



Committee on Earth Observation Satellites

# GEO-DARMA

Report to WG Disasters mtg #9

Brussels

March 13-15, 2018

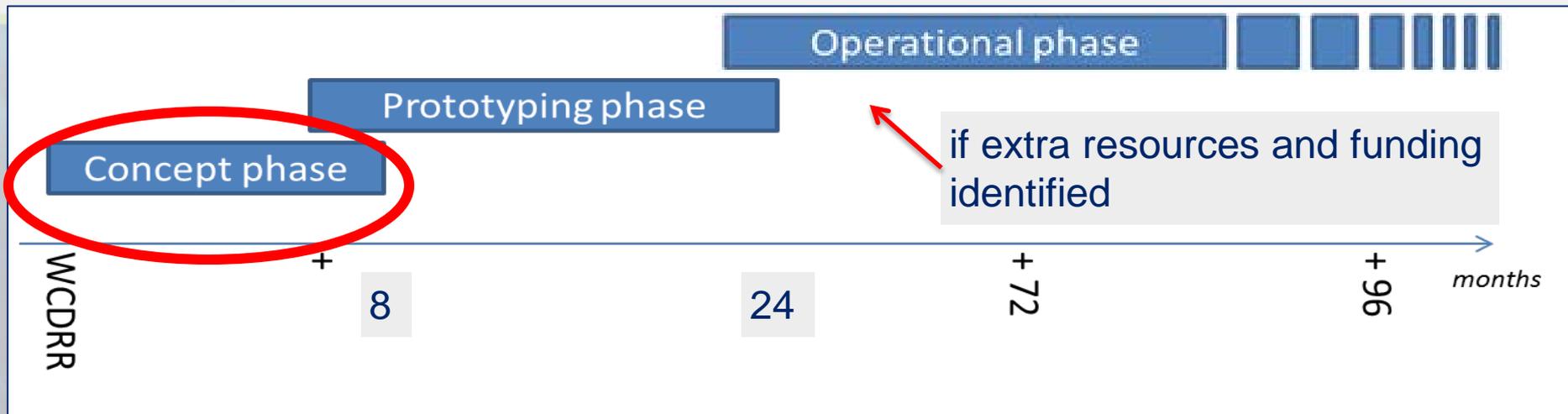
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- **Concept phase completed for two of three regions; further work required for Latin America/Caribbean.**
- **Iterative process means new projects welcome at any time, but must fit within identified DRR priorities.**





- **GEO-DARMA SC 2, November 2017:**
  - Terms of Reference of SC approved;
  - Regional assessments for Asia and Africa reviewed; six project proposals received for Asia/Africa;
  - Concept phase for Asia and Africa concluded.
- **Concept Phase for Latin America/Caribbean on-going;**
- **New regional institution for LAC – UNISDR Americas, in association with UNEP LAC;**
- **GEO-DARMA SC 3, January 2018:**
  - Review of mature project proposals for possible further development; four projects reviewed and tagged for further development.



- **Concept phase concluded for Southeast Asia and Africa**
  - Southeast Asia region expanded to include Pacific and Central Asia (UNESCAP request)
  - Prototyping phase to begin with selection of first projects
- **Five regional institutions committed to project, as well as two global institutions:** CDEMA, UNESCAP, ADPC, RCMRD, ECOWAS, GFDRR, and UNISDR. Interest from UNEP Americas, and cooperation with AmeriGEOSS.
- **Five regional assessments completed:** UNESCAP, ADPC, RCMRD, ECOWAS, and IGAD; **two more forthcoming** - GFDRR/MENA and CDEMA; input from AmeriGEOSS under development.
- **A dozen existing and new projects identified as promising for GEO-DARMA**



- SC review of regional assessments to provide consensus on regional priorities by region (first Asia and Africa; then LAC)
- Regional DRR priorities serve as filter for project selection, along with other criteria (ease of implementation, resources, impact/benefits, scalability, etc)
- Each institution made short presentation of regional assessment at SC2, followed by group discussion and consensus adoption of regional priority statements



- Geospatially identifying hazards, vulnerability, and exposure;
- Providing early warning and prediction through on-going monitoring using EO data;
- Disaster emergency response which can be supported through impact assessments, damage assessments and inform the planning and delivery of humanitarian relief;
- Supporting reconstruction efforts to ensure resilient planning and monitor on-going reconstruction efforts.
- Data access, quality and sharing;
- Technical capacity;
- Usable tools and models;
- Land use and land cover mapping and monitoring;
- DRM, especially EWS for droughts and flooding;
- Agricultural monitoring and food security;
- Climate change adaptation and mitigation.

# Summary of DRR Priorities Africa



- Key hazards: **drought**, floods, landslides, diseases, and seismic and volcanic hazards (atlas produced 2013);
- Hazard mapping, disaster monitoring, and early warning system establishment. Drought stands as one of the most detrimental hazard in the region.
- Impact of disasters on livelihoods (e.g. vector borne diseases);
- Climate change and disaster vulnerability assessments and adaptation (focus on social vulnerability);
- Food security;
- Hazard mapping and risk assessment (geo-hazards, hydro-meteorological hazards, climatological hazards, technological hazards);
- Early warning/alert and tracking of a range of natural hazards, including flood, drought and landslides;
- Disaster response following natural and man-made hazards and support for Crisis Mapping/Damage Assessment involving risk knowledge, technical monitoring, and early warning service, dissemination, and preparedness about hazards, vulnerabilities and risks, their nature and effects, early warning signs and counter measures;
- Sub-regional and trans-boundary risks identification and assessments, through the development and use of EO data, maps and similar tools;
- Facilitating contingency planning activities at the regional and national levels and consolidating National disaster risk information which includes natural hazards, vulnerabilities, and climate change risk and maintain a Regional Risk Map;
- Developing, strengthening and operationalizing mechanisms for partnership or networking with the private sector, CSOs, and volunteer groups.



Projects	Champion
<i>Asia</i>	
1. Developing Collaborative Mechanism and Tool for Near-real time Flood Monitoring in Southeast Asia (The Mekong Flood Project)	ADPC
2. Integrating the Sustainable Development Goals into local action in support of the implementation of the 2030 Agenda in Asia and Pacific (monitoring urban development)	ESCAP and UN-Habitat
3. Coastal erosion mapping in Kiribati and other island states	ESCAP, Ministry of Fisheries and Marine Resources (Kiribati)
<i>Africa</i>	
4. PRIDE (Program for disaster Risk Informed Decision-making, Engagement and Communication)	RCMRD
5. ECOWAS Disaster Monitoring and Emergency Response Center	ECOWAS
6. Strengthening Regional and National Disaster Risk Monitoring and Early Warning Systems for DRR (SRNDRMEWS-DRR) + six existing projects to leverage: MESA, Building resilience to Disasters through Risk Management and Climate Change Adaptation, Strengthening Capacity of IGAD in Building Resilience in Horn of Africa-UNDP, HELIX (Climate Change), PREPARED (USAID), Enhanced Generation of Severe Weather Forecasts to Support Disaster Risk Management in Eastern Africa (AfDB)	IGAD Climate Prediction and Applications Centre

Projects in yellow earmarked for further development

# Proposed Projects

## Criteria for Further Development



- **For each project, champion presented:**
  - Alignment with regional priorities as identified in regional assessments
  - Ease of implementation
  - Ability of CEOS and other Data / Information Providers to meet identified data / information needs
  - Resourcing (finance, in-kind contribution, ..) (maturity of project development)
  - Benefits (cost benefits, societal benefits,...) – final selection may be combination of smaller, “easier” projects with incremental benefits and more ambitious but more “difficult” projects.
- **Champions held one-on-one calls in February with GEO-DARMA SC Secretary to work out details of project needs and data requirements by sensor type – process on-going.**

- **Championed by ADPC;**
- **Leverages existing NASA/USAID funded Mekong SERVIR project;**
- **Incorporates new data types, faster service delivery, higher resolution flood maps, capacity building;**
- **Financing for project in place, but some partners still to be confirmed (e.g. SAR value-adding) – on-going discussion with CEOS Flood Demonstrator Team;**
- **Vision to extend to larger SE Asia area if successful.**

- **Championed by ESCAP, in partnership with OCHA and UN Pulse Lab;**
- **Leverages existing funded initiative to link urban development to Sustainable Development Goals and Sendai Framework for DRR;**
- **ESCAP team recently selected six case study sites:**
  - **Jakarta, Columbo, Thimpu, Suha, Dhaka, and Papua-New Guinea (exact area still TBD)**
- **Specific applications for each site under development, with linkages to data types;**
- **Financing for project in place, but some partners still to be confirmed (e.g. EO value-adding) – on-going discussion with CEOS Flood Demonstrator Team and others.**



- **Championed by ESCAP, with Government of Kiribati; several other nations expected to join;**
- **Funding still to be confirmed; UNESCAP in discussion with several donor states;**
- **Methodology would use high resolution and very high resolution optical imagery to track coastal change in states with risk of high impact from climate change in South Pacific;**
- **Possible linkage to UNOOSA project for small island state capacity building;**
- **ESCAP developing KML files with AOIs and specific data types; further partnership under development.**

- **Championed by RCMRD;**
- **Project fits well with identified regional priorities, but is very ambitious and currently un-funded;**
- **Project is being re-scoped to focus initially on leveraging existing, funded work – outputs will serve as showcase to convince donors to fund full-scale PRIDE proposal;**
- **New proposal for discussion end of March;**
- **Proposal may be delayed to Q3 review, depending on outcome of March discussions.**

- 1. Project champions refining proposals for presentation to WG Disasters and SIT** (rounding out project teams, defining in more detail data needs, ensuring proper financing for prototype phase ..)
- 2. Defining and implementing possible prototype projects at country level to address recommended priorities;**
  - close iterations with end users;
  - maximum reuse of existing initiatives / activities incl. operational, research, capacity building, ...
- 3. Progressive extension in region where applicable**
- 4. If “successful” prototype projects and if strong request from end users to continue → Assess transition to operation with identification of donors for future operational phase**



**March:** Presentation of draft project Implementation Plans to **CEOS WG Disasters** March 14, 2018

**April:** Presentation to **CEOS** Strategic Implementation Team (**SIT**) in April 2018 – CEOS go-ahead for data for projects – only if proposals are deemed ready. Champions may also choose to wait to Q3 and present to Plenary for approval\*.

**May/June:** Finalization of project financing with partners for 1<sup>st</sup> round of projects\*; SIT to approve projects for implementation, with management entrusted to technical committee made up of project partners (May/June 2018) – possible GEO-DARMA SC meeting at UR 2018 in Mexico, week of 14 May

**September/October:** end of Concept Phase for LAC region; first project proposals to be developed

\* Other projects will be developed later in 2018, in Asia/Africa, as well as in LAC, depending on project maturity.



# Thank you!

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- **Governing body for GEO-DARMA**
  - Provides strategic leadership and governance oversight.
  - Has delegated authority of the project partners or contributors to make decisions that are in accord with the objectives, approach and scope of the project.
  - Makes key policy decisions.
  - Guides the Objectives and implementation of the GEO-DARMA Projects.
  - Ensures effective oversight through receiving regular reports and reviewing the results of project evaluations.
- **Meets by teleconference several times a year and in person once a year.**
- **Takes decisions by consensus.**
- **Supported by Secretariat provided by European Space Agency consultant.**