

# Integrated Global Observing Strategy: areas & benefits of cross-Theme integration

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Integrated Global Observing Strategy for Geohazards &  
UNESCO-IUGS Geological Applications of Remote Sensing Programme



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A **partnership** of international organizations working to define, develop and implement an integrated global earth observing **strategy** on the basis of best effort and a shared interest

International science and research programmes



UN organizations



IGFA

Space agencies

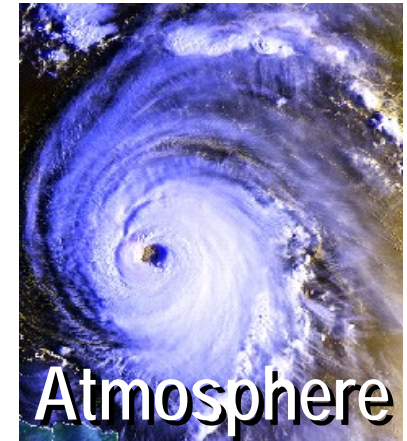


Global observing systems



GOS/GAW

# Need for earth observations



# IGOS Themes

- Challenge has been broken down into **6 Themes**
- Process for developing Themes:
  - Form a group of interested partners and internationally recognized experts from inside and outside IGOS
  - Work with user communities to define needs and products
  - Assess the current status of observations and analysis
  - Identify gaps and the actions required to fill them
- Themes also document:
  - Objectives
  - Roles and responsibilities
  - Milestones
  - Evaluation criteria
  - Level of effort required



# IGOS Theme So Far...

**Entering Year 3 Review:** -Oceans

**Under implementation:**

- Coral reefs sub-theme
- Carbon cycle
- Water cycle
- Geohazards

**In the approval process:**

- Atmospheric chemistry
- Coastal

**Under development:**

- Land
- Cryosphere

# Shared application areas

- Disasters related to other hazards
  - Tsunami, floods, coastal instability, avalanche...
  - Coastal, Cryosphere, Geohazards, Ocean, Water Cycle
  
  - Volcanic ash
  - Atmospheric Chemistry and Geohazards
  
- Human health
  - Understanding environmental factors in health
  - Coastal, Land, Geo(hazards) and Water Cycle

# Other application areas

- Energy
  - Improved resources management
  - Carbon Cycle and Geo(hazards), others
- Climate Change
  - Understanding, assessing, predicting, mitigating, etc.
  - All Themes?
- Weather
  - Improved information, forecasting and warning
  - Atmospheric Chemistry, Land and Ocean

# Common Observations

- Elevation
  - Terrain models from SRTM, ASTER, other
  - Coastal, Cryosphere, Geohazards, Land, Water Cycle
- Land cover
  - Baseline datasets and change detection
  - Carbon Cycle, Coastal, Geohazards and Land
- (Hyperspectral) reflectance
  - For ocean colour, land cover, volcanic gasses...
  - Coastal, Geohazard, Land and Ocean Themes



# Other Issues

- **Socio-Economic**
  - Definition of Theme's socio-economic requirements
  - All Themes
- **Capacity Building**
  - Data infrastructures, enlargement of IGOS community
  - All Themes
- **Themes' Relationship to GEOSS**
  - Integration of the main IGOS deliverable into GEOSS
  - All Themes

# Quick Win!

- Themes need global, high-resolution DEM
    - Coastal, Geohazards, Land, Water Cycle...
  - The requirement is known to CEOS SIT
  - The observations exist already (i.e. SRTM30)
  - Can we secure their release together?
- Along with Landsat class imaging, it could offer a quick win for the new GEOSS too...