



Committee on Earth Observation Satellites

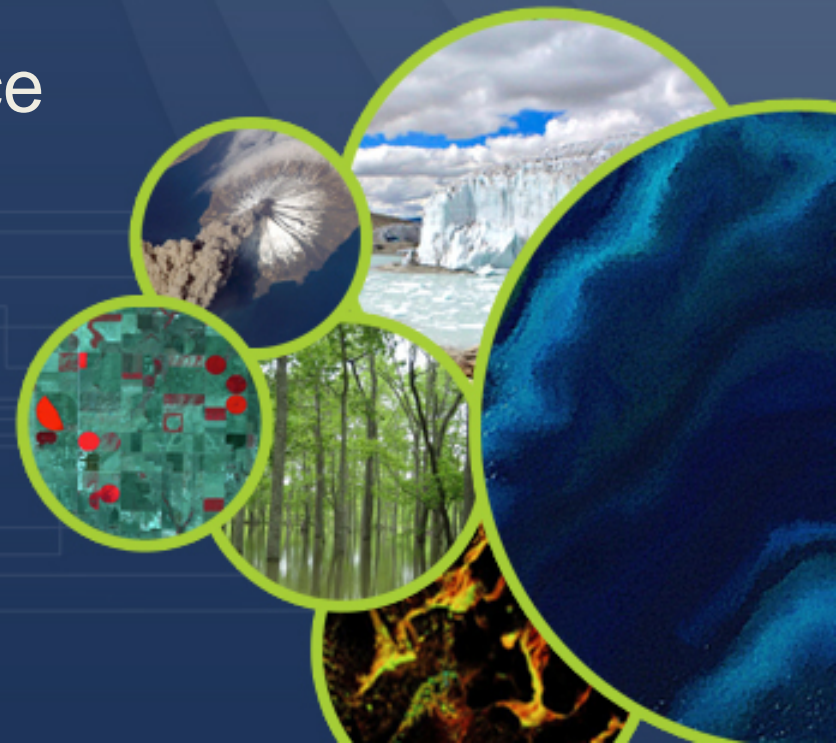
GEO-DARMA

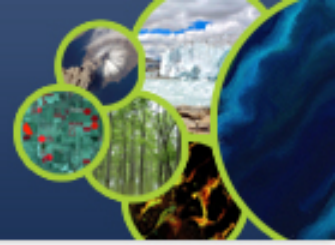
WG Disasters 11

6 March, 2019 – Athens, Greece

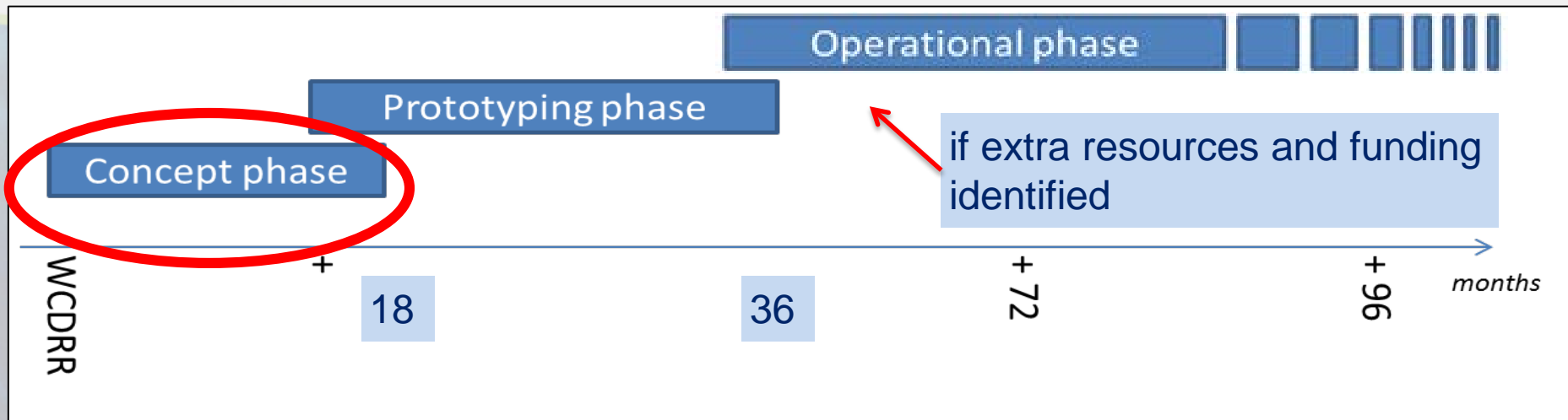
Ivan Petiteville, Chair, GEO-DARMA SC

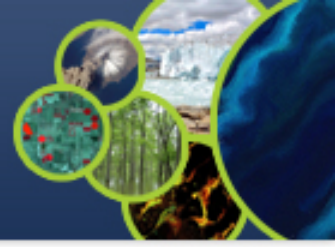
Andrew Eddy, Secretary, GEO-DARMA SC





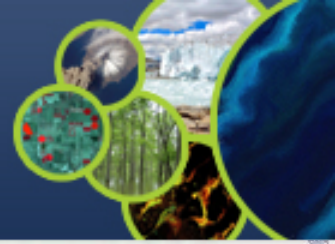
- **Concept phase completed for Africa and Asia; further work underway for Latin America/Caribbean.**
- **Iterative process means new projects welcome at any time, but must fit within identified DRR priorities.**





- Regional assessments provide consensus on regional priorities
- Regional DRR priorities serve as filter for project selection, along with other criteria (ease of implementation, resources, impact/benefits, scalability, etc)
- New projects reviewed by SC for coherence with regional assessments. SC recommends projects for implementation.

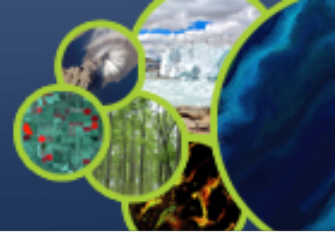
Summary of DRR Priorities Asia



- Geospatially identify hazards, vulnerability, exposure;
- Provide EO-based early warning and prediction;
- Response supported through impact assessments, damage assessments and informed planning/delivery of humanitarian relief;
- Support and monitor reconstruction efforts to ensure resilience;
- 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.



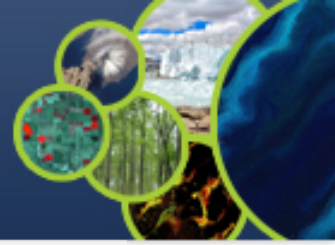
Summary of DRR Priorities Africa (1/2)



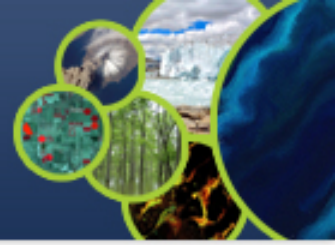
- **Key hazards: *drought*, floods, landslides, diseases, and seismic and volcanic hazards (atlas produced 2013);**
- **Hazard mapping, disaster monitoring, and early warning system establishment (esp. drought);**
- **Impact of disasters on livelihoods (e.g. vector-borne disease);**
- **Climate change and disaster vulnerability assessments and adaptation (focus on social vulnerability);**
- **Food security;**
- **Hazard mapping and risk assessment (geo, hydro-met, climatological, and technological hazards);**
- **Early warning/alert and tracking of natural hazards, including flood, drought and landslides;**



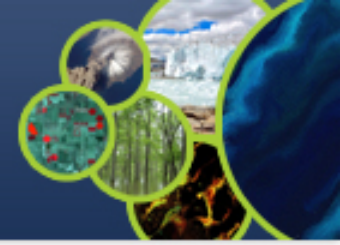
Summary of DRR Priorities Africa (2/2)



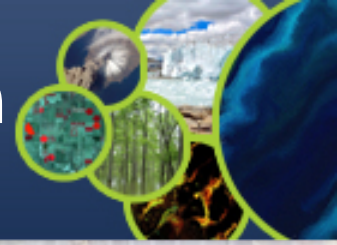
- **Disaster response and support for Crisis Mapping/Damage Assessment involving risk knowledge, technical monitoring, and early warning service, dissemination, and preparedness about hazards, vulnerabilities and risks, their nature and effects, early warning and risk reduction;**
- **Sub-regional and trans-boundary risks identification and assessments, through development and use of EO data and tools;**
- **Facilitate contingency planning activities at regional/national levels and consolidating National disaster risk information which includes natural hazards, vulnerabilities, and climate change risk; maintain Regional Risk Map;**
- **Develop, strengthen and operationalize mechanisms for partnership with private sector, CSOs, and volunteer groups.**



- **For each project, champion presents:**
 - Alignment with regional priorities as identified in regional assessments
 - Ease of implementation
 - Ability of CEOS and other data providers to meet needs
 - Resourcing (finance, in-kind contribution, maturity of project development)
 - Benefits (cost benefits, societal benefits,...



Projects	Champion	Status
<i>Asia</i>		
1. Developing Collaborative Mechanism and Tool for Near-real time Flood Monitoring in Southeast Asia (The Mekong Flood Project)	ADPC	Approved
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	<i>Proposals require identification of specific zones of interest (and thematics), consolidation of partnerships, and final budgets.</i>
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	<i>Rescoping for smaller budget, and new partners.</i>



- **Championed by ESCAP, with OCHA and UN Pulse Lab;**
- **Leverages funded initiative to link urban development to Sustainable Development Goals and Sendai Framework for DRR;**
- **Possible study sites include:**
 - **Jakarta, Columbo, Thimpu, Suha, Dhaka, and Papua-New Guinea.**
- **Applications to be tailored for each site, with linkages to data types;**
- **Financing in place, but some partners still to be confirmed (e.g. EO value-adding).**

- **Championed by ESCAP, with Government of Kiribati; other nations may join;**
- **Funding TBC; ESCAP in discussion with donor states;**
- **Use high resolution and very high resolution optical imagery to track coastal change;**
- **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 ambitious and currently un-funded;**
- **Re-scoping to focus initially on leveraging existing, funded work – outputs to serve as showcase for donors;**
- **New proposal under preparation for Q3 review.**



- **Regional Assessment LAC:** need for input and consolidation
 - ✓ UNISDR too busy to contribute – active discussions with UNEP Americas and AmeriGEOSS on-going
 - ✓ Target draft by spring 2019
 - ✓ Target review by next SC 2019
- **Myanmar NRT Flooding (GD1):** need to set up data access (CEOS and ADPC discussion) and ensure data processing/value adding is coordinated
 - ✓ Approval in principle by CNES and ASI – Project Team refining request
- **Projects being consolidated (GD2,3,4):** new drafts showing AOIs, data needs, etc.
 - ✓ ESCAP projects still under definition – expect more input Q2
 - ✓ RCMRD project requires rescoping
- **New projects:** proposals can be received at any time and are reviewed against regional assessments by SC
- **SC5:** possibly in May 2019 during Global Platform meeting, or via telcon Q2



USAID
FROM THE AMERICAN PEOPLE

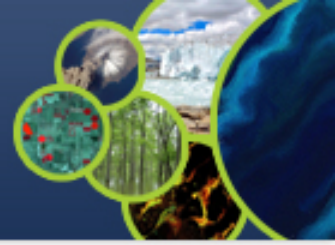


GEO-DARMA data request - data volumes requested in 2018 to be used in 2019

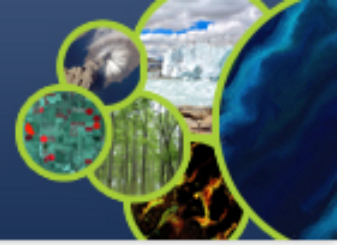
Project team still establishing processing and data input architecture

Agency	ASI	CSA	CNES	CNES	ESA
Satellite	CSK	RADARSAT-2	SPOT	Pleiades	Sentinel-1
Archived and new images	30	15	20	15	All passes, available archives of past events of interest





- **GEO-DARMA Approved by GEO Programme Board, October 2016**
- **GEO-DARMA SC 2, November 2017:**
 - Terms of Reference of SC approved;
 - Regional assessments for Asia and Africa reviewed and approved; six project proposals received for Asia/Africa.
- **GEO-DARMA SC 3, January 2018:**
 - Project proposals: four projects reviewed and tagged for further development.
- **CEOS WG Disasters 9 – March 2018**
 - 4 projects presented in detail and comments received from WG; data discussion initiated
- **CEOS SIT – April 2018**
 - 1st GEO-DARMA project approved – NRT Flood Monitoring in Myanmar/Mekong
- **GEO-DARMA SC 4 – May 2018 in Mexico**
- **GEO-DARMA updated Implementation Plan submitted to GEO Programme Board February 2019**



Thank you!

ivan.petiteville@esa.int

andrew.eddy@athenaglobal.com