

IGOL: The Land Theme of IGOS

Integrated Global Observations for Land

Progress Report, November 2005

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The need for a Land Theme

- IGOS-P had not considered the observational needs relating to many aspects of the land
 - Sustainable economic development,
 - Natural resources management,
 - Conservation and biodiversity
 - Ecosystems
 - Functioning
 - Services
 - Multilateral environmental agreements.
 - development, implementation mandatory reporting and monitoring.
- The World Summit on Sustainable Development pointed to the need to *"Promote the development and wider use of earth observation technologies, including satellite remote sensing, global mapping and geographic information systems, to collect quality data on environmental impacts, land use and land -use changes."*

Relation to SBAs

- **Corresponds to at least three SBAs**
 - Agriculture
 - Ecosystem Services
 - Biodiversity (terrestrial only)
- **Land observations contribute to other SBAs.**
 - Hazards
 - Health - biomass burning, habitats
 - Water (consumption)
 - Coastal
 - Climate (through carbon cycle)
 - Energy

Approach

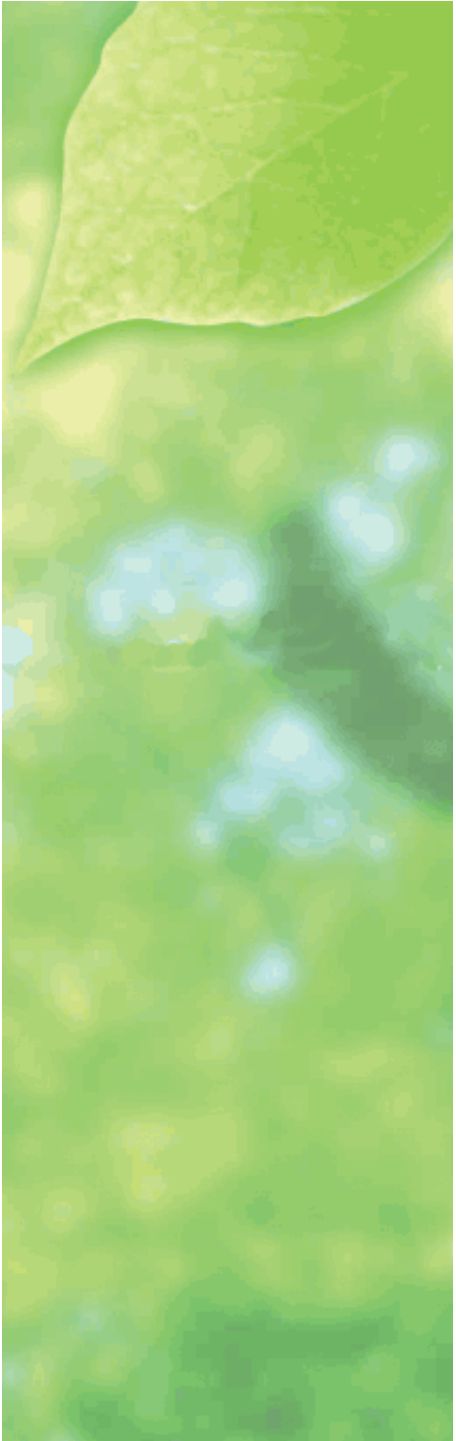
- **Needs for Land observations tied to SBAs**
- **Who are the stake-holders?**
- **What are the products needed to satisfy requirements?**
- **What are the observables needed to create the products?**
- **Identify enhancements needed.**

IGOL Development

- **Still in preparation: seeking approval in May 2006 at next IGOS-P meeting.**
- **Two Plenary Meetings plus a Final Meeting in Beijing.**
- **Special meeting on terrestrial biodiversity (CBD, WCMC, NGOs) – November 2005.**
 - **Separate self contained report as well as contribution to IGOL.**
 - **Still need for oceanic component.**
- **Special Meeting on Agricultural Monitoring and Forecasting – March 2006.**

1st cut at priorities

- **Global high resolution wall to wall map, annual, multiyear, land cover and land cover change**
- **Ensured Data Continuity - operational Landsat-class with equivalent Long Term Acquisition Plan**
 - **Missions or coordinated international acquisition prior to 2010;**
 - **Enhanced data access (cost issue)**
- **Enhanced hyperspatial data availability**
 - **Kyoto Goal - systematic global, . 5ha, 10m, 24hr revisit**
- **Near Real Time/ Rapid Response /Alert/ Detection e.g.**
 - **LCC/Disturbances/Crop condition (hrs)**
 - **Fire. Floods, drought**
 - **Early warning of crop pests and drought (High Temporal, SAR Soil Moisture/Hyperspectral Condition and Pests)**
- **Global 30m spacing DEM**



1st cut at priorities

- **Multi-stage Sampling of Global Land Use**
 - (inc. In-situ, RS Land Cover)
- **Urban and Rural Settlement and Infrastructure Products**
- **Enhanced, georeferenced, disaggregated (gridded) population data**
- **Enhanced capacity to process, assemble, assimilate and analyze observations from multiple sources (satellite, in-situ, survey)**
- **Development of improved Agricultural Monitoring**
 - **Seasonal/Annual - crop acreage, cropping type, types and distribution, crop growth condition and yield (combination of optical and microwave - issue of SAR continuity)**