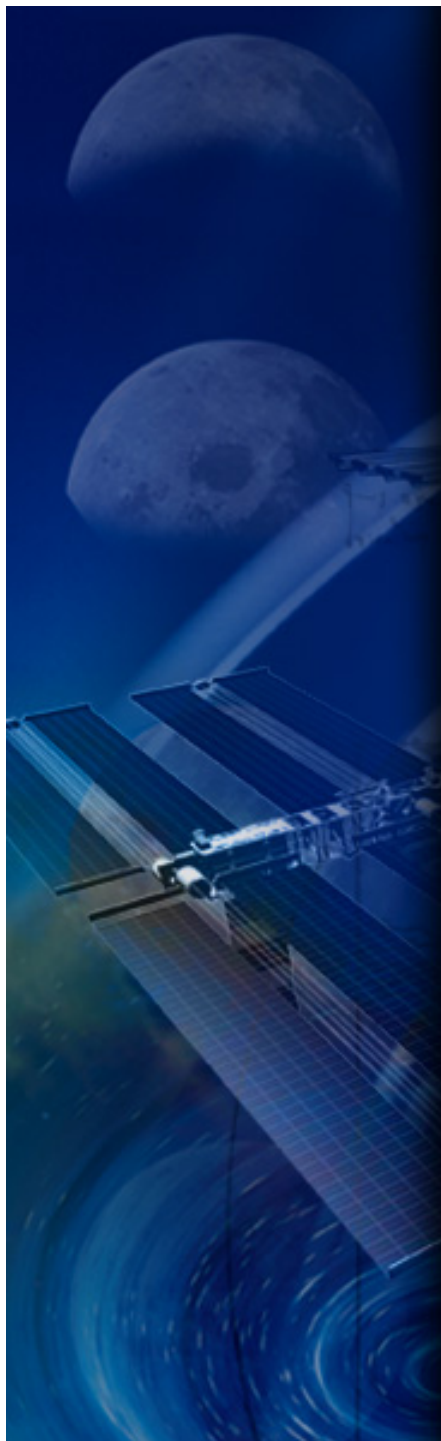# GEO Task DI-06-09
Use of Satellites for Risk Management

Presentation to UIC

Washington, August 2007

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on behalf of

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Approach

- Creation of DI-06-09 Steering Committee: CSA, UNOOSA, CEOS, ESA, UNOSAT, IGOS, WMO, Geo Secretariat

- Steering Committee has created two sub-groups:
  - User Working Group (David Stevens, UNOOSA): will compile list of available documents for roll-up into user requirements report, and draft user report
  - Architecture Working Group (Guy Seguin, CSA): will examine preliminary user report, propose specific architectures to meet needs and draft a timeline for implementation

- DI-06-09 Steering Committee will draft recommendations for implementation based on reports of each sub-group.

Output and Deliverables

- By fall 2007, the group aims to deliver:
  - User report: compilation of user requirements for disaster management using satellites
  - Architecture Report: satellite system definition
  - Recommendations for implementation
  - A demo of how the virtual constellation might work

User Group 13 June

- About 30 participants

- Diverse geographical representation – every continent

- Diverse organizations: meteorological organizations, civil security, international users, national government representatives, space agencies

- Strong support expressed for GEO Task, seen as complement to UN SPIDER

- Willingness to continue supporting task development, including on-going review of requirements from user perspective

User Group 13 June

- Users agreed on format for presentation of user requirements by disaster phase, and subsequent roll-up for "generic" requirement (see tables in following slides)

- Strong feeling that vulnerabilities assessment/risk mapping needs to be initial focus of Task requirements analysis

- Charter excellent first step towards operational response, but serious issues raised: access/non-member activation, data vs information, timeliness, asset availability

- Problem of data integration into products and services not resolved

- Need to address capacity building and data policy issues

User Requirement roll-up Example - Mitigation

Disaster	Purpose	Attributes	Satellite type	Linkages to other data	Geo. coverage	Spatial resolution	Revisit	Tasking	Latency	Change detection
Floods	Identify flood risk zones	Topography, historical flood extent	Radar Medium res spectro Medium res multi	Accurate DEMs – 10m? Cities 1m? 20cm?	Major flood plains (cities)	100m – 250m (some zones at 10m)	Not critical	Not critical	Not critical	no
Wind-storms										
Tsunamis										
Earth-quakes										
Landlsides										
Volcanos										
Fires										
Drought										
Insects										

Architecture Group 18 June

- Address architecture phase by phase…

- For Mitigation/Warning/Recovery, use pilot project approach with selection of regional champions that can integrate satellite data to showcase usefulness of monitoring activities; organize volunteer contributions on mission-by-mission basis; define global "baseline" imaging scenario

- For Response, broaden Charter by inviting GEO Member states to designate authorized users (if agreed to by Charter); encourage new Charter membership

CEOS Implementation Plan Target Linkages

- **Strengthen the Charter (2007):** recommendation to seek Charter permission to allow GEO member states to become Authorized Users to activate the Charter; encourage new Charter membership

- **Facilitate existing monitoring by geostationary satellites (2007):** being addressed by both user and architecture reports

- **Establish continuity of critical observations (2011):** user report will address critical gaps and architecture will address on-going operational needs

- **Integrated system of GPS and INSAR (2011-15):** architecture report will identify necessary capacity and requirement will be documented

- **Establish automated satellite data processing systems for rapid hazard detection (2011-15):** will be addressed on pilot basis in context of regional demonstration projects