



- Created at Telecon 23 (December 2018)
- Mandated to take stock of achievements and issues, review objectives and report back to WG in March 2019
- Members:
 - Simona Zoffoli (ASI, Chair)
 - David Green (NASA, vice-chair)
 - Andrew Eddy (secretary)
 - David Borges (NASA)
 - Helene De Boissezon (CNES)
 - Ziyang Li (AOE)
 - James Norris (GEO)
 - Steven Hosford (CEOS CEO)
 - Jens Danzeglocke (DLR, DCT Chair)
 - Stefano Salvi (INGV, GSNL Chair)
- 1st teleconference held 4 February 2019; 2nd telcon 27 February.



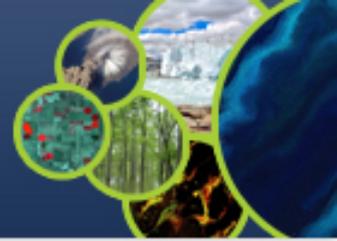
- Consensus report of the CEOS ad hoc Disaster Team (2012)
 - Action # 1: Define a Global Satellite Observation Strategy for DRM
 - Action # 2: Implement the Global Satellite Observation Strategy for DRM
 - Action # 3: DRM Virtual Data Repository
 - Action # 4: DRM Data Processing Platform
 - Action # 5: Positioning Satellite EO in the post Hyogo Framework for Action (HFA) activities
 - Supporting Action # 6: DRM Outreach and Evaluation of CEOS Actions
 - Supporting Action # 7: EO Capacity Building for DRM
 - Supporting Action # 8: Sat EO DRM Project Database
- CEOS DRM observation strategy (2013)



- 1st three thematic pilots completed 2017 (Floods, Seismic Hazards, Volcanoes); Landslide pilot ending 2019;
- 2 Demonstrators begun (Volcanoes, Seismic Hazards);
- Geolabs benchmark activity; access to and processing of data; communication of results - ongoing
- GSNL restructured and significantly grown; interaction with CEOS being redefined; multi-hazard sites being considered
- Multi-hazard approach being developed with Landslide pilot and GEO-DARMA
- RO addresses a 'neglected' phase of DRM

However...

- No dedicated flood activity (world's most prevalent hazard)
- Most activities focused on geohazards
- Strong focus on hazard less on risk and resilience
- Lack of linkages to some major themes (e.g. climate change adaptation and impact, droughts, wildfires...)
- Many projects lack dedicated funds – is model of in-kind data contribution enough to “create” a project?



GEO Initiatives

GSNL (on-going)

GEODARMA (phased approach)

CEOS DRM Observation Strategy

Volcano Demonstrator (2021)

Seismic Hazard Demonstrator
(2021)

Recovery Observatory (2020)

Landslide Pilot (2019)

Flood Pilot (2017)

Cross-Cutting Activities

GeoHazard Lab (on-going?)

Objectives of Working Group from Terms of Reference (1 of 3)



- Identify priority areas and initiatives within the theme of risk management and disaster reduction that should be supported by the CEOS Agencies.
- Represent CEOS in the GEO Work Plan Disaster Tasks and Components (to include leadership of Tasks and Components, as determined by CEOS leadership) and develop CEOS Actions to support the execution of the GEO Disaster Tasks and Components in accordance with CEOS Work Plan
- Ensure the coherency and the proper coordination of CEOS Agencies resources that support disaster-related activities undertaken by CEOS.
- Interface the major stakeholders and other representatives of the user community involved in disaster risk management to better understand and assess their needs and priorities, taking into account the resources available in the CEOS agencies.
- Develop a realistic and coherent observing strategy aimed at responding as well as possible to user needs through improved coordination and use of available resources.

Objectives of Working Group from Terms of Reference (2 of 3)

- Identify and assess gaps in Earth Observation data necessary to address all parts of the disaster management cycle with the aim of better supporting the needs of the user community involved in disaster risk management.
- Advise and coordinate CEOS Agencies in better use of existing assets and the deployment of new assets that will reduce these gaps
- Maintain a close dialogue with GEO and UN experts to ensure appropriate recognition for the use of space-based Earth Observations within the 2015-2025 Post-Hyogo Framework for Action (HFA). Relevant activities will include and leverage existing disaster-related efforts supported by CEOS Agencies.
- Identify and establish a dialog with the major potential funding agencies active in this domain
- Undertake any other relevant activities as instructed by CEOS Chair.

Objectives of Working Group from Terms of Reference (3 of 3)



- Develop a multi-year plan of action aimed at increasing progressively both the coverage of disasters types and the geographical areas (globally, regionally and locally).
- Make recommendations to the CEOS Agency Principals for the transition from demonstrator projects to more operational services whenever relevant.

In carrying out the tasks above, it will:

- Interface with the other CEOS Working Groups to address aspects related to disasters that those Working Groups are better equipped to tackle. This may include specific activities such as capacity building, calibration / validation, access mechanisms to data and services.
- Work with the CEOS Virtual Constellations to enhance the provision of data that can be used for risk management and disaster reduction.
- Promote openness and access to relevant data and products
- Coordinate with existing in situ networks to integrate complementary measurements and observations



#	Objective	Activity	Status	Discussion
1	Identify priority areas and initiatives in DRM	Initial ad hoc report on needs and gaps	Has not been updated in several years; Sentinels launched since report	Need to reflect on impact of Copernicus/Sentinels ('game changer'); requires updating
2	Interface with user community and link resources to needs/develop strategy	Conferences; pilots	Good connections to UN Global Platform and Understanding Risk (WB). Good working relationships at pilot level (volcano pilot, Haiti RO)	Linking to user communities should be through <i>projects</i> , not just through conferences
3	Develop multi-year plan to increase coverage of disasters types and geographic areas (globally, regionally and locally).	None	Not undertaken except in specific project contexts (e.g. Volcano demonstrator; GEO-DARMA)	Should be linked to review of priority areas, needs, and gaps
4	Represent in GEO disaster tasks	GSNL and GEO-DARMA	More institutionalized cooperation necessary – some gaps	Participate in GEO WorkPlan Workshop (take action to identify whom); Existing GEO Community Activity to be 'revamped'
5	Ensure coherence and coordination across CEOS for disaster use	DCT mandate	Collaborating agencies well-coordinated; some agencies missing; some activities not pooled.	New DCT chair required; broaden membership of DCT? Significant disaster activities outside of WG Disasters – linkages?



#	Objective	Activity	Status	Discussion
6	Maintain dialogue UN and GEO post Hyogo/Sendai	GEO WG	Active – specific activities could be defined (e.g. indicators)	Report from Sendai WG; Role for WGD in indicator monitoring to be explored
7	Establish dialogue with potential funders	Projects	Some success (Haiti RO, G-RO); further pooling could be beneficial (e.g. EO4DRM)	Link to report from Philippe and David (WGD11)
8	Make recommendations on pilot to demonstrators; demonstrators to operations	Volcano and Seismic Pilots/Demonstrators	On-going in two areas.	Need to be more systematic?
9	Cooperate with other CEOS WG and Virtual Constellations	RO/WGISS; some discussions beginning	Requires more systematic approach	Work on use cases/ARD for disaster applications? Project leads to reach out to WGCapD more systematically, during implementation plan development?
10	Promote open data and products access; coordinate with in-situ networks and promote data integration	Many projects (esp. GSNL, landslides, Geolabs, RO)	On-going	No change necessary



- CEOS is “Space Arm” of GEO;
- Two major initiatives in group are GEO initiatives: GSNL and GEO-DARMA;
- WG well represented in GEO hierarchy: Ivan Petiteville is Programme Board co-chair; James Norris (SEC Disaster Coordinator) is regular participant in WG activities;
- Other key group activities not well connected to GEO;
- More leverage could be obtained through closer ties to GEO initiatives;
- Need for more interaction with GEO events at working level, such as annual workplan workshop
- WG Disaster Community Activity status?



- Understanding Risk Forum, Mexico, 2018
- City on Volcanoes, Italy, 2018
- Sessions at:
 - Living Planet Symposium, Italy, 2019
 - EGU, Austria, 2019
 - World Reconstruction Conference 4, May 2019
- CEOS WG Disasters Web Pages update

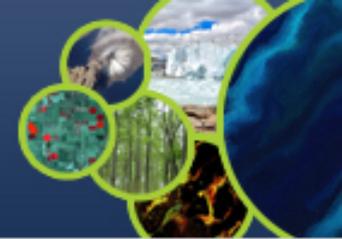


- What are the communities we want to reach?
 - Internal to CEOS
 - Satellite EO
 - Disasters and Risk Communities (UR, Global Platform/Sendai, others?)
- What are our key messages?
- Are we successful in communicating our messages?
- Website: major update in 2018. Anything more? Linkages to final products not completed



- Review existing Working Group Terms of Reference – current version is several years old, but also lacks clear articulation of high-level strategic objectives (as opposed to list of what to do)
- Review and update Consensus Report/ EO for DRM Strategy (consider new themes –drought, wildfire, climate change– and address multi-year plan and evolving geography). Since drafting the strategy, the Sentinel missions have been launched, and many new data sets are available. A greater effort should be made to highlight how these contributions have changed how EO satellites are used for disasters.
- Reinforce cooperation with GEO
 - Send representation to Workplan Meeting
 - Engage in other GEO DI and Water tasks/initiatives?
 - Community Activity for WG Disasters to be redefined and updated
- Broaden outlook within DRM community: UNISDR, but also more emphasis on Word Bank/GFDRR/Understanding Risk Community, at activity level rather than just conferences – several group members felt we need to reach out to existing initiatives and make satellite EO contributions more visible

- Greater emphasis on risk (not just hazards). Consider work on exposure and vulnerability, but also greater effort to apply hazard work (where value of EO is arguably greatest) to multi-hazard problems in a full risk and resilience context – we need to ensure a strong contribution across a range of hazards, not only geohazards, and make clear linkages to user communities
- Consider beginning work on climate change adaptation and impact (in ‘local’ context rather than global models), in cooperation with Climate Change WG, linking to national initiatives such as CNES Space Climate Observatory.
- Consider merit of working on Sendai monitoring/indicators – is there a Sendai space strategy? The Sendai indicators and the Sustainable Development Goals should be viewed as a single effort, and satellites can contribute to monitoring. The group should consider the role of CEOS in Sendai monitoring.



THANK YOU!

