.needis.no.ag.gov/jass/ Type: Guession.ag.gov/jass/ Type: Guession.ag
NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N1 Kanopus-V N2 Kanopus-V N3 Kanopus-V N3 Kanopus-V N4 Kanopus-V N4 Kanopus-N4 Kanopus-V N4 Kanopus-V N4 Kanopus-V N4	Approved Approved Currently being flown Approved Considered	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012 2013	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Net that free- fiver options are being considered for the ADCS4 and SARSAT instruments, hough these are considered part of the JPSS system. Meteorological applications. Land surface, disaster monitoring. Land surface, disaster monitoring.	AMR, POSEIDON-3B CriS, CERES, VIIRS, ATMS, OMPS CriS, VIIRS, ATMS, TSIS, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200 PSS, MSS (Kanonpus), MSU-200	Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longhate: (If peo): Longhate: (If peo): Longhate: (If peo): Longhate: (If peo): Longhate: (If peo): Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Longhate: (If deo): Aac/des:: NA URL: Benetation: 10.75 deg Period: 112.4 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longhate: Altitude: 10.8 mins Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longhate: Altitude: 10.8 mins Period: 101 mins Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longhate: Altitude: 10.8 mins Period: 101 mins Period: 101 mins Period: 101 mins Period: 101 mins Period: 101 mins Period: 101 mins Period: 102 Mittude: 10.8 mins Longhate: MA Mittude: 10.8 mins Longhate:
NASA / ONES Jason-3 NASA / NOAA / ONES / EUMETSAT JPSS-1 Joint Polar Satellite System - 1 NOAA / EUMETSAT / NASA JPSS-2 Joint Polar Satellite System - 2 NOAA / EUMETSAT / NASA KALPANA-1 Meteorological Satellite ISRO Kanopus-V N1 Kanopus-V N1 Kanopus-V N1 Kanopus-V N2 Kanopus-V	Approved Approved Currently being flown Approved Considered	Apr 2014 Jul 2017 Jan 2023 12 Sep 2002 Jun 2012 2013	Apr 2017 Jun 2023 Oct 2025 Dec 2012 Jun 2015	marine meteorology. 3-year nominal mission life, currently in extended operations. Physical oceanography, geodesy/gravity, climate monitoring, marine meteorology. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Meteorological, climatic, terrestrial, oceanographic, and solar- geophysical applications; dotal and regional environmental monitoring, search and rescue, data collection. Net that free- fiver options are being considered for the ADCS4 and SARSAT instruments, hough these are considered part of the JPSS system. Meteorological applications. Land surface, disaster monitoring. Land surface, disaster monitoring.	AMR, POSEIDON-3B CriS, CERES, VIIRS, ATMS, OMPS CriS, VIIRS, ATMS, TSIS, OMPS, A- DCS4, SARSAT, ERBS VHRR, DRT-S&R PSS, MSS (Kanonpus), MSU-200 PSS, MSS (Kanonpus), MSU-200	Altitude 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Accident: VNA URL: sealevel. jpl.nasa.gov/mission/jason-1.html Type: Inclined, non-sum-synchronous Altitude: 1336 km Period: 112.4 mins Inclination: 66 deg Repeat cycle: 10 days LST: Accident: VNA URL: sealevel. jpl.nasa.gov/mission/jason-1.html Type: Sun-synchronous Altitude: 238 km Period: 112.4 mins Inclination: 68 dF Repeat cycle: 10 days LST: Accident: VNA URL: Sealevel. LST: 13.30 Longitude (fi geoling Altitude: 824 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fi geoling URL: www.nextls.nosa.gov/jpss/ Type: Sun-synchronous Altitude: 833 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fi geol): Accident: NA Altitude: 3000 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fi geol): Accident: NA Altitude: 3000 km Period: 101 mins Inclination: 98.75 deg Repeat cycle: LST: 13.30 Longitude (fi geol): Accident: NA Altitude: 600 km Period: 101 mins Inclination: Repeat cycle: LST: Longitude (fi geol): Accident: NA Altitude: 600 km Period: 101 mins Inclination: 98 deg Repeat cycle: LST: Longitude (fi geol): Accident: Accending URL: panet lip: Totays LST: Longitude (fi geol): Accident: Accending LST: Longitude (fi geol): Accident: Accending LST: Longitude (fi geol): Accident: Accending LST: Longitude (fi geol): Accident: Accending LST: Longitude (fi geol): Accident: Accendi

Wildoloff	Statue	Launch Date	EOL Date	Applications	Instrumente	Orbit Details & URL
KOMPSAT-3	Currently being flown	18 May 2012	May 2016	Cartography, land use and planning, disaster monitoring.	AEISS	Type: Sun-synchronous
Korea Multi-Purpose Satellite -3						Altitude: 685 km Period: 98.5 mins
						Inclination:
KARI / DLR						Repeat cycle: 28 days LST: 10:50
						Longitude (if geo):
						Asc/desc: Ascending URL: kompsat.kari.re.kr/english/index.asp
KOMPSAT-3A	Approved	May 2014	May 2018	Cartography, land use and planning, disaster monitoring.	AEISS-A	Type: Sun-synchronous
Korea Multi-Purpose Satellite -3A						Altitude: 528 km Period: 98.5 mins
						Inclination:
KARI / DLR						Repeat cycle: 28 days LST:
						Longitude (if geo):
						Asc/desc: Ascending URL:
KOMPSAT-5	Approved	May 2012	Dec 2016	Cartography, land use and planning, disaster monitoring.	COSI	Type: Sun-synchronous Altitude: 550 km
Korea Multi-Purpose Satellite -5						Altitude: 550 km Period: 98.5 mins
						Inclination:
KARI						Repeat cycle: 28 days LST: 6:00
						Longitude (if geo):
						Asc/desc: Ascending URL: kompsat.kari.re.kr/english/index.asp
LAGEOS-1	Currently being flown	04 May 1976	May 2016	Geodesy, crustal motion and gravity field measurements by laser ranging.	LRA (LAGEOS)	Type: Inclined, non-sun-synchronous Altitude: 5900 km
Laser Geodynamics Satellite - 1				runging.		Period: 226 mins
ASI						Inclination: 110 deg Repeat cycle:
						LST:
						Longitude (if geo): Asc/desc: N/A
LAGEOS-2	Ourseath, balan flaure	22 Oct 1992	0-+ 0000	Geodesy, crustal motion and gravity field measurements by laser		URL: www.asi.it Type: Inclined, non-sun-synchronous
	Currently being flown	22 Oct 1992	Oct 2032	ranging.	LKA (LAGEUS)	Altitude: 5800 km
Laser Geodynamics Satellite - 2						Period: 223 mins Inclination: 52.6 deg
ASI						Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: N/A
Landsat-5	Currently being flown	01 Mar 1984	Dec 2042	Earth resources, land surface, environmental monitoring,	MSS (Landsat), TM	URL: www.asi.it Type: Sun-synchronous
	2 2. ronay being hown	51 Will 1964	000 2012	agriculture and forestry, disaster monitoring and assessment, ice		Altitude: 705 km
USGS / NASA				and snow cover.		Period: 98.9 mins Inclination: 98.2 deg
						Repeat cycle: 16 days
						LST: 10:00 Longitude (if geo):
						Asc/desc: Descending
Landsat-7	Currently being flown	15 Apr 1999	.lan 2017	5-year nominal mission life, currently in extended operations.	ETM+	URL: landsat.usgs.gov/ Type: Sun-synchronous
				Earth resources, land surface, environmental monitoring,		Altitude: 705 km
USGS / NASA				agriculture and forestry, disaster monitoring and assessment, ice and snow cover.		Period: 98.9 mins Inclination: 98.2 deg
						Repeat cycle: 16 days
						LST: 10:05 Longitude (if geo):
						Asc/desc: Descending
LARES	Currently being flown	13 Feb 2012	Feb 2052	Scientific objectives are the measurement of the dragging of	LCCRA	URL: landsat.usgs.gov/ Type: Inclined, non-sun-synchronous
LAgor DElativity Satallita				inertial frames due to the Earth's angular momentum, or Lense-		Altitude: 1450 km
LAser RElativity Satellite				Thirring effect, and a high precision test of the Earth's gravitomagnetic field with accuracy of the order of a few percent.		Period: 99.1 mins Inclination: 71 deg
ASI				Gravitomagnetic field and dragging of inertial frames are predictions of Einstein's theory of General Relativity. In addition,		Repeat cycle: LST: Not defined
				LARES will allow other measurements in geodesy and		Longitude (if geo):
				geodynamics.		Asc/desc: Ascending URL: www.asi.it
LDCM	Approved	Jan 2013	Jan 2018	5-year nominal mission life. Earth resources, land surface,	OLI, TIRS	Type: Sun-synchronous
Landsat Data Continuity Mission				environmental monitoring, agriculture and forestry, disaster monitoring and assessment, ice and snow cover.		Altitude: 705 km Period: 99 mins
				monitoring and assessment, ice and show cover.		Inclination: 98.2 deg
NASA / USGS						Repeat cycle: 16 days LST: 10:00
						Longitude (if geo):
						Asc/desc: Descending URL: Idcm.nasa.gov/
LIST	Considered	2030	2033	Phase-3 DS Mission, launch order unknown, 3-year nominal	Laser altimeter (LIST)	Type: Sun-synchronous
Lidar Surface Topography				mission. Land surface topography for landslide hazards and water runoff.		Altitude: Period:
NACA						Inclination:
NASA						Inclination: Repeat cycle: 365 days LST:
NASA						Repeat cycle: 365 days LST: Longitude (if geo):
						Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html
NASA MEGHA-TROPIQUES	Currently being flown	12 Oct 2011	Nov 2014	Study of the Inter-tropical zone and its convective systems (water and nervor whee)	ScaRaB, SAPHIR, MADRAS, ROSA	Repeat cycle: 365 days LST: Longitude (If geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html Type: Inclined, non-sun-synchronous
MEGHA-TROPIQUES	Currently being flown	12 Oct 2011	Nov 2014	Study of the inter-tropical zone and its convective systems (water and energy cycles).	ScaRaB, SAPHIR, MADRAS, ROSA	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html
	Currently being flown	12 Oct 2011	Nov 2014	Study of the inter-tropical zone and its convective systems (water and energy cycles).	ScaRaB, SAPHIR, MADRAS, ROSA	Repeat cycle: 365 days LST: Longitude (if geo): Ascodesc: URL: decased; Asc.nesa.gov/list.html URL: decased; Asc.nesa.gov/list.html Parkot: 102:16 mins Inclination: 20 deg
MEGHA-TROPIQUES	Currently being flown	12 Oct 2011	Nov 2014	Study of the inter-tropical zone and its convective systems (water and energy cycles).	ScaRab, SAPHIR, MADRAS, ROSA	Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc. URL: decadal:gdtc.nasa.gov/list.html Type: Inclinet, non-sum-synchronous Preirod: 102:16 mins Inclination: 20 dog Repeat cycle: LST:
MEGHA-TROPIQUES	Currently being flown	12 Oct 2011	Nov 2014	Study of the inter-tropical zone and its convective systems (water and energy cycles).	ScaRab, Saphir, Madras, Rosa	Repeat cycle: 385 days LST: Longitude (if geo): Asc/dasc: URL: decadal gefc.nasa.gov/list.html Type: Inclined, non-sum-synchronous Altitude 807 km Period: 102. 16 mins Inclination: 20 deg Inclination: 20 de
MEGHA-TROPIQUES CNES / ISRO				and energy cycles).		Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadal.gsfc.nasa.gov/list.html Type: Inclined, non-sun-synchronous Altitude: 867 km Period: 102.16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/dasc: Ascending URL: smsc.cness.fMREGHAT/
MEGHA-TROPIQUES ONES / ISRO MERLIN	Currently being flown	12 Oct 2011 2016		Study of the inter-tropical zone and its convective systems (water and energy cycles). Global atmospheric methane concentration.	ScaRaB, SAPHIR, MADRAS, ROSA IPDA LIDAR	Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadal.gsfc.nasa.gov/list.html Type: Inclined, non-sun-synchronous Altitude: 867 km Period: 102.16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/dasc: Ascending URL: smsc.cnes: fMECHAT/ Type: Sun-synchronous Altitude: 500 km
MEGHA-TROPIQUES CNES / ISRO				and energy cycles).		Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html URL: decadal.gsfc.nasa.gov/list.html Prepeir.dt: 102: 16 mins Indination: 20 deg Repeat cycle: LST: LST: 16 mins LST: 16 mins Nec/desc: Ascarding URL: smsc.cnes.fr/MEG/NAT/ Type: Sun-synchronous Attitude: 500 km Period: 90 mins
MEGHA-TROPIQUES ONES / ISRO MERLIN				and energy cycles).		Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html URL: decadal.gsfc.nasa.gov/list.html Predict: 102: 16 mins Indination: 20 deg Repeat cycle: LST: Repeat cycle: LST: Nec:Use:: Ascanding URL: smsc.cnes.fr/MEGHAT/ Type: Sun-synchronous Attitude: 500 km Period: 90 mins Indination: Repeat cycle: 26 days
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission				and energy cycles).		Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal:gate.nasa.gov/list.html URL: decadal:gate.nasa.gov/list.html URL: more than the second secon
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission				and energy cycles).		Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadal:gate.nasa.gov/list.html Type: Inclined; non-sum-synchronous Alexidot: 102:16 mms Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/dasc: Ascending URL:-sms.cnes.fr/MECHA7/ Type: Sun-synchronous Alitude: 500 km Period: 90 mms Period: 90 mms Repeat; 20 km Berlod: 90
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission				and energy cycles).		Repeat cycle: 365 days           LST:           Longitude (if geo):           Asc/desc:           URL: decadal.gstc.nasa.gov/list.html           Type: Inclined, no-sum-synchronous           Altitude: 807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Scrides: Ascending           URL: smsc.nes.fr/MECHAT/           Type: Sun-synchronous           Altitude: 500 km           Period: 90 mins           Inclination:           Repeat cycle: 28 days           LST:           Longitude (if geo):           Advirde/Browding           Advirde/Browding           VAID           Vew dit deriv/d/sktpodefault aspv/tabid-           Adv/05807 mc-13/0727
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission			2019	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical	IPDA LIDAR BRK. MTVZA IKFS-2, MSU-MR.	Repeat cycle: 365 days           LST:           Longitude (if geo):           Asc/desc:           URL: decadal.gstc.nasa.gov/list.html           Type: Inclined, no-sum-synchronous           Altitude: 807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Repeat cycle. 0807 km           Period: 102.10 mins           Scrides: Ascending           URL: smsc.nes.fr/MECHAT/           Type: Sun-synchronous           Altitude: 500 km           Period: 90 mins           Inclination:           Repeat cycle: 28 days           LST:           Longitude (if geo):           Advirde/Browding           Advirde/Browding           VAID           Vew dit deriv/d/sktpodefault aspv/tabid-           Adv/05807 mc-13/0727
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2	Planned	2016	2019	and energy cycles). Global atmospheric methane concentration.	IPDA LIDAR	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/list.html URL: decadal.gsfc.nasa.gov/list.html URL: decadal.gsfc.nasa.gov/list.html Prod: 102.16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: smscc.nes/htmC6HAT/ URL: smscc.nes/htmC6HAT/ URL: smscc.nes/htmC6HAT/ URL: smscc.nes/htmC6HAT/ URL: smscc.nes/htmC6HAT/ Longitude (if geo): Asc/desc: Ascending Longitude (if geo): Asc/desc: Ascending URL: www.clicker/ddesktopdefault.aspvtabid-
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES	Planned	2016	2019	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data	IPDA LIDAR BRK. MTVZA IKFS-2, MSU-MR.	Repeat cycle: 365 days           LST:           Longitude (if geo):           Asc/desc:           URL: decadal.gstc.nasa.gov/list.html           Type: Inclined, no-sum-synchronous           Altitude: 807 km           Period: 102.10 mins           Repeat cycle. 609           Repeat cycle.           Ascidesc:           Longitude (if geo):           Ascidesc:           Ascidesc:           Ascidesc:           Scrifter:           Longitude (if geo):           Ascidesc:           Ascidesc:           Period: 100.17 mins           Altitude: 600 km           Period: 90 mins           Inclination:           Repeat cycle: 28 days           LST:           Longitude (if geo):           Adviride ford/deskipodefault asportabid- 2440/388, read-31672           Type: Sun-synchronous           Altitude: 1024 km           Period: 103.3 mins           Inclination: 98.6 deg
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2	Planned	2016	2019	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data	IPDA LIDAR BRK. MTVZA IKFS-2, MSU-MR.	Repeat cycle: 365 days           LST:           Longitude (if geo):           Asc/desc:           DRL: decadal.gsfc.nasa.gov/list.html           Type: Inclined, non-sum-synchronous           Altitude 867 km           Period: 102.16 mins           Inclination: 20 deg           Rotat           Rotat           Altitude (if geo):           Ascidesc:
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2	Planned	2016	2019	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data	IPDA LIDAR BRK. MTVZA IKFS-2, MSU-MR.	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal: gate.nasa.gov/list.html URL: decadal: gate.nasa.gov/list.html URL: decadal: gate.nasa.gov/list.html URL: mosume-synchronous Period: 1102.16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: sms.cnes.fr/MEGHAT/ Type: Sun-synchronous Altitude: 500 km Repeat cycle: 28 days Longitude (if geo): Asc/desc: Ascending URL: sms.gov/abs/ Asc/desc: Ascending URL: sms.gov/abs/ Adv/def/defktpdefault.aspv/tabid- 2440/3868; read-31672/ Type: Sun-synchronous Altitude: 1023 mins Period: 1003 mins
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS	Planned Approved	2016 Apr 2012	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	ipda Lidar Brk, Mtvza, Ikfs-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS	Repeat cycle: 365 days LST: Longitude (if geo): Ascidesc: URL decadal.gdc.nasa.gov/list.html Type: Inclined; no-sum-synchronous Altitude: 1007 km Altitude: 10
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2	Planned	2016	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS,	Repeat cycle: 365 days           LST:           Longitude (if geo):           Asc/desc:           DR1: decadal: gstc.nasa.gov/ist.html           Type: Inclined, non-sun-synchronous           Alttude: 867 km           Period: 102: 16 mins           Indination: 20 deg           Repait cycle:           LST:           LOngitude (if geo):           Ascue:: Ascending           LST: <td< td=""></td<>
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS	Planned Approved	2016 Apr 2012	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	ipda Lidar Brk, Mtvza, Ikfs-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal.gsfc.nasa.gov/ist.html Type: Inclined, non-sun-synchronous Altitude: 867 km Period: 102.16 mins Inclination: 20 deg Repeat cycle: LST: How Standing (if geo): Asc/desc: Ascarding URL: smsc.cnes.fr/MEG/HAT/ Type: Sun-synchronous Altitude: 200 km Period: 90 mins Inclination: Repeat cycle: 28 days LST: Longitude (if geo): Asc/desc: Ascarding URL: www.diredr/desktopdefault.asp/tabló- 24403868_read-31672/ Period: 90 mins Inclination: 39.6 deg Repeat.cycle: Strongitude (if geo): Asc/desc: Ascarding URL: www.diredr/desktopdefault.asp/tabló- 24403868_read-31672/ Dyne: Sun-synchronous Altitude: 1024 km Period: 103.3 mins Inclination: 39.6 deg Revide: Scarding URL: sputhik1.infospace.ru/ Type: Sun-synchronous Altitude: 820 km
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1	Planned Approved	2016 Apr 2012	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadai.gatc.nasa.gov/ist.html URL: decadai.gatc.nasa.gov/ist.html Mitude: 867 km Altitude: 867 km Altitude: 867 km Altitude: 867 km Altitude: 867 km Altitude: 100 deg Repeat cycle: Longitude (if geo): Asc/dasc: Ascending URL: sms.cnes.fr/MEGHAT/ Type: Sun.synchronous Altitude: 500 km Period: 90 mis Indination: Repeat cycle: 28 days Longitude (if geo): Ascrifter: Ascending URL: sms.cnes.altitude: 100 km Altitude: 102 km Alti
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS	Planned Approved	2016 Apr 2012	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadai.gstc.nasa.gov/ist.html Type: Inclined, no-sun-synchronous Altitude: 867 km Period: 102.10 mins Period: 102.10 mins Period: 102.01 mins Period: 102.01 mins Longitude (if geo): Asc/desc: Ascending URL: smsc.cnes.fr/MEGHA7/ Type: Sun-synchronous Altitude: 500 km Period: 90 mins Indination: Repeat cycle: 28 days LST: Longitude (if geo): Adv/days Repeat cycle: LST: Period: 90 mins Indination: Repeat cycle: 28 days LST: Longitude (if geo): Adv/days Repeat cycle: LST: Longitude (if geo): Adv/days Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: www.dir.der/d/desk/pdefault.aspv7abid- 244/0380; read-31672/ Type: Sun-synchronous Altitude: 1024 km Period: 105.3 mins Inclination: 90.6 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: sputhik Lindspace.ru/ Mitude: 1024 km
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1	Planned Approved	2016 Apr 2012	2019 Apr 2016	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal: gate.nasa.gov/list.html Type: Inclines: non-sum-synchronous Period: 112:16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: sms.cnes.fr/MEGHAT/ Type: Sun-synchronous Altitude: 500 km Repeat cycle: 22 days Longitude (if geo): Asc/desc: Ascending URL: sms.cnes.fr/MEGHAT/ Type: Sun-synchronous Altitude: 102 km Repeat cycle: 22 days Longitude (if geo): Asc/desc: Ascending URL: sms.cnes.aft/REGHAT/ Type: Sun-synchronous Altitude: 102 km Repeat cycle: 28 days LST: Longitude (if geo): Asc/desc: Ascending URL: www.dir.de/r/deskt/pdefault.aspv/tab/d- 24/0/386; read-31672/ Type: Sun-synchronous Altitude: 102 km Period: 102 mins Period: 102
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-3M N1 Meteor-3M N1 Meteor-3M N1	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS, GGAK-M, Severjanin	Repeat cycle: 365 days LST: Longitude (if geo): Ascidesc: URL decadal.gdc.nasa.gov/list.html Type: Inclined; non-sum-synchronous Alanci 102: 16 Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Ascidesc: Ascending URL-smsc.cnes.fr/MECHA7/ Type: Sun-synchronous Alitude: 500 km Repeat cycle: Longitude (if geo): Ascidesc: Ascending URL-smsc.cnes.fr/MECHA7/ Type: Sun-synchronous Alitude: 102 mins Repeat cycle: 28 days Longitude (if geo): Ascidesc: Ascending URL: sputiki.infospace.nu/ Type: Sun-synchronous Alitude: 102 Ascidesc: Ascending URL: sputiki.infospace.nu/ Type: Sun-synchronous Ascidesc: Ascending Type: Type: Typ
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1	Planned Approved	2016 Apr 2012	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS ,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL-decadai.gstc.nasa.gov/ish.thml Type: Inclined, no-sum-synchronous Altitude: 807 km Period: 102.16 mins Inclination: 20 deg Inclination: 20 deg Net String String Longitude (if geo): Asc/desc: Ascarding URL: smsc.cnes.fr/MECHAT/ Type: Sun-synchronous Altitude: 500 km Period: 90 mins Inclination: Repeat cycle: 28 days LST: Ungitude (if geo): Asc:desc: Ascarding URL: smsc.cnes.fr/MECHAT/ Type: Sun-synchronous Altitude: 1024 km Period: 100 mins Inclination: Repeat cycle: 28 days LST: Ungitude (if geo): Asc:desc: Ascarding Mithude: 1024 km Period: 105.3 mins Inclination: Repeat cycle: LST: Longitude (if geo): Asc:desc: Ascarding Sacidesc: Ascarding URL: sputikl.infospace.ru/ Type: Sun-synchronous Altitude: 1024 km Period: 102 mins Repeat cycle: LST: Longitude (if geo): Asc:desc: Ascarding Sacidesc: Ascarding URL: sputikl.infospace.ru/ Type: Sun-synchronous Altitude: 1024 m Period: 102 mins Repeat cycle: LST: 0:30 URL: sputikl.infospace.ru/ Type: Sun-synchronous Altitude: 1024 m Period: 102 mins Repeat cycle: S20 km Period: 102 mins Repeat cycle: S7 days Longitude (if geo): Asc:desc: Ascarding URL: sputikl.infospace.ru/ Type: Sun-synchronous
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-3M N1 Meteor-3M N1 Meteor-3M N1	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS MTVZA, MSU-MR, DCS , KMSS, GGAK-M, Severjanin	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL-decadai.gstc.nasa.gov/lis.html Type-Incined, no-sum-synchronous Altitude: 867 km Period: 102.16 mins Inclination: 20 deg Period: 102.16 mins Inclination: 20 deg Net: Strategy (if geo): Asc/desc: Ascending URL: smsc.cnes.fr/MEGHAT/I Type: Sun-synchronous Altitude: 500 km Period: 100 mins Inclination: Repeat cycle: 28 days LST: Longitude (if geo): Asc/desc: Ascending URL: www.rickeitodestopdefault.aspv1abid- 2460.2002 (if geo): Asc/desc: Ascending URL: www.rickeitodestopdefault.aspv1abid- LST: Longitude (if geo): Asc/desc: Ascending URL: www.rickeitodestopdefault.aspv1abid- LST: Longitude (if geo): Asc/desc: Ascending URL: Sputihki.Infospace.ru/ Type: Sun-synchronous Altitude: 1024 mins Indination: 98.79 deg Repat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: Sputihki.Infospace.ru/ Type: Sun-synchronous Altitude: 1024 mins Indination: 98.79 deg Repat cycle: Longitude (if geo): Asc/desc: Ascending URL: sputihki.Infospace.ru/ Type: Sun-synchronous Altitude: 1024 mins Indination: 98.79 deg Repat cycle: Longitude (if geo): Asc/desc: Ascending URL: sputihki.Infospace.ru/ Type: Sun-synchronous Altitude: 635 km
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1 Meteor-M N2 Meteor-M N2 Meteor-M N2 Meteor-M N2	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS ,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadai.gatc.nasa.gov/lst.html Type: Inclined, no-sum-synchronous Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 100 km Altitude: 100 km Altitude: 100 km Period: 90 mins Inclination: Altitude: 500 km Period: 90 mins Inclination: Altitude: 500 km Period: 90 mins Inclination: Altitude: 100 km Altitude: 100 km
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1 Meteorological Satellite ROSHYDROMET / ROSKOSMOS	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS ,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/dasc: URL: decadai.gatc.nasa.gov/isht/mil Type: Inclined, no-sun-synchronous Altitude: 807 km Altitude: 807 km Comparison of the second of
MEGHA-TROPIQUES ONES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1 Meteor-M N2 Meteor-M N2 Meteor-M N2 Meteor-M N2	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS ,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadai.gatc.nasa.gov/is.html Type: Inclued, no-sum-synchronous Altitude: 807 km Period: 102.07 mins Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: smsc.cnes.fr/MEGHA7/ Type: Sun-synchronous Altitude: 500 km Period: 100 mins Indination: Repeat cycle: 28 days LST: URL: www.dir.der/desk/topdefault.aspv7abid- 2440/3580; read-31672/ URL: www.dir.der/desk/topdefault.aspv7abid- 2440/3580; read-31672/ Type: Sun-synchronous Altitude: 1024 km Period: 105.3 mins Incitantion: Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: www.dir.der/desk/topdefault.aspv7abid- 2440/3580; read-31672/ Type: Sun-synchronous Altitude: 1024 km Period: 105.3 mins Incitantion: Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: www.dir.der/desk/topdefault.aspv7abid- 2440/3580; read-31672/ Type: Sun-synchronous Altitude: 1024 km Period: 102.mins Incitantion: Repeat cycle: LST: DST: Longitude (if geo): Asc/desc: Ascending URL: space.spa
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1 Meteor-M N2 Meteor-M N2 Meteor-M N2 ROSHYDROMET / ROSKOSMOS	Planned Approved Currently being flown Approved	2016 Apr 2012 17 Sep 2009 Sep 2012	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS , KMSS, GGAK-M, Severjanin	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadal: gate.nasa.gov/ist.html Type: Incluse:, no-sum-synchronous Period: 112:16 mins Inclination: 20 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: sms.cnes.fr/MEGHAT/ Type: Sun-synchronous Altitude: 500 km Altitude: 102 km Altitude:
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-4M N1 Meteorological Satellite ROSHYDROMET / ROSKOSMOS Meteor-4M N2 Meteor-4M N2 Meteor-4M N2 Meteor-4M N2	Planned Approved Currently being flown	2016 Apr 2012 17 Sep 2009	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS , SAR, KMSS GGAK-M, Severjanin MTVZA, IKFS-2, MSU-MR, DCS ,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL decadal.gdc.nasa.gov/lst.html UFL; decadal.gdc.nasa.gov/lst.html Repeat cycle: 28 days UFL; decadal.gdc.nasa.gov/lst.html Repeat cycle: 28 days UFL; decadal.gdc.nasa.gov/lst.html AdVIdde (if geo): Asc/desc: Ascending UFL; www.dir.der/ddcest/bpdefault.aspv/tabid- 24/dv386; reacending UFL; decadal.gdc.gdc.gdc.gdc.gdc UFL; decadal.gdc.gdc UFL; decadal.gdc UFL; decadal.gdc UF
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-M N2 ROSHYDROMET / ROSKOSMOS Meteor-M N1 Meteor-M N1 Meteor-M N2 Meteor-M N2 Meteor-M N2 ROSHYDROMET / ROSKOSMOS	Planned Approved Currently being flown Approved	2016 Apr 2012 17 Sep 2009 Sep 2012	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS GGAK-M, Soverjanin MTVZA, IKFS-2, MSU-MR, DCS, KMSS, GGAK-M, Severjanin DCS, SAR, Radiomet, OCS, CZS,	Repeat cycle: 365 days LST: Longitude (if geo): Asc/desc: URL: decadai.gstc.nasa.gov/isht/ml Type: Incined, no-sum-synchronous Altitude: 807 km Period: 102.10 mins Repeat cycle: 807 km Repeat cycle: 907 Longitude (if geo): Asc/desc: Ascending URL: smsc.nes.fr/MEGHAT/ Type: Sun-synchronous Altitude: 500 km Period: 90 mins Incination: Repeat cycle: 28 days LST: Longitude (if geo): Longitude (if geo): Longitude (if geo): ARE: www.dt.ds/rid/ds/kto/default.aspv1abid- 24/0/388, read-31572/ Type: Sun-synchronous Altitude: 1024 km Period: 105.3 mins Incination: 98.6 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: smsynchronous Altitude: 1024 km Period: 105.3 mins Incination: 98.6 deg Repeat cycle: LST: Longitude (if geo): Asc/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Asc/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Asc/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Asc/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Ast/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Ast/desc: Ascending URL: sputink Lindispace ru/ Type: Sun-synchronous Altitude: 635 km Period: 102 mins Indination: 98.7 deg Repat cycle: 37 days LST: 09:30 URL: sputink Lindispace ru/ Type: Sun-synchronous Altitude: 635 km Period: 102 mins Indination: 98.7 deg Repat cycle: 37 days LST: 09:30 URL: sputink Lindispace ru/ Type: Sun-synchronous Altitude: 635 km Period: 102 mins Indination: 98.7 deg Repat cycle: 37 days LST: 09:30 URL: sputink Lindispace ru/ Type: Sun-synchronous Altitude: 635 km Period: 102 mins Indination: 98.7 deg Repat cycle: 35 days LST: 09:30 LST: 09:30 L
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-4M N1 Meteorological Satellite ROSHYDROMET / ROSKOSMOS Meteor-4M N2 Meteor-4M N2 Meteor-4M N2 Meteor-4M N2	Planned Approved Currently being flown Approved	2016 Apr 2012 17 Sep 2009 Sep 2012	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS GGAK-M, Soverjanin MTVZA, IKFS-2, MSU-MR, DCS, KMSS, GGAK-M, Severjanin DCS, SAR, Radiomet, OCS, CZS,	Repeat cycle: 365 days LST: Longitude (if geo): Ascidesc: URL decadal:gate.nasa.gov/list.html Mither 687 Actions and apolish.html Mither 687 Actions and apolish.html Repeat cycle: Longitude (if geo): Ascidesc: Ascending MIRL amount apolish.html Mither 687 Actions and apolish.html Mither 687 Actions apolish.html Mither 687 Actions and apolish.html Mither 687 Actions and apolish.html Mither 687 Actions apolish.ht
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-4M N1 Meteorological Satellite ROSHYDROMET / ROSKOSMOS Meteor-4M N2 Meteor-4M N2 Meteor-4M N3 Meteor-4M N3 Meteor-4M N3	Planned Approved Currently being flown Approved	2016 Apr 2012 17 Sep 2009 Sep 2012	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS GGAK-M, Soverjanin MTVZA, IKFS-2, MSU-MR, DCS, KMSS, GGAK-M, Severjanin DCS, SAR, Radiomet, OCS, CZS,	Repeat cycle: 365 days LST: Longitude (if geo): Ascidesc: URL: decadai.gatc.nasa.gov/isht/mil Type: Inclined, no-sum-synchronous Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 807 km Altitude: 100 km Altitude: 100 km Period: 90 mins Inclination: 20 deg Repeat cycle: Longitude (if geo): Ascidesc: Ascending URL: synch; Horizon 20 deg Period: 90 mins Inclination: Repeat cycle: 28 days Period: 90 mins Inclination: Altitude: 100 km Altitude: 1
MEGHA-TROPIQUES CNES / ISRO MERLIN Methane Remote Sensing Lidar Mission DLR / CNES Meteor-3M N2 ROSHYDROMET / ROSKOSMOS Meteor-4M N1 Meteorological Satellite ROSHYDROMET / ROSKOSMOS Meteor-4M N2 Meteor-4M N2 Meteor-4M N3 Meteor-4M N3 Meteor-4M N3	Planned Approved Currently being flown Approved	2016 Apr 2012 17 Sep 2009 Sep 2012	2019 Apr 2016 Sep 2014 Sep 2017	and energy cycles). Global atmospheric methane concentration. Hydrometeorology, climatology, land surface, physical oceanography, heliogeophysics and space environment, data collection, sounding of the atmosphere, agriculture. Hydrometeorology, climatology, heliogeophysics, DCS. Hydrometeorology, climatology, heliogeophysics, DCS.	IPDA LIDAR BRK, MTVZA, IKFS-2, MSU-MR, MSGI-MKA, DCS, SAR, KMSS GGAK-M, Soverjanin MTVZA, IKFS-2, MSU-MR, DCS, KMSS, GGAK-M, Severjanin DCS, SAR, Radiomet, OCS, CZS,	Repeat cycle: 365 days LST: Longitude (if geo): Ascidesc: URL decadal:gate.nasa.gov/list.html Mither 687 Actions Repeat cycle: LST: Longitude (if geo): Ascidesc: Ascending URL smsc.nes.fr/MEGMAT/ Type: Sun-synchronous Period: 90 mins Indination: Repeat cycle: Longitude (if geo): Ascidesc: Ascending URL smsc.nes.fr/MEGMAT/ Type: Sun-synchronous Period: 90 mins Indination: Repeat cycle: Longitude (if geo): Ascidesc: Ascending URL smsc.nes.fr/MEGMAT/ Type: Sun-synchronous Period: 90 mins Indination: Repeat cycle: Longitude (if geo): Ascidesc: Ascending URL smsc.nes.fr/MEGMAT/ Type: Sun-synchronous Period: 90 mins Indination: Period: 90 mins Indination: P

Mission	Status	I aunch Date	EOL Date	Applications	Instruments	Orbit Details & URL
Meteor-MP N1	Planned	2014		Hydrometeorology, climatology, heliogeophysics, DCS.	Advanced MSU-MR, Advanced KMSS, Advanced IKFS-2, Advanced	Type: Sun-synchronous
Meteor-MP Meteorological Satellite N1						Period:
ROSHYDROMET / ROSKOSMOS					Radiomet, Advanced DCS ,	Inclination: Repeat cycle:
					Advanced GGAK-M, TGSP	LST: Longitude (if geo):
						Asc/desc: URL: planet.litp.ru
Meteor-MP N2	Planned	2015	2020	Hydrometeorology, climatology, heliogeophysics, DCS.		Type: Sun-synchronous Altitude:
Meteor-MP Meteorological Satellite N2					Advanced SAR , Advanced	Period: Inclination:
ROSHYDROMET / ROSKOSMOS						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
Meteor-MP N3	Planned	2016	2021	Hydrometeorology, climatology, heliogeophysics, DCS.	Advanced MSU-MR, Advanced	URL: planet.iitp.ru Type: Sun-synchronous
Meteor-MP Meteorological Satellite N3					MTVZA, Advanced Scatterometer ,	Altitude: Period:
ROSHYDROMET / ROSKOSMOS					Advanced SAR , Advanced Radiomet, Advanced DCS ,	Inclination: Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: URL: planet.iitp.ru
Meteosat-10	Approved	Jun 2012	Jun 2020	Meteorology, climatology, atmospheric dynamics/water and energy cycles. Meteosat 1-7 are first generation. Meteosat 8-11	MSG Comms, SEVIRI, GERB	Type: Geostationary Altitude: 36000 km
Meteosat Second Generation-3 EUMETSAT / ESA				are second generation and known as MSG in the development phase.		Period: Inclination:
EUMETSAT/ESA						Repeat cycle: LST:
						Longitude (if geo): 0 Asc/desc: N/A URL:
Meteosat-11	Approved	Jan 2015	lon 2022	Meteorology, climatology, atmospheric dynamics/water and		www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
Meteosat Second Generation-4	Approved	Jdii 2015		energy cycles. Meteosat 1-7 are first generation. Meteosat 8-11 are second generation and known as MSG in the development		Altitude: 36000 km Period:
EUMETSAT / ESA				phase.		Inclination: Repeat cycle:
EDMETOAT / EDA						LST: Longitude (if geo): 0
						Asc/desc: N/A URL:
Meteosat-7	Currently being flown	03 Sep 1997	Dec 2016	Meteorology, climatology, atmospheric dynamics/water and		www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
	,		2102010	Meteorology, climatology, atmospheric dynamics/water and energy cycles. Meteosat 1-7 are first generation. Meteosat 8-11 are second generation and known as MSG in the development		Alitude: 36000 km Period:
EUMETSAT / ESA				phase.		Inclination: Repeat cycle:
						LST: Longitude (if geo): 0
						Asc/desc: N/A URL:
Meteosat-8	Currently being flown	13 Aug 2002	Dec 2019	Meteorology, climatology, atmospheric dynamics/water and		www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
Meteosat Second Generation-1				energy cycles. Meteosat 1-7 are first generation. Meteosat 8-11 are second generation and known as MSG in the development		Altitude: 36000 km Period:
EUMETSAT / ESA				phase.		Inclination: Repeat cycle:
						LST: Longitude (if geo): 0
						Asc/desc: N/A URL:
Meteosat-9	Currently being flown	21 Dec 2005	Dec 2021	Meteorology, climatology, atmospheric dynamics/water and	MSG Comms, SEVIRI, GERB	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
Meteosat Second Generation-2				energy cycles. Meteosat 1-7 are first generation. Meteosat 8-11 are second generation and known as MSG in the development		Altitude: 36000 km Period:
EUMETSAT / ESA				phase.		Inclination: Repeat cycle: LST:
						Longitude (if geo): 0 Asc/desc: N/A
						URL: www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?
Metop-A	Currently being flown	19 Oct 2006	Dec 2013	Meteorology, climatology.	SEM (POES), ARGOS, S&R (NOAA), MHS, IASI, GRAS, GOME-2, ASCAT,	Type: Sun-synchronous
Meteorological Operational Polar Satellite A					AMSU-A, AVHRR/3, HIRS/4	Period: 107.1 mins Inclination: 98.8 deg
EUMETSAT / ESA						Repeat cycle: 29 days LST: 9:30
						Longitude (if geo): Asc/desc: N/A
						URL: www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?
Metop-B	Approved	Jul 2012	Jul 2017	Meteorology, climatology.	SEM (POES), ARGOS, S&R (NOAA), MHS, IASI, GRAS, GOME-2, ASCAT,	Altitude: 840 km
Meteorological Operational Polar Satellite B					AMSU-A, AVHRR/3, HIRS/4	Period: 101.7 mins Inclination: 98.8 deg
EUMETSAT / ESA						Repeat cycle: 29 days LST: 9:30
						Asc/desc: N/A URL:
Metop-C	Approved	Apr 2016	Dec 2021	Meteorology, climatology.	SEM (POES), ARGOS, MHS, IASI,	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Sun-synchronous
Meteorological Operational Polar Satellite					GRAS, GOME-2, ASCAT, AMSU-A, AVHRR/3, A-DCS4	Altitude: 840 km Period: 101.7 mins
С						Inclination: 98.8 deg Repeat cycle: 29 days
EUMETSAT / ESA						LST: 9:30 Longitude (if geo):
						Asc/desc: N/A URL:
MIOSAT	Approved	Jun 2014	Jun 2016	Land surface, agriculture and forestry, regional geology, land use	PAN CAM, ALISEO, Mach-Zehnder	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Sun-synchronous
Piccola Missione Ottica basata su				studies, water resources, vegetation studies, coastal studies and soils and main atmospheric gases detection.	Micro-interferometer	Altitude: 615 km Period: 97 mins
microSATellite						Inclination: 97.9 deg Repeat cycle:
ASI						LST: 10:30 Longitude (if geo): Asc/desc: Descending
MTG I1 (impoine)	Approved	Dec 2017	hur occo	Mataorology climatology Atmospheric discussion		URL: www.asi.it/en/activity/earth_observation/miosat_
MTG-I1 (imaging)	Approved	Dec 2017	Jun 2026	Meteorology, climatology, Atmospheric dynamics/water and energy cycles.		Type: Geostationary Altitude: 36000 km Period:
Meteosat Third Generation - Imaging Satellite 1						Penoa: Inclination: Repeat cycle:
EUMETSAT / ESA						LST: Longitude (if geo): 0
						Asc/desc: N/A URL:
MTG-I2 (imaging)	Approved	Jun 2022	Jan 2031	Meteorology, climatology, Atmospheric dynamics/water and		www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
Meteosat Third Generation - Imaging				energy cycles.		Altitude: 36000 km Period:
Satellite 2						Inclination: Repeat cycle:
EUMETSAT / ESA						LST: Longitude (if geo): 0
						Asc/desc: N/A URL: www.eumetrat.int/Home/Main/Satellites/index.htm2l=en?
MTG-I3 (imaging)	Approved	Jan 2026	Jul 2034	Meteorology, climatology, Atmospheric dynamics/water and energy cycles.	FCI, LI	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary Altitude: 36000 km
Meteosat Third Generation - Imaging Satellite 3				analy, syuca.		Alitude: 36000 km Period: Inclination:
EUMETSAT / ESA						Repeat cycle: LST:
						Longitude (if geo): 0 Asc/desc: N/A
						URL: www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?

Mission	Status	Launch Date	EOL Date	Applications	Instrumente	Orbit Details & URL
MTG-I4 (imaging)	Approved	Jun 2030	Dec 2038	Meteorology, climatology, Atmospheric dynamics/water and	FCI, LI	Type: Geostationary
				energy cycles.		Altitude: 36000 km Period:
Meteosat Third Generation - Imaging Satellite 4						Inclination:
EUMETSAT / ESA						Repeat cycle: LST:
EUMETSAT/ESA						Longitude (if geo): 0
						Asc/desc: N/A URL:
						www.eumetsat.int/Home/Main/Satellites/index.htm?l=en?
MTG-S1 (sounding)	Planned	2019	2027	Supporting European atmospheric composition and air quality monitoring services. MTG S1 carries the Sentinel-4 A mission.	IRS	Type: Geostationary Altitude:
Meteosat Third Generation S1 Sounding				nonitoring contract, into on carried the continent systemation.		Period:
Satellite 1						Inclination: Repeat cycle:
EUMETSAT / EC / ESA						LST
						Longitude (if geo): 0 Asc/desc: N/A
						URL:
MTG-S2 (sounding)	Planned	2027	2035	Supporting European atmospheric composition and air quality	IRS	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
Meteosat Third Generation S2 Sounding				monitoring services. MTG S2 carries the Sentinel-4 B mission.		Altitude: 36000 km Period:
Satellite 2						Inclination:
EUMETSAT / EC / ESA						Repeat cycle: LST:
						Longitude (if geo): 0
						Asc/desc: N/A URL:
MTSAT-1R	Currently being flown	26 Feb 2005	lan 2015	Meteorology, aeronautical applications. As of 2010 satellite on	MTSAT Comms, JAMI/MTSAT-1R,	www.eumetsat.int/Home/Main/Satellites/index.htm?l=en? Type: Geostationary
	Currently being nown	201602003	38112013	stand-by operational.	MTSAT DCS	Altitude: 36000 km
Multi-functional Transport Satellite						Period: Inclination:
JMA / JCAB						Repeat cycle:
						LST: Longitude (if geo): -140
						Asc/desc: N/A
MTSAT-2	Currently being flown	18 Feb 2006	Jan 2017	Meteorology, aeronautical applications.	IMAGER/MTSAT-2, MTSAT Comms,	Type: Geostationary
Multi-functional Transport Satellite					MTSAT DCS	Altitude: 36000 km Period:
						Inclination:
JMA / JCAB						Repeat cycle: LST:
						Longitude (if geo): -145
						Asc/desc: N/A URL:
NigeriaSat-2	Currently being flown	17 Aug 2011	Aug 2018	Small satellite mission with technical and scientific objectives	NigeriaSat Medium and High Resolution	Type: Sun-synchronous Altitude: 700 km
				(environmental) monitoring.	Resolution	Period: 97 mins
NASRDA						Inclination: 98 deg
						Repeat cycle: 4 days LST:
						Longitude (if geo): Asc/desc: Descending
						URL: www.nasrda.net
NigeriaSat-X	Currently being flown	17 Aug 2011	Aug 2018	Small satellite mission with technical and scientific objectives (capability demonstration).	NigeriaSat Medium Resolution	Type: Sun-synchronous Altitude: 700 km
				(opposing content and it).		Period: 97 mins
NASRDA						Inclination: 98 deg Repeat cycle:
						LST:
						Longitude (if geo): Asc/desc: Descending
	Oursealty halos flavor	04 Nov 0000	0 0040			URL: www.nasrda.net
NMP EO-1	Currently being flown	21 Nov 2000	Sep 2013	1.5-year nominal mission life, currently in extended operations. Land surface, earth resources.	ALI, Hyperion, LEISAAC	Type: Sun-synchronous Altitude: 690 km
New Millenium Program Earth Observing-						Period: 99 mins
1						Inclination: 98.2 deg Repeat cycle: 16 days
NASA						LST: 10:00 Longitude (if geo):
						Asc/desc: Descending
NOAA-15	Currently being flown	01 May 1998	Dec 2012	Meteorology, agriculture and forestry, environmental monitoring,	ARGOS S&R (NOAA) ATOVS	URL: eo1.gsfc.nasa.gov/ Type: Sun-synchronous
				climatology, physical oceanography, volcanic eruption monitoring	(HIRS/3 + AMSU + AVHRR/3) AMSU	Altitude: 813 km
National Oceanic and Atmospheric Administration - 15				ice and snow cover, total ozone studies, space environment, solar flux analysis, search and rescue.	A, HIRS/3, AMSU-B, AVHRR/3, NOAA Comms	Period: 101.4 mins Inclination: 98.6 deg
NOAA						Repeat cycle:
NUAA						LST: 7:08 Longitude (if geo):
						Asc/desc: Descending URL: www.oso.noaa.gov/poes/
NOAA-16	Currently being flown	21 Sep 2000	Dec 2012	Meteorology, agriculture and forestry, environmental monitoring,	SEM (POES), ARGOS, S&R (NOAA),	Type: Sun-synchronous
National Oceanic and Atmospheric				climatology, physical oceanography, volcanic eruption monitoring, ice and snow cover, total ozone studies, space environment, solar	ATOVS (HIRS/3 + AMSU + AVHRR/3), AMSU-A, HIRS/3,	Altitude: 870 km Period: 102 mins
Administration - 16				flux analysis, search and rescue.	SBUV/2, AMSU-B, AVHRR/3, NOAA	Inclination: 98.8 deg
NOAA					Comms	Repeat cycle: LST: 13:54
						Longitude (if geo): Asc/desc: Ascending
						URL: www.oso.noaa.gov/poes/
NOAA-17	Currently being flown	24 Jun 2002	Dec 2014	Meteorology, agriculture and forestry, environmental monitoring, climatology, physical oceanography, volcanic eruption monitoring,	SEM (POES), ARGOS, S&R (NOAA), AMSULA HIRS/3 SBUV/2 AMSULB	Type: Sun-synchronous Altitude: 833 km
National Oceanic and Atmospheric				ice and snow cover, total ozone studies, space environment, solar	AVHRR/3, NOAA Comms	Period: 101.4 mins
Administration - 17				flux analysis, search and rescue.		Inclination: 98.75 deg Repeat cycle:
NOAA						LST: 10:00
						Longitude (if geo): Asc/desc: Descending
NOAA-18	Currently being flown	20 May 2005	Dec 2015	Meteorology, agriculture and forestry, environmental monitoring,	SEM (POES) ARCOS SER (NOAA)	URL: www.oso.noaa.gov/poes/
	sector of the se	20 May 2005	000 2015	climatology, physical oceanography, volcanic eruption monitoring,	MHS, AMSU-A, SBUV/2, AVHRR/3,	Altitude: 870 km
National Oceanic and Atmospheric Administration - 18				ice and snow cover, total ozone studies, space environment, solar flux analysis, search and rescue.	NUAA Comms, HIRS/4	Period: 102.1 mins Inclination: 98.75 deg
						Repeat cycle:
NOAA						LST: 14:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.oso.noaa.gov/poes/
NOAA-19	Currently being flown	04 Feb 2009	Mar 2016	Meteorology, agriculture and forestry, environmental monitoring,	SEM (POES), ARGOS, S&R (NOAA),	Type: Sun-synchronous
National Oceanic and Atmospheric				climatology, physical oceanography, volcanic eruption monitoring, ice and snow cover, total ozone studies, space environment, solar	MHS, SBUV/2, AVHRR/3, NOAA	Altitude: 870 km Period: 102.1 mins
Administration - 19				flux analysis, search and rescue.		Inclination: 98.75 deg
NOAA						Repeat cycle: LST: 14:00
						Longitude (if geo): Asc/desc: Ascending
						URL: www.oso.noaa.gov/poes/
OCEANSAT-2	Currently being flown	24 Sep 2009	Sep 2014	Ocean and atmosphere applications.	OCM, Scatterometer (OCEANSAT), ROSA	Type: Sun-synchronous Altitude: 720 km
Ocean Satellite-2						Period: 99.31 mins
ISRO						Inclination: 98.28 deg Repeat cycle: 2 days
						LST 12:00
						Longitude (if geo): Asc/desc: Descending
OCEANSAT-3	Considered	2014	2040	Ocean and atmosphere applications.	TIR (Oceansat-3/3A), OCM	URL: www.isro.org/ Type: Sun-synchronous
	Considered	2014	2019		(Oceansat-3/3A), OCM (Oceansat-3/3A)	Altitude: 720 km
Ocean Satellite-3						Period: 99.31 mins Inclination: 98.28 deg
ISRO						Repeat cycle: 2 days
						LST: Longitude (if geo):
						Asc/desc: Descending
OCEANSAT-3A	Considered	2018	2023	Ocean and atmosphere applications.	TIR (Oceansat-3/3A), OCM	URL: www.isro.org/ Type: Sun-synchronous
		2010	2020		(Oceansat-3/3A)	Altitude: 720 km
Ocean Satellite-3A						Period: 99.31 mins Inclination: 98.28 deg
ISRO						Repeat cycle: 2 days
						Longitude (if geo):
						Asc/desc: Descending URL: www.isro.org/

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
0CO-2	Approved	Jul 2014		High resolution carbon dioxide measurements to characterize sources and sinks on regional scales and quantify their variability	Spectrometer (OCO-2)	Type: Sun-synchronous Altitude: 705 km
Orbiting Carbon Observatory-2				over the seasonal cycle.		Period: 98.8 mins Inclination: 98.2 deg
NASA						Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: Ascending URL: oco.jpl.nasa.gov/
Odin	Currently being flown	20 Feb 2001	Dec 2012	Atmospheric research, stratospheric ozone chemistry,	OSIRIS, SMR	Type: Sun-synchronous Altitude: 590 km
				mesospheric ozone science, summer mesospheric science.		Period: 97.6 mins
SNSB / TEKES / CNES / CSA						Inclination: 97.8 deg Repeat cycle:
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.ssc.se/?id=7180
Ørsted (Oersted)	Currently being flown	21 Nov 1999	Dec 2012	Earth magnetic field mapping.	Overhauser Magnetometer, CSC	Type: Inclined, non-sun-synchronous
					FVM, SI, GPSRO (Oersted)	Altitude: Period:
DNSC / CNES						Inclination: Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: TBD URL: web.dmi.dk/projects/oersted/
OSTM (Jason-2)	Currently being flown	20 Jun 2008	Dec 2013	3-year nominal mission life. Physical oceanography,	LRA, JMR, DORIS-NG, POSEIDON-	Type: Inclined, non-sun-synchronous
Ocean Surface Topography Mission				geodesy/gravity, climate monitoring, marine meteorology.	3, AMR, GPSP	Altitude: 1336 km Period: 112.4 mins
NASA / NOAA / CNES / EUMETSAT						Inclination: 66 deg Repeat cycle: 10 days
						LST: Longitude (if geo):
						Asc/desc: N/A URL: sealevel.jpl.nasa.gov/mission/ostm.html
PACE	Considered	2019	2021	Phase-2 DS Mission, launch order unknown, 3-year nominal	Next Gen APS (ACE), OES	Type: Sun-synchronous
Preliminary Aerosol, Cloud, Ecosystem				mission. Aerosol and cloud profiles for climate and water cycle; ocean colour for open ocean biogeochemistry.		Altitude: 650 km Period:
NASA						Inclination: 98.2 deg Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: Ascending URL: dsm.gsfc.nasa.gov/ace/index.html
PARASOL	Currently being flown	01 Dec 2004	Jun 2012	Nicro-satellite with the aim of characterisation of the clouds and	POLDER-P	Type: Sun-synchronous
Polarization and Anisotropy of				aerosols microphysical and radiative properties, needed to understand and model the radiative impact of clouds and		Altitude: 700 km Period: 98.8 mins
Reflectances for Atmospheric Science coupled with Observations from a LIDAR				aerosols.		Inclination: Repeat cycle:
CNES						Longitude (if geo):
						Asc/desc: TBD
PATH	Considered	2030	2033	Phase-3 DS Mission, launch order unknown, 3-year nominal	GeoSTAR	URL: smsc.cnes.fr/PARASOL/index.htm Type: Geostationary
Precipitation and All-weather Temperature and Humidity				mission. High frequency, all-weather temperature and humidity soundings for weather forecasting and SST.		Altitude: 42000 km Period:
and Humidity						Inclination: Repeat cycle:
NASA						LST:
						Longitude (if geo): 0 Asc/desc: N/A
PAZ	Approved	Feb 2013	Feb 2018	Security, land use, urban management, environmental monitoring,	Paz SAR-X	URL: decadal.gsfc.nasa.gov/path.html Type: Sun-synchronous
				risk management.		Altitude: 514 km Period: 95 mins
CDTI						Inclination: 97.44 deg
						Repeat cycle: 11 days LST:
						Longitude (if geo): Asc/desc: Ascending
PCW-1	Planned	2018	2028	Continuous meteorological observation and communications	PCWMP, PCW PHEMOS - Solar-	URL: www.hisdesat.es Type: Highly elliptical
Polar Communications and Weather-1				service to the Arctic.	Terrestrial, PCW PHEMOS -	Altitude:
					Atmospheric	Period: 718 mins Inclination: 63.4 deg
CSA						Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: N/A
						Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: NA Longitude (if geo): Ascidesc: NA
	Planned	2018	2028	Continuous meteorological observation and communications		Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: NA Longitude (if geo): Asc/des:: NA URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp
CSA PCW-2	Planned	2018	2028	Continuous meteorological observation and communications service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS -	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: N/A Longitude (if geo): Asc/des:: N/A URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp Type: Highly elliptical Altitude:
CSA FCW-2 Polar Communications and Weather-2	Planned	2018	2028		Atmospheric PCWMP, PCW PHEMOS - Solar-	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: N/A Longitude (if geo): Ascrides: N/A Ascrides: N/A URL: www.ascrises.gc.co/eng/satellites/pcw/default.asp URL: wwww.ascrises.gc.co/eng/satellites/pcw/default.asp URL
CSA PCW-2	Planned	2018	2028		Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS -	Period: 718 mins Incimator: 63.4 deg Repeat cycle: 1 days LST: NA Longitude (if geo): Asc/dse: NA Asc/dse: NA Asc/dse: NA Pipe: Highy elliptical Period: 718 mins Incimator: 63.4 deg Repeat cycle: 1 days LST: NA
CSA FCW-2 Polar Communications and Weather-2	Planned	2018	2028		Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS -	Period: 718 mins Incinator: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Asc/des: 1VA Asc/des: 1VA URL: www.ase-csa.gc.ca/eng/satellites/pcw/default.asp Type: Highly eliptical Attlude: Incinator: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Asc/des: IVA
CSA FCW-2 Polar Communications and Weather-2		2018 15 Jun 2010			Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS -	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days LST: NA Longtlude (If geo): Asc/dse:: NA Asc/dse:: NA URL: www.asc-csa.gc.ca/eng/sateliltes/pcw/default.asp Type: Highly eliptical Atitude: Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days LST: NA Longtlude (If geo):
CSA PCW-2 Polar Communications and Weather-2 CSA	Planned Currently being flown			service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days LST: NA Longtlude (If geo): Asc/des: VA Asc/des: VA URL: www.asc-csa.gc.ca/eng/sateliltes/pcw/default.asp Type: Highly elliptical Atitude: Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days LST: NA Longtlude (If geo): Asc/des:: NA URL: www.asc-csa.gc.ca/eng/sateliltes/pcw/default.asp Type: TBD
CSA PCW-2 Polar Communications and Weather-2 CSA				service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: N/A Accides: N/A Accides: N/A Accides: N/A Accides: N/A Accides: N/A Accides: N/A Accides: N/A Accides: N/A Inclination: 63.4 deg Repeat cycle: 1 days LST: N/A Accides: N/A Accides: N/A URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp
CSA PCW-2 Polar Communications and Weather-2 CSA				service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA Ascides: INA Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA Longitude (if geo): Ascides: INA URL: www.asc-csa.gc.caieng/satellites/pcw/default.asp Type: TBD URL: www.asc-csa.gc.caieng/satellites/pcw/default.asp Type: TBD Ablind: Longitude (if geo): Ascides: INA
CSA PCW-2 Polar Communications and Weather-2 CSA				service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: Www.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: Highy elliptical Anonod: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Longitude (if geo): Ascrides: TBD
CSA PCW-2 Polar Communications and Weather-2 CSA			Jun 2013	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: NA Longitude (if geo): Asc/dss:: NA URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp Type: Highy elliptical Altitude: Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days LST: NA Longitude (if geo): Asc/dss:: NA URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp Type: TBD Altitude: Period: Inclination: Repeat cycle: LST: Longitude (if geo): Asc/dss:: TBD Altitude: Period: Diff.: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp Type: TBD Altitude: Period: Diff.: Web (if geo): Asc/dss:: TBD Altitude: LST: Longitude (if geo): Asc/dss:: TBD
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1	Currently being flown	15 Jun 2010	Jun 2013	service to the Arctic.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: Www.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: Highy elliptical Anonod: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Longitude (if geo): Ascrides: WWW.asc-csa.go.cs/eng/satellites/pcw/default.asp Type: TBD Anttude: Period: Longitude (if geo): Ascrides: TBD
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES	Currently being flown	15 Jun 2010	Jun 2013	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days Longitude (If geo): Asc/des: IVA Asc/des: IVA Asc/des: IVA Asc/des: IVA Asc/des: IVA Inclination: 63.4 deg Repeat cycle: 1 days Longitude (If geo): Asc/des: IVA Asc/des: IVA Asc/des: IVA URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.ca/eng/satellites/pcw/default.asp URL: same.cnes.tr/PiCARD/ URL: smsc-cnes.tr/PiCARD/ URL: smsc-cnes.
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1	Currently being flown	15 Jun 2010	Jun 2013	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Type: TBD Atitude: Longitude (if geo): Ascides: INA Atitude: Longitude (if geo): Ascides: INA Atitude: Longitude (if geo): Ascides: INA Atitude: Longitude (if geo): Ascides: INA Atitude: DURL: sms.cnes.fr/PICARD/ Type: Sun-synchronous Atitude: 634 km Period: Incination: CST 015 Endition: Site Site Site Site Site Site Site Site
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1	Currently being flown	15 Jun 2010	Jun 2013	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Type: High englicial Berliod: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA Ascides: IVA Ascides: IVA URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Type: TBO Period: URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Type: TBO Period: URL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp Type: TBO Berliod: URL: msm.coms.fr/PICARD/ Type: Sun-Synchronous Altitude: 634 km Period: Inclination: Repeat cycle: 20 days Repeat cycle: 20 days
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1	Currently being flown	15 Jun 2010	Jun 2013 Dec 2016	service to the Arctic. Simultaneous measurements of solar clameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRP: Hully englicial englicitation: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA Ascides: IVA Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRP: TBU Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRP: TBU Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRP: TBU Ascides: IVA Ascides: IVA Ascides: IVA Ascides: IVA Ascides: IVA DURL: mss.cnes.fr/PICARD/ JRP: Sun.synchronous Attude: 634 km Period: Inclination: Repeat cycle: Longitude (if geo): Ascides: TBU Ascides: TBU Period: URL: mss.cnes.fr/PICARD/ JRP: Sun.synchronous Attude: 634 km Period: URL: mss.cnes.fr/PICARD/ JRP: Sun.synchronous Ascides: TBOSconding URL: mss.cnes.fr/PICARD/ JRP: Sun.synchronous
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1 CNES	Currently being flown	15 Jun 2010 17 Dec 2011	Jun 2013 Dec 2016	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Inciliation: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA Ascides: INA Period: 718 mins Inclination: 63.4 deg Period: 718 mins Inclination: 63.4 deg Neticol: Period: 718 mins Inclination: 63.4 deg Neticol: Inclination: 63.4 deg Neticol: Neticol: Neticol: Neticol: Inclination: Repeat cycle: Longitude (if geo): Ascides: TBD URL: smsc.crest:fr/PICARD/ Type: TBD Neticol: Inclination: Repeat cycle: LST: URL: smsc.crest:fr/PICARD/ Type: TBD Neticol: Inclination: Repeat cycle: LST: Longitude (if geo): Ascides: TBD URL: smsc.crest:fr/PICARD/ Type: State: State: Defined: Inclination: Repeat cycle: 26 days LST: 10.15 Longitude (if geo): Ascides: Descending URL: smsc.crest: PEC: Strints: Defined: Inclination: Repeat cycle: 26 days LST: 10.15 Longitude (if geo): Ascides: Descending URL: smsc.crest: PUL: Smsc.
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pleiades 1 CNES	Currently being flown	15 Jun 2010 17 Dec 2011	Jun 2013 Dec 2016	service to the Arctic. Simultaneous measurements of solar clameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Inclination: 63.4 deg Repeat cycle: 1 days Longitude (If geo): Aacides: IVA Acides: I
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pielades 1 CNES Pielades 2	Currently being flown	15 Jun 2010 17 Dec 2011	Jun 2013 Dec 2016	service to the Arctic. Simultaneous measurements of solar clameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Englished Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp Type: TBD Ascides: INA URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp Type: TBD Ascides: INA District Control (International Control
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pielades 1 CNES Pielades 2	Currently being flown	15 Jun 2010 17 Dec 2011	Jun 2013 Dec 2016	service to the Arctic. Simultaneous measurements of solar clameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP, PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - Atmospheric SODISM, SOVAP, PREMOS	Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JRP: Huly eng/sate Period: 718 mins Incination: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: IVA Ascides: IVA Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JTPP: TBU Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JTPP: TBU Ascides: IVA JRL: www.asc-csa.gc.co/eng/satellites/pcw/default.asp JTPP: TBU Ascides: IVA Ascides: IVA Ascides: IVA Ascides: IVA Scides: TBU DURL: smsc.cnes.fr/PLCARD/ JTPP: Sun-synchronous Attude: 694 km Period: Inclination: 28 days Scifes: TD-15 Dret: JCA Period: Inclination: Repeat cycle: LST: 10.15 Scifes: TD-15 Scifes: TD-15 Scif
CSA PCW-2 Polar Communications and Weather-2 CSA PICARD CNES Pielades 1 CNES Pielades 2	Currently being flown	15 Jun 2010 17 Dec 2011	Jun 2013 Dec 2016 Mar 2018	service to the Arctic. Simultaneous measurements of solar diameter, differential rotation, solar constant, and variability. Cartography, land use, risk, agriculture and forestry, civil planning and mapping, digital terrain models, defence.	Atmospheric PCWMP; PCW PHEMOS - Solar- Terrestrial, PCW PHEMOS - A mospheric SODISM, SOVAP, PREMOS HIRI HIRI	Period: 718 mins Inciliation: 63.4 deg Repeat cycle: 1 days Longitude (if geo): Ascides: INA Ascides: INA Ascides: INA Period: 111 mins Period: 111 mins Period: 111 mins Period: 114 mins Period: 114 mins Sacides: INA Longitude (if geo): Ascides: INA Ascides: INA Ascides: INA URL: www.asc-csa.gc.caleng/satellites/pcw/default.asp Type: TBD Ascides: INA Definition: Repeat cycle: Longitude (if geo): Ascides: Descention Altitude: Period: Longitude (if geo): Ascides: Descention Altitude: Period: Longitude (if geo): Ascides: Descention Altitude: Period: Longitude (if geo): Ascides: Descention Altitude: 694 km Period: Longitude (if geo): Ascides: Descention Ascides:
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Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
RADARSAT C-1	Approved	Aug 2016	Dec 2023	Ecosystem monitoring, maritime surveillance, disaster management.	SAR (RCM), AIS (RCM)	Type: Sun-synchronous Altitude: 600 km
RADARSAT CONSTELLATION-1				management.		Period: 96.4 mins Inclination: 97.7 deg
CSA						Repeat cycle: 12 days
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending
RADARSAT C-2	Approved	Dec 2017	Mar 2025	Ecosystem monitoring, maritime surveillance, disaster	SAR (RCM), AIS (RCM)	URL: www.asc-csa.gc.ca/eng/satellites/radarsat/default.asp Type: Sun-synchronous Altitude: 600 km
RADARSAT CONSTELLATION-2				management.		Period: 96.4 mins
CSA						Inclination: 97.7 deg Repeat cycle: 12 days
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.asc-csa.gc.ca/eng/satellites/radarsat/default.asp
RADARSAT C-3	Approved	Dec 2017	Mar 2025	Ecosystem monitoring, maritime surveillance, disaster	SAR (RCM), AIS (RCM)	Type: Sun-synchronous Altitude: 600 km
RADARSAT CONSTELLATION-3				management.		Period: 96.4 mins
CSA						Inclination: 97.7 deg Repeat cycle: 12 days
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.asc-csa.gc.ca/eng/satellites/radarsat/default.asp
RADARSAT-1	Currently being flown	04 Nov 1995	Mar 2015	Environmental monitoring, physical oceanography, ice and snow, land surface.	SAR (RADARSAT)	Type: Sun-synchronous Altitude: 798 km
CSA						Period: 100.7 mins
CSA						Inclination: 98.594 deg Repeat cycle: 24 days
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.asc-csa.gc.ca/eng/satellites/radarsat1/default.asp
RADARSAT-2	Currently being flown	14 Dec 2007	Apr 2015	Environmental monitoring, physical oceanography, ice and snow,	SAR (RADARSAT-2)	Type: Sun-synchronous
	currently being town	11 000 2001	7472010	Iand surface. Note: Ownership of RADARSAT-2 has been transferred to MDA Corporation. CSA investment in the project is	0/01(1010/010/11/2)	Altitude: 798 km Period: 100.7 mins
CSA				paid back with the data generated by the satellite since it entered		Inclination: 98.6 deg
				operations.		Repeat cycle: 24 days LST: 18:00
						Longitude (if geo): Asc/desc: Ascending
						URL: www.asc-csa.gc.ca/eng/satellites/radarsat2/default.asp
RapidEye	Currently being flown	29 Aug 2008	Aug 2015	System of 5 satellites for cartography, land surface, digital terrain models, disaster management, environmental monitoring	MSI	Type: Sun-synchronous Altitude: 622 km
				models, disaster management, environmental monitoring.		Period:
DLR						Inclination: 98.7 deg Repeat cycle: 1 days
						LST: 11:00 Longitude (if geo):
						URL: www.rapideye.de/
RASAT	Currently being flown	17 Aug 2011	Aug 2014	Cartography, land cover/land use, city planning, disaster	RASAT VIS Panchromatic, RASAT	Type: Sun-synchronous Altitude: 700 km
RASAT Remote Sensing Satellite				mitigation/monitoring, environmental monitoring.	VIS Multispectral	Period: 98.8 mins
TUBITAK						Inclination: 98.21 deg Repeat cycle: 4 days
						LST: 10:30
						Longitude (if geo): Asc/desc: Ascending
RESOURCESAT-1	Currently being flown	17 Oct 2003	Dec 2012	Natural resources management, agricultural applications, forestry	AWIFS, LISS-IV, LISS-III	URL: www.uzay.tubitak.gov.tr/ Type: Sun-synchronous
Resource Satellite-1				etc.	(Resourcesat)	Altitude: 817 km Period: 102 mins
ISRO						Inclination: 98.72 deg
10110						Repeat cycle: 26 days LST: 10:30
						Longitude (if geo): Asc/desc: Descending
RESOURCESAT-2	Currently being flown	20 Apr 2011	Apr 2016	Natural resources management, agricultural applications, forestry	AWIFS, LISS-IV, LISS-III	URL: www.isro.org/ Type: Sun-synchronous
Resource Satellite-2				etc.	(Resourcesat)	Alittude: 817 km Period: 102 mins
ISRO						Inclination: 98.72 deg Repeat cycle: 26 days
10110						LST:
						Longitude (if geo): Asc/desc: Descending
RESOURCESAT-2A	Considered	2013	2018	Natural resources management, agricultural applications, forestry	AWIFS, LISS-IV, LISS-III	URL: www.isro.org/ Type: Sun-synchronous Altitude: 817 km
Resource Satellite-2A				etc.	(Resourcesat)	Altitude: 817 km Period: 102 mins
ISRO						Inclination: 98.72 deg
ISRO						Repeat cycle: 26 days LST:
						Longitude (if geo): Asc/desc: Descending
RESOURCESAT-3	Considered	2015	2020	Natural resources management, agricultural applications, forestry	WS LISS III. ATCOR	URL: www.isro.org/ Type: Sun-synchronous
Resource Satellite-3				etc.		Altitude: 817 km Period: 102 mins
						Inclination: 98.72 deg
ISRO						Repeat cycle: 26 days LST:
						Longitude (if geo): Asc/desc: Descending
RESOURCESAT-3A	Considered	2018	2023	Natural resources management, agricultural applications, forestry	WS LISS III. ATCOR	URL: www.isro.org/
Resource Satellite-3A		2010	2020	etc.		Type: Sun-synchronous Altitude: 817 km Period: 102 mins
						Inclination: 98.72 deg
ISRO						Repeat cycle: 26 days LST:
						Longitude (if geo): Asc/desc: Descending
Resurs DK 1	Currently being flown	15 Jun 2006	Jun 2012	Land surface.	Geoton-L1, Pamela, Arina	URL: www.isro.org/ Type: Inclined, non-sun-synchronous
	, oung lown	.0 00/1 2000	00112012			Altitude: 600 km
Resurs DK Environmental Satellite 1						Period: 92 mins Inclination: 70 deg
ROSKOSMOS / ROSHYDROMET						Repeat cycle: 17 days LST:
						Longitude (if geo): Asc/desc: Ascending
Resurs P N1	Approved	1.1.0040	141.0047	Land surface	Geoton-L1, Pamela, Arina	URL: planet.iitp.ru
	Approved	Jul 2012	Jul 2017	Land surface.	Geoton-Lir, Pamela, Arina	Type: Attitude:
Resurs P Environmental Satellite N1						Period: Inclination:
ROSKOSMOS / ROSHYDROMET						Repeat cycle: LST:
						Longitude (if geo):
						Asc/desc: URL:
Resurs P N2	Planned	2013	2018	Land surface.	Geoton-L1, Pamela, Arina	Type: Altitude:
Resurs P Environmental Satellite N2						Period: Inclination:
ROSKOSMOS / ROSHYDROMET						Repeat cycle: LST:
						Longitude (if geo):
						Asc/desc: URL:
RISAT-1	Currently being flown	26 Apr 2012	Apr 2016	Land surface, agriculture and forestry, regional geology, land use studies, water resources, vegetation studies, coastal studies and	SAR (RISAT)	Type: Sun-synchronous Altitude: 610 km
Radar Imaging Satellite				soils - especially during cloud season.		Period: 96.5 mins Inclination: 97.844 deg
ISRO						Repeat cycle: 12 days
						LST: 6:00 Longitude (if geo):
						Asc/desc: Descending URL: www.isro.org/

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
RISAT-1A	Considered	2015	2019	Land surface, agriculture and forestry, regional geology, land use studies, water resources, vegetation studies, coastal studies and	SAR (RISAT)	Type: Sun-synchronous Altitude: 610 km
Radar Imaging Satellite				solls - especially during cloud season.		Period: 96.5 mins
ISRO						Inclination: 97.844 deg Repeat cycle: 12 days
						LST: 6:00 Longitude (if geo):
						Asc/desc: Descending
RISAT-2	Currently being flown	20 Apr 2009	Apr 2013	For research and disaster management applications purpose.	SAR-X	URL: www.isro.org/ Type: Sun-synchronous
Radar Imaging Satellite						Altitude: 550 km Period: 90 mins
ISRO						Inclination: Repeat cycle:
						LST: 6:00 Longitude (if geo):
						Asc/desc: Descending
RISAT-3	Considered	2016	2021	Land surface, agriculture and forestry, regional geology, land use	SAR-L	URL: www.isro.org/ Type: Sun-synchronous
Radar Imaging Satellite				studies, water resources, vegetation studies, coastal studies and soils - especially during cloud season.		Altitude: Period: 96.5 mins
ISRO						Inclination: 97.844 deg Repeat cycle: 12 days
						LST: Longitude (if geo):
						Asc/desc: Descending URL: www.isro.org/
SAC-C	Currently being flown	21 Nov 2000	Jan 2013	Earth observation, studies the structure and dynamics of the	MMRS, HRTC, HSTC, MMP,	Type: Sun-synchronous
				Earth's surface, atmosphere, ionosphere and geomagnetic field.	GOLPE, IST, INES, ICARE, WTE, DCS (SAC-C)	Altitude: 705 km Period: 98 mins
CONAE						Inclination: 98.2 deg Repeat cycle: 9 days
						LST: 10:25
						Longitude (if geo): Asc/desc: Descending URL: www.conae.gov.ar/
SAC-D/Aquarius	Currently being flown	10 Jun 2011	Jun 2017	Earth observation studies; measurement of ocean salinity;	Lagrange, MWR, HSC,	Type: Sun-synchronous
				atmospheric and environmental parameters, emergency management.	SODAD/CARMEN-1, NIRST, CARMEN-1, DCS (SAC-D), ROSA,	Altitude: 657 km Period: 98 mins
CONAE / NASA					TDP, Aquarius L-Band radiometer, Aquarius L-Band Scatterometer	Inclination: 98 deg Repeat cycle: 7 days
						LST: Longitude (if geo):
						Asc/desc: Ascending
SAC-E/SABIA_MAR-A	Approved	Sep 2016	Sep 2021	Global ocean colour medium resolution, urban lights, polar	DCS (SABIA_MAR), HSC, MUS-M	URL: www.conae.gov.ar/ Type: Sun-synchronous
				auroras, centralised data collection.		Altitude: Period:
CONAE						Inclination: Repeat cycle: 1 days
						LST:
						Longitude (if geo): Asc/desc: Descending
SAC-E/SABIA_MAR-B	Approved	Nov 2017	Nov 2022	Coastal zones ocean colour low resolution.	DCS (SABIA_MAR), HSC, MUS-L	URL: www.conae.gov.ar/ Type: Sun-synchronous
						Altitude: Period:
CONAE						Inclination: Repeat cycle: 4 days
						LST:
						Longitude (if geo): Asc/desc: Descending
SAGE-III	Planned	2014	2017	Refurbishment of the SAGE-III instrument and of a hexapod	SAGE-III	URL: www.conae.gov.ar/ Type: Inclined, non-sun-synchronous
Stratospheric Aerosol and Gas				pointing platform, and accommodation studies. This mission flies on the ISS.		Altitude: 425 km Period:
Experiment						Inclination: 51 deg
NASA						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
SAOCOM 1A	Approved	Dec 2014	Dec 2019		SAR-L	URL: www-sage3.larc.nasa.gov/missions/ Type: Sun-synchronous
				SAR.		Altitude: 620 km Period: 97.2 mins
CONAE / ASI						Inclination: 97.89 deg
						Repeat cycle: 16 days LST: 6:12
						Longitude (if geo): Asc/desc: Ascending
SAOCOM 1B	Approved	Dec 2015	Dec 2020	Earth observation and emergency management with an L-band	SAR-L	URL: www.conae.gov.ar/ Type: Sun-synchronous
				SAR.		Altitude: 620 km Period: 97.2 mins
CONAE / ASI						Inclination: 97.89 deg
						Repeat cycle: 16 days LST: 6:12
						Longitude (if geo): Asc/desc: Ascending
SAOCOM-2A	Planned	2019	2024	Earth observation and emergency management with an L-band	SAR-L	URL: www.conae.gov.ar/ Type: Sun-synchronous
				SAR.		Altitude: 620 km Period:
CONAE						Inclination: 98 deg
						Repeat cycle: 16 days LST: 6:00
						Longitude (if geo): Asc/desc: Descending
SAOCOM-2B	Planned	2020	2025	Earth observation and emergency management with an L-band	SAR-L	URL: www.conae.gov.ar/
		2020	2020	SAR.		Type: Sun-synchronous Altitude: 620 km Period:
CONAE						Inclination: 98 deg
						Repeat cycle: 16 days LST: 6:00
						Longitude (if geo): Asc/desc: Descending
SARAL	Approved	Jun 2012	May 2014	This will provide precise, repetitive global measurements of sea	ARGOS, AltiKa	URL: www.conae.gov.ar/ Type: Sun-synchronous
Satellite with ARgos and ALtiKa	- pp. 10100	5011 2012	.nay 2014	surface height, significant wave heights and wind speed.		Altitude: 799 km Period: 100.59 mins
						Inclination: 98.55 deg
CNES / ISRO						Repeat cycle: 35 days LST:
						Longitude (if geo): Asc/desc: Descending
SARE-1B	Planned	2014	2047	Segmented architecture development.	SAR components testing	URL:
SARE-1		2014	2017	derete and a second sec	· ·····	Type: Altitude: Period:
						Inclination:
CONAE						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
Scatterometer Satellite-1	Considered	2013	2047	Ocean and atmosphere applications, wind speed over oceans,	Scatterometer (OCEANSAT), TSU	Type: TBD
		2013	2017	temperature.	CLERICIONICIO (OCEANOMI), 130	Altitude:
Scatsat-1						Period: Inclination:
ISRO						Repeat cycle: LST:
						Longitude (if geo): Asc/desc:
800.1	Currently hairs from	00 5-6 4000	D 0010	Data collection and communication	000	URL:
SCD-1	Currently being flown	09 Feb 1993	Dec 2012	Data collection and communication.	DCS	Type: Inclined, non-sun-synchronous Altitude: 750 km
Data Collecting Satellite 1						Period: 100 mins Inclination: 25 deg
INPE						Repeat cycle: LST:
						Longitude (if geo):
						Asc/desc: TBD URL: www.inpe.br

MISSION	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
SCD-2	Currently being flown	22 Oct 1998	Dec 2012	Data collection and communication.	DCS	Type: Inclined, non-sun-synchronous Altitude: 750 km
Data Collecting Satellite 2						Period: 100 mins Inclination: 25 deg
INPE						Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: TBD URL: www.inpe.br
SCISAT-1	Currently being flown	12 Aug 2003	Mar 2015	To improve our understanding of the depletion of the ozone layer, particularly over Canada and the Arctic.	ACE-FTS, MAESTRO	Type: Inclined, non-sun-synchronous Altitude: 650 km
SCISAT-I/ACE				particularly over Canada and the Arctic.		Period: 97.7 mins
CSA						Inclination: 74 deg Repeat cycle: 365 days
						LST: Longitude (if geo):
						Asc/desc: N/A URL: www.asc-csa.gc.ca/eng/satellites/scisat/default.asp
SCLP	Considered	2030	2033	Phase-3 DS Mission, launch order unknown, 3-year nominal	Ku and X-band radars (SCLP), K	Type: Sun-synchronous
Snow and Cold Land Processes				mission. Snow accumulation for fresh water availability.	band radiometers (SCLP)	Altitude: Period:
NASA						Inclination: Repeat cycle: 15 days
						LST: Longitude (if geo):
						Asc/desc: URL: decadal.gsfc.nasa.gov/sclp.html
Sentinel-1 A	Approved	May 2013	Aug 2020	Providing continuity of C-band SAR data for operational	C-Band SAR	Type: Sun-synchronous
				applications notably in the following areas: monitoring of sea ice zones and the arctic environment, surveillance of marine		Altitude: 693 km Period: 98.74 mins
ESA/EC				environment, monitoring of land surface motion risks and mapping in support of humanitarian aid in crisis situations.		Inclination: 98.19 deg Repeat cycle: 12 days
						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending URL: www.esa.int/esaLP/LPgmes.html
Sentinel-1 B	Approved	Jan 2015	May 2022	Providing continuity of C-band SAR data for operational	C-Band SAR	Type: Sun-synchronous
				applications notably in the following areas: monitoring of sea ice zones and the arctic environment, surveillance of marine		Altitude: 693 km Period: 98.74 mins
ESA/EC				environment, monitoring of land surface motion risks and mapping in support of humanitarian aid in crisis situations.		Inclination: 98.19 deg Repeat cycle: 12 days
						LST: 18:00 Longitude (if geo):
						Longitude (if geo): Asc/desc: Ascending URL: www.esa.int/esaLP/LPgmes.html
Sentinel-1 C	Considered	2019	2026	Providing continuity of C-band SAR data for operational	C-Band SAR	Type: Sun-synchronous
				applications notably in the following areas: monitoring of sea ice zones and the arctic environment, surveillance of marine		Altitude: 693 km Period: 98.74 mins
ESA/EC				environment, monitoring of land surface motion risks and mapping in support of humanitarian aid in crisis situations.		Inclination: 98.19 deg Repeat cycle: 12 days
						LST: 18:00
						Longitude (if geo): Asc/desc: Ascending URL: www.esa.int/esaLP/LPgmes.html
Sentinel-2 A	Approved	Nov 2013	Feb 2021	Supporting land monitoring related services, including: generation	MSI (Sentinel-2)	Type: Sun-synchronous
				of generic land cover maps, risk mapping and fast images for disaster relief, generation of leaf coverage leaf chlorophyll content		Altitude: 786 km Period: 100.7 mins
ESA / EC				and leaf water content.		Inclination: 98.62 deg
						Repeat cycle: 10 days LST: 10:30
						Longitude (if geo): Asc/desc: Descending
Sentinel-2 B	Approved	May 2015	Aug 2022	Supporting land monitoring related services, including: generation	MSI (Sentinel 2)	URL: www.esa.int/esaLP/LPgmes.html Type: Sun-synchronous
Sentinei-2 B	Approved	ividy 2013	Aug 2022	of generic land cover maps, risk mapping and fast images for		Altitude: 786 km
ESA/EC				disaster relief, generation of leaf coverage leaf chlorophyll content and leaf water content.		Period: 100.7 mins Inclination: 98.62 deg
						Repeat cycle: 10 days LST: 10:30
						Longitude (if geo):
0	a					Asc/desc: Descending URL: www.esa.int/esaLP/LPgmes.html
Sentinel-2 C	Considered	2020	2027	Supporting land monitoring related services, including: generation of generic land cover maps, risk mapping and fast images for	MSI (Sentinei-2)	Type: Sun-synchronous Altitude: 786 km
ESA/EC				disaster relief, generation of leaf coverage, leaf chlorophyll		
EGATEG				content and leaf water content.		Period: 100.7 mins Inclination: 98.62 deg
EGAT EC				content and leaf water content.		Inclination: 98.62 deg
				disaster randr, generation of real overlage, ten chorophyn content and leaf water content.		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo):
				content and leaf water content.		Inclination: 98.62 deg Repeat cycle: 10 days Longitude (if geo): Asc/desc: Descending URL: www.esa.int/esaLP/LPgmes.html
ESA/EC Sentinel-3 A	Approved	Oct 2013	Mar 2021	content and leaf water content.	OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending URL: www.esai.ntlesa.Ph/Lpms.html Type: Sun-synchronous Altitude: 814 km
	Approved	Oct 2013	Mar 2021	content and leaf water content.	OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending URL: www.esai.un/esai.PL/Egmes.html Type: Sun-synchronous Altitude: 814 km Period: 100 mins Inclination: 98.65 deg
Sentinel-3 A	Approved	Oct 2013	Mar 2021	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo tooocrathy: coastal across, nined vater and	OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending URL: www.esai.un/esai.PL/Egmes.html Type: Sun-synchronous Altitude: 814 km Period: 100 mins Inclination: 98.65 deg
Sentinel-3 A	Approved	Oct 2013	Mar 2021	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo tooocrathy: coastal across, nined vater and	OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Ascides: Descending URL: www.esa intereat.PL/Pgmes.html URL: www.esa intereat.PL/Pgmes.html URL: www.esa intereat.PL/Pgmes.html URL: www.esa intereat.PL/Pgmes.html Hunde: 81 days Hunde: 81 days Repeat cycle: 27 days LST: 10:00 LST: 10:00
Sentinel-3 A ESA / EUMETSAT / EC				content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land tee topography; coastal zones, inland water and sea te topography; vegetation products.		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (If geo): Asc/desc: Descending URL: www.esa intereat/PLPgmes.html URL: www.esa intereat/PLPgmes.html Mitude: 814 km mclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Asc/desc: Descending URL: www.esa intereat/PLPgmes.html
Sentinel-3 A	Approved	Oct 2013 Oct 2014		content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea lee topography; vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending URL: www.esa intereal.PLPgmes.html URL: www.esa intereal.PLPgmes.html URL: www.esa intereal.PLPgmes.html Inclination: 30.65 deg Ref: 10:00 PLPgmes.html Longitude (if geo): Asc/des: Descending URL: www.esa intereal.PLPgmes.html Type: Sun-synchronous
Sentinel-3 A ESA / EUMETSAT / EC				content and leaf water content. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LOngitude (if geo): Asc/des: Descending URL: www.esai.int/esal.PrL/gmes.html Type: Sun-synchronous Altitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Descending URL: www.esai.int/esal.PrL/gmes.html URL: www.esai.int/esal.PrL/gmes.html
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B				content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea lee topography; vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (If geo): Asc/des: Descending Upp: some assimilieatas Altitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Asc/des: Descending UPL: www.esa intersa.PL/Pgmes.html UPL: www.esa intersa.PL/Pgmes.html UPL: www.esa intersa.PL/Pgmes.html UPL: www.esa intersa.PL/Pgmes.html UPL: www.esa intersa.PL/Pgmes.html Deriod: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B				content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea lee topography; vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LDG/LDG (If epol): Aac/des: Descending URL: www.esa: Intereact/PLPgmes.html URL: www.esa: Intereact/PLPgmes.html Period: 100 minis Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 LOngitude (If epol): Asc/des: Descending URL: www.esa: Intereact/PLPgmes.html Type: Sun-synchronous Ascides: Descending URL: www.esa: Intereact/PLPgmes.html Type: Sun-synchronous Ascides: Descending URL: www.esa: Intereact/PLPgmes.html Type: Sun-synchronous Ascides: Descending URL: www.esa: Intereact/PLPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 LOngitude (If epol):
Sentinel-3A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC	Approved	Oct 2014	Feb 2022	content and leaf water content. Supporting global land and coean monitoring services, in patricular, seafand colour data and surface temperature; sea surface and land to topography, costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patricular; seafand colour data and surface temperature; sea surface and land ice topography; costalt zones, inland water and sea ice topography; vegetation products.	OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending UPL: www.east.intesa.UPLPgmes.html Type: Sun-synchronous Period: 100 ninis Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des: Descending UPL: www.east.intesa.UPLPgmes.html Type: Sun-synchronous Attlude: 814 dm Period: 100 mins Inclination: 98.65 deg LST: 100:01 LST: 100:0
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B			Feb 2022	content and leaf water content. Supporting global land and ceean monitoring services, in patricular, seafand colour data and surface temperature sea surface and land to topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patricular, seafand colour data and surface temperature; sea surface and land ice topography, coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patricular, seafand colour data and surface temperature; sea surface and land ocean monitoring services, in patricular, seafand colour data and surface temperature; sea		Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 Longitude (if geo): Asc/des: Descending URL: www.esal-intesaLPLPgmes.html Type: Sun-synchronous Asc/des: Descending Mitod: 10 nmis Inclination: 98.65 deg Repeat cycle: 27 days LST: 10.00 Longitude (if geo): Asc/des: Descending URL: www.esal-intesaLPLPgmes.html Type: Sun-synchronous Astitude: 814 htm Period: 100 miss Inclination: 98.65 deg Repeat cycle: 27 days LST: 100 miss Inclination: 98.65 deg Repeat cycle: 27 days LST: 1000 Mitode: Asc: Asc: Asc: Asc: Asc: Asc: Asc: Asc
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Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A	Approved Considered	Oct 2014 2020	Feb 2022 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: aealiand colour data and surface temperature; sea sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: sealand colour data and surface temperature; sea surface and land to topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patholar: sealand colour data and surface temperature; sea surface and land co topography costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LOBIULD (If geo): Asc/des: Descending UNL: www.esa intesa.PI-LPgmes.html UNL: www.esa intesa.PI-LPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitube (If geo): Asc/des: Descending UNL: www.esa intesa.PI-LPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 LOBIULD (If geo): Asc/des: Descending UNL: www.esa intesa.PI-LPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitube (If geo): Asc/des: Ascending UNL: www.esa intesa.PI-LPgmes.html Type: Sun-synchronous Asc/des: Ascending UNL: www.esa intesa.PI-LPgmes.html Type: Gostationary Astrone: Ascending UNL: www.esa intesa.PI-LPgmes.html Type: Gostationary Astrone: Ascending UNL: www.esa intesa.PI-LPgmes.html Type: Gostationary Altude: 814 dim Period: 100 mins Longitube (If geo): Asc/des: Ascending UNL: www.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: Dialization: BS.65 deg Repeat cycle: LST: LST: UNL: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: UNL: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: UNL: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST: LST: WWW.esa intesa.PI-LPgmes.html Type: Gostationary Altude: BST: LST:
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC	Approved Considered Planned	Oct 2014 2020 2018	Feb 2022 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land ice topography; costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des: Descending URL: www.esa.intesaLPLPgmes.html Type: Sun-synchronous Asc/des: Descending URL: www.esa.intesaLPLPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des: Descending URL: www.esa.intesaLPLPgmes.html Type: Sun-synchronous Ast/tude: 814 dm Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des: Ascending Ast/tude: 814 dm Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days Longitude (if geo): Asc/des: Ascending Ast/tude: 814 dm Period: 100 mins Inclination: 96.65 deg Repeat cycle: 27 days Longitude (if geo): Asc/des: Ascending URL: www.esa.int/esaLPLPgmes.html URL: www.esa.int/esaLPLPgmes.html
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC	Approved Considered Planned	Oct 2014 2020 2018	Feb 2022 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: aealiand colour data and surface temperature; sea sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: sealand colour data and surface temperature; sea surface and land to topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patholar: sealand colour data and surface temperature; sea surface and land co topography costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (If geo): Ascides:: Descending PLPgmes.html Pyre: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Ascides:: Descending PLPgmes.html Upyre: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.miesai.PLPgmes.html UPL: www.esai.miesa
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC	Approved Considered Planned	Oct 2014 2020 2018	Feb 2022 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: aealiand colour data and surface temperature; sea sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: sealand colour data and surface temperature; sea surface and land to topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patholar: sealand colour data and surface temperature; sea surface and land co topography costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LORITUG: www.esal.inflexation Microsoft and State State Ascides: Descending UNL: www.esal.inflexation Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Descending UNL: www.esal.inflexation Mittade: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Descending UNL: www.esal.inflexation Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Ascending UNL: www.esal.inflexation Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Ascending UNL: www.esal.inflexation Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Ascending UNL: www.esal.inflexation Repeat cycle: 27 days LST: 10:00 Longitude (if ego): Ascides: Ascending UNL: www.esal.inflexation Repeat cycle: LST: Longitude (if ego): 0 Ascides: N/A UNL: www.esa.inflexation Repeat cycle: LST: Longitude (if ego): 0 Ascides: N/A
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC	Approved Considered Planned	Oct 2014 2020 2018	Feb 2022 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: aealiand colour data and surface temperature; sea sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in patholaur: sealand colour data and surface temperature; sea surface and land to topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in patholar: sealand colour data and surface temperature; sea surface and land co topography costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LST: 10:00 LST: 10
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC	Approved Considered Planned	Oct 2014 2020 2018	Feb 2022 2027 2027 2027	content and leaf water content. Supporting global land and coean monitoring services, in particular: seafand colour data and surface temperature; sea sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S2. In early stages of mission definition. Other payloads will be	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LST: 10:00 LST: 10
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-4 B ESA / EC	Approved Considered Planned	Oct 2014 2020 2018 2024	Feb 2022 2027 2027 2027	content and leaf water content. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface emperature, sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography costal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teo topography costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring European atmospheric composition atmositie	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 LORItude (If geo): Ascides: Descending URL: www.esa.intesa.PPLPgmes.html Type: Sun-synchronous Ascides: Descending URL: www.esa.intesa.PPLPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10.00 LORItude: 81 den VIL: www.esa.intesa.PPLPgmes.html Type: Sun-synchronous Ascides: Ascending URL: www.esa.intesa.PPLPgmes.html Type: Geoleceence Ascides: Ascending URL: www.esa.intesa.PPLPgmes.html Type: Geoleceenceence Ascides: Ascending URL: www.esa.intesa.PPLPgmes.html Type: Geoleceenceenceenceenceenceenceenceenceence
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-4 B ESA / EC	Approved Considered Planned	Oct 2014 2020 2018 2024	Feb 2022 2027 2027 2027	content and leaf water content. Supporting global land and coean monitoring services, in particular: seafand colour data and surface temperature; sea sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S2. In early stages of mission definition. Other payloads will be	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (If geo): Ascides: Descending LPLgemes.html LPger: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Ascides:: Descending LPLgemes.html LPger: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.minesa.PPLPgmes.html UPL: www.esai.minesa.PPLPgmes.html UPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.minesa.PPLPgmes.html UPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): Ascides:: Ascending UPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): Ascides:: NA UPL: www.esai.minesa.PPLPgmes.html LPL: www.esai.minesa.PPLPgmes.html LPL: www.esai.minesa.PPLPgmes.html LST: 10:00 Longitude (If geo): 0 Ascides:: NA UPL: www.esai.minesa.PPLPgmes.html LPL: www.esai.minesa.PPLPgmes.html LPL: www.esai.minesat.PPLPgmes.html LPL: www.esai.minesat.PPLPgmes.html LP
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-5	Approved Considered Planned	Oct 2014 2020 2018 2024	Feb 2022 2027 2027 2027	content and leaf water content. Supporting global land and coean monitoring services, in particular: seafand colour data and surface temperature; sea sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S2. In early stages of mission definition. Other payloads will be	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 LOBIULD (If ge0): Asc/des: Descending URL: www.esa.infesa.PLP.LPgmes.html IPhil.es. 314 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitube (If ge0): Asc/des: Descending URL: www.esa.infesa.PLP.LPgmes.html IType: Sun-synchronous Repeat cycle: 27 days LST: 10:00 Longitube (If ge0): Asc/des: Descending URL: www.esa.infesa.PLP.LPgmes.html Type: Sun-synchronous Repeat cycle: 27 days LST: 10:00 Longitube (If ge0): Asc/des: Ascending URL: www.esa.infesa.PLP.LPgmes.html Type: Sun-synchronous Asc/des: Ascending URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Astrodes: Ascending URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Astrodes: Ascending URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Altitube: 814 dis Period: 100 mins Longitube (If ge0): Asc/des: Ascending URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Altitube: 814 Period: 100 Longitube (If ge0): 0 Asc/des: VNA LST: URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Altitube: 814 Period: 100 Longitube (If ge0): 0 Asc/des: VNA URL: www.esa.infesa.PLP.LPgmes.html Type: Geostationary Altitube: 814 LST: Longitube (If ge0): 0 Asc/des: VNA LST: Longitube (If ge0): 0 Asc/des: VNA LST: Longitube (If ge0): 0 LST: Longitube (If ge0): 0 LST: Longitube (If ge0): 0 LST: Longitube (If ge0): 0 LST: Longitube (If ge0): 0 LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST: LST:
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-5	Approved Considered Planned	Oct 2014 2020 2018 2024	Feb 2022 2027 2027 2027	content and leaf water content. Supporting global land and coean monitoring services, in particular: seafand colour data and surface temperature; sea sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; coastal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S2. In early stages of mission definition. Other payloads will be	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 LORItude (if geo): Ascides: Descending URL: www.esa intesatPLPLPgmes.html Type: Sus-synchronous Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10.00 Longitude (if geo): Ascides: Descending URL: www.esa intesatPLPLpmes.html Type: Sus-synchronous Ascides: Ascending URL: www.esa intesatPLPLpmes.html Type: Sus-synchronous Ascides: Ascending URL: www.esa intesatPLPLpmes.html Type: Sus-synchronous Ascides: Ascending URL: www.esa intesatPLPLpmes.html Type: Casotationary Ascides: Ascending URL: www.esa intesatPLPLpmes.html Type: Casotationary Ascides: Ascending URL: www.esa intesatPLPLpmes.html Type: Casotationary Attitude: 814 dis Repeat cycle: 27 days LST: 10.00 Longitude (if geo): 0 Ascides: VRL URL: www.esa intesatPLPLpmes.html Type: Casotationary Attitude: 845 Longitude (if geo): 0 Ascides: VRL LST: 00 Longitude (if geo): 0 Ascides: VRL LST: 00 LST: 00
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-5	Approved Considered Planned	Oct 2014 2020 2018 2024	Feb 2022 2027 2027 2033 2033	content and leaf water content. Supporting global land and ocean monitoring services. In particular: seafand colour data and surface imporative; sea surface and land too Inpography costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography costal zones, inland water and sea ice topography, vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography costal zones, inland water and sea ice topography, vegetation products. Supporting global land and ocean monitoring services, in particular: seafand colour data and surface temperature; sea surface and land ice topography; costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1. In early stages of mission definition. Other payloads will be added. The Sentinel-5 mission is carried on EPS-SG-a. Supporting global atmospheric composition and air quality	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 LORItude (If geo): Ascides: Descending URL: www.esa.intesa.PLP.Lgmes.html Type: Sun-synchronous Period: 100 nins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10.00 Longitude (If geo): Ascides: Descending URL: www.esa.intesa.PLP.Lgmes.html Type: Sun-synchronous Ascides: Ascending URL: www.esa.intesa.PLP.Lgmes.html Type: Geostationary Attitude: Start 100 Longitude (If geo): Ascides: X-Ascending URL: www.esa.intesa.PLP.Lgmes.html Type: Geostationary Attitude: Start 100 Longitude (If geo): 0 Ascides: X-Ascending URL: Www.esa.intesa.PLP.Lgmes.html Type: Geostationary Attitude: Start 100 Longitude (If geo): 0 Ascides: X-Ascending URL: Www.esa.intesa.PLP.Lgmes.html Type: Geostationary Attitude: Start Longitude (If geo): 0 Ascides: X-Ascending Ascides: X-Ascending URL: Www.esa.intesa.PLP.Lgmes.html Type: Geostationary Attitude: Start Longitude (If geo): 0 Ascides: X-Ascending Ascides: X-Ascend
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-5 ESA	Approved Considered Planned Planned	Oct 2014 2020 2018 2024 2019	Feb 2022 2027 2027 2033 2033	content and leaf water content. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface emperature: sea surface and land to loography. vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature: sea surface and land to loography. vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature: sea surface and land to loography. vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land to loography constate zones, mand water and sea ice topography. vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land surface temperature; sea surface and land and coean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land and coean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land surface temperature; sea surface and land and coean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land surface temperature; sea surface and land and coean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land and coean monitoring services. In Supporting European atmospheric composition and air quality monitoring services. The Sentinei-4 A mission is carried on MTG S2. In early stages of mission definition. Other payloads will be added. The Sentinei-5 mission is carried on EPS-SG-a.	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS UVN (Sentinel-4), IRS IRS, METimage, UVNS (Sentinel-5)	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 LORItude (If geo): Ascides: Descending URL: www.esa.intesa.PLP.LPgmes.html Type: Sun-synchronous Period: 100 nins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10.00 Longitude (If geo): Ascides: Descending URL: www.esa.intesa.PLP.LPgmes.html Type: Sun-synchronous Ascides: Ascending URL: www.esa.intesa.PLP.LPgmes.html Type: Geostationary Attitude: 814 din Period: 100 mins Inclination: 86.65 deg Repeat cycle: 27 days Longitude (If geo): Ascides: XAscending URL: www.esa.intesa.PLP.LPgmes.html Type: Geostationary Attitude: Statistica. S
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-4 B ESA / EC Sentinel-5 ESA	Approved Considered Planned Planned	Oct 2014 2020 2018 2024 2019	Feb 2022 2027 2027 2033 2033	content and leaf water content. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface emperature: sea surface and land teologoraphy: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1. In early stages of mission definition. Other payloads will be added. The Sentinel-5 mission is carried on EPS-SG-a. Supporting global atmospheric composition and air quality monitoring services. It will bridge the gap between Enviset and	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS UVN (Sentinel-4), IRS IRS, METimage, UVNS (Sentinel-5)	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des:: Descending DLPgmes.html Upper: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Descending UPL: www.esa interease Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Descending UPL: www.esa interease Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esa interease.PLPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esa interease.PLPgmes.html Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esa interease.PLPgmes.html Type: Gestationary Period: 100 Longitude (if geo): Asc/des:: NA UPL: www.esa intereast.PLPgmes.html Type: Gestationary Period: LST: Longitude (if geo): Asc/des:: NA UPL: www.esa intereast.PLPgmes.html Type: Sun-synchronous Asc/des:: NA UPL: www.esa i
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-4 B ESA / EC Sentinel-5 ESA	Approved Considered Planned Planned	Oct 2014 2020 2018 2024 2019	Feb 2022 2027 2027 2033 2033	content and leaf water content. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface emperature: sea surface and land teologoraphy: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1. In early stages of mission definition. Other payloads will be added. The Sentinel-5 mission is carried on EPS-SG-a. Supporting global atmospheric composition and air quality monitoring services. It will bridge the gap between Enviset and	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS UVN (Sentinel-4), IRS IRS, METimage, UVNS (Sentinel-5)	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10.30 LST: 13.30 LST: 13.30
Sentinel-3 A ESA / EUMETSAT / EC Sentinel-3 B ESA / EUMETSAT / EC Sentinel-3 C ESA / EUMETSAT / EC Sentinel-4 A ESA / EC Sentinel-4 B ESA / EC Sentinel-5 ESA	Approved Considered Planned Planned	Oct 2014 2020 2018 2024 2019	Feb 2022 2027 2027 2033 2033	content and leaf water content. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface emperature: sea surface and land teologoraphy: costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services. In particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography: vegetation products. Supporting global land and ocean monitoring services, in particular: sealand colour data and surface temperature; sea surface and land teologoraphy costal zones, inland water and sea ice topography; vegetation products. Supporting European atmospheric composition and air quality monitoring services. The Sentinel-4 A mission is carried on MTG S1. In early stages of mission definition. Other payloads will be added. The Sentinel-5 mission is carried on EPS-SG-a. Supporting global atmospheric composition and air quality monitoring services. It will bridge the gap between Enviset and	OLCI, SLSTR, SRAL OLCI, SLSTR, SRAL UVN (Sentinel-4), IRS UVN (Sentinel-4), IRS IRS, METimage, UVNS (Sentinel-5)	Inclination: 98.62 deg Repeat cycle: 10 days LST: 10:30 Longitude (if geo): Asc/des:: Descending DLPgmes.html Upper: Sun-synchronous Attitude: 814 km Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Descending UPL: www.esal infease Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Descending UPL: www.esal infease Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esal infease Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esal infease Period: 100 mins Inclination: 98.65 deg Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: Ascending UPL: www.esal infease Period: 100 Repeat cycle: 27 days LST: 10:00 Longitude (if geo): Asc/des:: NA UPL: www.esal infease Period: 100 Repeat cycle: LST: Longitude (if geo): 0 Asc/des:: NA UPL: www.esa infease Period: 100 Repeat cycle: LST: Longitude (if geo): 0 Asc/des:: NA UPL: www.esa infease Period: 100 Repeat cycle: LST: Longitude (if geo): 0 Asc/des:: NA UPL: www.esa infease Period: 100 Repeat cycle: LST: Longitude (if geo): 0 Asc/des:: NA UPL: www.esa infease PLPLPgmes.html Type: Sun-synchronous Asc/des:: NA UPL: www.es

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
Sich-2	Currently being flown	17 Aug 2011	Aug 2015	Land observation.	MSS (Sich), MIRS	Type: Sun-synchronous Altitude: 668 km
NSAU						Period: 98 mins Inclination: 98 deg
						Repeat cycle: 5 days LST: 10:50
						Longitude (if geo): Asc/desc: Descending
SMAP	Planned	2014	2017	Late 2014 launch expected, 3-year nominal mission life. Global	Leband Radar (SMAP) Leband	URL: Type: Sun-synchronous
Soil Moisture Active Passive		2011	2011	soil moisture mapping.	Radiometer (SMAP)	Altitude: 685 km Period:
NASA						Inclination: 98 deg Repeat cycle:
NOUN						LST: 18:00 Longitude (if geo):
						Asc/desc: Ascending
SMOS	Currently being flown	02 Nov 2009	Nov 2012	Overall objectives are to provide global observations of two	MIRAS (SMOS)	URL: smap.jpl.nasa.gov/ Type: Sun-synchronous Altitude: 758 km
Soil Moisture and Ocean Salinity (Earth Explorer Opportunity Mission)				crucial variables for modelling the weather and climate, soil moisture and ocean salinity. It will also monitor the vegetation water content, snow cover and ice structure.		Period: 100.075 mins Inclination: 98.44 deg
ESA/CDTI/CNES				water content, show cover and ice structure.		Repeat cycle: 23 days LST: 6:00
ESA/ ODIT/ CNES						Longitude (if geo):
SORCE	Currently being flown	25 Jan 2003	Sep 2012	5-year nominal mission life, currently in extended operations.	SOLSTICE, SIM, TIM, XPS	Asc/desc: Ascending URL: earth.esa.int/SMOS/ Type: Inclined, non-sun-synchronous
Solar Radiation and Climate Experiment	Currently being nown	20 Jan 2003	36p 2013	Continues the precise, long-term measurements of total solar irradiance at UV and VNIR wavelengths. Daily measurements of	SOESTICE, SIM, TIW, XPS	Altitude: 600 km Period:
NASA				solar UV. Precise measurements of visible solar irradiance for climate studies.		Repeat cycle:
NASA				cimate studies.		LST:
						Longitude (if geo): Asc/desc:
SPOT-4	Currently being flown	24 Mar 1998	Jun 2013	Cartography, land surface, agriculture and forestry, civil planning and mapping, digital terrain models, environmental monitoring.	HRVIR, VEGETATION, DORIS (SPOT)	URL: lasp.colorado.edu/sorce/ Type: Sun-synchronous Altitude: 832 km
Satellite Pour l'Observation de la Terre - 4				and mapping, digital terrain models, environmental monitoring.	(3-01)	Period: 101 mins Inclination: 98.7 deg
CNES						Repeat cycle: 26 days LST: 10:30
						Longitude (if geo):
SPOT-5	Currently being form	04 May 2002	h 001-	Cartography, land surface, agriculture and forestry, civil planning	HRG, VEGETATION, HRS, DORIS-	Asc/desc: Descending URL: www.spot.com/home/system/introsat/welcome.htm Type: Sun-synchronous
SPO I-5 Satellite Pour l'Observation de la Terre - 5	Currently being flown	04 May 2002	Jun 2014	Cartography, land surface, agriculture and forestry, civil planning and mapping, digital terrain models, environmental monitoring.	NG (SPOT)	Iype: Sun-synchronous Altitude: 832 km Period: 101 mins
Satellite Pour l'Observation de la Terre - 5 CNES						Inclination: 98.7 deg
						Repeat cycle: 26 days LST: 10:30
						Longitude (if geo): Asc/desc: Descending URI ·
STARLETTE	Currently hairs from	06 Feb 1975	D 0055	Geodesy/gravity study of the Earth's gravitational field and its	Laser Reflectors	URL: www.spotimage.fr/home/system/future/spot5/welcome.htm Type: Inclined, non-sun-synchronous
STARLETTE	Currently being flown	06 Feb 1975	Dec 2050	temporal variations.	Laser Reflectors	Type: Inclined, non-sun-synchronous Altitude: 812 km Period: 104 mins
CNES						Inclination: 49.83 deg
						Repeat cycle: LST:
						Longitude (if geo): Asc/desc: N/A
STELLA	Currently being flown	30 Sep 1993	Dec 2050		Laser Reflectors	URL: Type: Inclined, non-sun-synchronous
				temporal variations.		Altitude: 830 km Period: 101 mins
CNES						Inclination: 98 deg Repeat cycle:
						LST: Longitude (if geo):
						Asc/desc: N/A URL:
Suomi NPP	Currently being flown	28 Oct 2011	Oct 2016	5-year nominal mission life. Operational polar weather and climate measurements.	CrIS, CERES, VIIRS, ATMS, OMPS	Altitude: 824 km
Suomi National Polar-orbiting Partnership						Period: 101 mins Inclination:
NASA / NOAA						Repeat cycle: 16 days LST: 13:30
						Longitude (if geo): Asc/desc: Ascending
Swarm	Approved	Jul 2012	Oct 2016	To provide the best ever survey of the geomagnetic field and its	Laser Reflectors (ESA), ASM, VFM,	URL: jointmission.gsfc.nasa.gov/ Type: Inclined, non-sun-synchronous
Earth's Magnetic Field and Environment				temporal evolution, and gain new insights into improving our knowledge of the Earth's interior and climate.	STR, EFI, ACC, GPS Receiver (Swarm)	Altitude: Period:
Explorers						Inclination: Repeat cycle:
ESA / CNES / CSA						LST: Longitude (if geo):
						Asc/desc: N/A URL: www.esa.int/export/esaLP/swarm.html
SWOT	Considered	2019	2022	Phase-2 DS Mission, launch order unknown, 3-year nominal mission. Ocean, lake, and river water levels for ocean and inland	CO Sensor (ASCENDS), Ka-band Radar INterferometer (KaRIN)	Type: Inclined, non-sun-synchronous Altitude: 970 km
Surface Water Ocean Topography				water dynamics.		Period: Inclination: 78 deg
NASA / CNES						Repeat cycle: 22 days LST:
						Longitude (if geo): Asc/desc:
TanDEM-X	Currently being flown	21 Jun 2010	Dec 2015		X-Band SAR	URL: bprc.osu.edu/water/index.php Type: Sun-synchronous
TerraSAR-X Add-on for Digital Elevation				terrain models, environmental monitoring.		Altitude: 514 km Period: 94.85 mins
Measurements						Inclination: 97.4 deg Repeat cycle: 11 days
DLR						LST: Longitude (if geo):
						Asc/desc: Ascending URL: www.dlr.de/hr/desktopdefault.aspx/tabid-
Terra	Currently being flown	18 Dec 1999	Sep 2013	6-year nominal mission life, currently in extended operations.	MOPITT, MODIS, MISR, CERES,	2317/3669_read-5488/ Type: Sun-synchronous
Terra (formerly EOS AM-1)				Atmospheric dynamics/water and energy cycles, atmospheric chemistry, physical and radiative properties of clouds, air-land	ASTER	Altitude: 705 km Period: 99 mins
NASA / METI / CSA				exchanges of energy, carbon and water, vertical profiles of CO and methane vulcanology.		Inclination: 98.2 deg Repeat cycle: 16 days
						LST: 10:30 Longitude (if geo):
						Asc/desc: Descending URL: terra.nasa.gov/
TerraSAR-X	Currently being flown	15 Jun 2007	Dec 2013	Cartography, land surface, civil planning and mapping, digital terrain models, environmental monitoring.	X-Band SAR, GPSRO (Terra-SAR)	Type: Sun-synchronous Altitude: 514 km
DLR						Period: 94.85 mins Inclination: 97.4 deg
						Repeat cycle: 11 days LST: 18:00
						Longitude (if geo): Asc/desc: Ascending
TES	Currently being flown	22 Oct 2001	Dec 2012	For demonstrating many satellite technologies for future Cartosat	TES PAN	URL: www.terrasar.de/ Type: Sun-synchronous
Technology Experimental Satellite on				satellites.		Altitude: Period:
Cartography						Inclination: Repeat cycle:
ISRO						LST: Longitude (if geo):
						Asc/desc: Descending URL: www.isro.org/
THEOS	Currently being flown	01 Oct 2008	Oct 2013	Earth resources, land surface and disaster monitoring, civil planning.	PAN (GISTDA), MS (GISTDA)	Type: Sun-synchronous Altitude: 822 km
Thailand Earth Observation System						Period: 101 mins Inclination: 98.7 deg
GISTDA						Repeat cycle: 26 days LST: 10:00
						Longitude (if geo): Asc/desc: Descending
						URL: www.gistda.or.th

Mission	Status	Launch Date	EOL Date	Applications	Instruments	Orbit Details & URL
TRMM Tropical Rainfall Measuring Mission NASA / JAXA	Currently being flown	27 Nov 1997	Sep 2013	3-year nominal mission life, currently in extended operations. Atmospheric dynamics/water and energy cycles.	LIS, PR, CERES, VIRS, TMI	Type: Inclined, non-sun-synchronous Altitude: 405 km Period: 93.5 mins Inclination: 35 deg Repeat cycle: LST.
TSX-NG	Planned	2016	2023	Commercial follow-on mission to TerraSAR-X operated by	X-Band SAR	Longitude (if geo): Asc/desc: N/A URL: trmm.gsfc.nasa.gov/ Type: Sun-synchronous
TerraSAR Next Generation				Infoterra. Cartography, land surface, civil planning and mapping, digital terrain models, environmental monitoring.		Altitude: Period: Inclination: Repeat cycle:
						LST: Longitude (if geo): Asc/desc: Ascending URL:
UK-DMC2 UK Disaster Monitoring Constellation 2	Currently being flown	29 Jul 2009	Jul 2014	Wide area, medium resolution optical imaging for mapping, crop monitoring, environmental resource and disaster management.	SLIM-6-22	Type: Sun-synchronous Altitude: 670 km Period: 98.5 mins Inclination: 98.14 deo
UKSA						Repeat cycle: 5 days LST: 10.45 Longitude (if geo): Asc/desc: Ascending URL: www.dmcii.com
VENUS Vegetation and Environment monitoring on a New Micro-Satellite	Approved	Jan 2013	Jan 2016	Vegetation, agriculture monitoring, water management.	VSC	Type: Sun-synchronous Altitude: 720 km Period: Inclination: 98.27 deg Repeat cycle: 2 days
CNES / ISA						LST: Longitude (if geo): Asc/desc: Descending URL: smsc.cnes.fr/VENUS/index.htm
YOUTHSAT	Currently being flown	20 Apr 2011	Apr 2013	Airglow of Earth's atmosphere (ionosphere), mapping total electron content in ionosphere.	LIV HYSI, RaBIT	Type: Sun-synchronous Altitude: 817 km Period: 101.35 mins Inclination: 98.731 deg
						Repeat cycle: 24 days LST: Longitude (if geo): Asc/desc: Descending URL: www.isro.org/

## A-Z table of satellite instruments

CEOS agencies are operating or planning 784 satellite instruments (396 distinct instruments, some being repeats) on their Earth observation missions in the 2012 - 2027 period. The table below presents their main characteristics. Please refer to the instruments table in the on-line database for the ability to export or analyse this data in more detail:

http://database.eohandbook.com/database/instrumenttable.aspx

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
3MI	EPS-SG-a	Proposed	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Instrument TBC.	Waveband: Spatial resolution:
EUMETSAT					Swath width:
A-DCS4	GOES-13, GOES-14,	Operational		Data collection and communication system for receiving and	Accuracy: Waveband: UHF
ARGOS-Data Collection System	GOES-15, JPSS-2, Metop- C, NOAA-19			retransmitting data from ocean and land-based remote observing platforms/transponders.	Swath width:
NOAA					Accuracy:
AATSR	Envisat	Operational	Imaging multi- spectral radiometers	Measurements of sea surface temperature, land surface temperature, cloud top temperature, cloud cover, aerosols,	Waveband: VIS - NIR: 0.555 µm, 0.659 µm, 0.865 µm, SWIR: 1.6 µm, MWIR: 3.7 µm, TIR: 10.85 µm, 12 µm
Advanced Along-Track Scanning Radiometer			(vis/IR) and multiple direction/polarisatio	vegetation, atmospheric water vapour and liquid water content.	Spatial resolution: IR ocean channels: 1 x 1 km, Visible land channels: 1 x 1 km
UKSA			n radiometers		Swath width: 500 km Accuracy: Sea surface temperature: <0.5 K over 0.5 x 0.5
					deg (lat/long) area with 80% cloud cover Land surface temperature: 0.1 K (relative)
ABI	GOES-R, GOES-S	Being developed		Detects clouds, cloud properties, water vapour, land and sea surface temperatures, dust, aerosols, volcanic ash, fires, total	Waveband: 16 bands in VIS, NIR and IR ranging from 0.47 µm to 13.3 µm
Advanced Baseline Imager			(vis/IR)	ozone, snow and ice cover, vegetation index.	Spatial resolution: 0.5 km in 0.64 µm band; 2.0 km in long wave IR and in the 1.378 µm band; 1.0 km in all others
NOAA					Swath width:
ACC	Swarm	Being developed		Measurement of the spacecraft non-gravitational accelerations,	Accuracy: Varies by product Waveband: N/A
Accelerometer				linear accelerations range: +/- 2*10-4 m/s2; angular measurement range: +/- 9.6* 10-3 rad/s2; measurement bandwidth: 10-4 to 10-2	Swath width: N/A
ESA				Hz; Linear resolution: 1.8*10-10 m/s2; angular resolution: 8*10-9 rad/s2.	
ACE-FTS	SCISAT-1	Operational	chemistry	Measure and understand the chemical processes that control the distribution of ozone in the Earth's atmosphere, especially at high	resolution)
Atmospheric Chemistry Experiment (ACE) Fourier Transform Spectrometer				altitudes.	Spatial resolution: Swath width:
CSA					Accuracy: Depends on species, meets requirements for climate variables
ACRIM III	ACRIMSAT	Operational	Earth radiation budget radiometers	Measurements of solar luminosity and solar constant. Data used as record of time variation of total solar irradiance, from extreme	Waveband: UV - MWIR: 0.15 - 5 µm Spatial resolution: 5 deg FOV
Active Cavity Radiometer Irradiance Monitor			- Jogot radiometel S	UV through to infrared.	Swath width: 71 mis per orbit of full solar disk data Accuracy: 0.1% of full scale
NASA					Accuracy. U.1 /6 UI full Scale
NASA Advanced DCS		Proposed	Data collection	Collects data on temperature (air/water), atmospheric pressure,	Waveband:
Advanced Data Collection System	MP N2, Meteor-MP N3			humidity and wind speed/direction, speed and direction of ocean and river currents.	Spatial resolution: Swath width:
ROSHYDROMET (ROSKOSMOS)					Accuracy:
Advanced GGAK-M	Meteor-MP N1, Meteor- MP N2, Meteor-MP N3	Proposed	Space environment and magnetic field	Space Environmental Monitoring (SEM).	Waveband: Spatial resolution:
Advanced Module for Geophysical Measurements (SEM)					Swath width: Accuracy:
ROSHYDROMET (ROSKOSMOS)					
Advanced GOCI	GeoKOMPSAT-2B	Proposed	Ocean colour instruments	Ocean colour information, coastal zone monitoring, land resources monitoring.	Waveband: VIS - NIR: 0.40 - 0.88 μm (8 channels) Spatial resolution: 236 x 360 m
Advanced Geostationary Ocean Colour			instruments	resources monitoring.	Swath width: 1440 km
Imager					Accuracy:
KARI Advanced IKFS-2	Meteor-MP N1, Meteor-	Proposed		Atmospheric temperature/humidity profiles, data on cloud	Waveband: 3,7 - 15,5 µm, more then 8000 spectral channels
Advanced Fourier spectrometer	MP N2, Meteor-MP N3		temperature and humidity sounders	parameters, water vapour & ozone column amounts, surface temperature.	Spatial resolution: 35 -100 km Swath width: 1000/2000 km
ROSHYDROMET (ROSKOSMOS)					Accuracy: 0.5 K
Advanced KMSS	Meteor-MP N1, Meteor- MP N2, Meteor-MP N3	Proposed	Imaging multi- spectral radiometers	Multispectral images of land & sea surfaces and ice cover.	Waveband: 0.4 - 0.9 µm, 6 channels Spatial resolution: 60 m - 100 m
Advanced Multispectral Imager (VIS)	,		(vis/IR)		Swath width: 900 km Accuracy:
ROSHYDROMET (ROSKOSMOS) Advanced MI	GeoKOMPSAT-2A	Proposed	Imaging multi-	Continuous monitoring capability for the near real-time generation	
Advanced Meteorological Imager	GCORONII GAT-2A	TTOPOSCU	spectral radiometers (vis/IR)	of high-resolution meteorological products and long-term change analysis of sea surface temperature and cloud coverage.	3: WV (Waver Vapour): 6:50 - 7:00 μm; 4: TiR1 (Thermal Infrared 1): 10.3 - 11.3 μm, 5: TIR2 (Thermal Infrared 2): 11.5
KARI			(viarity)	analysis of sea surface temperature and cloud coverage.	- 12.5 μm
NARI					Spatial resolution: VIS: 0.5km, 1 km, IR: 2 km Swath width: Full Earth disk
Advanced MSU-MR		Proposed		Parameters of clouds, snow, ice and land cover, vegetation,	Accuracy: Waveband: VIS: 0.5 - 0.7 μm; NIR: 0.7 - 1.1 μm; SWIR: 1.6 -
Advanced Multispectral scanning imager-	MP N2, Meteor-MP N3		(vis/IR)	surface temperature, fire detection.	1.8 μm; MWIR: 3.5 - 4.1 μm; TIR: 10.5 - 11.5 μm, 11.5 - 12.5 μm
radiometer					Spatial resolution: 1 km Swath width: 3000 km
ROSHYDROMET (ROSKOSMOS) Advanced MTVZA	Meteor-MP N1, Meteor-	Proposed		Atmospheric temperature and humidity profiles, precipitation, sea-	Accuracy: VIS: 0.5%; IR: 0.1 - 0.2 K Waveband: 10.6 - 183.3 GHz, 26 channels
Advanced Scanning microwave imager-	MP N2, Meteor-MP N3		spectral radiometers (passive	level wind speed, snow/ice coverage.	Spatial resolution: 12 - 75 km Swath width: 2600 km
sounder			microwave)		Accuracy: 0.4 - 2.0 K depending on spectral band
ROSHYDROMET (ROSKOSMOS) Advanced Radiomet	Meteor-MP N1, Meteor-	Proposed	Atmospheric	Atmospheric temperature and humidity profiles with high vertical	Waveband:
Advanced Radio-occultation receiver	MP N2, Meteor-MP N3		temperature and humidity sounders	resolution.	Spatial resolution: Swath width:
ROSHYDROMET (ROSKOSMOS)					Accuracy:
Advanced SAR		Proposed		High resolution microwave radar images for ice watch.	Waveband: X-Band
Advanced Synthetic Aperture Radar X	MP N2, Meteor-MP N3		radars		Spatial resolution: 1 m, 5 m, 50 m, 200 m, 500 m Swath width: 10 km, 50 km, 130 km, 600 km, 750 km
band					Accuracy: 1 dB
ROSHYDROMET (ROSKOSMOS) Advanced Scatterometer	Meteor-MP N1, Meteor-	Proposed	Scatterometers	Ocean surface wind measurements.	Waveband: C (or X) - band, TBD
ROSHYDROMET (ROSKOSMOS)	MP N2, Meteor-MP N3				Spatial resolution: 25 km Swath width: 1800 km
AEISS	KOMPSAT-3	Operational	High resolution	High resolution imager for land applications of cartography and	Accuracy: Wind speed: 2 m/s, direction: 20 grad Waveband: Panchromatic VIS: 0.50 - 0.90 µm, VIS: 0.45 -
Advanced Electronic Image Scanning				disaster monitoring.	0.52 µm, 0.52 - 0.60 µm, 0.63 - 0.69 µm, NIR: 0.76 - 0.90 µm Spatial resolution: Pan: 0.8 m; VNIR: 4 m
System					Swath width: 15 km Accuracy:
KARI (DLR) AEISS-A	KOMPSAT-3A	Being developed	High resolution	High resolution imager for land applications of cartography and	Waveband: Panchromatic VIS: 0.50 - 0.90 µm, VIS: 0.45 -
	NOIWE SAT-SA	Being developed	optical imagers	High resolution imager for land applications of cartography and disaster monitoring.	0.52 µm, 0.52 - 0.60 µm, 0.63 - 0.69 µm, NIR: 0.76 - 0.90 µm
Advanced Electronic Image Scanning System-A					Spatial resolution: Pan: 0.8 m, VNIR: 4 m, IR: 5.5m Swath width: 15 km
KARI (DLR)					Accuracy:
AIRS	Aqua	Operational		High spectral resolution measurement of temperature and humidity profiles in the atmosphere. Long-wave Earth surface	Waveband: VIS - TIR: 0.4 - 1.7 µm, 3.4 - 15.4 µm, Has approximately 2382 bands from VIS to TIR
Atmospheric Infra-red Sounder				emissivity. Cloud diagnostics. Trace gas profiles. Surface temperatures.	Spatial resolution: 1.1 degree (13 x 13 km at nadir) Swath width: +/-48.95 degrees
NASA AIS (RCM)	RADARSAT C-1,	Being developed	Data collection	Ship identification (name, location, heading, cargo, etc).	Accuracy: Humidity: 20%, Temperature: 1 K Waveband: VHF (162 MHz)
Automated Identification System	RADARSAT C-2, RADARSAT C-3	0			Spatial resolution: N/A Swath width: 800 km minimum
(RADARSAT Constellation)					Accuracy: Better than 90% ship detection, for Class A ships, when ships are in view for a minimum of 5 minutes.
CSA					inge are in the for a maintain of a minutes.

	Missions	Statue	Tuno	Massuramente & applications	Technical characteristics
Instrument & agency (& any partners) ALADIN	ADM-Aeolus	Status Being developed		Measurements & applications Global wind profiles (single line-of-sight) for an improved weather	
Atmospheric Laser Doppler Instrument				prediction.	Spatial resolution: One wind profile every 200 km along track, averaged over 50 km
ESA					Swath width: Along line 285 km parallel to satellite ground track
		Onerational	Ligh resolution	Measurement of Earth surface reflectones, Mill validate new	Accuracy: Wind speed error below 2 m/s
ALI	NMP EO-1	Operational	optical imagers	Measurement of Earth surface reflectance. Will validate new technologies contributing to cost reduction and increased	Waveband: 10 bands: VIS and NIR: 0.480 - 0.690 $\mu m,0.433$ - 0.453 $\mu m,0.450$ - 0.515 $\mu m,0.525$ - 0.605 $\mu m,0.630$ - 0.690
Advanced Land Imager				capabilities for future missions. ALI comprises a wide field telescope and multispectral and panchromatic instrument.	μm, 0.775 - 0.805 μm, 0.845 - 0.890 μm, 1.200 - 1.300 μm, SWIR: 1.550 - 1.750 μm, 2.080 - 2.350 μm
NASA					Spatial resolution: PAN: 10 m, VNIR and SWIR: 30 m Swath width: 37 km
					Accuracy: SNR @ 5% surf refl Pan:220, Multi 1: 215, Multi 2:
					280, Multi 3: 290, Multi 4:240, Multi 4:190, Multi 5:130, Multi 5:175, Multi 7:170 (prototype instrument exceeds ETM+ SNR
ALISEO	MIOSAT	Approved	Imaging multi-	Mutli-spectrometer data for complex land ecosystem studies.	by a factor of 4 - 8) Waveband: 400 - 1000 nm
	MICOAT	Approved	spectral radiometers	multi-spectrometer data for complex land ecosystem studies.	Spatial resolution: 10 m
SAGNAC imaging spectrometer			(vis/IR)		Swath width: 10 km Accuracy: average spectral resolution: 5 nm
ASI ALT	HY-2A, HY-2B, HY-2C, HY-	Operational	Radar altimeters	Global ocean topography, sea level and gravity field	Waveband: 13.58 GHz and 5.25 GHz
Radar Altimeter	2D			measurements.	Spatial resolution: 16 km Swath width: 16 km
					Accuracy: < 4 cm
NSOAS (CAST) AltiKa	SARAL	Being developed	Radar altimeters	Sea surface height.	Waveband: 35.5 - 36 GHz, passive channels (radiometer): 24
Ka-band Altimeter					(K-band) and 37 (Ka-band) GHz; active radar altimeter: 35 GHz (Ka-band)
CNES					Spatial resolution: Swath width:
		_			Accuracy:
AMR	Jason-3, OSTM (Jason-2)	Operational		Altimeter data to correct for errors caused by water vapour and cloud-cover. Also measures total water vapour and brightness	Waveband: Microwave: 18.7 GHz, 23.8 GHz, 34 GHz Spatial resolution: 41.6 km at 18.7 GHz, 36.1 km at 23.8
Advanced Microwave Radiometer			(passive microwave)	temperature.	GHz, 22.9 km at 34 GHz Swath width: 120 deg cone centred on nadir
NASA			inioi ondroj		Accuracy: Total water vapour: 0.2 g/sq cm, Brightness
AMSR-2	GCOM-W1, GCOM-W2,	Operational		Measurements of water vapour, cloud liquid water, precipitation,	temperature: 0.15 K Waveband: Microwave: 6.925 GHz, 7.3 GHz, 10.65 GHz,
Advanced Microwave Scanning	GCOM-W3			winds, sea surface temperature, sea ice concentration, snow cover, soil moisture.	18.7 GHz, 23.8 GHz, 36.5 GHz, 89.0 GHz Spatial resolution: 5 - 50 km (dependent on frequency)
Radiometer -2			microwave)		Swath width: 1450 km Accuracy: Sea surface temperature: 0.5 K, Sea ice cover:
JAXA					10%, Cloud liquid water: 0.05 kg/m2, Precipitation rate: 10%,
					Water vapour: 3.5 kg/m2 through total column, Sea surface wind speed 1.5 m/s
AMSR-E Advanced Microwave Scanning	Aqua	No longer operational		Measurements of water vapour, cloud liquid water, precipitation, winds, sea surface temperature, sea ice concentration, snow	Waveband: Microwave: 6.925 GHz, 10.65 GHz, 18.7 GHz, 23. 8 GHz, 36.5 GHz, 89.0 GHz
Radiometer-EOS		operational	(passive	cover and soil moisture. Instrument stopped functioning 4th	Spatial resolution: 5 - 50 km (dependent on frequency)
JAXA (NASA)			microwave)	October 2011.	Swath width: 1445 km Accuracy: Sea surface temparature: 0.5 K, Sea ice cover:
· · ·					10%, Cloud liquid water: 0.05 kg/m2, Precipitation rate: 10%, Water vapour: 3.5 kg/m2 through total column, Sea surface
					wind speed 1.5 m/s
AMSU-A	Aqua	Operational		All-weather night-day temperature sounding to an altitude of 45 km.	Waveband: Microwave: 15 channels, 23.8 - 89.0 GHz Spatial resolution: 48 km
Advanced Microwave Sounding Unit-A			humidity sounders		Swath width: 2054 km Accuracy: Temperature profile: 2 K, humidity: 3 kg/m2, ice &
NASA	Mater A. Mater D. Mater	On continued	Atoreacheada		snow cover: 10%
AMSU-A	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16,	Operational	temperature and	All-weather night-day temperature sounding to an altitude of 45 km.	Waveband: Microwave: 15 channels, 23.8 - 89.0 GHz Spatial resolution: 48 km
Advanced Microwave Sounding Unit-A	NOAA-17, NOAA-18		humidity sounders		Swath width: 2054 km Accuracy: Temperature profile: 2 K, humidity: 3 kg/m2, ice &
NOAA (UKSA) AMSU-B	NOAA-15, NOAA-16,	Operational	Atmospheric	All-weather night-day humidity sounding.	snow cover: 10% Waveband: Microwave: 89 GHz, 150 GHz, 183.3± 1.0 GHz
	NOAA-13, NOAA-10, NOAA-17	Operational	temperature and	Airweather highr-day humidity sounding.	(2 bands), 183.3± 3.0 GHz (2 bands), 183.3± 7.0 GHz (2
Advanced Microwave Sounding Unit-B			humidity sounders		bands) Spatial resolution: 16 km
NOAA (UKSA)					Swath width: 2200 km Accuracy: Humidity profile: 1 kg/m2,
Aquarius L-Band radiometer	SAC-D/Aquarius	Operational		L-band passive microwave radiometer measures brightness	Waveband: L-band (1.4 GHz)
NASA (CONAE)			(passive	temperature of ocean to retrieve salinity.	Spatial resolution: 100 km Swath width: 300 km
			microwave)		Accuracy: 0.2 psu
Aquarius L-Band Scatterometer	SAC-D/Aquarius	Operational	Scatterometers	L-band scatterometer to provide roughness correction to	Waveband: L-Band (1.2 GHz)
Aquarius L-Band Scatterometer NASA (CONAE)	SAC-D/Aquarius	Operational	Scatterometers	L-band scatterometer to provide roughness correction to brightness temperature.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km
	SAC-D/Aquarius Metop-A, Metop-B, Metop-		Scatterometers	brightness temperature.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km
NASA (CONAE) ARGOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16,		Scatterometers		Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution:
NASA (CONAE)	Metop-A, Metop-B, Metop-		Scatterometers	brightness temperature.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km Accuracy: 0.2 psu Waveband:
NASA (CONAE) ARGOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P		Scatterometers Data collection Space environment	brightness temperature. Location data by Doppler measurements.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swarth widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband:
NASA (CONAE) ARGOS CNES (NASA) Arina	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL	Operational	Scatterometers Data collection Space environment	brightness temperature.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath width: Accuracy: Waveband: Spatial resolution:
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2	Operational	Scatterometers Data collection Space environment	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath width: Accuracy: Waveband: Spatial resolution: Swath width: Accuracy:
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P	Operational	Scatterometers Data collection Space environment	brightness temperature. Location data by Doppler measurements.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath width: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath width: Accuracy: Waveband: Spatial resolution: Swath width: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Waveband: X-band – 1.5m, L-band 3 - 5 m, R-band
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2	Operational	Scatterometers Data collection Space environment Imaging microwave	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2	Operational	Scatterometers Data collection Space environment Imaging microwave	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 pau Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: X-band - 3 cm, L-band - 23 cm, R-band - 69 cm Spatial resolution: X-band - 3 cm, L-band - 23 cm, R-band - 69 cm Spatial resolution: X-band - 3 cm, L-band - 50 cm Spatial resolution: X-band - 1 1.5m, L-band 3 - 5 m, R-band 3 m Swath widh: X-band 2 - 10 km, L-band 20 - 100 km, R-band
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 pau Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band – 3 cm, L-band – 59 cm Spatial resolution: X-band – 1 f.5m, L-band 3 - 5 m, R-band 0 m Swath widh: X-band 2 - 10 km, L-band 20 - 100 km, R-band Accuracy: Radiometric resolution 1.2 - 3.5 dB
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2	Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 pau Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resol
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stripme modes (image and	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Svath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HI, VV/HH, NV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stripme modes (image and	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widht: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widht: Accuracy: Waveband: Spatial resolution: Spatial resolution: Swath widht: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widht: X-band 2 - 10 km, L-band 20 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath width: image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stripme modes (image and	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 3 - 5 m, R-band 30 m Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes: 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath widh: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring modes: 400 km or more
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-19, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 – 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes: 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath widh: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring modes: 400 km or more Accuracy: Radiometric resolution in range: 1.5 - 3.5 dB, Radiometric acuracy: 0.65 dB
AASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 20 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring mode: 950 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring mode: 950 km or more Accuracy: Radiometric resolution in range: 1.5 - 3.5 dB, Waveband: Spatial resolution:
ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-19, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, see and polar ice, see state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectra)) and 3 ScanSAR modes. All-weather images of ocean, land and ice for monitoring of land	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 – 1.5m, L-band 3 - 5 m, R-band 0 m Swath widh: X-band 2 – 10 km, L-band 20 – 100 km, R-band 100 – 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (V/LH, H, V/HH, H/VH/H, V/V/V/V) Spatial resolution: Image, wave and alternating polarisation modes: 150 x 150 m, S0 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m × 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring mode: 950 m × 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring mode: 950 m × 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring mode: 950 km Vide swath and global monitoring mode: 950 km Vide swath and global
AASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA ASAR (image mode) Advanced Synthetic Aperture Radar (image mode)	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-19, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 – 1.5m, L-band 3 - 5 m, R-band 0 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 100 – 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (W, HH, VVHH, H, VHH, VVV) Spatial resolution: Image, wave and alternating polarisation modes: gaptox 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode. 5 Km, Wide swath model global monitoring mode: 906 m x 950 m Swath width: Spatial resolution: Spatial resolution: Spati
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA ASAR (image mode) Advanced Synthetic Aperture Radar	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-19, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M	Operational Operational Proposed Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes. All-weather images of ocean, land and lce for monitoring of land surface processes, sea and polar lce, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectraj)) and 3 ScanSAR modes.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: X-band - 3 cm, L-band - 23 cm, R-band - 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (W, HV, VVHH, HVHH, or VHVV) Spatial resolution: Image, wave and alternating polarisation modes: S0 x 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode. 5 Km, Wide swath and global monitoring modes: 90 m x 950 m Swath width: Spatial resolution: Spatial resolu
AASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA ASAR (image mode) Advanced Synthetic Aperture Radar (image mode) ESA ASAR (wave mode) Advanced Synthetic Aperture Radar	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M Envisat	Operational Operational Operational Operational Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and loe for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. All-weather images of ocean, land and loe for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widht: 300 km Accuracy: 0.2 pau Waveband: Spatial resolution: Swath widht: Accuracy: Waveband: Spatial resolution: Swath widht: Accuracy: Waveband: X-band - 3 cm, L-band - 23 cm, R-band - 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widht: X-band 2 - 10 km, L-band 2 - 100 km, R-band 30 m Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes: (WH, VVHH, HVHH, or VHVV) Spatial resolution: Image, wave and alternating polarisation modes: wath widht: Mode: 950 m x 950 m Swath widht: Image and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 950 m x 950 m Swath widht: Image and alternating polarisation monitoring modes: 400 km or more Accuracy: Radiometric resolution in range: 1.5 - 3.5 dB, Radiometric accuracy: 0.65 dB Waveband: Spatial resolution: Spatial
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA Advanced Synthetic Aperture Radar ESA Advanced Synthetic Aperture Radar ESA	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M Envisat	Operational Operational Operational Operational Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and loe for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. All-weather images of ocean, land and loe for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: X-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widht: X-band 2 - 10 km, L-band 20 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: Image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x, 150 m, Global monitoring mode: 550 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 fm, Wide swath and global monitoring mode: 500 m x 950 m Swath width: Charter accuracy: 0.65 dB Waveband: Synath resolution: Swath width: Accuracy: Accuracy: Accounce, State St
NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA ASAR (image mode) Advanced Synthetic Aperture Radar (image mode) ESA ASAR (wave mode) Advanced Synthetic Aperture Radar (Wave mode) ESA	Metop-A, Metop-B, Metop- C, NOAA-15, NOAA-16, NOAA-17, NOAA-18, NOAA-18, NOAA-18, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M Envisat	Operational Operational Operational Operational Operational Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stimmap modes (Image and Wave (for ocean wave spectra)) and 3 ScanSAR modes. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Measurements of ocean wave spectra.	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 psu Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy: Waveband: Accuracy: Waveband: X-band – 3 cm, L-band – 23 cm, R-band – 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 20 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VV, HH, VV/HH, HV/HH, or VH/VV) Spatial resolution: image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 550 m x 950 m Swath width: Image and alternating polarisation modes: up to 100 km, Wave mode: 5 km, Wide swath and global monitoring modes: 400 km or more Accuracy: Rediometric resolution in range: 1.5 - 3.5 dB, Radiometric accuracy: 0.65 dB Waveband: Spatial resolution: Swath width: Accuracy: Waveband: Spatial resolution: Swath width: Accuracy:
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NASA (CONAE) ARGOS CNES (NASA) Arina ROSKOSMOS Arkon-2M SAR ROSKOSMOS ASAR Advanced Synthetic-Aperture Radar ESA ASAR (image mode) Advanced Synthetic Aperture Radar (image mode) ESA ASAR (wave mode) Advanced Synthetic Aperture Radar (Wave mode) ESA	Metop-A, Metop-B, Metop-C, NOAA-15, NOAA-16, NOAA-16, NOAA-17, NOAA-18, NOAA-19, SARAL Resurs DK 1, Resurs P N1, Resurs P N2 Arkon-2M Envisat Envisat Envisat	Operational Operational Operational Operational Operational Operational	Scatterometers Data collection Space environment Imaging microwave radars Imaging microwave radars Imaging microwave radars Imaging microwave radars	brightness temperature. Location data by Doppler measurements. Insights into electromagnetic field variations as the precursors of earthquakes. X, L, and R-band SAR instrument. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Has 2 stripmap modes (Image and Wave (for ocean wave spectra)) and 3 ScanSAR modes. All-weather images of ocean, land and ice for monitoring of land surface processes, sea and polar ice, sea state, and geological and hydrological applications. Measurements of ocean wave spectra. Sea ice cover, sea ice type and wind speed over sea surface	Waveband: L-Band (1.2 GHz) Spatial resolution: 100 km Swath widh: 300 km Accuracy: 0.2 pau Waveband: Spatial resolution: Swath widh: Swath Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Waveband: Spatial resolution: Swath widh: Accuracy: Haveband: Accuracy: Waveband: X-band - 3 cm, L-band - 23 cm, R-band - 69 cm Spatial resolution: X-band 1 - 1.5m, L-band 3 - 5 m, R-band 30 m Swath widh: X-band 2 - 10 km, L-band 2 - 100 km, R-band 100 - 450 km Accuracy: Radiometric resolution 1.2 - 3.5 dB Waveband: Microwave: C-band, with choice of 5 polarisation modes (VA) HH, VV/HH, HV/HV/V) Spatial resolution: Image, wave and alternating polarisation modes: approx 30 x 30 m, Wide swath mode: 150 x 150 m, Global monitoring mode: 450 m rome Accuracy: Radiometric resolution in range: 1.5 - 3.5 dB, Waveband: Spatial resolution: Spatial resolution: S
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Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
ASM	Swarm	Being developed	Magnetic field	Absolute calibration of Vector Field Magnetometer on board Swarm satellites.	Waveband: N/A Spatial resolution: 0.1 nT
Absolute Scalar Magnetometer CNES					Swath width: N/A Accuracy: 0.1 nT
ASTER	Terra	Operational	optical imagers	Surface and cloud imaging with high spatial resolution, stereoscopic observation of local topography, cloud heights,	Waveband: VIS and NIR: 3 bands in 0.52 - 0.86 $\mu m,$ SWIR: 6 bands in 1.6 - 2.43 $\mu m,$ TIR: 5 bands in 8.125 - 11.65 $\mu m$
Advanced Spaceborne Thermal Emission and Reflection Radiometer				volcanic plumes, and generation of local surface digital elevation maps. Surface temperature and emissivity.	Spatial resolution: VNIR: 15 m, stereo: 15 m horizontally and 25 m vertical, SWIR: 30 m, TIR: 90 m
METI (NASA)					Swath width: 60 km Accuracy: VNIR and SWIR: 4% (absolute), TIR: 4 K, Geolocation: 7 m
ATCOR	RESOURCESAT-3, RESOURCESAT-3A	Proposed	High resolution optical imagers	Atmospheric correction.	Waveband: VNIR Hyperspectral Spatial resolution: 40 m
Atmospheric correction					Swath width: 734 km Accuracy:
ISRO ATLAS	ICESat-II	Proposed		Provision of data on ice sheet height/thickness, land altitude,	Waveband: VIS-NIR: Laser emits at 1064 nm (for altimetry)
Advanced Topographic Laser Altimeter System				aerosol height distributions, cloud height and boundary layer height.	and 532 nm (for atmospheric measurements) Spatial resolution: 66 m spots separated by 170 m Swath width: Accuracy: Aerosol profile: 20%, Ice elevation: 20 cm, Cloud
NASA ATLID	EarthCARE	Approved		Derivation of cloud and aerosol properties - Measurement of molecular and particle backscatter in Rayleigh, co-polar and	top height: 75 m, Land elevation: 20 cm, ecolor 5 m Waveband: Laser at 355 nm Spatial resolution: 300 m horizontal (TBC)
ATmospheric LIDar				cross-polar Mie channels.	Swath width: Accuracy:
ESA ATMS	EPS-SG-a, JPSS-1, JPSS	Operational	Atmospheric	Collects microwave radiance data that when combined with the	Waveband: Microwave: 22 bands, 23-184 GHz
Advanced Technology Microwave Sounder	2, Suomi NPP		temperature and humidity sounders	CrIS data will permit calculation of atmospheric temperature and water vapour profiles.	Spatial resolution: 5.2 - 1.1 deg Swath width: 2300 km Accuracy: 0.75 K - 3.60 K
NASA (NOAA) ATOVS (HIRS/3 + AMSU + AVHRR/3)	NOAA-15, NOAA-16	Operational	Atmospheric	Advanced TIROS Operational Vertical Sounder instrument suite.	Waveband:
Advanced TIROS Operational Vertical Sounder			temperature and humidity sounders		Spatial resolution: Swath width: Accuracy:
NOAA AVHRR/3	Metop-A, Metop-B, Metop-	Operational	Imaging multi-	Measurements of land and sea surface temperature, cloud cover,	Waveband: VIS: 0.58 - 0.68 um, NIR: 0.725 - 1.1 um, SWIR:
Advanced Very High Resolution	C, NOAA-15, NOAA-16, NOAA-17, NOAA-18,	operational	spectral radiometers	snow and ice cover, soil moisture and vegetation indices. Data also used for volcanic eruption monitoring.	1.58 - 1.64 μm, MWIR: 3.55 - 3.93 μm, TIR: 10.3 - 11.3 μm, 11.5 - 12.5 μm
Radiometer/3	NOAA-19				Spatial resolution: 1.1 km Swath width: 3000 km approx, Ensures full global coverage twice daily
AWFI	AMAZONIA-1	Approved		Used for fire extent detection measurement, coastal and	Accuracy: Waveband: VIS: 0.45 - 0.50 μm, 0.52 - 0.57 μm, 0.63 - 0.69
Advanced Wide Field Imager			(vis/IR)	vegetation monitoring, land cover and land use mapping.	μm, NIR: 0.76 - 0.90 μm Spatial resolution: VIS - NIR: 40 m Swath width: 740 km
INPE AWIFS	RESOURCESAT-1,	Operational	Imaging multi-	Vegetation and crop monitoring, resource assessment (regional	Accuracy: Waveband: VIS: 0.52 - 0.59 µm and 0.62 - 0.68 µm, NIR:
Advanced Wide Field Sensor	RESOURCESAT-2, RESOURCESAT-2A			scale), forest mapping, land cover/ land use mapping, and change detection.	0.77 - 0.86 μm, SWIR: 1.55 - 1.7 μm Spatial resolution: 55 m Swath width: 730 km
ISRO BBR (EarthCARE)	EarthCARE	Approved	Earth radiation	Top of the atmosphere radiances and radiative flux.	Accuracy: 10 bit data Waveband: Shortwave channel: 0.2 - 4 µm, Total channel 0.2
BroadBand Radiometer (EarthCARE)			budget radiometers		<ul> <li>- 50 µm Spatial resolution: 10 x 10 km ground pixel size for each of the three views</li> <li>Swath width:</li> </ul>
C-Band SAR		Being developed		Marine core services, land monitoring and emergency services.	Accuracy: flux retrieval accuracy 10 Wm-2 Waveband: C-band: 5.405 GHz; HH, VV, HH+HV, VV+VH;
C-Band Synthetic Aperture Radar	Sentinel-1 C			Monitoring sea ice zones and arctic environment. Surveillance of marine environment, monitoring land surface motion risks, mapping of land surfaces (forest, water and soil, agriculture),	Incidence angle: 20-45 Spatial resolution: Strip mode: 9 m, Interferometric wide swath mode: 20 m, extra-wide swath mode: 50 m, wave
ESA				mapping of land surfaces (lotest, water and soli, agriculture), mapping in support of humanitarian aid in crisis situations.	swath mode: 50 m swath width: Strip mode: 80 km; Interferometric wide swath
					mode: 250 km, extra-wide swath mode: 400 km, Wave mode: sampled images of 20 x 20 km at 100 km intervals
					Accuracy: NESZ: -22 dB; PTAR: -25 dB; DTAR: -22 dB; Radiometric accuracy 1 dB (3 sigma); Radiometric stability: 0.5 dB (2 sigma)
CALIOP	CALIPSO	Operational	Lidars	Two-wavelength, polarisation lidar capable of providing aerosol and cloud profiles and properties.	0.5 dB (3 sigma) Waveband: 532 nm (polarization-sensitive), 1064 nm, VIS - NIR
Cloud-Aerosol Lidar with Orthogonal Polarization					Spatial resolution: Vertical sampling: 30 m, 0 – 40 km Swath width: 333 m along-track Accuracy: 5% (532 nm)
NASA CARMEN-1	SAC-D/Aquarius	Operational	Space environment	Studying space environment effects.	Waveband:
CNES (CONAE)					Spatial resolution: Swath width: Accuracy:
CCD camera	INSAT-3A	Operational	Imaging multi- spectral radiometers	Cloud and vegetation monitoring.	Accuracy: Waveband: VIS: 0.62 - 0.68 μm; NIR: 0.77 - 0.86 μm; SWIR: 1.55 - 1.69 μm
Charged Coupled Device Camera			(vis/IR)		Spatial resolution: 1 x 1 km Swath width: Normal: 6000 (N-S) X 6000 km (E-W) anywhere
ISRO					on earth disc, Program: 6000 (N-S) X (n X 300) km (E-W): n and number of frames programmable Accuracy:
CERES	Aqua, JPSS-1, Suomi NPP, Terra, TRMM	Operational		Long term measurement of the Earth's radiation budget and atmospheric radiation from the top of the atmosphere to the	Accuracy: Waveband: 3 channels: 0.3-5 µm, 0.3 - 100 µm, 8 - 12 µm Spatial resolution: 20 km
Cloud and the Earth's Radiant Energy System	.,			surface; provision of an accurate and self-consistent cloud and radiation database.	Swath width: Accuracy: 0.5%, 1%, 0.3% (respectively for the 3 channels)
NASA CHRIS	PROBA	Operational	Imaging multi-	Supports a range of land, ocean and atmospheric applications,	Waveband: VIS - NIR: 400 - 1050 nm (63 spectral bands at a
Compact High Resolution Imaging Spectrometer			spectral radiometers (vis/IR)	including agricultural science, forestry, environmental science, atmospheric science and oceanography.	spatial resolution of 36 m; or 18 bands at full spatial resolution (18 m)) Spatial resolution: 36 m or 18 m depending on wavebands
ESA (UKSA)					Spatian resolution. So in or 16 in depending on wavebands selected. Swath width: 14 km Accuracy: S/N 200 @ target albedo of 0.2. 12 bits
Cloud radar (ACE)	ACE	Proposed	Cloud profile and	Radar measurement for cloud droplets and precipitation.	digitisation. Waveband: Dual frequency: 35 and 94 GHz
NASA			rain radars		Spatial resolution: Vertical: 250 m, Cross-track: 1.4 km, Along- track: 2.5 km Swath width: Instantaneous Ecotorint < 1 km
CO Sensor (ASCENDS)	SWOT	Proposed	Atmospheric	Measure the total column CO concentration.	Swath width: Instantaneous Footprint < 1 km Accuracy: TBD Waveband: 2.3 µm
NASA			chemistry		Spatial resolution: Swath width: 200 m
CO2 LIDAR (ASCENDS)	ASCENDS	Proposed	Lidars	Measure the number density of Carbon Dioxide (CO2) in the	Accuracy: Waveband: 1.57 µm
NASA				column. Measure length of the column using a laser altimeter and measure ambient air pressure and temperature.	Swath width: 200 m
COSI	KOMPSAT-5	Being developed	Imaging microwave radars	SAR for land applications of cartography and disaster monitoring.	Accuracy: 1 ppm CO2; 2 K for temperature Waveband: microwave Spatial resolution: High: 1 m
Corea SAR Instrument					Accuracy:
KARI					

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
CPR (CloudSat)	CloudSat	Operational	Cloud profile and	Primary goal to provide data needed to evaluate and improve the	Waveband: Microwave: 94 GHz
Cloud Profiling Radar			rain radars	way clouds are represented in global climate models. Measures vertical profile of clouds.	Spatial resolution: Vertical: 500 m, Cross-track: 1.4 km, Along- track: 2.5 km
NASA					Swath width: Instantaneous Footprint < 2 km Accuracy: detects ice clouds optical depth >1, water clouds
					optical depth >3, ice content to +100%, -50%, liquid content to <50%, in-cloud heating to within 1K day-1 km-1
CPR (EarthCARE)	EarthCARE	Approved	Cloud profile and	Measurement of cloud properties, light precipitation, vertical	Waveband: Microwave: 94 GHz
Cloud Profiling Radar (EarthCARE)			rain radars	motion.	Spatial resolution: 500 m horizontal Swath width:
JAXA (NICT)					Accuracy:
CrIS	JPSS-1, JPSS-2, Suomi NPP	Operational	Atmospheric temperature and	Daily measurements of vertical atmospheric distribution of temperature, moisture, and pressure.	Waveband: MWIR - TIR: 3.92 - 4.4 µm, 5.7 - 8.62 µm, 9.1 - 14.7 µm, 1300 spectral channels
Cross-track Infrared Sounder			humidity sounders		Spatial resolution: IFOV 14 km diameter, 1 km vertical layer
NOAA					resolution Swath width: 2200 km
					Accuracy: Temperature profiles: to 0.9 K, Moisture profiles: 20 - 35%, Pressure profiles: 1%
CZS	Meteor-M N3	Approved	Ocean colour instruments	Coastal zone data, estimation of phytoplankton concentration.	Waveband: 0.4 - 0.79 µm, 4 channels Spatial resolution: 80 m
Coastal Zone Scanner					Swath width: 800 km Accuracy:
ROSHYDROMET (ROSKOSMOS)		_	_		
DCS	CBERS-3, CBERS-4	Operational	Data collection	Data collection and communication.	Waveband: Spatial resolution:
Data Collecting System Transponder					Swath width: Accuracy:
CAST DCS	SCD-1, SCD-2	Operational	Data collection	Data collection and communication.	Waveband:
	000-1, 000-2	operational	Data concention		Spatial resolution:
Data Collecting System Transponder					Swath width: Accuracy:
INPE DCS	Elektro-L N1, Elektro-L	Operational	Data collection	Collects data on temperature (air/water), atmospheric pressure,	Waveband:
Data Collection System	N2, Elektro-L N3, Meteor- 3M N2, Meteor-M N1,			humidity and wind speed/direction, speed and direction of ocean and river currents.	Spatial resolution: Swath width:
	Meteor-M N2, Meteor-M				Accuracy:
ROSHYDROMET (ROSKOSMOS) DCS (GOES-R)	N3 GOES-R, GOES-S	Approved	Data collection	Collects data on temperature (air/water), atmospheric pressure,	Waveband:
Data Collection System (NOAA, GOES-R)				humidity and wind speed/direction, speed and direction of ocean and river currents.	Spatial resolution: Swath width:
NOAA					Accuracy:
	0058 12	Operational	Data cella ti	Collecte data en temporature (airfunte) etereste der	Maushandi
DCS (NOAA)	GOES-12	Operational	Data collection	Collects data on temperature (air/water), atmospheric pressure, humidity and wind speed/direction, speed and direction of ocean	Waveband: Spatial resolution:
Data Collection System (NOAA)				and river currents.	Swath width: Accuracy:
NOAA DCS (SABIA_MAR)	SAC-E/SABIA_MAR-A,	Approved	Data collection	Environmental and meteorological data collection from ground	Waveband: N/A
	SAC-E/SABIA_MAR-B	Approved	Data collection	platforms (UHF 401.55 MHz uplink).	Spatial resolution: N/A
Data Collection System					Swath width: N/A Accuracy: N/A
CONAE DCS (SAC-C)	SAC-C	Operational	Communications	DCS is able to receive data from 200 meteorological and	Waveband:
Data Collection System				environmental stations for re-transmission of all the data to Cordoba Ground Station.	Spatial resolution: Swath width:
					Accuracy:
CONAE DCS (SAC-D)	SAC-D/Aquarius	Operational	Data collection	Environmental and meteorological data collection from ground	Waveband:
Data Collection System				platforms (UHF 401.55 MHz uplink).	Spatial resolution: Swath width:
CONAE					Accuracy:
DORIS (SPOT)	SPOT-4	Operational	Precision orbit	Orbit determination.	Waveband:
Doppler Orbitography and Radio-					Spatial resolution: Swath width:
positioning Integrated by Satellite (on SPOT)					Accuracy: Orbit error ~2.5 cm
CNES					
DORIS-NG	CryoSat-2, Envisat, Jason-	Operational	Precision orbit	Precise orbit determination; Real time onboard orbit	Waveband:
Doppler Orbitography and Radio-	1, OSTM (Jason-2)			determination (navigation).	Spatial resolution: Swath width:
positioning Integrated by Satellite-NG					Accuracy: Orbit error ~1 cm
CNES DORIS-NG (SPOT)	SPOT-5	Operational	Precision orbit	Precise orbit determination; Real time onboard orbit	Waveband:
· ,	3-01-3	Operational	Frecision orbit	determination (navigation).	Spatial resolution:
Doppler Orbitography and Radio- positioning Integrated by Satellite-NG (on					Swath width: Accuracy: Orbit error ~1 cm
SPOT)					
CNES DPR	GPM Core	Being developed	Cloud profile and	Measures precipitation rate classified by rain and snow, in	Waveband: Microwave: 13.6 GHz (Ku band) and 35.5 GHz
		_og developed	rain radars	latitudes up to 65 degrees.	(Ka band)
Dual-frequency Precipitation Radar					Spatial resolution: Range resolution: 5 km Horizontal Swath width: 245 km (Ku-band), 125 km (Ka band)
JAXA DRT-S&R	INSAT-3A, KALPANA-1	Operational	Communications	Relay of search and rescue information.	Accuracy: Rainfall rate 0.2 mm/h Waveband:
ISRO					Spatial resolution: Swath width:
EFI	Swarm	Being douclosed	Space onvironment	Suprathermal ion imager and Langmuir probe to measure ion	Accuracy: Waveband: N/A
	Gildini	Being developed	and gravity	temp, electron temp, ion density, electron density, spacecraft	Spatial resolution: 0.3 mV/m
Electric Field Instrument			instruments	potential and ion incident angle.	Śwath width: N/A Accuracy: <3 mV/m
ESA (CSA) EGG	GOCE	Operational	Gravity instruments	Main objective to measure the 3 components of the gravity-	Waveband:
3-Axis Electrostatic Gravity Gradiometer				gradient tensor (i.e. gradiometer data).	Spatial resolution: Swath width:
					Accuracy:
ESA ENVISAT Comms	Envisat	Operational	Communications	Communication package onboard ENVISAT series satellites.	Waveband:
Communications package on ENVISAT					Spatial resolution: Swath width:
					Accuracy:
ESA EPIC	DSCOVR	Being developed		Diurnal measurements of ozone, UV surface radiation, clouds	Waveband: 317 - 905 nm in 10 channels
Earth Polychromatic Imaging Camera			spectral radiometers (vis/IR)	and aerosols.	Spatial resolution: 8 km Swath width:
NASA (NOAA)					Accuracy:
ERM	FY-3A, FY-3B, FY-3C	Operational	Earth radiation	Measures Earth radiation gains and losses on regional, zonal and	
Earth Radiation Measurement			budget radiometers	giodai scalės.	Spatial resolution: 25 km Swath width: 2200 km
NRSCC (NSMC-CMA, CAST)					Accuracy: DLR/DSR10 watts/m2 net solar 3 w/m2 OLR 5 w/m2
ERM-2	FY-3E, FY-3G	Approved	Earth radiation budget radiometers	Measures Earth radiation gains and losses on regional, zonal and global scales.	
Improved Earth Radiation Measurement			- Jogot radiometel S		Swath width:
NRSCC (NSMC-CMA, CAST)					Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
ETM+	Landsat-7	Operational		Measures surface radiance and emittance, land cover state and change (eg vegetation type). Used as multi-purpose imagery for	Waveband: VIS - TIR: 8 bands: 0.45 - 12.5 µm Spatial resolution: PAN: 15 m, VIS - SWIR: 30 m, TIR: 60 m
Enhanced Thematic Mapper Plus USGS (NASA)			(vis/IR)	land applications.	Swath width: 185 km Accuracy: 50 - 250 m systematically corrected geodetic accuracy
Event Imaging Spectrometer from GEO (GeoCape) NASA	GEO-CAPE	Proposed	High resolution optical imagers	Predictions of impacts from oil spills, fires, water pollution from sewage and other sources, fertilizer runoff, and other environmental threats. Detection and tracking of waterborne hazardous materials. Monitoring and improvement of coastal health.	Waveband: UV/VIS (310 - 481 nm) and the VIS/NIR (500 - 900 nm) Spatial resolution: 250 m spatial resolution, 20 - 50 nm (MODIS-like) spectral bands Swath width: 300 km swath width coastal regions an targets of opportunity
EXIS	GOES-R, GOES-S	Being developed	Other	Monitors the whole-Sun X-ray irradiance in two bands and the	Accuracy: Waveband:
Extreme Ultraviolet and X-ray Irradiance Sensors				whole-Sun EUV irradiance in five bands.	Spatial resolution: N/A Swath width: Accuracy:
NOAA FCI Flexible Combined Imager EUMETSAT (ESA)	MTG-11 (imaging), MTG-12 (imaging), MTG-13 (imaging), MTG-14 (imaging)	Being developed	Imaging multi- spectral radiometers (vis/IR)	Measurements of cloud cover, cloud top height, precipitation, cloud motion, vegetation, radiation fluxes, convection, air mass analysis, cirrus cloud discrimination, tropopause monitoring, stability monitoring, total ozone and sea surface temperature.	Waveband: VIS0 4=0.414 - 0.474 µm, VIS0.5=0.49 - 0.53 µm, VIS0.6=0.615 - 0.665 µm, VIS0.8=0.84 - 0.89 µm, VIS0.9=0.904 - 0.924 µm, NIR1.3=1.365 - 1.359 µm, NIR1.6=1.585 - 1.635 µm, NIR2.2=2.225 - 2.275 µm, IR3.8=3.6 - 4.9 µm, IVR3.2=6.88 µm, IVR3.7=7.1 - 7.6 µm, IR3.8=3.6 - 4.9 µm, IVR3.2=5 + 6.8 µm, IVR3.7=1.36 µm, IR3.8=3.6 - 4.9 µm, IR3.7=0.51 - 9.81 µm, IR10.5=10.15 - 10.65 µm, IR2.12=12.05 - 1.2.55 µm, IR13.3=13 - 13.6 µm, IR13.2=10 km, NIR1.6=10 km, VIS0.5=10 km, VIS0.6=10 km & 0.5 km, VIS0.8=10 km, VIS0.5=10 km, IR13.2=20 km, IR1.7=20 km, IR10.5=20 km & 1.0 km, IR3.3=2.0 km, IR3.7=2.0 km, IR10.5=20 km & 1.0 km, IR3.3=2.0 km, IR1.3=2.0 km, IR10.5=20 km & 1.0 km, IR3.3=2.0 km, IR1.3=2.0 km, IR10.5=20 km, Km, IR2.3=2.0 km, IR3.3=2.0 km, IR10.5=20 km, Km, IR2.3=2.0 km, IR3.3=2.0 km, IR10.5=20 km, IR3.5=20 km, IR2.3=2.0 km, IR3.3=2.0 km, IR10.5=20 km, IR3.5=20 km, IR3.3=20 km, IR3.5=2.0 km, IR10.5=20 km, IR3.5=20 km, IR3.3=20 km, IR3.5=20 km, IR3.5=20 km, IR3.5=20 km, IR3.5=20 km, IR3.5=20 km, IR3
FTS Fourier Transform Spectrometer	GOSAT Follow-On	Proposed	Atmospheric temperature and humidity sounders		profile (horizontal component): 2 - 10 m/s, Long wave Earth surface radiation: 5 W/m2 Waveband: Spatial resolution:
JAXA (MOE (Japan), NIES (Japan))			and atmospheric chemistry		Swath width: Accuracy:
Greenhouse Gases monitoring Instrument CAST (NSMC-CMA)		TBD	Atmospheric chemistry	Measures greenhouse gases.	Waveband: Spatial resolution: Swath width: Accuracy:
GEMS Geostationary Environmental Monitoring Spectrometer	GeoKOMPSAT-2B	Proposed	Atmospheric chemistry	Measurements of atmospheric chemistry, precursors of aerosols and ozone in particular, in high temporal and spatial resolution over Asia.	Waveband: TBD Spatial resolution: TBD Swath widh: TBD Accuracy:
KARI GeoSTAR	PATH	Proposed	Imaging multi-	High frequency, all-weather temperature and humidity soundings	Waveband: 50 - 57 GHz, 165 - 183 GHz, and possibly 118 -
MW Array Spectrometer (PATH) NASA			spectral radiometers (passive microwave)	for weather forecasting and SST.	125 GHz Spatial resolution: Temporal resolution is 15 to 30 minutes; 25 - 50 km at nadir Swath width: Temporal resolution is 15 to 30 minutes; 25 - 50 km at nadir Accuracy: <5 K (brightness temperature)
Geoton-L1 ROSKOSMOS (ROSHYDROMET)	N1, Resurs P N2	Operational	High resolution optical imagers	Multispectral images of land surfaces.	Waveband: 0.58 - 0.8 µm; 0.5 - 0.6 µm; 0.6 - 0.7 µm; 0.7 - 0.8 µm Spatial resolution: 1-3 m Swath width: 30 km within swath band 400 km Accuracy:
GERB Geostationary Earth Radiation Budget EUMETSAT (ESA)	Meteosat-10, Meteosat- 11, Meteosat-8, Meteosat- 9	Operational	Earth radiation budget radiometers	Measures long and short wave radiation emitted and reflected from the Earth's surface, clouds and top of atmosphere. Full Earth disk, all channels in 5 minutes.	Waveband: SW: 0.32 - 4.0 µm, LW 4.0 - 30 µm (by subtraction) Spatial resolution: 44.6 x 39.3 km Swath width: Single column moved alternately W-E and E-W to cover the complete earth disc Accuracy: SW=1.2 Wm-2, LW=7.5 Wm-2
GGAK-E Module for Geophysical Measurements ROSHYDROMET (ROSKOSMOS)	Elektro-L N1, Elektro-L N2, Elektro-L N3	Operational		Monitoring and forecasting of solar activity, of radiation and magnetic field in the near-Earth space, monitoring of natural and modified magnetosphere, ionosphere and upper atmosphere.	Waveband: Spatial resolution: Swath width: Accuracy:
GGAK-M Module for Geophysical Measurements (SEM) ROSHYDROMET (ROSKOSMOS)	Meteor-M N1, Meteor-M N2	Operational	Space environment and magnetic field	Space Environmental Monitoring (SEM), heliogeophysical.	Waveband: Spatial resolution: Swath width: Accuracy:
GEM GEO Lightning Mapper NOAA	GOES-R, GOES-S	Being developed	Lightning sensors	Detect total lightning flash rate over near full disk.	Waveband: Spatial resolution: 10 km Swath width: Accuracy: 70%
GMI GPM Microwave Imager NASA	GPM Core	Being developed	spectral radiometers (passive microwave)	Measures rainfall rates over oceans and land, combined rainfall structure and surface rainfall rates with associated latent heating. Used to produce three hour, daily, and monthly total rainfall maps over oceans and land.	Spatial resolution: Horizontal: 36 km cross-track at 10.65 GHz (required - Primary Spacecraft, goal - Constellation Spacecraft): 10 km along-track and cross-track (goal - Primary Spacecraft) Swath width: 800 km (Primary Spacecraft) 1300 km (Constellation Spacecraft) Accuracy: 0.65 - 1.5 K
GNOS GNSS Occultation Sounder CAST (NSMC-CMA)	FY-3D, FY-3E, FY-3F, FY- 3G	Approved	Atmospheric temperature and humidity sounders	Atmospheric sounding for weather forecasting.	Waveband: Spatial resolution: Swath width: Accuracy:
GOCI Geostationary Ocean Colour Imager	COMS	Operational	Ocean colour instruments	Ocean colour information, coastal zone monitoring, land resources monitoring.	Waveband: VIS - NIR: 0.40 - 0.88 µm (8 channels) Spatial resolution: 236 x 500 m Swath width: 1440 km Accuracy:
KARI GOES Comms	GOES-12, GOES-13,	Operational	Communications		Waveband:
Communications package on GOES	GOES-14, GOES-15				Spatial resolution: Swath width: Accuracy:
NOAA GOLPE	SAC-C	Operational	Atmospheric temperature and	Measurements of atmospheric effects on GPS signals, and precise positioning information to assist gravitational	Waveband: Spatial resolution:
GPS Occultation and Passive reflection Experiment			humidity sounders and precision orbit	measurements.	Swath width:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
GOME-2	Metop-A, Metop-B, Metop-	Operational	Atmospheric	Measurement of total column amounts and stratospheric and	Waveband: UV - NIR: 0.24 - 0.79 µm (resolution 0.2 - 0.4
Global Ozone Monitoring Experiment - 2	с		chemistry	tropospheric profiles of ozone. Also amounts of H20, NO2, OCIO, BrO, SO2 and HCHO.	nm) Spatial resolution: Horizontal: 40 x 40 km (960 km swath) to
EUMETSAT (ESA)					40 x 5 km (for polarization monitoring) Swath width: 120 - 960 km
					Accuracy: Cloud top height: 1 km (rms), Outgoing short wave radiation and solar irradiance: 5 W/m2, Trace gas profile: 10 -
GOMOS	Envisat	Operational	Atmospheric	Stratospheric profiles of temperature and of ozone, NO2, H20,	20%, Specific humidity profile: 10 - 50 g/kg Waveband: Spectrometers: UV - VIS: 248 - 371 nm and 387 -
	Envisar	operational	chemistry	aerosols and other trace species.	693 nm, NIR: 750 - 776 nm and 915 - 956 nm, Photometers:
Global Ozone Monitoring by Occultation of Stars					644 - 705 nm and 466 - 528 nm Spatial resolution: 1.7 km vertical
ESA					Swath width: Not applicable Accuracy:
GOX	COSMIC-1/FORMOSAT-3 FM1, COSMIC-	Operational	Atmospheric temperature and	Each instrument equipped with 4 GPS antennas to receive the L1 and L2 radio wave signals transmitted from the 24 US GPS	
Global Positioning Satellite Occultation	2/FORMOSAT-3 FM2,		humidity sounders	satellites. Based on the signal transmission delay caused by the electric density, temperature, pressure, and water content in the	km Swath width:
Experiment (GOX)	COSMIC-3/FORMOSAT-3 FM3, COSMIC-			ionosphere and atmosphere, information about ionosphere and	Accuracy:
NASA, NSPO (JPL)	4/FORMOSAT-3 FM4, COSMIC-5/FORMOSAT-3			atmosphere can be derived.	
	FM5, COSMIC- 6/FORMOSAT-3 FM6				
GPS (ESA)	GOCE	Operational	Precision orbit	Satellite positioning.	Waveband:
GPS Receiver					Spatial resolution: Swath width:
ESA					Accuracy:
GPS Receiver (Swarm)	Swarm	Being developed	Precision orbit		Waveband: Spatial resolution: L1 C/A code range error better than 0.5 m
GPSR (Swarm)					RMS; L1/L2 P-code range error better than 0.25 m RMS; L1 carrier phase error better than 5 mm
ESA					Swath width:
GPSP	OSTM (Jason-2)	Operational	Precision orbit	Precision orbit determination.	Accuracy: Waveband:
Global Positioning System Payload					Spatial resolution: Swath width:
NASA					Accuracy:
GPSRO (Oersted)	Ørsted (Oersted)	Operational	Atmospheric		Waveband:
GPS Radio Occultation System			temperature and humidity sounders	vapour content.	Spatial resolution: Swath width:
NASA					Accuracy:
GPSRO (Terra-SAR)	TerraSAR-X	Operational	Atmospheric temperature and	Measurements of atmospheric temperature, pressure and water vapour content.	Waveband: Spatial resolution:
GPS Radio Occultation System			humidity sounders		Swath width: Accuracy:
NASA	00405 00405	0	Ormittal		
GRACE instrument	GRACE, GRACE FO, GRACE-II	Operational	Gravity instruments	Includes BlackJack Global Positioning System (Turbo Rogue Space Receiver) and High Accuracy Inter-satellite Ranging	Waveband: Microwave: 24 GHz and 32 GHz Spatial resolution: 400 km horizontal, N/A vertical
NASA (DLR)				System (aka K-band Ranging System) for Inter-satellite ranging system estimates for global models of the mean and time variable	Swath width: N/A Accuracy: 1 cm equivilant water
GRAS	Metop-A, Metop-B, Metop-	Operational	Atmospheric	Earth gravity field.	Waveband:
	C	operational	temperature and	sounding.	Spatial resolution: Vertical: 150 m (troposphere) and 1.5 km
GNSS Receiver for Atmospheric Sounding			humidity sounders and precision orbit		(stratosphere), Horizontal: 100 km approx (troposphere), 300 km approx (stratosphere)
EUMETSAT (ESA)					Swath width: Altitude range of 5 - 30 km Accuracy: Temperature sounding to 1 K rms
HDWL (3D Winds)	3D Winds	Proposed	Lidars	Tropospheric winds for weather forecasting and pollution transport.	Waveband: 2.051 µm and 0.355 µm Spatial resolution: 300 km along track horizontal resolution
NASA					Swath width: View 45 degrees of nadir at four azimuth
					angles: 45, 135, 225, 315 deg. Accuracy: 2-3 m/s LOS wind accuracy projected into
HiRI	Pleiades 1, Pleiades 2	Operational	High resolution	Cartography, land use, risk, agriculture and forestry, civil planning	horizontal from all effects including sampling error Waveband: 4 bands + PAN: Near IR (0.77 - 0.91 µm), Red
High-Resolution Imager			optical imagers	and mapping, digital terrain models, defence.	(0.61 - 0.71 µm), Green (0.50 - 0.60 µm), Blue (0.44 - 0.54 µm), Pan (0.47 - 0.84 µm)
CNES					Spatial resolution: 0.70 m
CNES					Swath width: 20 km swath at nadir. Agile platform giving ±50 deg off-track
HIRS/3	NOAA-15, NOAA-16,	Operational	Atmospheric	Atmospheric temperature profiles and data on cloud parameters,	Accuracy: Waveband: VIS - TIR: 0.69 - 14.95 µm (20 channels)
High Resolution Infra-red Sounder/3	NOAA-17		temperature and humidity sounders	humidity soundings, water vapour, total ozone content, and surface temperatures.	Spatial resolution: 20.3 km Swath width: 2240 km
NOAA					Accuracy:
HIRS/4	Metop-A, Metop-B, NOAA-	Operational	Atmospheric	Atmospheric temperature profiles and data on cloud parameters,	Waveband: VIS - TIR: 0.69 - 14.95 µm (20 channels)
High Resolution Infra-red Sounder/4	18, NOAA-19		temperature and humidity sounders	humidity soundings, water vapour, total ozone content, and surface temperatures. Same as HIRS/3, with 10 km IFOV.	Spatial resolution: 20.3 km Swath width: 2240 km
NOAA					Accuracy:
HISUI	ALOS-3	Being developed	Hyperspectral imagers and high	Global energy and resource related applications - Exploration of oil, gas, and metal resources - Environmental assessments of	Waveband: Hyperspectral Sensor:VNIR 57 bands (in 0.4 - 0.97 µm), SWIR 128 bands (in 0.9 - 2.5 µm), Multispectral
Hyperspectral Imager Suite			resolution optical	oil/gas fields and mines. Other applications such as	Sensor: 4 bands (in 0.45 - 0.89 µm)
METI			imagers	environmental monitoring, agriculture, and forestry.	Spatial resolution: Hyperspectral Sensor:30 m, Multispectral Sensor: 5 m
					Swath width: Hyperspectral Sensor:30 km, Multispectral Sensor: 90 km
					Accuracy: Hyperspectral Sensor:SN = 450 @620 nm, 300 @2100 nm Multispectral
HPC	SPOT 6	Operational	High resolution	High resolution multisportral manage 2 LIDC instruments on this	Sensor: SN= 200
HRG	SPOT-5	Operational	High resolution optical imagers	mission can be processed to produce simulated imagery of 2.5 m.	
CNES				Images are 60 x 60 km in size.	0.49 - 0.69 µm Spatial resolution: Panchromatic: 5 m, Multispectral: 10 m
					Swath width: 60 km (1 instrument), 117 km (2 instruments). Same as SPOT 4 with off-track steering capability (±27 deg)
HRMX	CARTOSAT-2C,	Proposed	Imaging multi-	For crops and vegetation dynamics, patieral resources assault	Accuracy: Waveband: 4 bands MX in VIS and NIR
	CARTOSAT-2C, CARTOSAT-2D	Proposed	spectral radiometers	For crops and vegetation dynamics, natural resources census, disaster management and large scale mapping of themes.	Spatial resolution: 2 m / 1m
High Resolution Multi Spectral			(vis/IR)		Swath width: 10 km Accuracy:
ISRO HRMX-TIR	GISAT	Proposed	Imaging multi-		Waveband: MX (3 Bands TIR)
High Resolution TIR			spectral radiometers (vis/IR)		Spatial resolution: 1.5 km Swath width:
			(Horny)		Accuracy:
ISRO HRMX-VNIR	GISAT	Proposed	Imaging multi-		Waveband: MX (4 Bands VNIR)
High Resolution MX-VNIR			spectral radiometers (vis/IR)		Spatial resolution: 50 m Swath width:
ISRO					Accuracy:
HRS	SPOT-5	Operational	High resolution	High resolution stereo instrument.	Waveband: Panchromatic: VIS 0.49 - 0.69 µm
High Resolution Stereoscope			optical imagers		Spatial resolution: Panchromatic: 10 m, Altitude: 15 m Swath width: 120 km
CNES					Accuracy:
HRSS-1	Environsat-1, Environsat-2	Proposed		Information on Aerosols & CO2 gas concentration.	Waveband: Spatial resolution: 1.575 - 1.625 µm with 0.2 nm
High Resolution SWIR Spectrometer					Swath width: 380 km Accuracy:
ISRO					

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
HRTC	SAC-C	Operational	High resolution	High resolution Earth imagery to complement MMRS on the same mission.	
High Resolution Panchromatic Camera			option imagero		Swath width: 90 km Accuracy:
CONAE HRVIR	SPOT-4	Operational	High resolution	2 HRVIR instruments provide 60 x 60 km images for a range of	Waveband: VIS: B1: 0.50 - 0.59 µm, B2: 0.61 - 0.68 µm, NIR:
High Resolution Visible and Infra-red	3-01-4	Operational		land and coastal applications.	0.79 - 0.89 μm, SWIR: 1.58 - 1.75 μm, Panchromatic:(B2) 0.61 - 0.68 μm
					Spatial resolution: 10 m (0.64 µm) or 20 m
CNES (SNSB)					Swath width: 117 km (i.e. 60 km + 60 km with 3 km overlap). Steerable up to ±27 deg off-track
HRVS-1A/-1B	Environsat-1, Environsat-2	Proposed		Information on Aerosols & CO2 gas concentration.	Accuracy: Waveband:
High Resolution VNIR Spectrometer					Spatial resolution: 0.375 - 0.9 µm Swath width: 500 km
ISRO					Accuracy:
HSC	SAC-D/Aquarius	Operational	Imaging multi- spectral radiometers	High Sensitivity Camera (HSC) measures top of atmosphere radiance in the VIS spectral range measured by a high sensitivity	Waveband: PAN (VIR-NIR): 450 - 900 nm Spatial resolution: 200 - 300 m
High Sensitivity Camera			(vis/IR)	sensor detects: urban lights, electric storms, polar regions, snow cover, forest fires, sea surveillance.	Swath width: 1600 km Accuracy:
CONAE HSC	SAC-E/SABIA MAR-A,	Approved		High Sensitivity Camera (HSC) measures top of atmosphere	Waveband: PAN (VIR-NIR): 450 - 900 nm
High Sensitivity Camera	SAC-E/SABIA_MAR-B		spectral radiometers	radiance in the VIS spectral range measured by a high sensitivity sensor detects: urban lights, electric storms, polar regions, snow	Spatial resolution: 200 - 300 m Swath width: 1600 km
CONAE				cover, forest fires, sea surveillance.	Accuracy:
HSI	EnMAP	Approved		Detailed monitoring and characterization of rock and soil targets, vegetation, inland and coastal waters on a global scale.	Waveband: 420 - 2450 nm Spatial resolution: GSD 30 m
Hyperspectral Imager			imaging multi- spectral radiometers	vegetation, mand and coastar waters on a global scale.	Swath width: 30 km Accuracy: Radiometric: <5%
DLR	405	Deserved	(vis/ir)		
HSRL (ACE)	ACE	Proposed		Measurement of aerosol heights, cloud top heights and aerosol properties.	Waveband: 532 nm (polarization-sensitive), 1064 nm, 355 nm
NASA					Spatial resolution: Vertical sampling: 30 - 60 m, -2 to 40 km Swath width: 333 m along-track
HSTC	SAC-C	Operational			Accuracy: Waveband: PAN: VIS - NIR: 450 - 850 nm
High Sensitivity Technological Camera			spectral radiometers (vis/IR)		Spatial resolution: 300 m Swath width: 700 km
CONAE					Accuracy:
HYC	PRISMA	Approved	Hyperspectral imagers and	Hyperspectral data for complex land ecosystem studies.	Waveband: VNIR: 400 - 1100 nm, SWIR: 920 - 2500 nm Spatial resolution: 30 m
HYperspectral Camera			imaging multi- spectral radiometers		Swath width: 30 km Accuracy: Spectral resolution 10 nm
ASI Hyperion	NMP EO-1	Operational	(vis/ir)	Hyperspectral imaging of land surfaces.	Waveband: VIS - NIR: 400 - 1000 nm; NIR - SWIR: 900 -
Hyperspectral Imager		operational	imagers and imaging multi-	Hyperspectral imaging of land surfaces.	2500 nm; 10 nm spectral resolution for 220 bands Spatial resolution: 30 m
NASA			spectral radiometers		Swath width: 7.5 km
NASA HySI (IMS-1)	IMS-1	Operational		Ocean and atmosphere study of Earth surface.	Accuracy: SNR @ 10% refl target: vis 10-40 swir 10-20 Waveband: 64 bands of 8 nm separation between 400 - 950
Hyperspectral Imager (IMS-1)			spectral radiometers (vis/IR)		nm spectral range Spatial resolution: 505.6 m
ISRO		_			Swath width: 125.5 km Accuracy:
HYSI (RS-1A)-SWIR	CARTOSAT-1A, CARTOSAT-1B	Proposed	Imaging multi- spectral radiometers		Waveband: SWIR Hperspectral Spatial resolution: 30 m
Hyperspectral SWIR			(vis/IR)		Swath width: 60 km Accuracy:
ISRO HYSI (RS-1A)-VNIR	CARTOSAT-1A,	Proposed	Imaging multi-		Waveband: VNIR Hyperspectral
Hyperspectral VNIR	CARTOSAT-1B		spectral radiometers (vis/IR)		Spatial resolution: 30 m Swath width: 60 km
ISRO			(		Accuracy:
HYSI-SWIR	GISAT	Proposed	Imaging multi- spectral radiometers		Waveband: 60 Bands VNIR Spatial resolution: 320 m
Hyperspectral SWIR			(vis/IR)		Swath width:
ISRO	CIEAT	Dropood	Imaging multi		Accuracy:
HYSI-VNIR	GISAT	Proposed	Imaging multi- spectral radiometers		Waveband: 150 Bands SWIR Spatial resolution: 192 m Swath width:
Hyperspectral VNIR			(vis/IR)		Accuracy:
ISRO IASI	Metop-A, Metop-B, Metop-	Operational		Measures tropospheric moisture and temperature, column	Waveband: MWIR - TIR: 3.4 - 15.5 µm with gaps at 5 µm and
Infrared Atmospheric Sounding	С				9 μm Spatial resolution: Vertical: 1 - 30 km, Horizontal: 25 km
Interferometer			and atmospheric chemistry	chemistry. Also measures sea surface and land temperature.	Swath width: 2052 km Accuracy: Temperature: 0.5 - 2 K, specific humidity: 0.1 - 0.3
CNES (EUMETSAT) IASI-NG	EPS-SG-a	Proposed	Atmospheric	Instrument TBC.	g/kg, ozone, trace gas profile: 10% Waveband:
Infrared Atmospheric Sounding			temperature and humidity sounders		Spatial resolution: Swath width:
Interferometer - Next Generation			,		Accuracy:
EUMETSAT	SAC-C	Operational	Space environment	Improvement of risk estimation models on latest generation of	Waveband:
Influence of Space Radiation on		,	·	integrated circuits technology.	Spatial resolution: Swath width:
Advanced Components					Accuracy:
CNES (CONAE)	CALIPSO	Operational	Imaging multi-	Radiometer optimised for combined IIR/lidar retrievals of cirrus	Waveband: TIR: 8.7 µm, 10.5 µm, and 12.0 µm (0.8 µm
	UNLIF 3U	operational	spectral radiometers		resolution)
Imaging Infrared Radiometer			(vis/IR)		Spatial resolution: 1 km Swath width: 64 km
CNES IKFS-2	Meteor-3M N2, Meteor-M	Prototype		Atmospheric temperature/humidity profiles, data on cloud	Accuracy: 1 K Waveband: 5 - 15 µm, more then 5000 spectral channels
Fourier spectrometer	N2			parameters, water vapour & ozone column amounts, surface temperature.	Spatial resolution: 35 -100 km, spectral resolution ~0.5 cm-1 Swath width: 1000/2000 km
ROSHYDROMET (ROSKOSMOS)					Accuracy: 0.5 K
Imager	GOES-12, GOES-13, GOES-14, GOES-15	Operational		Measures cloud cover, atmospheric radiance, winds, atmospheric stability, rainfall estimates. Used to provide severe storm	channels: 3.9 µm, 6.7 µm, 10.7 µm and 12 µm, GOES 12 -
NOAA			(vis/IR)	warnings/ monitoring day and night (type, amount, storm features).	Q: VIS: 1 channel (8 detectors), IR: 4 channels: 3.9 μm, 6.7 μm, 10.7 μm and 13.3 μm
					Spatial resolution: 10 km Swath width: Full Earth disk
Imager (INSAT)	INSAT-3D, INSAT-3DR,	Being developed	Imaging multi-	Cloud cover, severe storm warnings/monitoring day and night	Accuracy: Waveband: VIS: 0.55 - 0.75 µm; SWIR: 1.55 - 1.7 µm; MWIR:
Very High Resolution Radiometer	INSAT-3DS	being developed	spectral radiometers	(type, amount, storm features), atmospheric radiance winds, atmospheric stability rainfall.	3.80 - 4.00 μm, 6.50 - 7.00 μm; TIR: 10.2 - 11.3 μm, 11.5 - 12.5 μm
ISRO			(		Spatial resolution: 1 x 1 km (VIS and SWIR), 4 x 4 km (MWIR, TIR), 8 x 8 km (in 6.50 - 7.00 µm)
					Swath width: Full Earth disc and space around, Normal
					Frame (50 deg. N to 40 deg. S and full E-W coverage), Program Frame (Programmable, E-W Full coverage)
IMAGER/MTSAT-2	MTSAT-2	Operational		Measures cloud cover, cloud motion, cloud height, water vapour,	Accuracy: Waveband: VIS - SWIR: 0.55 - 0.80 µm, MWIR - TIR: 3.5 - 4
Imager/MTSAT			spectral radiometers (vis/IR)	rainfall, sea surface temperature and Earth radiation.	μm, 6.5 - 7 μm, 10.3 - 11.3 μm, 11.5 - 12.5 μm Spatial resolution: Visible: 1 km, TIR: 4 km
JMA					Swath width: Full Earth disk every hour Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
IMWAS	FY-3C, FY-3D, FY-3E, FY- 3F, FY-3G		Atmospheric temperature and	Atmospheric sounding measurements.	Waveband: Microwave: 19.35 - 89.0 GHz (8 channels) Spatial resolution:
Improved MicroWave Atmospheric Sounder			humidity sounders		Swath width: Accuracy:
NRSCC (CAST) INES	SAC-C	Operational	Precision orbit	Composed of GPS Tensor and GNSS Lagrange Receiver to	Waveband:
Italian Navigation Experiment				perform navigation experiment on precise orbit determination.	Spatial resolution: Swath width: Accuracy:
ASI (CONAE) IPDA LIDAR	MERLIN	Proposed	Atmospheric chemistry	'Active' optical remote sensing instrument for atmospheric parameters or trace gases. Global information on atmospheric	Waveband: Two laser wavelengths, mean wavelength 1645
Integrated Path Differential Absorption Light Detection and Ranging Instrument				Methane concentration (Methane column density measurements).	Spatial resolution: 50 km x 0.1 km Swath width: 0.1 km Accuracy: <2%
DLR (CNES) IR Correlation Radiometer (GeoCape)	GEO-CAPE	Proposed	Imaging multi-	The near-IR and thermal-IR data will describe vertical CO, an	Waveband: 2.3, 4.6 µm
NASA			spectral radiometers (vis/IR)	excellent tracer of long-range transport of pollution. Identifying large scale vegetation burning events. Characterizing the oxidizing capacity of the atmosphere.	Spatial resolution: 7 km horizontal spatial resolution, 2-3 layers in vertical resolution; < 0.2 spatial resolution. Swath widh: 2-d image of continental domain (north or south America). Accuracy: CO precision: 1 x 10 <sup>4</sup> 17 cm <sup>4</sup> (-2)
IR Spectrometer(GACM) NASA	GACM	Proposed	Atmospheric chemistry	Daytime column measurements of CO in SWIR at 2.4 $\mu\text{m}.$	Waveband: 2.4 and 4.6 µm Spatial resolution: Swath width:
IRAS	FY-3A, FY-3B, FY-3C	Operational	Atmospheric	Atmospheric sounding for weather forecasting.	Accuracy: Waveband: VIS - TIR: 0.65 - 14.95 µm (26 channels)
InfraRed Atmospheric Sounder			temperature and humidity sounders		Spatial resolution: 14 km Swath width: 952 km Accuracy: 17 km
NRSCC (NSMC-CMA, CAST) IRS	MTG-S1 (sounding), MTG-	Being developed	Atmospheric	Measurements of vertically resolved clear sky atmospheric motion	Waveband: LWIR: 700 - 1210 cm^-1, MWIR: 1600 - 2175
Infra-Red Sounder EUMETSAT (ESA)	S2 (sounding), Sentinel-4 A, Sentinel-4 B, Sentinel-5		temperature and humidity sounders	vectors, temperature and water vapour profiles.	cm^-1 Spatial resolution: Horizontal: 4 km at SSP. Vertical: 1 km Swath width: 640 x 640 km dwells, step and stare, moving alternattey E-W and W-E moving up S-N one dwell step at the end of each row of dwells. Each dis is divided in 4 areas of Local Area Coverage (LAC). Accuracy: Celar sky AMVs: 2 m/s, temperature profile: 1 K, water vapour profile: 5%
IRS Infrared scanner	CBERS-3, CBERS-4	Being developed	spectral radiometers (vis/IR)	Earth resources, environmental monitoring, land use.	Waveband: 0.5 - 0.9 µm; 1.55 - 1.75 µm, 2.08 - 2.35 µm; 10.4 - 12.5 µm Spatial resolution: PAN, SWIR: 40 m, TIR: 80 m Swath width: 120 km
CAST (INPE) IST	SAC-C	Operational	Precision orbit	Test of a fully autonomous system for attitude and orbit	Accuracy: Waveband:
Italian Star Tracker				determination using a star tracker.	Spatial resolution: Swath width: Accuracy:
ASI (CONAE) IVISSR (FY-2)	FY-2D, FY-2E, FY-2F	Operational	Imaging multi-	Meteorological.	Waveband: VIS - TIR: 0.5 - 12.5 µm (5 channels)
Improved Multispectral Visible and Infra- red Scan Radiometer (5 channels)	11-20, 11-20, 11-21	operational	spectral radiometers (vis/IR)		Spatial resolution: 5 km Swath width: Full Earth disk Accuracy: 1.25 - 5 km
NRSCC (NSMC-CMA, CAST) JAMI/MTSAT-1R	MTSAT-1R	Operational	Imaging multi-	Measures cloud cover, cloud motion, cloud height, water vapour,	Waveband: VIS - SWIR: 0.55 - 0.90 µm, MWIR - TIR: 3.5 - 4
Japanese Advanced Meteorological Imager JMA				rainfall, sea surface temperature and Earth radiation.	µm, 6.5 - 7 µm, 10.3 - 11.3 µm, 11.5 - 12.5 µm Spatial resolution: Visible: 1 km, TIR: 4 km Swath width: Full Earth disk every hour Accuracy:
JMR	Jason-1, OSTM (Jason-2)	Operational	Imaging multi-	Altimeter data to correct for errors caused by water vapour and cloud-cover. Also measures total water vapour and brightness	Waveband: Microwave: 18.7 GHz, 23.8 GHz, 34 GHz Spatial resolution: 41.6 km at 18.7 GHz, 36.1 km at 23.8
JASON Microwave Radiometer NASA			(passive microwave)	temperature.	GHz, 22.9 km at 34 GHz Swath width: 120 deg cone centred on nadir Accuracy: Total water vapour: 0.2 g/sq cm, Brightness
K band radiometers (SCLP)	SCLP	Proposed	Imaging multi-	Snow accumulation for fresh water availability.	temperature: 0.15 K Waveband:
NASA			spectral radiometers (passive microwave)		Spatial resolution: Spatial resolution of 50 to 100 m 15 day temporal resolution Swath width: Accuracy:
Ka-band Radar INterferometer (KaRIN)	SWOT	Proposed	Radar altimeters	Swath mapping radar altimeter that provides measurements for surface water.	Waveband: Spatial resolution: Vertical resolution is 2 cm
NASA (CNES)				surface water.	Swath width: Vertical resolution is 2 cm Accuracy:
KMSS	Meteor-3M N2, Meteor-M N1, Meteor-M N2	Operational	Imaging multi- spectral radiometers	Multispectral images of land & sea surfaces and ice cover.	Waveband: 0.4 - 0.9 µm, 3 cameras with 3 channels each Spatial resolution: 50 m - 100 m
Multispectral Imager (VIS) ROSHYDROMET (ROSKOSMOS)	INT, WELEOFINI NZ		(vis/IR)		Swath width: 900 km Accuracy:
Ku and X-band radars (SCLP) NASA	SCLP	Proposed	Imaging microwave radars	Snow accumulation for fresh water availability.	Waveband: Spatial resolution: Spatial resolution of 50 to 100 m; 15 day temporal resolution Swath width:
L-band Radar (SMAP)	SMAP	Proposed	Other	Soil moisture.	Accuracy: Waveband: Microwave
NASA					Spatial resolution: Swath width: Accuracy:
L-band Radiometer (SMAP) NASA	SMAP	Proposed	Imaging multi- spectral radiometers (passive microwave)		Waveband: Spatial resolution: Radiometer has 40 km footprint Swath widh: Soil moisture will be estimated optimally at a resolution of 10 km and freeze-haw state at a resolution of 1 3 km. The provision of constant incidence angle across the 1000 km swath simplifies the data processing and enables accurate repeat-pass estimation of soil moisture and freeze/thaw change
L-Band SAR (ALOS-2)	ALOS-2	Operational	Imaging microwave radars	High resolution microwave imaging of land and ice for use in environmental monitoring, agriculture and forestry, disaster	Waveband: Microwave: L-Band 1270 MHz Spatial resolution: Spotlight mode (1 to 3 m), high resolution
L-Band Synthetic Aperture Radar (ALOS- 2) JAXA				environmental monitoring, agriculture and rotestry, usaster monitoring, Earth resource management and interferometry.	Spatial resolution: opoligin indee (n. 6 5 m), ingin resolution mode (3 to 10 m). Swaft width: High resolution mode: 70 km, Scan SAR mode: 250 - 360 km, Polarimetry: 30 km Accuracy: Surface Resolution: 10 m (Fine Mode); Surface Resolution: 10 m (Scan Mode); Radiometric: 1 dB
Lagrange LABEN GNSS Receiver for Advanced Navigation, Geodesy and Experiments	SAC-D/Aquarius	Operational	Atmospheric temperature and humidity sounders	GPS Receiver including specialised version equipped with limb sounding antenna and dedicated signal tracking capability for meteorological, climate and space weather applications.	Vaveband: Spatial resolution: Swath width: Accuracy:
ASI Laser altimeter (LIST) NASA	LIST	Proposed	Lidars	New technology laser system that performs spatial mapping of Earth's surface from an orbital platform.	Waveband: Spatial resolution: Swath width:
Laser Reflectors	STARLETTE, STELLA	Operational	Precision orbit	Measures distance between the satellite and the laser tracking	Accuracy: Waveband:
CNES				stations.	Spatial resolution: Swath width: Accuracy:
Laser Reflectors (ESA)	CryoSat-2, GOCE, Swarm	Operational	Precision orbit	Measures distance between the satellite and the laser tracking stations.	Waveband: Spatial resolution:
Laser Reflectors					Swath width: Accuracy:
ESA					

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
LCCRA	LARES	Operational	Precision orbit	Accuracy measurements on Lense-Thirring effect and baseline tracking data for precision geodesy. Also for calibration of radar	Waveband: VIS: 400 - 750 nm Spatial resolution: N/A
Laser Corner Cube Reflector Assembly				altimeter bias.	Swath width: N/A Accuracy: 2 cm overhead ranging
ASI LEISA AC	NMP EO-1	Operational	Imaging multi-	Corrects high spatial resolution multispectral imager data for	Waveband: 256 bands, NIR - SWIR: 0.89 - 1.58 µm
		operational	spectral radiometers		Spatial resolution: 250 m
LEISA Atmospheric Corrector			(vis/IR)		Swath width: 185 km Accuracy:
NASA LI	MTG-I1 (imaging), MTG-I2	Being developed		Real time lightning detection (cloud-to-cloud and cloud-to-ground	
Lightning Imager	(imaging), MTG-I3 (imaging), MTG-I4			strokes, with no discrimination between the two), lightning location.	777.4 nm Spatial resolution: < 10 km at 45°N
EUMETSAT (ESA)	(imaging)				Swath width: Fixed view of 80% of visible earth disc, all EUMETSAT member states
					Accuracy: Detection Efficiency: 90% at 45N, SSP longitude, 70% on average over the area of coverage (for lightning
					signals 6.7 mWm-2sr-1 during the night, 16.7 mWm-2sr-1 during the day), Radiance accuracy: 10% for radiances
					higher than 70 mWm-2sr-1, 7 mWm-2sr-1 for radiances lower than 70 mWm-2sr-1
LIS	TRMM	Operational	Lightning sensors	Global distribution and variability of total lightning. Data can be related to rainfall to study hydrological cycle.	Waveband: NIR: 0.7774 µm Spatial resolution: 4 km
Lightning Imaging Sensor				related to rainial to study hydrological cycle.	Swath width: FOV: 80 x 80 deg Accuracy: 90% day and night detection probability
NASA LISS-III (Resourcesat)	RESOURCESAT-1,	Operational	High resolution	Data used for vegetation type assessment, resource assessment,	
	RESOURCESAT-2,	Operational		crop stress detection, crop production forecasting, forestry, land	μm, NIR: Band 4: 0.77 - 0.86 μm, SWIR: Band 5: 1.55 - 1.75
Linear Imaging Self Scanner - III (Resourcesat)	RESOURCESAT-2A			use and land cover change.	µm Spatial resolution: 23.5 m
ISRO		_			Swath width: 141 km Accuracy:
LISS-IV	RESOURCESAT-2,	Operational		Vegetation monitoring, improved crop discrimination, crop yield, disaster monitoring and rapid assessment of natural resources.	Waveband: VIS: 0.52 - 0.59 μm, 0.62 - 0.68 μm, NIR: 0.77 - 0.86 μm
Linear Imaging Self Scanner - IV	RESOURCESAT-2A				Spatial resolution: 5.8 m Swath width: 70 km
ISRO LIV HYSI	YOUTHSAT	Operational		Airglow measurement of lonosphere through 80 - 600 km.	Accuracy: Waveband: 512 bands
Limb Viewing Hyperspectral Imager VNIR			chemistry		Spatial resolution: 2 km (vertical), 25 km (horizontal) Swath width: 512 km (vertical), 1024 km (horizontal-spectral)
ISRO					Accuracy:
LM	FY-4A, FY-4B, FY-4C, FY-	Approved	Lightning sensors	Lightning mapping for locating thunder storms in flooding season,	Waveband: 0.774 µm
Lightning Mapper	4D, FY-4E			CCD camera operating 0.77 µm to count flashes and intensity.	Spatial resolution: 10 km Swath width: Full Earth disk
NRSCC (NSMC-CMA, CAST)					Accuracy: 8 km
LRA	Jason-1, OSTM (Jason-2)	Operational	Precision orbit	Baseline tracking data for precision orbit determination and/or geodesy. Also for calibration of radar altimeter bias. Several types	Waveband:
Laser Retroreflector Array				used on various missions. (ASI involved in LAGEOS 2 development).	Swath width:
NASA (ASI)		On another al			Accuracy: 2 cm overhead ranging
LRA (LAGEOS)	LAGEOS-1, LAGEOS-2	Operational		Baseline tracking data for precision geodesy. Also for calibration of radar altimeter bias. Several types used on various missions.	Waveband: VIS: 400 - 750 nm Spatial resolution: N/A
Laser Retroreflector Array					Swath width: N/A Accuracy: 2 cm overhead ranging
ASI LRIT		Operational	Communications	Follow-on from the Weather Facsimile (WEFAX) Processing	Waveband:
Low-Rate Information Transmission	GOES-14, GOES-15, NOAA-19			System.	Spatial resolution: Swath width:
NOAA					Accuracy:
LRR	GOCE	Operational		Satellite Laser Ranging of GOCE, used for precise positioning and for geodynamics on GOCE.	Waveband: Spatial resolution:
Laser retro-Reflector					Swath width: Accuracy:
ESA Mach-Zehnder Micro-interferometer	MIOSAT	Approved		Spectral radiance. Detection of the atmospheric gases.	Waveband: 400 - 4500 nm
ASI			chemistry		Spatial resolution: Ground Spot = 5 km Swath width: 5 km
MADRAS	MEGHA-TROPIQUES	Operational	Imaging multi-	To estimate rainfall, atmospheric water parameters and ocean	Accuracy: average spectral resolution: 1 nm Waveband: 18.7 GHz, 23.8 GHz, 36.5 GHz, 89 GHz, 157
Microwave Analysis and Detection of Rain			spectral radiometers (passive	surface winds in the equatorial belt.	GHz Spatial resolution: 40 km
and Atmospheric Structures			microwave)		Swath width: 1700 km Accuracy:
ISRO (CNES) MAESTRO	SCISAT-1	Operational	Atmospheric	Chemical processes involved in the depletion of the ozone layer.	
Measurements of Aerosol Extinction in the			chemistry	· · · · · · · · · · · · · · · · · · ·	resolution) Spatial resolution: Approx 1 - 2 km vertical
Stratosphere and Troposphere Retrieved by Occultation					Swath width: Accuracy:
CSA					
Magnetometer (NOAA)	GOES-R, GOES-S	Approved	Magnetic field		Waveband: Spatial resolution:
Magnetometer					Swath width:
NOAA		Approved	Impoint with	Mullinumana ulaikla/ID income and using the second	Accuracy:
MCSI	FY-4A, FY-4B, FY-4C, FY- 4D, FY-4E	Approved	Imaging multi- spectral radiometers	Multipurpose visible/IR imagery and wind derivation.	Waveband: 12 channels from 0.55 - 13.8 µm Spatial resolution: 1 km VIS, 2 km NIR, 4 km TIR
Multiple Channel Scanning Imager			(vis/IR)		Swath width: Full Earth disk Accuracy: 0.5 - 4.0 km
NRSCC (NSMC-CMA, CAST) MERIS	Envisat	Operational	Imaging multi-	Main objective is monitoring marine biophysical and biochemical	Waveband: VIS - NIR: 15 bands selectable across range: 0.4
Medium-Resolution Imaging Spectrometer			(vis/IR) and ocean	parameters. Secondary objectives are related to atmospheric properties such as cloud and water vapour and to vegetation	- 1.05 $\mu m$ (bandwidth programmable between 0.0025 and 0.03 $\mu m)$
ESA				conditions on land surfaces.	Spatial resolution: Ocean: 1040 x 1200 m, Land & coast: 260 x 300 m $$
					Swath width: 1150 km, global coverage every 3 days Accuracy: Ocean colour bands typical S:N = 1700
MERSI	FY-3A, FY-3B, FY-3C	Operational	Imaging multi- spectral radiometers	Measurement of vegetation indexes and ocean colour.	Waveband: 25 channels from 0.47 - 12.0 µm Spatial resolution: 250 m for broadband channels, 1 km for
Medium Resolution Spectral Imager			(vis/IR)		narrowband channels Swath width: 2800 km
NRSCC (NSMC-CMA, CAST) MERSI-2	FY-3D, FY-3E, FY-3F, FY-	Approved	Imaging multi-	Measurement of vegetation indexes and ocean colour.	Accuracy: 0.25 - 1.0 km Waveband:
Improved Medium Resolution Spectral	3G		spectral radiometers (vis/IR)		Spatial resolution: Swath width:
Imager			,		Accuracy:
NRSCC (NSMC-CMA, CAST) Meteosat Comms	Meteosat-7	Operational	Communications	Communication package onboard Meteosat series satellites.	Waveband:
		operational	communications	Communication package unitidaru meteosat series satellites.	Spatial resolution:
Communications package for Meteosat					Swath width: Accuracy:
EUMETSAT METimage	EPS-SG-a, Sentinel-5	Proposed	Imaging multi-	Operational multi spectral imager for meteorological Post-EPS	Waveband: UV-TIR (No of Channels and centre wavelengths
Multi Spectral Imager			spectral radiometers (vis/IR)	VIS/IR Imaging Mission (VII).	tbd by EUMETSAT Post-EPS MRD) Spatial resolution: 250 - 500 m (TBD by EUMETSAT Post-
EUMETSAT (DLR)					EPS MRD) Swath width: 2800 km (+/-55°) (TBD by EUMETSAT Post-
					EPS MRD) Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
MHS	Metop-A, Metop-B, Metop- C, NOAA-18, NOAA-19	Operational	Atmospheric	Atmospheric humidity profiles, cloud cover, cloud liquid, water content, ice boundaries and precipitation data.	Waveband: Microwave: 89 GHz, 166 GHz and 3 channels near 183 GHz
Microwave Humidity Sounder	,,,		humidity sounders		Spatial resolution: Vertical: 3 - 7 km, Horizontal: 30 - 50 km Swath width: 1650 km
EUMETSAT					Accuracy: Cloud water profile: 10 g/m2, specific humidity profile: 10 - 20%
MI	COMS	Operational		Continuous monitoring capability for the near real-time generation of high-resolution meteorological products and long-term change	
Meteorological Imager			(vis/IR)	analysis of sea surface temperature and cloud coverage.	Infrared 1): 10.3 - 11.3 µm, 5: TIR2 (Thermal Infrared 2): 11.5 - 12.5 µm
KARI					Spatial resolution: VIS: 1 km, IR: 4 km Swath width: Full Earth disk
Microwave limb sounder (GACM)	GACM	Proposed	Atmospheric	Limb-viewing measurements of O3, N2O, temperature, water	Accuracy: Waveband:
NASA			chemistry	vapour, CO, HNO3, CIO, and volcanic SO2 in the.	Spatial resolution: Swath width:
MIPAS	Envisat	Operational		Data on stratosphere chemistry (global/polar ozone), climate	Accuracy: Waveband: MWIR-TIR: between 4.15 and 14.6 µm
Michelson Interferometric Passive			humidity sounders	research (trace gases/clouds), transport dynamics, tropospheric chemistry. Primary/secondary species: O3, NO, NO2, HNO3,	Spatial resolution: Vertical resolution: 3 km, vertical scan range 5 - 150 km, Horizontal: 3 x 30 km, Spectral resolution:
Atmosphere Sounder			and atmospheric chemistry	N205, CIONO2, CH4.	0.035 lines/cm Swath width:
ESA					Accuracy: Radiometric precision: 685 - 970 cm-1: 1%, 2410 cm-1: 3%
MIRAS Multichannel Infrared Atmospheric	FY-3C, FY-3D, FY-3E, FY- 3F, FY-3G	Prototype	Imaging multi- spectral radiometers (passive		Waveband: Spatial resolution: Swath width:
Sounder			microwave)		Accuracy:
NRSCC (CAST) MIRAS (SMOS)	SMOS	Operational	Imaging multi-	Objective is to demonstrate observations of sea surface salinity	Waveband: L-Band 1.41 GHz
Microwave Imaging Radiometer using		oporational	spectral radiometers	and soil moisture in support of climate, meteorology, hydrology, and oceanography applications.	Spatial resolution: 33 - 50 km depending on the position in the swath - resampled to 15 km grid
Aperture Synthesis (MIRAS)			microwave) and multiple		Swath width: Hexagon shape, nominal width 1050 km allowing a 3 day revisit time at the equator
ESA			direction/polarisatio n radiometers		Accuracy: 2.6 K absolute accuracy, RMS 1.6-4 K depending on the scene and the position within the swath
MIRS	Sich-2	Operational		Scanner images of land surface in middle infra-red range.	Waveband: NIR: 1.55 - 1.7 µm
Middle IR Scanner			spectral radiometers (vis/IR)		Spatial resolution: 41.4 m Swath width: 55.3 km pointable ±35° from nadir
NSAU					Accuracy: 8 bits
MISR	Terra	Operational	direction/polarisatio	Measurements of global surface albedo, aerosol and vegetation properties. Also provides multi-angle bidirectional data (1% angle-	Waveband: VIS: 0.44 µm, 0.56 µm, 0.67 µm, NIR: 0.86 µm Spatial resolution: 275 m, 550 m or 1.1 km, Summation
Multi-angle Imaging SpectroRadiometer				to-angle accuracy) for cloud cover and reflectances at the surface and aerosol opacities. Global and local modes.	4, 1 x 4. 1 pixel = 275 x 275 m
NASA					Swath width: 380 km common overlap of all 9 cameras Accuracy: 0.03% hemispherical albedo, 10% aerosol opacity,
1					1-2% angle to angle accuracy in bidirectional reflectance
MLS (EOS-Aura)	Aura	Operational	temperature and	Measures lower stratospheric temperature and concentration of H2O, O3, CIO, HCI, OH, HNO3, N2O and SO2.	Waveband: Microwave: 118 GHz, 190 GHz, 240 GHz, 640 GHz and 2.5 THz
Microwave Limb Sounder (EOS-Aura)			humidity sounders		Spatial resolution: 3 x 300 km horizontal x 1.2 km vertical Swath width: Limb scan 2.5 - 62.5 km Limb to limb
MMP	SAC-C	Operational		Measurement of the Earth's magnetic field with a vector and a	Accuracy: Temperature: 4 K, Ozone: 50% Waveband: Spatial resolution:
Magnetic Mapping Payload				scalar magnetometer.	Spatial resolution: Swath width: Accuracy:
JPL, DNSC (CONAE) MMRS	SAC-C	Operational	Imaging multi-	Applications related to agriculture, environment, forestry,	Waveband: VIS - NIR: 480 - 500 nm, 540 - 560 nm, 630 - 690
Multispectral Medium Resolution Scanner	0,10 0	oporational	spectral radiometers	hydrology, oceanography, mineralogy and geology, desertification, contamination and protection of ecosystems.	nm, 795 - 835 nm, SWIR: 1550 - 1700 nm Spatial resolution: 175 m
CONAE			(		Swath width: 360 km Accuracy:
MODIS	Aqua, Terra	Operational	Imaging multi-	Data on biological and physical processes on the surface of the	Waveband: VIS - TIR: 36 bands in range 0.4 - 14.4 μm
MODerate-Resolution Imaging			spectral radiometers	Earth and in the lower atmosphere, and on global dynamics. Surface temperatures of land and ocean, chlorophyll	Spatial resolution: Cloud cover: 250 m (day) and 1000 m (night), Surface temperature: 1000 m
Spectroradiometer				fluorescence, land cover measurements, cloud cover (day and night).	Swath width: 2330 km Accuracy: Long wave radiance: 100 nW/m2, Short wave
NASA					radiance: 5%, Surface temperature of land: <1 K, Surface temperature of ocean: <0.2 K, Snow and ice cover: 10%
MOPITT	Terra	Operational	Atmospheric chemistry	Measurements of CO in the troposphere.	Waveband: SWIR-MWIR: 2.3 µm, 2.4 µm and 4.7 µm Spatial resolution: CO profile: 4 km vertical, 22 x 22 km
Measurements Of Pollution In The Troposphere					horizontal, CO, CH4 column: 22 x 22 km horizontal Swath width: 616 km
CSA (NASA)	THEOR	Operational	Imoging multi	THEOR MS appoints of 4 appoints hands (D.C.D. NID) with	Accuracy: Carbon monoxide (4 km layers): 10%
MS (GISTDA) Multi spectral imager	THEUS	Operational	spectral radiometers	THEOS MS consists of 4 spectral bands (R,G,B, NIR) with resolution 15 m and swath width at 90 km. The applications which are suitable for this instrument such as cartography, land use,	Waveband: 0.45 - 0.52 µm, 0.53 - 0.60 µm, 0.62 - 0.69 µm, 0.77 - 0.90 µm Spatial resolution: 15 m
GISTDA				resources management, etc.	Swath width: 90 km Accuracy: GSD for MS = 15 m +/- 10%
MSC	KOMPSAT-2	Operational		High resolution imager for land applications of cartography and	With the wave and
Multi-Spectral Camera		,		disaster monitoring.	0.52 µm, 0.52 - 0.60 µm, 0.63 - 0.69 µm, NIR: 0.76 - 0.90 µm Spatial resolution: Pan: 1 m; VNIR: 4 m
KARI					Swath width: 15 km Accuracy:
MSG Comms	Meteosat-10, Meteosat-	Operational	Communications	Communication package onboard MSG series satellites.	Waveband:
Communications package for MSG	11, Meteosat-8, Meteosat-9				Spatial resolution: Swath width:
EUMETSAT					Accuracy:
MSI	RapidEye	Operational		High resolution images with short observing cycle for commercial and scientific applications.	630 - 685 nm, 690 - 730 nm, 760 - 850 nm
Multi Spectral Imager					Spatial resolution: 6.5 m Swath width: 78 km
DLR MSI (EarthCARE)	EarthCARE	Approved		Observation of cloud properties and aerosol (aerosols to be	Accuracy: 2 - 3% Waveband: VIS - NIR: Band1: VIS, 670 nm, Band2: NIR, 865 nm, Band2: SWID 1 - 1 - 67 nm, Band4: SWID 2 - 2 - 21 nm,
Multi-Spectral Imager (EarthCARE)			spectral radiometers (vis/IR)	commed).	nm, Band3: SWIR-1, 1.67 µm, Band4: SWIR-2, 2.21 µm, Thermal Infrared: Band5: 8.8 µm, Band6: 10.8µm, Band7: 12.0 µm
ESA					Spatial resolution: 500 x 500 m Swath width: 150 km swatch with, asymmetrically; 35 km to
					115 km versus nadir point Accuracy:
MSI (Sentinel-2)	Sentinel-2 A, Sentinel-2 B, Sentinel-2 C	Being developed	High resolution optical imagers	Optical high spatial resolution imagery over land and coastal areas for GMES operational services.	Waveband: 13 bands in the VNIR-SWIR Spatial resolution: 10 m for 4 bands in VNIR, 60 m for 3
Multi-Spectral Instrument (Sentinel-2)			, anagoro		dedicated atmospheric correction bands, 20 m for remaining bands
ESA (EC)					Swath width: 290 km Accuracy: Absolute radiometric accuracy for Level 1C data: 3
MSS (Kanonpus)	Kanopus-V N1, Kanopus-	Prototype	High resolution	Multispectral images of land & sea surfaces and ice cover.	Waveband: 0.5 - 0.6 µm; 0.6 - 0.7 µm; 0.7 - 0.8 µm; 0.8 - 0.9
Multispectral imaging system	V N2	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	optical imagers		um Spatial resolution: 12 m
ROSKOSMOS (ROSHYDROMET)					Swath width: 20 km Accuracy:
MSS (Landsat)	Landsat-5	Operational	spectral radiometers	Measures surface radiance. Data mostly used for land applications.	Waveband: VIS - NIR: 4 bands: 0.5 - 1.1 µm Spatial resolution: VIS-NIR: 80 m
Multispectral Scanner			(vis/IR)		Swath width: 185 km Accuracy:
USGS (NASA)					

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
MSS (Sich)	Sich-2	Operational	High resolution optical imagers	Multispectral scanner images of land surface.	Waveband: VIS - NIR: 0.51 - 0.90 μm; VIS: 0.51 - 0.59 μm, 0.61 - 0.68 μm; NIR: 0.80 - 0.89 μm
Multispectral Scanner			optiour integero		Spatial resolution: 8.2 m Swath width: 46.6 km pointable ±35° from nadir
NSAU MSU-200	Kanopus-V N1, Kanopus-	Prototype	High resolution	Multispectral images of land & sea surfaces and ice cover.	Accuracy: 8 bits Waveband: 0.54 - 0.86 µm
Multispectral high resolution scanner	V N2		optical imagers		Spatial resolution: 25 m Swath width: 250 km
(VIS)					Accuracy:
ROSKOSMOS (ROSHYDROMET) MSU-GS	Elektro-L N1, Elektro-L N2, Elektro-L N3	Operational	Imaging multi-	Measurements of cloud cover, cloud top height, precipitation,	Waveband: VIS: 0.5 - 0.65 µm, 0.65 - 0.8 µm (broadband), NIR: 0.9 µm, MWIR: 3.5 - 4.01 µm, TIR: 5.7 - 7.0 µm, 8 µm,
Multispectral scanning imager-radiometer	INZ, EIEKUO-L INS		(vis/IR)	cloud motion, albedo, vegetation, convection, air mass analysis, tropopause monitoring, stability monitoring, total ozone and surface temperature, fire detection.	8.7 μm, 9.7 μm, 10.2 - 11.2 μm, 11.2 - 12.5 μm Spatial resolution: 1 km for VIS and 4 km for IR channels
ROSHYDROMET (ROSKOSMOS)					Swath width: Full Farth disk Accuracy: VIS: 5%; IR: 0.35 K
MSU-MR	Meteor-3M N2, Meteor-M N1, Meteor-M N2	Operational	Imaging multi- spectral radiometers	Parameters of clouds, snow, ice and land cover, vegetation, surface temperature, fire detection.	Waveband: VIS: 0.5 - 0.7 μm; NIR: 0.7 - 1.1 μm; SWIR: 1.6 - 1.8 μm; MWIR: 3.5 - 4.1 μm; TIR: 10.5 - 11.5 μm, 11.5 - 12.5
Multispectral scanning imager-radiometer	,		(vis/IR)		μm Spatial resolution: 1 km
ROSHYDROMET (ROSKOSMOS)					Swath width: 3000 km Accuracy: VIS: 0.5%; IR: 0.1 - 0.2 K
MTSAT Comms	MTSAT-1R, MTSAT-2	Operational	Communications		Waveband: Spatial resolution:
Communications package for MTSAT					Swath width: Accuracy:
MTSAT DCS	MTSAT-1R, MTSAT-2	Operational	Communications		Waveband: Spatial resolution:
Data Collection System for MTSAT					Swath width: Accuracy:
JMA MTVZA	Meteor-3M N2, Meteor-M	Operational	Imaging multi-	Atmospheric temperature and humidity profiles, precipitation, sea-	
Scanning microwave imager-sounder	N1, Meteor-M N2			level wind speed, snow/ice coverage.	Spatial resolution: 12 - 75 km Swath width: 2600 km
ROSHYDROMET (ROSKOSMOS)			microwave)		Accuracy: 0.4 - 2.0 K depending on spectral band
Multi-band UV/VIS Spectrometer (ACE)	ACE	Proposed	Ocean colour instruments	Ocean colour spectrometer for measuring ocean leaving light which contains information on biological components.	Waveband: Spatial resolution: Swath width:
Multi-spectral thermal infrared imager (HyspIRI)	HyspIRI	Proposed	Imaging multi- spectral radiometers	Ecosystem focused mission with measurements of surface and cloud imaging with high spatial resolution, stereoscopic	Accuracy: Waveband: 3-5 µm, 7.5-12 µm Spatial resolution: 60 m at nadir; 1 week revisit time
(Hyspiki) NASA			(vis/IR)	observation of local topography, cloud heights, volcanic plumes, and generation of local surface digital elevation maps, surface	Swath vidth: 600 km Accuracy: 0.1 K, <.01 µm
MUS-L	SAC-E/SABIA_MAR-B	Approved	Ocean colour	temperature and emissivity. Sea and coastal studies.	Waveband: Optical and Thermal Infrared Cameras, up to 19
Multi-spectral Optical Camera Low	_		instruments		bands Spatial resolution: 1000 m
Resolution CONAE					Swath width: 2600 km Accuracy:
MUS-M	SAC-E/SABIA_MAR-A	Approved	Ocean colour instruments	Coastal studies.	Waveband: Optical and Thermal Infrared Cameras, up to 19 bands
Multi-spectral Optical Camera Medium Resolution CONAE					Spatial resolution: 200 m Swath width: 650 km Accuracy:
MUX	CBERS-3, CBERS-4	Being developed	Imaging multi- spectral radiometers	Earth resources, environmental monitoring, land use.	Waveband: 0.45 - 0.52 µm, 0.52 - 0.59 µm, 0.63 - 0.69 µm, 0.77 - 0.89 µm
Multispectral CCD Camera			(vis/IR)		Spatial resolution: 20 m Swath width: 120 km
INPE (CAST) MVIRI	Meteosat-7	Operational	Imaging multi-	Measures cloud cover, motion, height, upper tropospheric	Accuracy: Waveband: VIS - NIR: 0.5 - 0.9 µm, TIR: 5.7 - 7.1 µm (water
METEOSAT Visible and Infra-Red Imager				humidity and sea surface temperature.	vapour), 10.5 - 12.5 µm Spatial resolution: Visible: 2.5 km, Water vapour: 5 km (after
EUMETSAT (ESA)					processing), TIR: 5 km Swath width: Full Earth disk in all three channels, every 30
					minutes Accuracy: Cloud top height: 0.5 km, Cloud top/ sea surface
MVIRS	FY-3F, FY-3G	Approved	Imaging multi-	Measures surface temperature and cloud and ice cover. Used for	
Moderate Resolution Visible and Infrared Imaging Spectroradiometer			(vis/IR)	snow and flood monitoring and surface temperature.	Spatial resolution: Swath width: Accuracy:
NRSCC (CAST) MVISR (10 channels)	FY-1D	Operational	Imaging multi-	To provide multispectral analysis of hydrological, oceanographic,	Waveband: 10 channels: VIS: 0.43 - 0.48 μm, 0.48 - 0.53 μm,
Multispectral Visible and Infra-red Scan				land use and meteorological parameters. Global imager & SST. Ocean colour.	0.53 - 0.58 μm, 0.58 - 0.68 μm, NIR: 0.84 - 0.89 μm, NIR - SWIR: 0.90 - 0.965μm, 1.58 - 1.68 μm, 3.55 - 3.93 μm, TIR:
Radiometer (10 channels)					10.3 - 11.3 µm, 11.5 - 12.5 µm Spatial resolution: 1.1 km
NRSCC (NSMC-CMA, CAST)		Oneretien	Almootheris	Material application -	Swath width: 3200 km Accuracy: 1.1 km
MWAS MicroWave Atmospheric Sounder	FY-3A, FY-3B	Operational	Atmospheric temperature and humidity sounders	Meteorological applications.	Waveband: Microwave: 19.35 - 89.0 GHz (8 channels) Spatial resolution: Swath width:
NRSCC (CAST)					Accuracy:
MWHS	FY-3A, FY-3B	Operational	Atmospheric temperature and	Meteorological applications.	Waveband: Microwave: 19.35 - 89.0 GHz (8 channels) Spatial resolution: 15 km at media, 41 x 27 km at outer edge
MicroWave Humidity Sounder			humidity sounders		Swath width: 2700 km Accuracy: 15 km
NRSCC (NSMC-CMA, CAST) MWHS-2	FY-3C, FY-3D, FY-3E, FY-	Prototype	Atmospheric	Meteorological applications.	Waveband:
Improved MicroWave Humidity Sounder	3F, FY-3G		temperature and humidity sounders		Spatial resolution: Swath width:
CAST (NSMC-CMA) MWI-Cloud	EPS-SG-b	Proposed	Imaging multi-	Instrument TBC.	Accuracy: Waveband:
EUMETSAT			spectral radiometers (passive		Spatial resolution: Swath width:
			microwave)		Accuracy:
MWI-Precip	EPS-SG-b	Proposed	Imaging multi- spectral radiometers	Instrument TBC.	Waveband: Spatial resolution:
EUMETSAT			(passive microwave)		Swath width: Accuracy:
MWR	SAC-D/Aquarius	Operational	Multiple	Precipitation rate, wind speed, sea ice concentration, water vapour, clouds liquid water.	Waveband: (K Band) 23.8 GHz V Pol and 36.5 GHz H and V Pol Eight beams per frequency
MicroWave Radiometer			n radiometers	vapour, ciduus ilquiu walei.	Spatial resolution: <54 km Swath width: 380 km
CONAE MWR	Envisat	Operational	Imaging multi-	To provide multispectral analysis of hydrological, oceanographic,	Accuracy: .1 K Waveband: Microwave: 23.8 GHz and 36.5 GHz
Microwave Radiometer			spectral radiometers (passive	land use and meteorological parameters. Global imager & SST. Ocean colour.	Spatial resolution: 20 km Swath width: 20 km
ESA			microwave) and atmospheric		Accuracy: Temperature: 2.6 K
			temperature and humidity sounders		

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
MWRI	FY-3A, FY-3B, FY-3C, FY- 3D, FY-3F	Operational	Imaging multi-	All weather observations of precipitation, cloud features, vegetation, soil moisture sea ice, etc.	Waveband: 12 channels, 6 frequencies: 10.65 GHz, 18.7 GHz, 23.8 GHz, 36.5 GHz, 89 GHz, 150 GHz
MicroWave Radiation Imager	3D, F1-3F		(passive microwave)	vegetation, son moisture sea ice, etc.	Spatial resolution: 7.5 x 12 km at 150 GHz to 51 x 85 km at 10.65 GHz
NRSCC (NSMC-CMA, CAST)					Swath width: 1400 km Accuracy:
MWTS	FY-3A, FY-3B	Operational	Atmospheric temperature and	Temperature sounding in nearly all weather conditions.	Waveband: 50.3 GHz, 53.6 GHz, 54.94 GHz, 57.29 GHz Spatial resolution: 62 km
Microwave Temperature Sounder			humidity sounders		Swath width: 750 - 1125 km Accuracy: 50 - 75 km
NRSCC (NSMC-CMA, CAST) MWTS-2	FY-3C, FY-3D, FY-3E, FY-	Prototyne	Atmospheric	Temperature sounding in nearly all weather conditions.	Waveband:
	3F, FY-3G	Thorotype	temperature and	remperature sounding in nearly an weather conditions.	Spatial resolution:
Improved Microwave Temperature Sounder			humidity sounders		Swath width: Accuracy:
CAST (NSMC-CMA) MX (RS-1A)-VNIR	CARTOSAT-1A,	Proposed	Imaging multi-		Waveband: VNIR Multispectral
Multispectral VNIR	CARTOSAT-1B		spectral radiometers (vis/IR)		Spatial resolution: 2.5 m Swath width: 60 km
ISRO					Accuracy:
MxT	IMS-1	Operational	Imaging multi- spectral radiometers	Natural resources management.	Waveband: VIS: Band 1: 0.45 - 0.52 µm, Band 2: 0.52 - 0.59 µm, Band 3: 0.62 - 0.68 µm, NIR: Band 4: 0.77 - 0.86 µm
Multi-spectral CCD Camera			(vis/IR)		Spatial resolution: 37 m Swath width: 151 km
ISRO Next Gen APS (ACE)	ACE, PACE	Proposed	Multiple	Polarimeter for measuring aerosol optical properties and aerosol	Accuracy: Waveband:
NASA			direction/polarisatio n radiometers	types.	Spatial resolution: Swath width:
NigeriaSat Medium and High Resolution	NigeriaSat-2	Operational	High resolution	High resolution images for monitoring of land surface and coastal	Accuracy: Waveband: NIR: ~0.75 - ~1.3 μm, VIS: ~0.40 - ~0.75 μm
NigeriaSat Remote Sensing (Medium and High Resolution)				processes and for agricultural, geological and hydrological applications.	Spatial resolution: 2.5 PAN, 5 m multispectral (red blue green, NIR), 32 m multispectral (red, green, NIR) Swath width: 20 x 20 km, 300 x 300 km Accuracy: 35 - 45 m
NASRDA NigeriaSat Medium Resolution	NigeriaSat-X	Operational	Imaging multi-	High resolution images for monitoring of land surface and coastal	
NigeriaSat Remote Sensing (Medium		Sperational		processes and for agricultural, geological and hydrological applications.	Spatial resolution: 22 m multispectral (red, green and NIR) Swath width: 600 x 600 km
Resolution)			(vis/IR)	approation /S.	Swath width: 600 x 600 km Accuracy: 150 - 300 m
NASRDA NIRST	SAC-D/Aquarius	Operational	Imaging multi-	NIRST detects High Temperature Events (HTE), caused by	Waveband: Infrared push-broom scanner based on 2 linear
New Infrared Sensor Technology			(vis/IR)	biomass fires, volcanic eruptions, and other phenomena in order to measure their temperatures, and their released energy over	uncooled microbolometric arrays sensitive to Mid-Wave Infra-Red (3.8 $\mu m)$ and Long-Wave Infra-Red (10.85 and 11.85
CONAE (CSA)				land (fires & volcanic events). Supplementary measurements of land surface (LST) and sea surface temperatures (SST) off the	μm) spectral bands respectively Spatial resolution: Space resol: 350 m (at nadir)
				coasts of South America and other targets of opportunity with 180 km swath, overlapping the Aquarius inner beams.	Swath width: Instant: 182 km; Extended: 1000 km Accuracy: Band 1: 2.5 K @400 K; Band 2: 1.5 K @300 K; Band 3: 2.0 K @300 K
NISTAR	DSCOVR	Being developed	Earth radiation budget radiometers	Measure the energy emitted and reflected by the Earth.	Waveband: 0.2 - 100 µm in 4 channels Spatial resolution:
NIST active Cavity Radiometer			budget radiometers		Swath width: Accuracy: 0.1% accuracy; 0.03% precision
NASA (NOAA)	NOAA 15 NOAA 16	Operational	Communications		
NOAA Comms	NOAA-15, NOAA-16, NOAA-17, NOAA-18,	Operational	Communications		Waveband: Spatial resolution:
Communications package for NOAA	NOAA-19				Swath width: Accuracy:
NOAA OCM	OCEANSAT-2	Operational		Ocean colour data, Estimation of phytoplankton concentration,	Waveband: VIS - NIR: 0.40 - 0.88 µm (8 channels)
Ocean Colour Monitor				identification of potential fishing zones, assessment of primary productivity.	Spatial resolution: 236 x 360m Swath width: 1440 km Accuracy:
ISRO OCM (Oceansat-3/3A)	OCEANSAT-3,	Proposed		Ocean colour data, Estimation of phytoplankton concentration,	Waveband: 12 channel
Ocean Colour Monitor (Oceansat-3/3A)	OCEANSAT-3A			identification of potential fishing zones, assessment of primary productivity.	Spatial resolution: Swath width: Accuracy:
ISRO					
OCS	Meteor-M N3	Being developed	Instruments	Ocean colour data, estimation of phytoplankton concentration.	Waveband: 0.41 - 0.9 µm, 8 channels Spatial resolution: 1 km
Ocean colour scanner					Swath width: 3000 km Accuracy: TBD
ROSHYDROMET (ROSKOSMOS) OES	PACE	Proposed		Ocean colour spectrometer for measuring ocean leaving light	Waveband: Near UV-VIS (360 - 710 nm); NIR (748 - 865
Ocean Ecosystem Spectrometer			instruments	which contains information on biological components.	nm); SWIR (1245, 1640, 2135 nm) Spatial resolution: 1 km Swath width: 2500 km swath
NASA OLCI	Sentinel-3 A, Sentinel-3 B,	Approved	Imaging multi-	Marine and land services.	Accuracy: Waveband: 21 bands in VNIR/SWIR
Ocean and Land Colour Imager	Sentinel-3 C		spectral radiometers (vis/IR) and ocean		Spatial resolution: 300 m Swath width: 1270 km, across-track tilt 12.2 deg to the West
ESA (EC)			colour instruments		Accuracy: 2% abs, 0.1% rel.
OLI	LDCM	Being developed		Measures surface radiance and emittance, land cover state and change (eq vegetation type). Used as multi-purpose imagery for	Waveband: VIS - SWIR: 9 bands: 0.43 - 2.3 µm Spatial resolution: Pan: 15 m. VIS - SWIR: 30 m
Operational Land Imager			(vis/IR)	land applications.	Swath width: 185 km Accuracy: Absolute geodetic accuracy of 65 m; relative
NASA (USGS)					geodetic accuracy of 25 m (excluding terrain effects); geometric accuracy of 12 m or better
OLS	DMSP F-14, DMSP F-15,	Operational		Day and night cloud cover imagery.	Waveband: VIS - NIR: 0.4 - 1.1 µm, TIR: 10.0 - 13.4 µm, and
Operational Linescan System	DMSP F-16, DMSP F-17, DMSP F-18, DMSP F-19,		spectral radiometers (vis/IR)		0.47 - 0.95 µm Spatial resolution: 0.56 km (fine), 5.4 km (stereo products)
NOAA (DoD (USA))	DMSP F-20				Swath width: 3000 km Accuracy:
			Atmospheric	Mapping of ozone columns, key air quality components (NO2,	Waveband: UV: 270 - 314 nm and 306 - 380 nm, VIS: 350 -
OMI	Aura	Operational	chemistry	SO2, BrO, OCIO and aerosols), measurements of cloud pressure	500 nm
Ozone Measuring Instrument	Aura	Operational	chemistry	and coverage, global distribution and trends in UV-B radiation.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example
	Aura	Operational	chemistry	SO2, BrO, OLIO and aerosols), measurements or cloud pressure and coverage, global distribution and trends in UV-B radiation.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on
Ozone Measuring Instrument	Aura JPSS-1, JPSS-2, Suomi		chemistry	SU2, BIO, OCIO and aerosols), measurements of cloud pressure and coverage, global distribution and trends in UV-B radiation.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection
Ozone Measuring Instrument NSO (NASA) OMPS			chemistry Atmospheric	and coverage, global distribution and trends in UV-B radiation.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy:
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite	JPSS-1, JPSS-2, Suomi		chemistry Atmospheric	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical
Ozone Measuring Instrument NSO (NASA) OMPS	JPSS-1, JPSS-2, Suomi		chemistry Atmospheric	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the	Spatial resolution: 13 x 24 km or 38 x 48 km depending on the product Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath width: Mapper: 2800 km, Profiler: 250 km, Limb: 3 vertical slits along track +/- 250 km
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite NOAA	JPSS-1, JPSS-2, Suomi NPP	Operational	chemistry Atmospheric chemistry	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the ozone concentration variation with altitude.	Spatial resolution: 13 x 24 km or 38 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath width: Mapper: 2800 km, Profiler: 250 km, Limb: 3 vertical silts along track +/. 250 km. Profile Ozone 10% between 15 and 60 km; 20% between Tropopause and 15 km
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite NOAA	JPSS-1, JPSS-2, Suomi		chemistry Atmospheric chemistry	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath width: Mapper: 2600 km, Profiler: 250 km, Limb: 3 vertical sitis along track +/- 250 km Accuracy: Total Ozone 15 Dobson units. Profile Ozone 10% between 15 and 60 km; 20% between Tropopause and 15 km Waveband: Spatial resolution:
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite NOAA OMS Ozone Monitoring Suite	JPSS-1, JPSS-2, Suomi NPP	Operational	chemistry Atmospheric chemistry Atmospheric	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the ozone concentration variation with altitude.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath widh: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath widh: Mapper: 2800 km, Profiler: 250 km, Limb: 1 Swath widh: Mapper: 2800 km, Profiler: 250 km, Limb: 3 vertical sills along track +/ 250 km Accuracy: Total Ozone 15 Dobson units. Profile Ozone 10% between 15 and 60 km; 20% between Tropopause and 15 km
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite NOAA	JPSS-1, JPSS-2, Suomi NPP	Operational	chemistry Atmospheric chemistry Atmospheric	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the ozone concentration variation with altitude.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath width: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - TIR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath width: Mapper: 2800 km, Profiler: 250 km, Limb: 3 vertical silts along track +/- 250 km Accuracy: Total Ozone 15 Dobson units. Profile Ozone 10% between 15 and 60 km; 20% between Tropopause and 15 km Waveband: Syntail resolution: Swath width: Accuracy: Waveband:
Ozone Measuring Instrument NSO (NASA) OMPS Ozone Mapping and Profiler Suite NOAA OMS Ozone Monitoring Suite CAST (NSMC-CMA)	JPSS-1, JPSS-2, Suomi NPP FY-3E, FY-3G	Operational	chemistry Atmospheric chemistry Atmospheric chemistry	and coverage, global distribution and trends in UV-B radiation. Measures total amount of ozone in the atmosphere and the ozone concentration variation with altitude.	Spatial resolution: 13 x 24 km or 36 x 48 km depending on the product. Also has zoom modes (13 x 13 km) for example for urban pollution detection Swath widh: 2600 km Accuracy: Waveband: Nadir Mapper: UV 0.3 - 0.38 µm, Nadir profiler: UV 0.25 - 0.31 µm, Limb soundings: UV - 1TR 0.29 - 10 µm Spatial resolution: Mapper: 50 km, Profiler: 250 km, Limb: 1 km vertical Swath width: Mapper: 2800 km, Profiler: 250 km, Limb: 3 vertical sitia along track +/. 250 km Accuracy: Total Ozone 15 Dobson units. Profile Ozone 10% between 15 and 60 km; 20% between Tropopause and 15 km Swath width: Spatial resolution: Spatial resolution: Swath width:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
OSIRIS	Odin	Operational	Atmospheric chemistry	Detects aerosol layers and abundance of species such as O3, NO2, OCIO, BrO and NO. Consists of spectrograph and IR	Waveband: Spectrograph: UV - NIR: 0.28 - 0.80 μm; IR Imager: NIR: 1.26 μm, 1.27 μm, 1.52 μm
Optical Spectrograph and Infra-Red Imaging System			,	imager.	Spatial resolution: Spectrograph 1 km at limb, Imager 1 km in vertical
CSA (SNSB)					Swath width: N/A, but measures in the altitude range 5 - 100 km
					Accuracy: Depends on species. Ozone meets requirements for trend analysis
Overhauser Magnetometer	Ørsted (Oersted)	Operational	Magnetic field	Measurements of the strength of the Earth's magnetic field.	Waveband: Spatial resolution:
ОМ					Swath width:
CNES					Accuracy:
Pamela	Resurs DK 1, Resurs P N1, Resurs P N2	Operational	Space environment	Cosmic ray research.	Waveband: Spatial resolution:
ROSKOSMOS					Swath width: Accuracy:
PAN (Cartosat-1)	CARTOSAT-1	Operational	High resolution optical imagers	High resolution stereo images for study of topography, urban areas, development of DTM, run-off models etc. Urban sprawl,	Waveband: Panchromatic VIS: 0.5 - 0.75 µm Spatial resolution: 2.5 m
Panchromatic Camera				forest cover/timber volume, land use change.	Swath width: 30 km Accuracy:
ISRO PAN (Cartosat-2)	CARTOSAT-2	Operational	High resolution	High resolution stereo images for large scale (better than 1:0000)	
Panchromatic Camera			optical imagers	mapping applications, urban applications, GIS ingest.	Spatial resolution: 1 m Swath width: 10 km
ISRO					Accuracy:
PAN (Cartosat-2A/2B)	CARTOSAT-2A, CARTOSAT-2B	Operational	High resolution optical imagers	High resolution stereo images for large scale (better than 1:0000) mapping applications, urban applications, GIS ingest.	Spatial resolution: 1 m
Panchromatic Camera					Swath width: 10 km Accuracy:
ISRO PAN (Cartosat-3/3A)	CARTOSAT-3,	Being developed		High resolution images for study of topography, urban areas,	Waveband: Panchromatic VIS: 0.5 - 0.75 µm
Panchromatic sensor	CARTOSAT-3A		optical imagers	development of DTM, run-off models etc. Urban sprawl, forest cover/timber volume, land use change.	Spatial resolution: 0.3 m Swath width: 15 km
ISRO		Doing doubles	Lish modules	Farth resources an iron monthly and the local data and	Accuracy:
PAN (CBERS)	CBERS-3, CBERS-4	Being developed	High resolution optical imagers	Earth resources, environmental monitoring, land use, urban studies.	Waveband: 0.52 - 0.59 μm, 0.63 - 0.69 μm, 0.77 - 0.89 μm, 0.51 - 0.85 μm Castiel resolution: 5 m combranatio and 10 m multiproster.
Panchromatic and multispectral imager					Spatial resolution: 5 m panchromatic and 10 m multispectral Swath width: 60 km
CAST (INPE) PAN (GISTDA)	THEOS	Operational	High resolution	THEOS PAN is an optical instrument with resolution 2 m and	Accuracy: Waveband: 0.45 - 0.90 µm
Panchromatic imager			optical imagers	swath width at 22 km. It can be used in several applications such as cartography, land use planning and management, national	Spatial resolution: 2 m Swath width: 22 km
GISTDA	0407004744	Deserved	lara ele e accili	security, etc.	Accuracy: GSD for PAN = 2 m +/- 10% MTF for PAN > 0.10
PAN (RS-1A)-MX	CARTOSAT-1A, CARTOSAT-1B	Proposed	Imaging multi- spectral radiometers		Waveband: Panchromatic VIS: 0.5 - 0.75 µm Spatial resolution: 1.25 m
PAN Fore and Aft			(vis/IR)		Swath width: 60 km Accuracy:
ISRO PAN CAM	MIOSAT	Approved	High resolution	Panchromatic data.	Waveband: 400 - 900 nm
Panchromatic Camera			optical imagers		Spatial resolution: 2 m Swath width: 10 km
ASI	22/01/1				Accuracy: -
PAN CAMERA	PRISMA	Approved	High resolution optical imagers	Panchromatic data.	Waveband: VIS: 400 - 700 nm Spatial resolution: 5 m
Panchromatic Camera					Swath width: 30 km Accuracy: -
ASI PAN+MS (RGB+NIR)	Ingenio	Being developed		High resolution multi-spectral land optical images for applications	
Ingenio PAN+MS (RGB+NIR)			optical imagers	in cartography, land use, urban management, water management, agriculture and environmental monitoring, risk	580 nm, 610 - 670 nm, 790 - 880 nm Spatial resolution: PAN: 2.5 m, MS: 10 m
CDTI (ESA)				management and security.	Swath width: Swath will move between 55 and 60 km depending on latitude.
					Accuracy: SNR: 100 in PAN and 120 in MS. The geo-location accuracy of level 1c PAN data product shall be better than or
Paz SAR-X	PAZ	Being developed		High resolution X-band radar for security, land use, urban	equal to 2.5 m RMS 2D in nadir view. Waveband: The Radar will use a frequency close to 9.65
X Band Synthetic Aperture Radar			radars	management, environmental monitoring, risk management. Different acquisition modes: Spotlight (5 x 5-10 km SSD =<1 m),	GHz with an BW of 300 MHz. Spatial resolution: Resolution will move between <1 x 1 m
CDTI				Scansar (100 x 100 km, SSD <=15 m); Stripmode (strips of 30 x 30 km with SSD 3 m).	and 6 x 18m depending on acquisition modes. Swath width: Swath will vary according to the acquisition
					mode: 5x5 km to 100 km x 100 km. Accuracy: Pixel Localization: Pixel Localization: 50 cm to 8.5
PCW PHEMOS - Atmospheric	PCW-1, PCW-2	Proposed	Atmospheric	Complement PCW operational numerical weather prediction. Will	m (1s) depending of the product selected. Waveband: 4 non-continuous bands from 0.758 - 14.3 um at
Polar Highly Elliptical Molniya Orbit			chemistry	also collect information about atmospheric gaseous and aerosol composition to better understand transport and climate	a spectral sampling of 0.25 cm-1. Spatial resolution: 10 x 10 km
Science Weather, Climate & Air Quality Mission				processes.	Swath width: Field of View is 560 x 560km. Field of Regard is 3024 x 3530 km.
CSA					Accuracy: Cal/Val requirements currently being developed
PCW PHEMOS - Solar-Terrestrial	PCW-1, PCW-2	Proposed	Space environment	Combination of payloads to study the near-Earth space dominated by plasmas and to observe the electromagnetic and observed payloads on the second study of the allight way	Waveband: Dual band LBH long (160 - 175 nm) and LBH short (140 - 160 nm) for the Auroral imager. N.A. for the in-
Polar Highly Elliptical Molniya Orbit Science, Solar-Terrestrial Mission				charged particle environments in a highly elliptical orbit. May potentially include both in-situ space weather instruments and an Auroral impact.	situ space weather instruments. Spatial resolution: 40 km for the Auroral imager. Not
CSA				Auroral imager.	applicable for the in-situ space weather instruments. Swath width: Field of Regard for each full acquisition is the paties Field dise. W.A. for the in a situ encode unable to the
					entire Earth disc. N.A. for the in-situ space weather instruments.
PCWMP	PCW-1, PCW-2	Proposed	Imaging multi-	Continuous high-temporal resolution measurements of	Accuracy: Cal/Val requirements currently being developed Waveband: Multiple bands, non-continuous, from 0.45 µm -
PCW Meteorological Payload (1 on each			spectral radiometers (vis/IR)	atmospheric properties over the Arctic. Associated observations, using additional instruments include in situ space weather and place breadhard realignments of Carth	14.5 µm Spatial resolution: Band dependent, varies from 0.5 km GSD (mol) for some of the VMID hands to 2 km CSD for TID
PCW S/C)				also broadband radiometry of Earth.	(goal) for some of the VNIR bands to 2 km GSD for TIR bands.
CSA					Swath width: Field of Regard for each full acquisition is the entire Earth disc
POLDER-P	PARASOL	Operational	Multiple	Measures polarisation, and directional and spectral	Accuracy: Cal/Val requirements currently being developed Waveband: VIS - NIR: 0.490 µm, 0.670 µm and 0.865 µm at
POLarization and Directionality of the			direction/polarisatio n radiometers	characteristics of the solar light reflected by aerosols, clouds, oceans and land surfaces.	3 polarisations, and 0.49 $\mu m$ , 0.565 $\mu m$ , 0.763 $\mu m$ , 0.765 $\mu m$ , 0.91 $\mu m$ , and 1.02 $\mu m$ with no polarisation
Earth's Reflectances (PARASOL version)					Spatial resolution: 5.5 x 5.5 km Swath width: 1600 km
CNES POSEIDON-2 (SSALT-2)	Jason-1	Operational	Radar altimeters	Nadir viewing sounding radar for provision of real-time high	Accuracy: Radiation budget, land surface, Reflectance: 2% Waveband: Microwave: Ku-band (13.575 GHz), C-band (5.3
Positioning Ocean Solid Earth Ice				precision sea surface topography, ocean circulation and wave height data.	GHz) Spatial resolution: Basic measurement: 1/sec (6 km along
Dynamics Orbiting Navigator (Single frequency solid state radar altimeter)					track), Raw measurement: 10/sec (600 m along track) Swath width: On baseline TOPEX/POSEIDON orbit (10 day
CNES					cycle): 300 km between tracks at equator Accuracy: Sea level: 3.9 cm, Significant waveheight: 0.5 m,
POSEIDON-3	OSTM (Jason-2)	Operational	Radar altimeters	Nadir viewing sounding radar for provision of real-time high	Horizontal sea surface wind speed: 2 m/s Waveband: Microwave: Ku-band (13.575 GHz), C-band (5.3
Positioning Ocean Solid Earth Ice				precision sea surface topography, ocean circulation and wave height data.	GHz) Spatial resolution: Basic measurement: 1/sec (6 km along track) Day measurement: 10/sec (600 m along track)
Dynamics Orbiting Navigator (Single frequency solid state radar altimeter)					track), Raw measurement: 10/sec (600 m along track) Swath width: On baseline TOPEX/POSEIDON orbit (10 day
CNES					cycle): 300 km between tracks at equator Accuracy: Sea level: 3.9 cm, Significant wave height: 0.5 m,
					Horizontal sea surface wind speed: 2 m/s

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
POSEIDON-3B	Jason-3	Operational	Radar altimeters	Nadir viewing sounding radar for provision of real-time high	Waveband: Microwave: Ku-band (13.575 GHz), C-band (5.3
Positioning Ocean Solid Earth Ice Dynamics Orbiting Navigator (Single				precision sea surface topography, ocean circulation and wave height data.	GHz) Spatial resolution: Basic measurement: 1/sec (6 km along track), Raw measurement: 20/sec (300 m along track)
frequency solid state radar altimeter)					Swath width: On baseline TOPEX/POSEIDON orbit (10 day
CNES					cycle): 300 km between tracks at equator Accuracy: Sea level: 3.4 cm, Significant wave height: 0.4 m,
PR	TRMM	Operational	Cloud profile and	Measures precipitation rate in tropical latitudes.	Horizontal sea surface wind speed: 1.5 m/s Waveband: Microwave: 13.796 GHz and 13.802 GHz
Precipitation Radar			rain radars		Spatial resolution: Range resolution: 250 m Horizontal resolution: 4.3 km at nadir (post-boost: 5 km)
JAXA (NASA)					Swath width: 215 km (post-boost: 245 km) Observable range: from surface to approx 15 km altitude
PREMOS	PICARD	Operational	Earth radiation	Solar UV and visible flux in selected wavelength bands.	Accuracy: Rainfall rate 0.7 mm/h at storm top Waveband: UV: 230 nm, 311 nm, 402 nm; VIS: 548 nm
	FIGARD	Operational	budget radiometers	Solar OV and Visible nux in selected wavelength bands.	Spatial resolution: Swath width:
PREcision Monitoring of Solar Variability					Accuracy:
CNES PSS	Kanopus-V N1, Kanopus-	Prototype	High resolution	Panchromatic data for environmental monitoring, agriculture and	Waveband: 0.5 - 0.8 μm
Panchromatic imaging system	V N2		optical imagers	forestry.	Spatial resolution: 2.5 m Swath width: 20 km
ROSKOSMOS (ROSHYDROMET)					Accuracy:
RA-2	Envisat	Operational	Radar altimeters	Measures wind speed, significant wave height, sea surface elevation, ice profile, land and ice topography, and sea ice	Waveband: Microwave: 13.575 GHz (Ku-Band) and 3.2 GHz (S-Band)
Radar Altimeter - 2				boundaries.	Spatial resolution: Swath width:
ESA					Accuracy: Altitude: better than 4.5 cm, Wave height: better
RaBIT	YOUTHSAT	Operational	Space environment	Total Electron Content of atmospheric flux & study structure and	than 5% or 0.25 m Waveband: 66.7 cm, 200 cm (RF)
Radio Beacon for Ionospheric				dynamics of equatorial ionosphere.	Spatial resolution: Swath width:
Tomography					Accuracy:
ISRO Radiomet	Meteor-M N3	Approved	Atmospheric	Atmospheric temperature and humidity profiles with high vertical	Waveband:
Radio-occultation receiver			temperature and humidity sounders	resolution.	Spatial resolution: Swath width:
ROSHYDROMET (ROSKOSMOS)					Accuracy:
RASAT VIS Multispectral	RASAT	Operational	Imaging multi-	High resolution images for monitoring of land surface and coastal	
RASAT VIS Multispectral camera			(vis/IR)	processes and for agricultural, geological and hydrological applications.	Band 3: 0.58 - 0.73 µm Spatial resolution: 15 m
TUBITAK					Swath width: 30 km Accuracy:
RASAT VIS Panchromatic	RASAT	Operational	Imaging multi- spectral radiometers	High resolution images for monitoring of land surface and coastal processes and for agricultural, geological and hydrological	Waveband: 0.42 - 0.73 µm Spatial resolution: 7.5 m
RASAR VIS Panchromatic camera			(vis/IR)	applications.	Swath width: 30 km Accuracy:
TUBITAK RO	EPS-SG-a, EPS-SG-b	Proposed		Instrument TBC.	Waveband:
	LF 3-30-a, LF 3-30-b	Floposed		instrument rbc.	Spatial resolution:
EUMETSAT					Swath width: Accuracy:
ROSA	MEGHA-TROPIQUES	Operational	Atmospheric temperature and	Enables measurement of water vapour and temperature profiles in the tropics.	Waveband: Spatial resolution:
Radio Occultation Sensor for Atmosphere			humidity sounders		Swath width: Accuracy:
ISRO					
ROSA	SAC-D/Aquarius	Operational	Atmospheric temperature and	Climate change studies. High-vertical resolution temperature- humidity sounding for NWP. Space weather.	Waveband: Around 1600 MHz (L1) and 1200 MHz (L2). Spatial resolution: 300 km (horizontal),
Radio Occultation Sounder for the Atmosphere			humidity sounders and precision orbit		0.5 km (vertical). Swath width: N/A (occultation); about 600 soundings/day.
			and precision orbit		Accuracy: Bending angle: 0.5 µ rad
ASI (CONAE) ROSA	OCEANSAT-2	Operational	Atmospheric	Climate change studies. High-vertical resolution temperature-	Waveband: Around 1600 MHz (L1) and 1200 MHz (L2).
Radio Occultation Sounder for the			temperature and humidity sounders	humidity sounding for NWP. Space weather.	Spatial resolution: 300 km (horizontal), 0.5 km (vertical).
Atmosphere			and precision orbit		Swath width: N/A (occultation); about 300 soundings/day. Accuracy: Bending angle: 0.5 µ rad
ASI (ISRO) RRA	Diademe 1&2	Operational	Precision orbit	Satellite laser ranging for geodynamic measurements.	Waveband:
Retroreflector Array					Spatial resolution: Swath width:
CNES					Accuracy:
S-Band SAR	HJ-1C	Being developed		Radar measurements for natural and disaster monitoring.	Waveband: S-Band SAR
S-Band Synthetic Aperture Radar			radars		Spatial resolution: 20 m (4 looks) Swath width: 100 km
CAST					Accuracy: 3 dB
S&R	Elektro-L N1, Elektro-L N2, Elektro-L N3	Operational	Other	For emergency calls.	Waveband: Spatial resolution:
Search and Rescue					Swath width: Accuracy:
ROSKOSMOS S&R (GOES)	GOES-12, GOES-13,	Operational	Other	Satellite and ground based system to detect and locate aviators,	Waveband:
Search and Rescue	GOES-14, GOES-15			mariners, and land-based users in distress.	Spatial resolution: Swath width:
NOAA					Accuracy:
NOAA S&R (NOAA)	Metop-A, Metop-B, NOAA-	Operational	Other	Satellite and ground based system to detect and locate aviators,	Waveband:
Search and Rescue Satellite Aided	15, NOAA-16, NOAA-17, NOAA-18, NOAA-19			mariners, and land-based users in distress.	Spatial resolution: Swath width:
Tracking					Accuracy:
NOAA SAGE-III	SAGE-III	Being developed	Atmospheric	Limb-viewing measurements of aerosols, O3, OCIO, N2O NO3,	Waveband: Nine spectral regions between 290 - 1550 nm
Stratospheric Aerosol and Gas Experiment			chemistry	H2O, temperature and pressure in the stratosphere and mesosphere.	Spatial resolution: 1 - 2 km vertical Swath width: N/A Accuracy: Aerosol profile: 5%, H20: 10 - 15%; NO2: 10-15%; NO3: 10%; O3: 5%; OCIO: 25%; Pressure: 2%; Temperature
NASA SAPHIR	MEGHA-TROPIQUES	Operational	Atmospheric	Cross-track sounder with the objective of measuring water vapour	Profile; 2K
		- porational	temperature and	profiles in the troposphere in six layers from 2 - 12 km altitudes.	Spatial resolution: 10 km
Sondeur Atmospherique du Profil'd'Humidite Intertropicale par Radiometrie			humidity sounders		Swath width: 2200 km Accuracy:
CNES SAR	Meteor-3M N2, Meteor-M	Being developed	Imaging microwave	High resolution microwave radar images for ice watch.	Waveband: X-Band
Synthetic Aperture Radar X band	N3		radars		Spatial resolution: 1 m, 5 m, 50 m, 200 m, 500 m Swath width: 10 km, 50 km, 130 km, 600 km, 750 km
ROSHYDROMET (ROSKOSMOS)					Accuracy: 1 dB
RUSHTURUMET (RUSKUSMUS)					

Instrument & ageney (& any partners)	Missions	Status	Turno	Mossurements & applications	Technical characteristics
Instrument & agency (& any partners) SAR (RADARSAT-2)	Missions RADARSAT-2	Status Operational	Type Imaging microwave	All-weather images of ocean, ice and land surfaces. Used for	Technical characteristics Waveband: Microwave: C band 5.405 GHz. HH, VV, HV, VH
Symbolic Aparture Dadar (CCA) C hand			radars	monitoring of coastal zones, polar ice, sea ice, sea state,	polarization - includes Quad polarization imaging modes. Spatial resolution: Standard: 27 - 18 x 25 m (4 looks); Wide:
Synthetic Aperture Radar (CSA) C band				geological features, vegetation and land surface processes.	40 - 19 x 25 m (4 looks); Fine: 10 - 7 x 8 m (1 looks); Wide:
CSA					ScanSAR (N/W): 80 - 38 x 60 m / 160 - 172 x 100 m (4/8
					looks); Extended (H/L): 18 - 16 x 25 m / 60 - 23 x 25 m (4 looks); Ultra-Fine: 4.6 - 2.1 x 2.8 m (1 look); Fine Quad-Pol:
					14 - 8 x 8 m (1 look); Standard Quad-Pol: 24 - 17 x 8 m (1
					look); Multi-Look Fine: 10 - 7 x 8 m (4 looks); Spotlight: 4.6 - 2.1 x 0.8 m (1 look).
					Swath width: Standard: 100 km (inc.: 20 - 49 deg); Wide: 150
					km (inc.: 20 - 45 deg); Fine: 50 km (inc.: 30 - 50 deg);
					ScanSAR (N/W): 300/500 km (inc.: 20 - 46 / 20 - 49 deg); Extended (H/L): 75/170 km (inc.: 49 - 60 / 10 - 23 deg); Ultra-
					Fine: 20 km (inc.: 20 - 49 deg); Quad-Pol (Standard and
					Fine): 25 km (inc.: 20 - 41 deg); Multi-Look Fine: 50 km (inc.: 30 - 50 deg). Left- and right-looking capability.
					Accuracy: Relative Radiometric Accuracy (within a 100 km
SAR (RADARSAT)	RADARSAT-1	Operational	Imaging microwave	All-weather images of ocean, ice and land surfaces. Used for	scene): <1 dB Waveband: Microwave: C band 5.3 GHz, HH polarization.
		oporational	radars	monitoring of coastal zones, polar ice, sea ice, sea state,	Spatial resolution: Nominal resolutions: Standard: 30 m (4
Synthetic Aperture Radar (CSA) C band				geological features, vegetation and land surface processes.	looks); Wide: 30 m (4 looks); Fine: 8 m (1 look); ScanSAR (N/W): 50 m / 100 m (4/8 looks); Extended (H/L): 18 - 27 m /
CSA					30 m (4/4 looks).
					Swath width: Standard: 100 km (inc.: 20 - 49 deg); Wide: 150 km (inc.: 20 - 45 deg), Fine: 45 km (inc.: 37 - 47 deg);
					ScanSAR (N/W): 300/500 km (inc.: 20 - 49 deg); Extended
					(H/L): 75/170 km (inc.: 52 - 58 / 10 - 22 deg). Accuracy: Geometric distortion: < 40 m Relative Radiometric
					Accuracy (within a 100km scene): <1 dB
SAR (RCM)	RADARSAT C-1,	Being developed		All-weather, C-band data to support ecosystem monitoring,	Waveband: Microwave: C band 5.405 GHz: HH, VV, HV, VH
Synthetic Aperture Radar (CSA) C band	RADARSAT C-2, RADARSAT C-3		radars	maritime surveillance and disaster management.	polarization - includes Quad polarization imaging mode and compact polarimetry.
					Spatial resolution: Low Resolution 100 m: 100 x 100 m (8
CSA					looks); Medium Resolution 50 m: 50 x 50 m (4 looks); Medium Resolution 16 m: 16 x 16 m (4 looks); Medium
					Resolution 30 m: 30 x 30 m (4 looks); High-Resolution 5 m: 5
					x 5 m (1 look); Very High Resolution 3 m: 3 (@35deg) x 3 m (1 look); Spotlight: 3 (@35deg) x 1 m (1 look); Low Noise:
					100 x 100 m (8 looks); Ship Detection: Variable.
					Swath width: Low Resolution 100 m: 500 km; Medium Resolution 50 m: 350 km; Medium Resolution 16 m: 30 km;
					Medium Resolution 30 m: 125 km; High-Resolution 5 m: 30
					km; Very High Resolution 3 m: 20 km; Low Noise: 350 km; Spotlight: 5 km; Ship Detection: 350 km.
					Accuracy: Absolute Radiometric Accuracy: +/- 1.0 dB
	DIGAT 1 DIGAT 1A	Daing dayalanad	Imaging microwaya	Dadas baskasattas magauramenta of land, wates and essan	Scansar discontinuities: 0.2 dB
SAR (RISAT)	RISAT-1, RISAT-1A	being developed	radars	Radar backscatter measurements of land, water and ocean surfaces for applications in soil moisture, crop applications (under	Waveband: C-Band (5.350 Ghz) • Spatial resolution: 3 - 6 m (FRS-1), 9 - 12 m (FRS-2), 25/50
Synthetic Aperature Radiometer (RISAT)				cloud cover), terrain mapping, etc.	m (MRS/CRS)
ISRO					Swath width: 30 km (HRS), 30 km (FRS-1/FRS-2), 120/240 km (MRS/CRS)
040.0000	000100 01-11-14	Onerational	lass sizes as isometry	All working the second of a second second to the former standard for the second se	Accuracy:
SAR 2000	COSMO-SkyMed 1, COSMO-SkyMed 2,	Operational	radars	All-weather images of ocean, land and ice for monitoring of land surface processes, ice, environmental monitoring, risk	Waveband: Microwave: X-band, 9.6 GHz, with choice of 5 polarisation modes (VV, HH, HV, VH, HH/HV + VV/VH)
Synthetic Aperture Radar - 2000	COSMO-SkyMed 3,			management, environmental resources, maritime management,	Spatial resolution: Single polarisation modes; Spotlight: 1 m.
ASI (MiD (Italy))	COSMO-SkyMed 4			Earth topographic mapping.	Stripmap: 3 - 15 m, ScanSAR: 30 or 100 m. Two polarisation mode (PING-PONG): 15 m.
					Swath width: Single polarisation modes: Spotlight: 10 km.
					Stripmap; 40 km. ScanSAR: 100 or 200 m - Two polarisation mode (PING-PONG): 30 km.
					Accuracy:
SAR components testing	SARE-1B	TBD	TBD		Waveband: Spatial resolution:
CONAE					Swath width:
SAR-2000 S.G.	CSG-1, CSG-2	Approved	Imaging microwave	All-weather images of ocean, land and ice for monitoring of land	Accuracy: Waveband: Microwave: X-band (9.6 GHz) single-, dual- and
			radars	surface processes, ice, environmental monitoring, risk	quad- polarization
SAR-2000 Second Generation				management, environmental resources, maritime management, Earth topographic mapping.	Spatial resolution: Dual polarisation modes: Spotlight: 1 m, Stripmap: 3 m, ScanSAR: 20 or 40 m. Quad polarisations
ASI (MiD (Italy))					mode: Ping-Pong: 15 m.
					Swath width: Dual polarisation modes: Spotlight: 10 km, Stripmap: 40 km, ScanSAR: 100 or 200 km. Quad
					polarisation modes: Ping-Pong: 30 km.
SAR-L	SAOCOM 14 SAOCOM	Poing doveloped	Imaging microwaya	Land, ocean, emergencies, soil moisture, interferometry, others.	Accuracy: - Waveband: L-band (1.275 GHz)
	1B, SAOCOM-2A,	Deing developed	radars	Land, occan, emergencies, son moladare, interferomenty, others.	Spatial resolution: 10 x 10 m - 100 x 100 m
L-Band Synthetic Aperture Radar	SAOCOM-2B				Swath width: 20 – 350 km Accuracy: 0.5 dB
CONAE					
SAR-L	RISAT-3	Proposed	Imaging multi- spectral radiometers	Studies related to soil moisture and ocean salinity.	Waveband: L Band Spatial resolution: 1.5 m, 2.5 m, 5 m, 20 m, 35 m
Synthetic Aperture Radiometer (L band)			(passive		Swath width: 10 - 120 km
ISRO			microwave)		Accuracy:
SAR-X	RISAT-2	Operational		For disaster management applications.	Waveband: X Band (9.0 Ghz)
Synthetic Aperature Radiometer (RISAT-			radars		Spatial resolution: 3 - 8 m Swath width: 10 km, 50 km
2)					Accuracy:
ISRO					
SARSAT	JPSS-2	Operational	Data collection	Satellite and ground based system to detect and locate aviators,	Waveband: UHF 406.0 MHz
Coards and Donous Catallite Aided				mariners, and land-based users in distress.	Spatial resolution:
Search and Rescue Satellite Aided Tracking					Swath width: Accuracy:
, , , , , , , , , , , , , , , , , , ,					
NOAA SBUV/2	NOAA-16, NOAA-17,	Operational	Atmospheric	Data on trace gases including vertical profile ozone, and solar	Waveband: UV: 0.16 - 0.4 µm (12 channels)
	NOAA-18, NOAA-19		chemistry	irradiance and total ozone concentration measurements.	Spatial resolution: 170 km
Solar Backscattter Ultra-Violet Instrument/2					Swath width: Accuracy: Absolute accuracy: 1%
NOAA SCA	EPS-SG-b	Proposed		Instrument TBC.	Waveband:
					Spatial resolution:
EUMETSAT					Swath width: Accuracy:
ScaRaB	MEGHA-TROPIQUES	Operational	Earth radiation	Measures top-of-atmosphere shortwave radiation (0.2 - 4.0 µm)	Waveband: VIS window channel: 0.5 - 0.7 µm, Solar channel
Scanner for Earth's Radiation Budget			budget radiometers	and total radiation (0.2 - 50 $\mu$ m). Two additional narrow-band channels (0.5 - 0.7 $\mu$ m and 11 - 12 $\mu$ m) allow cloud detection and	UV - SWIR: 0.2 - 4 µm, Total channel UV - FIR: 0.2 - 50 µm, Thermal window channel: 10.5 - 12.5 µm
-				scene identification.	Spatial resolution: 40 km
CNES					Swath width: 2200 km Accuracy: Absolute: ± 2.5 W/m2/sr, Relative: ± 0.7 W/m2/sr
Scatterometer (Meteor)	Meteor-M N3	Approved	Scatterometers	Ocean surface wind measurements.	Waveband: Ku-band
Scatterometer					Spatial resolution: 25 km Swath width: 1800 km
					Accuracy: Wind speed: 2 m/s, direction: 20 grad
ROSHYDROMET (ROSKOSMOS) Scatterometer (OCEANSAT)	OCEANSAT-2,	Operational	Scatterometers	Ocean surface wind measurements.	Waveband: 13.515 GHz
	Scatterometer Satellite-1				Spatial resolution: 50 km
ISRO					Swath width: 1400 - 1840 km Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
SCIAMACHY	Envisat	Operational	Atmospheric	Measures middle atmosphere temperature. Provides tropospheric	Waveband: UV - SWIR: 240 - 314 nm, 309 - 405 nm, 394 -
Scanning Imaging Absorption Spectrometer for Atmospheric Chartography			chemistry	and stratospheric profiles of O2, O3, O4, CO, N2O, NO2, CO2, CH4, H2O, and tropospheric and stratospheric profiles of aerosols and cloud altitude.	620 nm, 604 - 805 nm, 785 - 1050 nm, 1000 - 1750 nm, 1940 - 2040 nm and 2265 - 2380 nm Spatial resolution: Limb vertical 3 x 132 km, Nadir horizontal 32 x 215 km
Chartography					32 x 215 km Swath width: Limb and nadir mode: 1000 km (max)
ESA (DLR) SDR	AISSat-1, AISSat-2	Operational	Communications	Software Defined Radio (SDR) for reception of VHF AIS	Accuracy: Radiometric: <4% Waveband: VHF
Software Defined Radio				(Automatic Identification System).	Spatial resolution: Swath width:
NSC					Accuracy: Modelling shows that the instrument should detect more than 95% of the vessels carrying AIS within the
SeaWinds	QuikSCAT	Operational	Scatterometers	Measurement of surface wind speed and direction. The	satellite's field of view in the High North each orbit. Waveband: Microwave: 13.402 GHz
NASA				SeaWinds antenna on QuikSCAT stopped rotating in November 2009, and the instrument no longer collects ocean wind vector	Spatial resolution: 25 km Swath width: 1600 km
				data. However it still provides calibration data for other on-orbit scatterometers, which enables the continuation of a climate- guality wind vector dataset.	Accuracy: Speed: 2 - 3.5 m/s Direction: 20 deg
SEISS	GOES-R, GOES-S	Being developed	Space environment	Monitor proton, electron, and alpha particle fluxes.	Waveband: 30 eV - 500 MeV Spatial resolution: 15 deg, 30 deg, 60 deg, 90 deg
Space Environment In Situ Suite					Swath width: Accuracy: 25%
NOAA SEM	FY-3A, FY-3B	Operational	Space environment	Measures space environment parameters to support space craft	Waveband:
Space Environment Monitor		- por autorial	apage environment	operations.	Spatial resolution: Swath width:
NRSCC (NSMC-CMA, CAST)					Accuracy:
SEM (GOES)	GOES-12, GOES-13, GOES-14, GOES-15	Operational	Space environment	Used for equipment failure analysis, solar flux measurement, solar storm warning, and magnetic and electric field	Waveband: Spatial resolution:
Space Environment Monitor	00E0-14, 00E0-10			solar storm warning, and magnetic and electric field measurement at satellite.	Spanar resolution: Swath width: Accuracy:
NOAA SEM (POES)	Metop-A, Metop-B, Metop-	Operational	Space environment	Used for equipment failure analysis, solar flux measurement,	Waveband: Senses and quantifies intensity in the
Space Environment Monitor	C, NOAA-16, NOAA-17, NOAA-18, NOAA-19			solar storm warning, and magnetic and electric field measurement at satellite.	sequentially selected energy bands, with energies ranging from 0.05 - 20 keV. Senses protons, electrons, and ions with
NOAA					energies from 30 keV to levels exceeding 6.9 MeV Spatial resolution: Swath width:
SES	FY-3C, FY-3D, FY-3E, FY-	Prototype	Space environment	Measures space environment parameters to support space craft	Accuracy: Waveband:
Space Environment Suite, improved SEM	3F			operations.	Spatial resolution: Swath width: Accuracy:
CAST (NSMC-CMA)					
Severjanin	Meteor-M N1, Meteor-M N2	Operational	Imaging microwave radars		Waveband: X-band Spatial resolution: 500 m and 1000 m
X-band Synthetic Aperture Radar					Śwath width: Accuracy:
ROSHYDROMET SEVIRI	Meteosat-10, Meteosat-	Operational	Imaging multi-	Measurements of cloud cover, cloud top height, precipitation,	Waveband: VIS0.6=0.5975 - 0.6725 µm, VIS0.8=0.775 -
Spinning Enhanced Visible and Infra-Red	11, Meteosat-8, Meteosat-			cloud motion, vegetation, radiation fluxes, convection, air mass analysis, cirrus cloud discrimination, tropopause monitoring,	0.845 μm, NIR1.6=1.57 - 1.71 μm, IR3.9=3.7 - 4.14 μm, WV6.3=5.8 - 6.7 μm, WV7.3=7.1 - 7.6 μm, IR8.7=8.5 - 8.9
Imager				stability monitoring, total ozone and sea surface temperature.	ит, IR9.7=9.52 - 9.8 µт, IR10.8=10.3 - 11.3 µт, IR12.0=11.5 - 12.5 µт, IR13.4=12.9 - 13.9 µт, HRV=~0.48 -
EUMETSAT (ESA)					0.91 µm ,unfiltered SI (measured at FWHM) Spatial resolution: HRV=1 km, All other channels=3 km
					(spatial sampling distance at SSP) Swath width: 9 km swath scanning E-W, moving up S-N a
					(FDC) or Local Area Coverage (LAC) possible.
					Accuracy: Cloud cover: 10%, Cloud top height: 1 km, Cloud top temperature: 1 K, Cloud type: 8 classes, Surface
					temperature: 0.7 - 2.0 K, Specific humidity profile: 10%, Wind profile (horizontal component): 2 - 10 m/s, Long wave Earth
SGLI		Approved	Imaging multi-	Medium resolution multi-spectral imaging of land, according	surface radiation: 5 W/m2 Waveband: VIS - NIR: 0.38 - 0.865 µm, SW: 1.05 - 2.21 µm;
		Approved	spectral radiometers	Medium resolution multi-spectral imaging of land, ocean and atmosphere.	Viaveobald: VIS - NIR: 0.38 - 0.865 µm, SW: 1.05 - 2.21 µm; TIR: 10.8 - 12.0 µm Spatial resolution: 250 m, 500 m, 1000 m
Second-generation Global Imager			(vis/IR) and ocean colour instruments		Swath width: 1150 km (VNR), 1400 km (IRS)
JAXA SIM	FY-3A, FY-3B, FY-3C, FY- 3E	Operational	Earth radiation	Solar irradiance monitoring.	Accuracy: Waveband: 0.2 - 50 µm Spatial resolution:
Solar Irradiation Monitor			budget radiometers		Swath width:
NRSCC (NSMC-CMA, CAST)	SORCE	Operational	Earth radiation	Mossures color spectral irradiance in the 200 - 2000 pr	Accuracy:
SIM	SORCE	Operational	Earth radiation budget radiometers	Measures solar spectral irradiance in the 200 - 2000 nm range.	Waveband: UV - SWIR: 200 - 2000 nm Spatial resolution:
Spectral Irradiance Monitor					Swath width: Accuracy:
NASA SIM-2	FY-3C, FY-3E, FY-3G	Operational	Earth radiation	Solar irradiance monitoring.	Waveband: 0.2 - 50 µm
Solar Irradiation Monitor-2			budget radiometers		Spatial resolution: Swath width:
NRSCC (NSMC-CMA, CAST)	000	0	Dadaa W		Accuracy:
SIRAL	CryoSat-2	Operational	Radar altimeters	Marine ice and terrestrial ice sheet thickness measurement.	Waveband: Microwave: 13.575 GHz (Ku-Band) Spatial resolution: Range resolution 45 cm, along-track
SAR Interferometer Radar Altimeter					resolution 250 m Swath width: Footprint 15 km
ESA					Accuracy: Arctic sea-ice: 1.6 cm/year for 300 km x 300 km cells, Land ice (small scale): 3.3 cm/year for 100 x 100 km
					cells, Land ice (large scale): 0.17 cm/year for Antarctica size area
SLIM-6-22	UK-DMC2	Operational	High resolution optical imagers	Visible and NIR imagery in support of disaster management - part of the Disaster Management constellation.	0.90 µm.
Surrey Linear Imager - 6 channel - 22m resolution					Spatial resolution: 22 m Swath width: Two imaging banks each with a 330km swath.
UKSA					The two swaths overlap by 11km, providing a total swath up to 638km
SLSTR	Sentinel-3 A, Sentinel-3 B,	Approved	Imaging multi-	Marine and land services.	Accuracy: S/N 150:1 @ target albedo of 0.1. Waveband: 9 bands in VNIR/SWIR/TIR
Sea and Land Surface Temperature	Sentinel-3 C	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	spectral radiometers (vis/IR)		Spatial resolution: 500 m (VNIR/SWIR), 1 km (TIR) Swath width: 1675 km (near-nadir view), 750km (backward
Radiometer			(,		view) Accuracy: 0.2 K abs., 80 mK rel.
ESA (EC) SMR	Odin	Operational	Atmospheric	Measures global distributions of ozone and species of importance	
Submillimetre Radiometer		- porational	temperature and humidity sounders	for ozone chemistry CIO, HNO3, H2O, N2O, (HO2, H2O2). Measures temperature in the height range 15 - 100 km.	480 - 580 GHz: Tuneable measures 2 - 3 x 1 GHz regions at a time; $\sim$ 0.1 cm $\sim$ 0.3 cm
SNSB			and atmospheric	inductive temperature in the neight range to - too km.	Spatial resolution: Vertical resolution 1.5 - 3 km, along track 600 km
0000			chemistry		Swath width: Altitudes of 5 - 100 km
SODAD/CARMEN-1	SAC-D/Aquarius	Operational	Space environment	Space debris studies.	Accuracy: 2 - 40% depending on species and altitude Waveband:
Orbital System for an Active Detection of					Spatial resolution: Swath width:
Debris					Accuracy:
CNES (CONAE)		Operational	Earth radiation	Measures diameter and differential rotation of the sun - a whole	Waveband: UV: 230 nm, VIS: 548 nm, Active regions: 160
SODISM	PICARD	Operational			
SODISM SOlar Diameter Imager and Surface	PICARD	Operational	budget radiometers		nm plus Lyman alpha detector Spatial resolution:
SODISM	PICARD	Operational			nm plus Lyman alpha detector

CHI LLT         Number of the second problem of problem	Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
Important in the sector of	SOLSTICE	SORCE	Operational		Data on UV and charged particle energy inputs, and on time variation of full-disk solar UV spectrum. Measures solar UV	Waveband: UV: 115 - 180 nm and 170 - 320 nm Spatial resolution:
Market WAGPerformed and set of the s	SOLar STellar Irradiance Comparison Experiment					
OAAOCH 400000OCH 400000OCH 400000OCH 400000OCH 400000OCH 400000OCH 4000000OCH 4000000OCH 4000000000OCH 4000000000000000000000000000000000000	NASA					
Name and set of the set of t			Operational	temperature and		Spatial resolution: 10 km
Bandbar Bandbar Bandbar Bandbar Bandbar Bandbar Bandbar 			Daing developed		Atmospheric coundings, streacheric stability thermal gradient	Accuracy:
cond         cond <th< td=""><td></td><td></td><td>Being developed</td><td>temperature and</td><td></td><td>TIR: 12.02 - 14.71 µm; VIS: 0.55 - 0.75 µm</td></th<>			Being developed	temperature and		TIR: 12.02 - 14.71 µm; VIS: 0.55 - 0.75 µm
DDM         PM 2001         PM 2002         PM				numidity sounders		Swath width: Full (Full Earth disc sounding), Program
Conversion         Implementation         Implementat			Operational	Earth radiation	Total solar irradiance measurements	Accuracy:
Control         <		1101110	oporational			Spatial resolution:
NAMEFit of sharing of construction of sameRest affect of construction of sa	CNES					Accuracy:
Answer         Amount of the start	Spectrometer (OCO-2)	OCO-2	Being developed			
Description         Partial 2	NASA					Accuracy:
Constraint         Matrix is an advance of posterior with incidence of posterior withowith incidence of posterior with incidence of poster			Approved	Radar altimeters	Marine and land services.	Spatial resolution: 300 m
SSR-2         DepT-14         Operational         Restanciations         Depte Fragments						Accuracy: 3 cm in range (1 s average, 2 m SWH including
Space Marcol Course May Partiel         Course of Course Applications Market Mar	ESA (EC) SSB/X-2	DMSP F-14	Operational	Space environment		Waveband:
NDALADD (UN) (NO)         Port (UN)	Special Sensor Gamma Ray Particle				from the Earth's atmosphere.	Swath width:
SMR-5     MMP 7-14     Outer SMR     Reserver of the anitised sector down and sect						Accuracy:
Series and series functional series and series an	SSI/ES-2	DMSP F-14, DMSP F-15	Operational	Space environment		
Name         Note of the section o	Special Sensor Ionospheric Plasma Drift/Scintillation Meter					Swath width:
SSRE-5MCD F 14, DCRD F 17, DCRD F 18, DCR						
Sharel Series Inscription Protocols (C) AND - F40 (CME P - F	SSI/ES-3	DMSP F-16, DMSP F-17, DMSP F-18, DMSP F-19	Operational	Space environment		
NOAA DOD (USA) Gased services of protects (Services and particle service), mask, and momentum of particle services for update services, mask, and momentum of particle services for update services, mask, and momentum of particle services for update services, mask, and momentum of particle services, mask, and momentum of 	Special Sensor Ionospheric Plasma Drift/Scintillation Meter					Swath width:
SAA during         Multip F-14, DMP F-15, DMP F-16         Operational in Market in Series in S	NOAA (DoD (USA))					
Special denomination Preserving Planeral Special Control (USA) Social Control (USA) Special Control (USA) Spec	SSJ/4	DMSP F-14, DMSP F-15	Operational	Magnetic field	charged particles through the magnetosphere-ionosphere in the	Spatial resolution:
S3.5 ±     DMSP F-16     Description     Magnetic Lefe     Measurement of transfer energy, mass, and momentum is the sign of transmitter incompare in the sign of transmitter incompare i	Special Sensor Precipitating Plasma Monitor				Earth's magnetic field.	
Based Security ProblemSecurity Problem <th< td=""><td>NOAA (DoD (USA))</td><td></td><td></td><td></td><td></td><td></td></th<>	NOAA (DoD (USA))					
Monter         Monter         Accuracy:         Accuracy:           MAA LOD (UAA)         MAA LOD (UAA)         MAA LOD (UAA)         Magnetic Magneti Magneti Magnet Magnetic Magneti Magnet Magnetic Magneti Magnet M		DMSP F-16	Operational	Magnetic field	charged particles through the magnetosphere-ionosphere in the	Spatial resolution:
SSM         DMSP F-14, DMSP F-10,	Special Sensor Precipitating Plasma Monitor				Earth's magnetic field.	
Special Stemory Magnetomater         DMSP F-16, DMSP F-17, DMSP F-17, DMSP F-17, DMSP F-17, DMSP F-17, DMSP F-17, DMSP F-10, DMSP F-1	NOAA (DoD (USA))					
NDA LOD (NDA)         MSP F-30         Mode F-30		DMSP F-16, DMSP F-17,	Operational	Magnetic field	geophysical phenomena. With SSIES and SSJ provides heating	Spatial resolution:
SSM         DMSP F-14, DMSP F-15         Operational maging multi- special Sensor Microweve (maging microweve)         Measures another is corean ad terms (microweve) microweve)         Measures another is corean ad terms (microweve trighthesis microweve)         Measures another is corean ad terms (microweve trighthesis microweve)         Measures another is corean ad terms (microweve trighthesis microweve)         Measures another is microweve trighthesis microweve trighthesis microweve trighthesis         Measures another is microweve trighthesis microweve trighthesis mic					and electron density promes in the tonosphere.	
Special Server Microwave Imager         Mask Dob (DSA)         Mask Dob (DSA)         Special Server Microwave Imager         Special Server Microwave Imager <th< td=""><td>SSM/I</td><td>DMSP F-14, DMSP F-15</td><td>Operational</td><td></td><td></td><td></td></th<>	SSM/I	DMSP F-14, DMSP F-15	Operational			
NOAA LOD (UGAN)     NOAB PF-14, DMSP F-17, DMSP F-18, DMSP F-18, DMSP F-19, DMSP F-13, DMSP F-14, DMSP F-1	Special Sensor Microwave Imager			(passive		Spatial resolution: 15.7 x 13.9 km to 68.9 x 44.3 km (depends
SSMIS     DMSP F-14, DMSP F-17, DMSP F-17, DMSP F-17, DMSP F-10, DMSP F-10, DMSP F-20     Operational dense memory increases manager increa	NOAA (DoD (USA))			moremercy)		Swath width: 1400 km
Special Sensor Microwave Imager Sounder         DMSP F-20         humidity sounder wepconfluido ver open, now weter content, and wetter wepconfluido ver open, now weter content, and wetter steparature.         42 km Masserse Microwave Trademark         42 km         Masserse Microwave Sounder           NOAA (DOC (USA))         DMSP F-14, DMSP F-15         Operational Microwave Trademark         Operational Microwave Trademark         Messerse Earth's surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the super atmospheric emission in the 50 OFE content increases of the surface and atmospheric emission in the super atmospheric emission in the super atmospheric emission in the super atmospheric and Surface increases of the surface and atmospheric emission in the super atmospheric and Surface at the super increases of the surface and atmospheric emission in the super atmospheric and Surface at the super increases of the surface and atmospheric emission in the super atmospheric atmosp	SSM/IS		Operational			Waveband: Microwave: 19 - 183 GHz (24 frequencies)
NOAL (DOA) (USA))       DMSP F-14, DMSP F-15       Operational strain dispersive sounder       Atmospheric memperature and humidity sounders       Massures Earth's surface and atmospheric emission in the 50 - 60 FHz range Stability in the 50 - 60 FHz range strain dispersive sounder       Wavebandt. Microwave: 7 channels in the 50 - 60 FHz range Stability in the 50 - 60 FHz range strain dispersive sounder       Wavebandt. Microwave: 7 channels in the 50 - 60 FHz range strain dispersive sounder         NAA (DO (USA))       DMSP F-14, DMSP F-15       Operational persive sounder       Atmospheric memperature sounder       Wave vapour profiler.       Wavebandt. Microwave: 16, 150, 183.31 (3 channels) (Total sounder         Sounder       DMSP F-14, DMSP F-15       Operational persive sounder       Precision otht municity sounders       Wavespant function of the sound sounders       Wavebandt. Microwave: 16, 150, 183.31 (3 channels) (Total sounder         Sounder       GOCE       Operational sounder       Precision otht municity sounders       Wavespant functions       South functions         SSUL       DMSP F-16, DMSP F-17 Sounder       Operational MSP F-20       Special constructions and sounder expecting profile sounders in the sounder expecting profile sounders and on in the sounder expecting profile insplant and prove stability profile possibility insplant and proveband functinsplant and prove stability profile possibility inspl	Special Sensor Microwave Imager Sounder	DMSP F-20			overland/ocean, ice concentration/age, ice/snow edge, water	42 km
Special Sensor Microwave Temperature Sounder         Masses Microwave Temperature Sounder         Masses Microwave Temperature Sounder         Special Kensor Microwave State (S) Sounder	NOAA (DoD (USA))					Accuracy:
SounderNDAA (DoD (USA)) SSMT-2NDAP F-14, DMSP F-15Operational and municity soundersWater vapour profiler.Accuracy:SounderMSP F-14, DMSP F-15Operational municity soundersPrecision orbit emperative and humidity soundersWater vapour profiler.Water vapour profiler.NDAA (DoD (USA)) SSITGOCEOperational municity soundersPrecision orbit wirations as well as highly precise positioning on GOCE.Spatial resolution: Approv 48 km Syntal resolution: Syntal resolution: Syntal resolution: Syntal resolution: Syntal resolution	SSM/T-1	DMSP F-14, DMSP F-15	Operational	temperature and		Spatial resolution: 174 km diameter beam
SSMT-2     DMSP F-14, DMSP F-15     Operational special Sensor Microwave Water Vapor Special Sensor Microwave Water Vapor Sp	Onumber			humidity sounders		1
Special Sensor Microwave Water Vapor Sonnder         Special Sensor Microwave Water Vapor Sonna (LOG VISA))         Solar Sona (Log VISA)         Solar (Log	NOAA (DoD (USA))		_			
Sounder <t< td=""><td></td><td>DMSP F-14, DMSP F-15</td><td>Operational</td><td>temperature and</td><td>water vapour profiler.</td><td>5 channels)</td></t<>		DMSP F-14, DMSP F-15	Operational	temperature and	water vapour profiler.	5 channels)
NOAA (Dob (USA))         And (Dob	Special Sensor Microwave Water Vapor Sounder			numiaity sounders		Swath width: 1500 km
Satellite-Satellite Tracking InstrumentSeriesSeriesse	NOAA (DoD (USA))	GOCE	Operational	Precision orbit	Measurements of low-frequency (coarse-scale) gravity fold	
ESAAccuracy:SSUIDMSP F-16, DMSP F-17, DMSP F-20Operational DMSP F-20Space environment atoms, molecules and ions in the upper atmosphere and ionosphere.Waveband: Spatial resolution: Swath width: Accuracy:NOAADMSP F-16, DMSP F-17, DMSP F-20Operational DMSP F-20Space environment Monosphere.Measures vertical profiles of the natural airgiow radiation from should innosphere.Waveband: Spatial resolution: Swath width: Accuracy:NOAADMSP F-16, DMSP F-17, DMSP F-20Operational DMSP F-20Space environment DMSP F-20Monitors the composition and structure of the upper atmosphere aspectorgraphic imaging and photometry.Waveband: Spatial resolution: Spatial resolution: Accuracy:NOAAEnvironment DMSP F-20Being developed Precision orbitPrecise attitude determination from the combination of two or three star trackers.Waveband: Spatial resolution: Spatial			operational			Spatial resolution:
SSULI     DMSP F-16, DMSP F-17, DMSP F-18, DMSP F-18, DMSP F-18, DMSP F-19, DMSP F-10, DMSP F-1	ESA					
Special Sensor Ultraviolet Limb Imager       DMSP F-20       ionosphere.       Swath width: Accuracy:         NOAA       DMSP F-16, DMSP F-17, DMSP F-18, DMSP F-18, DMSP F-18, DMSP F-19, DMSP F-20       Operational       Space environment and ionosphere, as well as auroral energetic particle inputs, with spectrographic imaging and photometry.       Spatial resolution: Swath width: Accuracy:         NOAA       Swarn       Being developed       Precision orbit       Precise attitude determination from the combination of two or three star trackers.       Waveband: N/A Spatial resolution: <1 arcsec Swath width: NA Accuracy:         SUVI       GOES-R, GOES-S       Being developed       Other       The SUVI will monitor the entire dynamic range of solar x-ray quantitative estimates of the physical conditions in the Suri's atmosphere.       Waveband:       Spatial resolution: Spatial resolution: <1 arcsec Swath width: NA         NOAA       GOES-R, GOES-S       Being developed       Other       The SUVI will monitor the entire dynamic range of solar x-ray quantitative estimates of the physical conditions in the Suri's atmosphere.       Spatial resolution: Spatial resolution	SSULI	DMSP F-18, DMSP F-19,	Operational	Space environment		
NOAAMSP F-16, DMSP F-17, DMSP F-17, DMSP F-19, DMSP F-18, DMSP F-19, DMSP F-10Space environmentMonitors the composition and structure of the upper atmosphereMavebadicNOAAStarSwarmBeing developedPrecision orbitPrecise attitude determination from the combination of two or three star trackers.WavebadicN/A Spatial resolution: Star accuracy: around all STR axesSolar Ultraviolet ImagerGOES-R, GOES-SBeing developedOtherThe SUVI will monitor the entire dynamic range of solar X-ray features, including coronal holes and solar flares, and will provide samosphere.Waveband: Spatial resolution: Swath width: Accuracy: Swath width: Accuracy:NOAAGOES-12, GOES-13, GOES-15OperationalSpace environment information on active regions of sun and filaments.Waveband: Spatial resolution: Swath width: Accuracy:NOAA (USAF)GOES-12, GOES-13, GOES-15OperationalSpace environment information on active regions of sun and filaments.Waveband: Spatial resolution: Swath width: Accuracy:NOAA (USAF)GOSATOperationalMaging multi- spectral radiometer (vis/IR)Measurement of cloud and aerosol for calibration of TANSO-FTS Spatial resolution: 0.5 km (0.380, 0.678, 0.870 µm bands), 1.5 km (1.62 µm band), Accuracy:	Special Sensor Ultraviolet Limb Imager	DMSP F-20			ionosphere.	Swath width:
Special Sensor Ultraviolet SpectrographicDMSP F-18, DMSP F-19, DMSP F-20MSP F-18, DMSP F-19, DMSP F-20and ionosphere, as well as a unoral energetic particle inputs, with spectrographic imaging and photometry.Spatial resolution: Swath width: Accuracy:NOAASmarnBeing developed Star Tracker Set (3)Precise attitude determination from the combination of two or three star trackers.Waveband: N/A Spatial resolution: <1 arcsec Swath width: N/A Accuracy: <1000 High accuracy around all STR axes	NOAA SSUSI		Operational	Space environment	Monitors the composition and structure of the upper atmosphere	Waveband:
Imager       Accuracy:         NOAA       See and the second of the		DMSP F-18, DMSP F-19,			and ionosphere, as well as auroral energetic particle inputs, with	Spatial resolution: Swath width:
STR       Swarm       Being developed       Precise attitude determination from the combination of two or three star trackers.       Waveband: MA Spatial resolution: <1 arcsec Swath width: NA Accuracy: <3 arcsec pointing accuracy around all STR axes         Star Tracker Set (3)       GOES-R, GOES-S       Being developed       Precise attitude determination from the combination of two or three star trackers.       Waveband: MA Accuracy: <3 arcsec pointing accuracy around all STR axes	Imager					Accuracy:
Star Tracker Set (3)       Swath width: NA       Swath width: NA         ESA       ESA       Person Participation Participation Column and Participatin Partina Participation Column and Participatin Parti	NOAA STR	Swarm	Being developed	Precision orbit		Waveband: N/A
ESA     OBS-R, GOES-R, GOES-S     Being developed     Other     The SUVI will monitor the entire dynamic range of solar x-ray features, including coronal holes and solar flares, and will provide quantitative estimates of the physical conditions in the Sun's atmosphere.     Waveband: Solar Viray     Waveband: Spatial resolution: Spatial resolution: Swath widh: Accuracy:       NOAA (USAF) TarMSO-CAI     OPerational GOESAT     Operational Spatial resolution: Spatial resolution: Spatial resolution: Swath widh: Accuracy:     Waveband: Spatial resolution: Swath widh: Accuracy:       NOAA (USAF) TarMSO-CAI     OPerational Spatial resolution: Spatial resolution: 0.5 km (0.380, 0.678, 0.870 µm, 0.870 µm	Star Tracker Set (3)				unee star trackers.	Swath width: N/A
Solar Ultraviolet Imager     Spatial resolution:     Spatial resolution:       NOAA     GOES-12, GOES-13, GOES-15     Operational     Space environment provides warnings of geomagnetic storms, solar flares, and provides warnings of geomagnetic storms,	ESA	COES D. COES O	Poing douglass	Other	The SLIV/Luill menitor the entire dimension of a low	
NOAA         Accuracy:           SXI         GOES-12, GOES-13, GOES-15         Operational GOES-15         Space environment operational transo-cAl         Obtains data on structure of solar corona. Full disk imagery also provides warnings of geomagnetic storms, solar flaters, and information on active regions of sun and filaments.         Waveband: Spatial resolution: Swath width: Accuracy:           NOAA (USAF)         Operational spectral radiometers (vis/IR)         Operational (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS spectral radiometers (vis/IR)         Waveband: Spatial resolution: Swath width: Accuracy:           Noac (USAF)         Operational mager         Operational (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS wetwork with: (vis/IR)         Waveband: Spatial resolution: Swath with: (vis/IR)         Waveband: Swath with: (vis/IR)		00E0-N, 00E0-0	boing developed	Galer	features, including coronal holes and solar flares, and will provide	Spatial resolution:
SXI         GOES-12, GOES-13, GOES-15         Operational GOES-15         Space environment promotion         Obtains data on structure of solar corona. Full disk imagery also promotions, solar fatters, and information on active regions of sun and filaments.         Waveband: Spatial resolution: Svath width: Accuracy:           NOAA (USAF) TANSO-CAI         GOSAT         Operational Spatial maging multi- spectral radiometers (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: Svath width: Accuracy:           Thermal And Near infrared Sensor for carbon Observation - Cloud and Aerosol Imager         GOSAT         Operational (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: Svath width: UsaCuracy:           Vis/IR)         Vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: Svath width: UsaCuracy: Network width: UsaCuracy:           Color Dispective Cloud and Aerosol Imager         GOSAT         Operational         Imaging multi- spectral radiometers         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: 0.380 µm, 0.678 µm, 0.870 µm bands), 1.5 km (1.62 µm band) Accuracy:						
Solar X-ray Imager     Solar X-ray Imager     Solar X-ray Imager     Information on active regions of sun and filaments.     Swath width: Accuracy:       NOAA (USAF)     GOSAT     Operational     Imaging multi- spectral radiometers     Measurement of cloud and aerosol for calibration of TANSO-FTS.     Waveband: 0.380 µm, 0.678 µm, 0.870 µm, 1.62 µm Spatial resolution: 0.5 km (0.380 µm, 0.678, 0.870 µm bands), 1.5 km (1.62 µm band)       Imager     Imager     Vis/IR     Measurement of cloud and aerosol for calibration of TANSO-FTS.     Waveband: 0.380 µm, 0.678 µm, 0.870 µm bands), 1.5 km (1.62 µm band)	SXI		Operational	Space environment	Obtains data on structure of solar corona. Full disk imagery also provides warnings of geomaanetic storms, solar flares, and	
NOAA (USAF)         GOSAT         Operational         Imaging multi- spectral radiometers (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: 0.380 µm, 0.678 µm, 0.870 µm, 1.62 µm           Thermal And Near infrared Sensor for carbon Observation - Cloud and Aerosol Imager         GOSAT         Operational         Imaging multi- spectral radiometers (vis/IR)         Measurement of cloud and aerosol for calibration of TANSO-FTS.         Waveband: 0.380 µm, 0.678 µm, 0.870 µm bands), 1.5 km (1.62 µm band)           Imager         Swath width: 1000 km (0.280 µm, 0.678 µm, 0.870 µm, 0.870 µm bands), 750 km (1.62 µm band)         Northog km (0.800 µm, 0.678 µm, 0.870 µm bands), 750 km (1.62 µm band)	Solar X-ray Imager					Swath width:
spectral radiometers     Spatial resolution: 0.5 km (0.380, 0.678, 0.870 µm bands),       Thermal And Near infrared Sensor for carbon Observation - Cloud and Aerosol     (1,5 km (1.62 µm band))       Imager     Swath width: 1000 km (0.380 µm, 0.678 µm, 0.870 µm bands), 750 km (1.62 µm band)	NOAA (USAF) TANSO-CAI	GOSAT	Operational	Imaging multi-		Waveband: 0.380 µm, 0.678 µm, 0.870 µm, 1.62 µm
carbon Observation - Cloud and Aerosol Swath width: 1000 km (0.380 µm, 0.678 µm, 0.870 µm Imager 500 km (1.62 µm band) Accuracy:	Thermal And Near infrared Sensor for			spectral radiometers		Spatial resolution: 0.5 km (0.380, 0.678, 0.870 µm bands), 1.5 km (1.62 µm band)
	carbon Observation - Cloud and Aerosol					Swath width: 1000 km (0.380 µm, 0.678 µm, 0.870 µm bands), 750 km (1.62 µm band)
	JAXA (MOE (Japan), NIES (Japan))					Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
TANSO-FTS	GOSAT	Operational	Atmospheric temperature and	CO2 and methane distribution.	Waveband: 0.758 - 0.775 μm, 1.56 - 1.72 μm, 1.92 - 2.08 μm, 5.56 - 14.3 μm
Thermal And Near infrared Sensor for carbon Observation - Fourier Transform Spectrometer			humidity sounders and atmospheric chemistry		Spatial resolution: 10.5 km Swath width: 160 km Accuracy:
JAXA (MOE (Japan), NIES (Japan))					
TDP Technological Development Package	SAC-D/Aquarius	Operational	Precision orbit	Develop, test, and operate the Technological Demonstration Package (TDP) for demonstrating a newly developed GPS receiver for position, velocity, and time determination and an Inertia Reference Unit (IRU) to measure inertial angular velocity.	Waveband: Spatial resolution: Swath width: Accuracy:
CONAE TES	Aura	Operational	Atmospheric	3D profiles on a global scale of all infra-red active species from	Waveband: SWIR-TIR: 3.2 - 15.4 µm
Tropospheric Emission Spectrometer		operational	chemistry	surface to low grotal scale of minarce area species from surface to low grotal states of the surface species and concentrations, tropospheric ozone, acid rain precursors, gas exchange leading to stratospheric ozone depletion.	Spatial resolution: In limb mode: 2.3 km vertical resolution. In down-looking mode: 50 x 5 km (global), 5 x 0.5 km (local) Swath width: Limb mode: global: 50 x 180 km, local: 5 x 18 km
TES PAN	TES	Operational	High resolution	High resolution images for study of topography, urban areas etc.	Accuracy: Ozone: 20 ppb, Trace gases: 3 - 500 ppb Waveband: Panchromatic VIS: 0.5 - 0.75 µm
Panchromatic Camera			optical imagers		Spatial resolution: 1 m Swath width: Accuracy:
TGSP	Meteor-MP N1, Meteor-	Proposed	Atmospheric	Trace gas measurements.	Waveband:
Trace Gas Spectrometer ROSHYDROMET (ROSKOSMOS)	MP N2, Meteor-MP N3		chemistry		Spatial resolution: Swath width: Accuracy:
TIM	SORCE	Operational	Earth radiation budget radiometers	Measurement of total solar irradiance directly traceable to SI units with an absolute accuracy of 0.02% and relative accuracy of	Waveband: Spatial resolution:
Total Irradiance Monitor			budget radiometers	with an absolute accuracy of 0.03% and relative accuracy of 0.001% per year.	Spatia resolution. Swath width: Looks at the sun every orbit, providing 15 measurements per day Accuracy:
TIR (Oceansat-3/3A)	OCEANSAT-3, OCEANSAT-3A	Being developed		TIR and OCM combination will support joint analysis for operational potential fishing zones.	Waveband: 5 bands Spatial resolution: 1 km
Thermal Infrared Radiometer (Oceansat- 3/3A)	OULANDAT-SA		(vis/IR)	operational potential noning cones.	Swath width: 1500 km Accuracy:
ISRO TIRS	LDCM	Being developed		Measures surface radiance and emittance, lands cover state and	
Thermal Infrared Sensor				change (eg vegetation type). Used as multipurpose imagery for land applications.	Spatial resolution: 100 m Swath width: 185 km Accuracy:
NASA (USGS) TM	Landsat-5	Operational	Imaging multi-	Measures surface radiance and emittance, lands cover state and	Waveband: VIS - TIR: 7 bands: 0.45 - 12.5 µm
Thematic Mapper				change (eg vegetation type). Used as multipurpose imagery for land applications.	Spatial resolution: VIS - SWIR, 30 m; TIR: 120 m Swath width: 185 km Accuracy:
USGS (NASA) TMI	TRMM	Operational	Imaging multi-	Measures rainfall rates over oceans (less reliable over land),	Waveband: Microwave: 10.7 GHz, 19.4 GHz, 21.3 GHz, 37
TRMM Microwave Imager			spectral radiometers (passive microwave)	combined rainfall structure and surface rainfall rates with associated latent heating. Used to produce monthly total rainfall maps over oceans.	GHz, and 85.5 GHz Spatial resolution: Vertical: 2.5 km approx; Horizontal: 18 km Swath width: 790 km
					Accuracy: Liquid water: 3 mg/cm3, Humidity: 3 mg/cm3, Ocean wind speed: 1.5 m/s
TOU/SBUS Total Ozone Unit & Solar Backscatter Ultraviolet Sounder	FY-3A, FY-3B, FY-3C	Operational	Atmospheric temperature and humidity sounders	Ozone total column vertical profile measurements.	Waveband: TOU: 6 channels in the range 308 - 360 nm, SBUS: in the range 252 - 340 nm Spatial resolution: TOU: 50 km total ozone, SBUS: 200 km total ozone Swath width: TOU: 3000 km, SBUS: nadir only
NRSCC (NSMC-CMA, CAST) TRSR	Jason-1	Operational	Atmospheric	Precise continuous tracking data of satellite to decimetre	Accuracy: 50km Waveband:
Turbo-Rogue Space Receiver	Jason-1	Operational		accuracy.	Spatial resolution: Swath width: Accuracy:
NASA TSIS	JPSS-2	Being developed	Earth radiation	0.2 - 2 µm solar spectral irradiance monitor.	Waveband: UV - SWIR: 0.2 - 2 µm
Total Solar and Spectral Irradiance Sensor			budget radiometers		Spatial resolution: Swath width: Accuracy: 1.5 w/m2
NOAA TSU	Scatterometer Satellite-1	Proposed	Atmospheric	Atmospheric soundings, atmospheric stability, thermal gradient	Waveband: 17 Channel, 1 channel each in 23.8 and 31.5
Temperature Sounding Unit			temperature and humidity sounders	winds.	GHz and 15 channels in 50 - 60 GHz Spatial resolution: 40 - 96 km Swath width: 1550 km Accuracy:
UV Spectrometer (GACM) NASA	GACM	Proposed	Atmospheric chemistry	Daytime measurements of O3, NO2, SO2, CH2O, and aerosols.	Waveband: 305 - 320 nm and 500 - 650 nm Spatial resolution: Swath width:
UV/Vis Near IR Wide Imaging Spectrometer (Geo-Cape) NASA	GEO-CAPE	Proposed	Imaging multi- spectral radiometers (vis/IR)	Measures natural and human-produced gases and aerosols in the atmosphere, including those that react in sunlight to form polluting low-level ozone.	Accuracy: Waveband: 315 - 600 nm Spatial resolution: 7 km spatial resolution, single layer vertical resolution, 0.9 nm spectral resolution Swath widh: typically uses 2D data array with 1-D north to south in space (7 km wide) and 1D for (oversampled) spectral intervals/bins. The spatial domain is mechanically scenned for east to west to cover a continental domain
10/40	Ingonio	Deing dass	Almoort		(either north or south America). Accuracy: ozone precision: 1.3 x 10^16 cm^(-2); NO2 precision: 5 x 10^14 cm^(-2) Mounte and UV/0/E 200, 400 am
UVAS UVAS (Ultraviolet Visible and near- infrared Atmospheric Sounder) CDTI	Ingenio	Being developed	Atmospheric chemistry	High spatial resolution observations of air quality and climate gases such as ozone (O3), nitrogen dioxide (NO2), sulphur dioxide (SO2), formaldehyde (HCHO) glyoxai (CHO-CHO), and aerosols over selected zones of interest (urban and industrialized areas, mayor molorways, and special events like forest fires, volcano eruption and sand storms). Also measurements of halogenated compounds will be performed, including bromine monoxide (BrO) and iodine monoxide (IO).	Waveband: UV/VIS 290 - 490 nm Spatial resolution: 20 km nominal, 10 km zoom. Swath width: Accuracy: trace gas profile 10 - 40%
UVN (Sentinel-4)	Sentinel-4 A, Sentinel-4 B	Proposed	Atmospheric chemistry	Supporting atmospheric composition and air quality monitoring services.	Waveband: UV-1: 290 - 308 nm, UV-2: 308 - 400 nm, VIS: 400 - 500 nm, NIR: 750 - 775 nm
UV-visible- near infrared imaging spectrometer (Sentinel-4)			Chemisu y	SUTTICUS.	400 - 500 nm, Nik: 750 - 775 nm Spatial resolution: < 5 km at SSP, possibly relaxed to 50 km for wavelengths < 308 nm Swath width: FOV E-W: 30°W-45°E @ 40°N, N-S: 30°N-65°N
ESA (EC)					Accuracy: TBD
UVNS (Sentinel-5 precursor)	Sentinel-5 precursor	Proposed	Atmospheric chemistry	Supporting atmospheric composition and air quality monitoring services.	Waveband: UV-1: 270 - 300 nm, UV-2: 300 - 400 nm, VIS: 400 - 500 nm, NIR: 710 - 775 nm, SWIR-3: 2305 - 2385 nm
Ultra-violet Visible Near-infrared Shortwave-infrared spectrometer			o ioniaŭ y		Spatial resolution: 5 - 15 km at SSP, possibly relaxed to 50 km for wavelengths < 300 nm Swath width: Daily global coverage
ESA (EC, NSO) UVNS (Sentinel-5)	Sentinel-5	Proposed	Atmospheric	Supporting atmospheric composition and air quality monitoring	Accuracy: TBD Waveband: UV-1: 270 - 300 nm, UV-2: 300 - 400 nm, VIS:
Ultra-violet Visible Near-infrared Shortwave-infrared spectrometer			chemistry	services.	400 - 500 nm, NIR: 710 - 775 nm, SWIR-1: 1593 - 1672 nm, SWIR-2: 1940 - 2030 nm, SWIR-3: 2305 - 2385 nm Spatial resolution: 5 - 15 km at SSP, possibly relaxed to 50 km for wavelengths < 300 nm
ESA (EC)					Swath width: Daily global coverage Accuracy: TBD
VEGETATION	SPOT-4, SPOT-5	Operational	Imaging multi- spectral radiometers	Data of use for crop forecast and monitoring, vegetation monitoring, and biosphere/ geosphere interaction studies.	Waveband: Operational mode: VIS: 0.61 - 0.68 µm, NIR: 0.78 - 0.89 µm, SWIR: 1.58 - 1.75 µm, Experimental mode:
CNES (SNSB, EC)			(vis/IR)		VIS: 0.43 - 0.47 µm Spatial resolution: 1.15 km at nadir - minimal variation for off- nadir viewing Swath width: 2200 km Accuracy:

Instrument & agency (& any partners)	Missions	Status	Туре	Measurements & applications	Technical characteristics
VFM	Swarm	Being developed	Magnetic field	Magnetic field vector measurements.	Waveband: N/A Spatial resolution: <0.1nT
Vector Field Magnetometer					Swath width: N/A Accuracy: <0.5 nT/15 days
ESA		<b>.</b>			
VHRR Very High Resolution Radiometer	INSAT-3A, KALPANA-1	Operational	Imaging multi- spectral radiometers (vis/IR)	Cloud cover, rainfall, wind velocity, sea surface temperature, outgoing longwave radiation, reflected solar radiation in spectral band $0.55 - 0.75 \ \mu m$ , emitted radiation in $10.5 - 12.5 \ \mu m$ range.	Waveband: VIS: 0.55 - 0.75 µm, NIR: 5.7 - 7.1 µm, TIR: 10.5 - 12.5 µm Spatial resolution: 2 km in visible, 8 km in IR
ISRO					Swath width: Full Earth disk every 30 minutes Accuracy:
VIIRS	DWSS, JPSS-1, JPSS-2, Suomi NPP	Operational	Imaging multi- spectral radiometers	Global observations of land, ocean, and atmosphere parameters: cloud/weather imagery, sea-surface temperature, ocean colour,	Waveband: VIS - TIR: 0.4 - 12.5 µm (22 channels) Spatial resolution: 400 m - 1.6 km
Visible/Infrared Imager Radiometer Suite NOAA (NASA)			(vis/IR) and ocean colour instruments	land surface vegetation indices.	Swath width: 3000 km Accuracy: SST 0.35 K
VIRR	FY-3A, FY-3B, FY-3C	Operational	Imaging multi-	Multispectral Visible and Infra-red Scan Radiometer.	Waveband: Instrument features 10 channels over 0.43 - 10.5
Multispectral Visible and Infra-red Scan Radiometer (10 channels)			spectral radiometers (vis/IR)		µm Spatial resolution: 1.1 km at nadir Swath width: 2800 km Accuracy: 1.1 km
NRSCC (NSMC-CMA, CAST) VIRS	TRMM	On continued	Income in a second d	Data to be used in conjunction with data from CERES instrument	
Visible Infra-red Scanner		Operational	spectral radiometers	bala to be used in conjunction with data non-CERES instalment to determine cloud radiation. Will enable 'calibration' of precipitation indices derived from other satellite sources.	μm, TIR: 10.8 μm and 12 μm Spatial resolution: 2 km at nadir Swath width: 720 km
NASA	HumpIDI	Dranaad	Live arone stral		Accuracy: Waveband: 400 - 2500 nm
Visible imaging spectrometer (HyspIRI) NASA	HyspIRI	Proposed	Hyperspectral imagers and imaging multi- spectral radiometers (vis/ir)		Spatial resolution: 60 m at nadir; 3 week revisit time Swath width: 90 km Accuracy: Spectral accuracy < .5 nm
VSC	VENUS	Being developed		High resolution superspectral images (12 spectral bands) for	Waveband: 420 nm centre wavelength (width: 40 nm); 443
Venus Superspectral Camera		Doing developed	spectral radiometers (vis/IR)	vegetation and landcover applications.	(40); 490 nm (40); 555 nm (40); 620 nm (40); 620 nm (40); 620 nm (40); 667 nm (30); 702 nm (24); 742 nm (16); 782 nm (16); 865 nm (40); 910 nm (20)
CNES (ISA)					Spatial resolution: 5.3 m spatial resolution with 27 km swath Swath width: 27 km Accuracy:
WEFAX	GOES-12	Operational	Communications	Weather facsimile.	Waveband:
Weather Facsimile					Spatial resolution: Swath width: Accuracy:
NOAA WFC	CALIPSO	Operational	Imaging multi-	Acquires high spatial resolution imagery for meteorological	Waveband: VIS: 620 to 670 nm
Wide Field Camera	CALIFSO	Operational	spectral radiometers (vis/IR)		Spatial resolution: 125 m Swath width: 60 km Accuracy:
NASA					Accuracy.
WFI-2 Wide Field Imager-2	CBERS-3, CBERS-4	Being developed	Imaging multi- spectral radiometers (vis/IR)	Earth resources, environmental monitoring, land use.	Waveband: 0.45 - 0.52 µm, 0.52 - 0.59 µm, 0.63 - 0.69 µm; 0.77 - 0.89 µm Spatial resolution: 64 m Nadir
-			(vianty)		Swath width: 866 km
INPE (CAST)		Destature a	0	Management and an ended	Accuracy:
WindRAD Wind Radar	FY-3E, FY-3G	Prototype	Scatterometers	Measures sea-surface wind.	Waveband: Spatial resolution: Swath width: Accuracy:
NSMC-CMA	DEGOLIDOEGATA	Decentry 1	lass size a 10		Manaharah O haraka la VAIID ay 1414 - 14 Olympi
WS LISS III Wide Scan LISS III	RESOURCESAT-3, RESOURCESAT-3A	Proposed		For crops and vegetation dynamics, natural resources census, disaster management and large scale mapping of themes.	Waveband: 3 bands in VNIR and 1 band in SWIR Spatial resolution: 23.5 m, 10 m Swath width: 700 km
ISRO					Accuracy:
WSAR	HY-3A, HY-3B, HY-3C	Proposed	Imaging microwave radars	High resolution radar measurements of land and ocean features.	Waveband: X-Band: 8 - 12 GHz Spatial resolution: 3 modes: 1 m, 5 m, 10 m
NSOAS (CAST)					Swath width: 3 swaths: 40 km, 80 km, 150 km Accuracy:
WTE	SAC-C	Operational		Tracking of Eubalean Australis and environmental data collection system.	Waveband: Spatial resolution:
Whale Tracker Experiment					Swath width: Accuracy:
CONAE					
X-Band SAR X-Band Synthetic Aperture Radar	TanDEM-X, TerraSAR-X, TSX-NG	Operational	radars	High resolution images for monitoring of land surface and coastal processes and for agricultural, geological and hydrological applications.	Waveband: 9.65 GHz, 300 MHz bandwidth, all 4 polarisation modes Spatial resolution: Spotlight: 1.2 x 1 - 4 m Stripmap: 3 x 3 - 6
DLR				appiloauori3.	m ScanSAR: 16 x 16 m
					Swath width: Spotlight: 5-10km x 10 km, Stripmap: 30 km, ScanSAR: 100 km Accuracy:
XPS	SORCE	Operational		Objective is to measure the extreme UV solar irradiance from 1 - 35 nm.	Waveband: UV: 1 - 35 nm Spatial resolution:
XUV Photometer System					Swath width: Accuracy:
NASA					