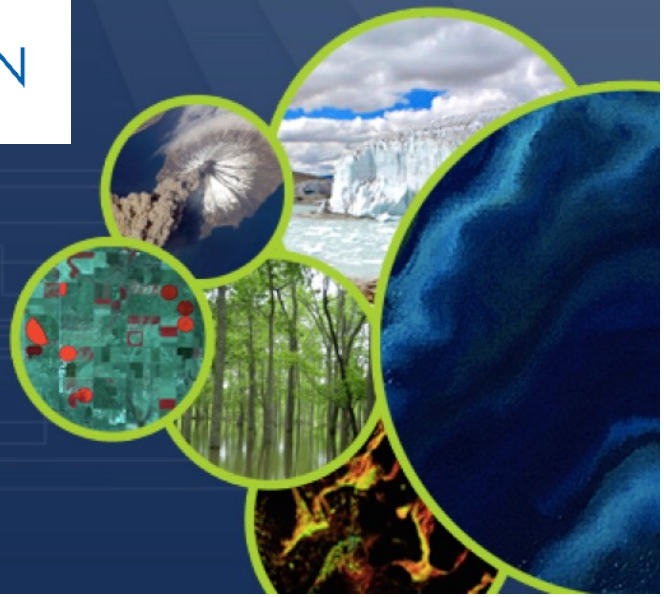
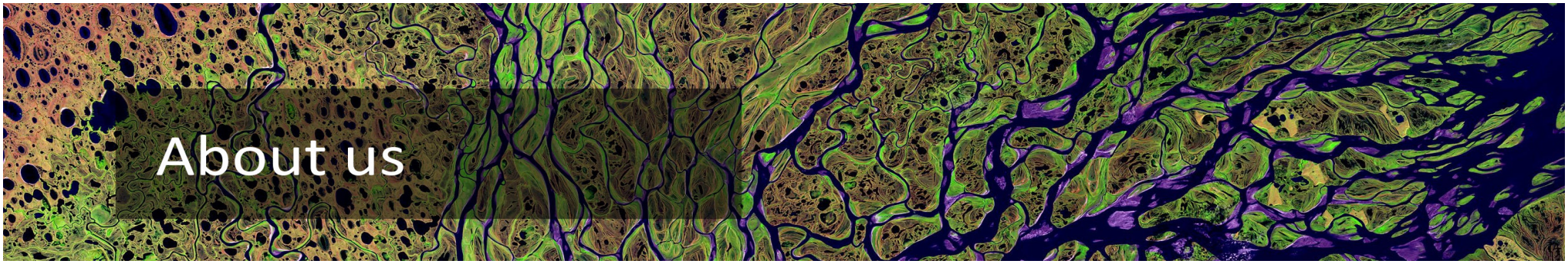
Committee on Earth Observation Satellites

Update on GEO DISASTER RISK REDUCTION

Dave Borges, NASA, GEO DRR WG co-chair
Rui Kotani, DRR Coordinator, GEO Secretariat

WG Disasters 17 (virtual)
4 October 2022





About us

- GEO is an international partnership working towards a future where decisions and actions for the benefit of humankind are informed by coordinated, comprehensive and sustained **Earth observations**
- Ever since its inception, GEO has been a strong advocate for broad **open knowledge** policies and practices

SUSTAINABLE DEVELOPMENT GOALS

UN World Conference on Disaster Risk Reduction
2015 Sendai Japan

PARIS2015
CONFÉRENCE DES NATIONS UNIES SUR LES CHANGEMENTS CLIMATIQUES
COP21·CMP11

NEW URBAN AGENDA
HIII

Disaster Risk Reduction Working Group

- *Develop and implement a coherent and crosscutting approach within GEO to advance the use of EO in support of countries' DRR and resilience efforts*
- *Serve as primary GEO liaison to UNDRR*
- *Promote the dissemination and use of EO to strengthen capabilities to reduce disaster risk according to the needs of countries in coordination with UNDRR*


- **GEO Secretariat:** Steven Ramage (Chief Engagement Officer) & Rui Kotani (DRR Coordinator)

- **Subgroup 1: Coordination across the GEO Work Programme** led by David Borges (NASA, United States)

- **Subgroup 2: UNDRR Coordination (Sendai Framework Monitoring & Global Assessments)** led by Nathaniel Newlands (Agriculture/Statistics Canada)

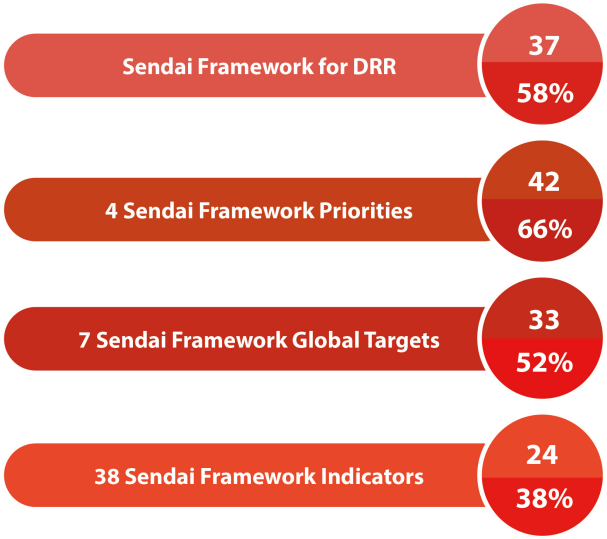
- **Subgroup 3: Climate Change, SDG, Urban Activities Coordination** led by Kene Onukwube (DEAR Africa, Nigeria)

GEO Work Programme is strongly aligned and supports the Sendai Framework,

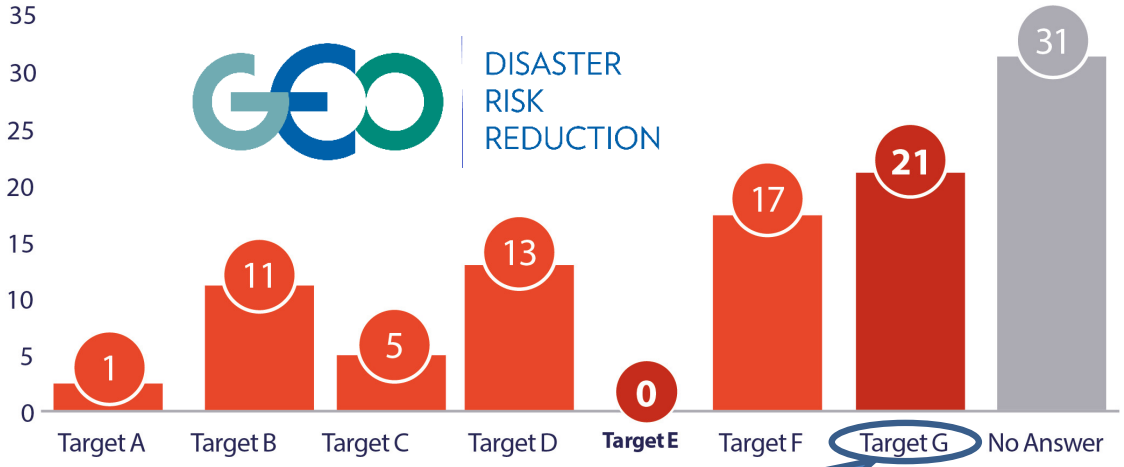
i.e. early warning and info assessment

UN World Conference on Disaster Risk Reduction
2015 Sendai Japan

Indicated relevance across key elements of the Sendai Framework by the GWP activities



GEO activities directly supporting one or more of the 7 Sendai Framework Global Target



Increasing availability of and access to Multi-Hazard ***Early Warning Systems*** *and* ***DRR info assessments***

Example collaboration with UN-GGIM

[Aguascalientes Declaration - Joint Action Plan 2021-2024]:

Brought together by the Aguascalientes Declaration's call upon stakeholders to work together to further define joint work strategies and programs, the UN-GGIM WG-Disasters, ***UN-GGIM: Americas Disasters WG****,* ***GEO DRR WG*** *and* ***AmeriGEO Disasters WG*** *convened with the objective of mutually advancing regional integration of geospatial data and Earth observations for Disasters Risk Reduction (DRR) in the Americas. These global and regionally oriented working groups are committed to continued integration of work plan activities through quarterly coordination meetings.* ***Shared priorities*** *will include the improved uptake and use of geospatial, statistical and Earth observation insights by national DRR stakeholder and in particular capacity building, standards setting, awareness raising and making relevant data discoverable.*

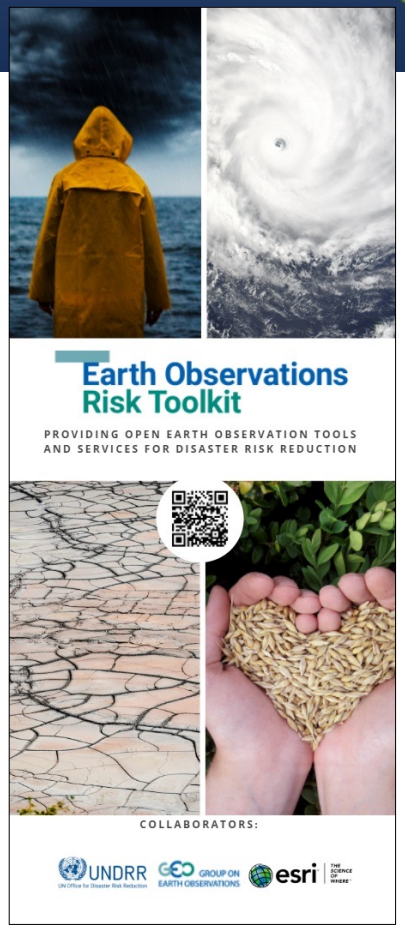
Flagship activity of GEO DRR-WG

Launch of EO Risk Toolkit as part of RiX (May 25, 2022)

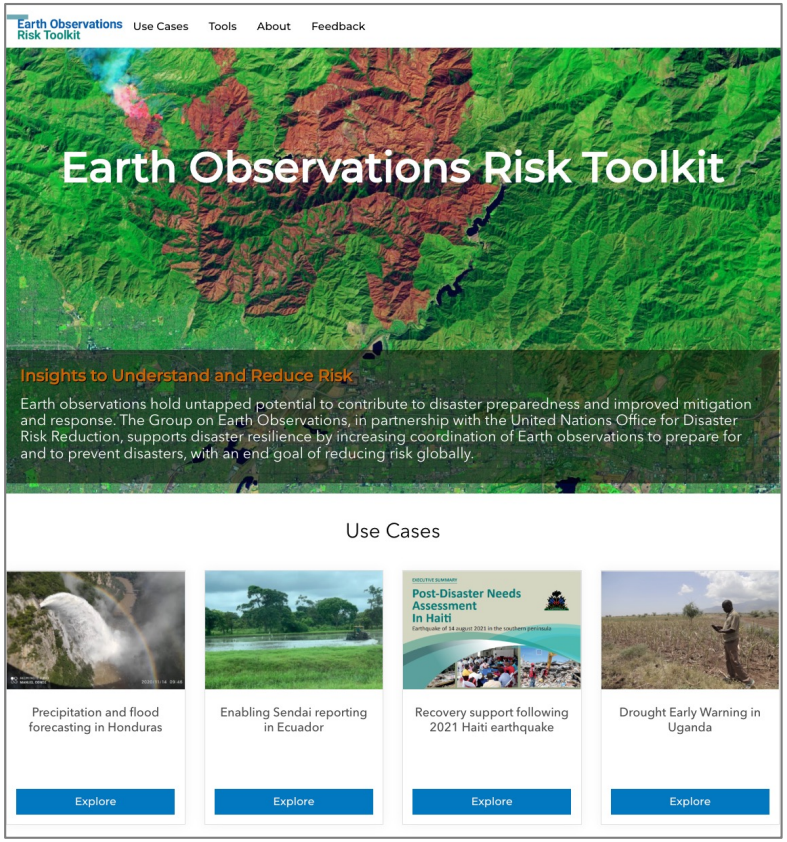
*RiX is a living repository of **open source** global and national **risk data**, designed to improve risk literacy and strengthen national **risk data ecosystems***

UNDRR
UN Office for Disaster Risk Reduction

Risk Information Exchange

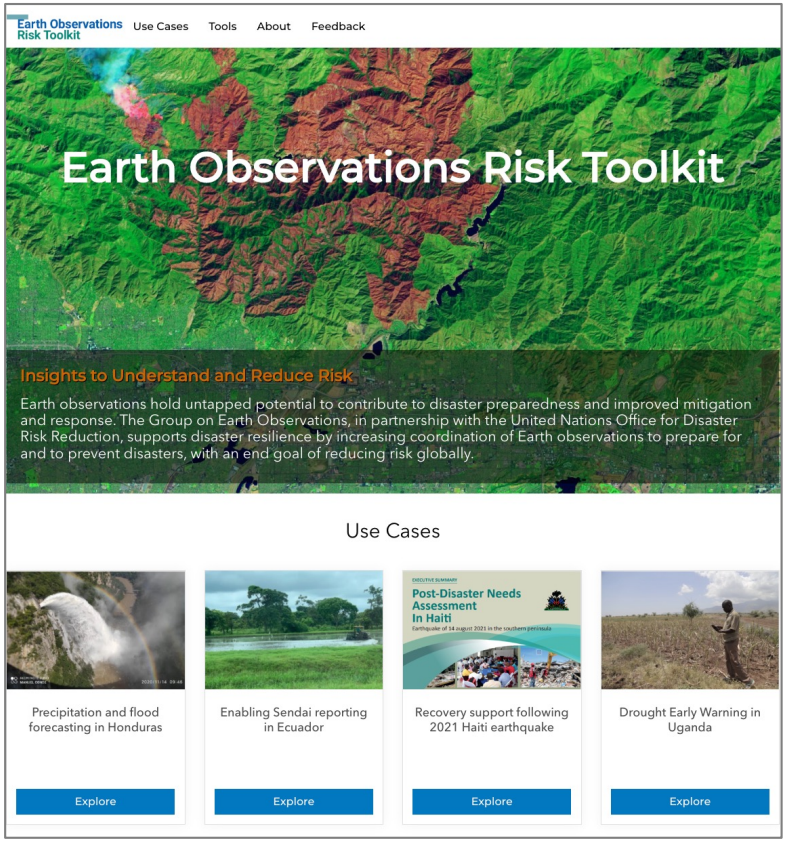


Current contents



- 2 early warning tools (flood/drought)
  - Flood: GEOGloWS
  - Drought: GEOGLAM
- 1 post-disaster data & info assessment service
  - EO4DRM (= RO Demo)
- 1 Sendai reporting method
  - EO4Sendai Monitoring/VALE

In the Pipeline



- GSNL @Ecuador
- GWIS @Paraguay

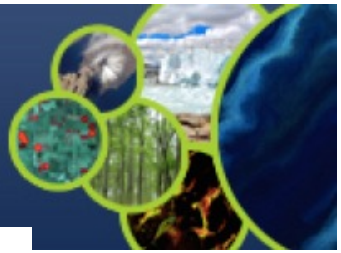
- DIAS@Philippines
- DE Africa@Tanzania

GEO DRR-WG Side event

14:00-15:30 on Monday 31 Oct

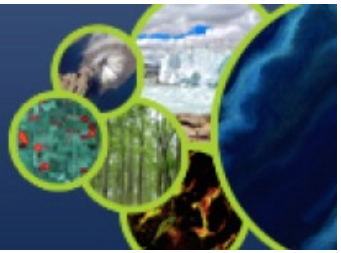
- ✓ Getting feedback on EO Risk Toolkit
- ✓ Brainstorm collaboration with:
  - UNDRR (GAR)
  - Ghanian Sendai Focal Point
  - OGC pilot

Key elements of a Future of GEO



(source: GEO Post-2025: "Next Steps for the GEO Work Programme" PB-24 on Sep 6)

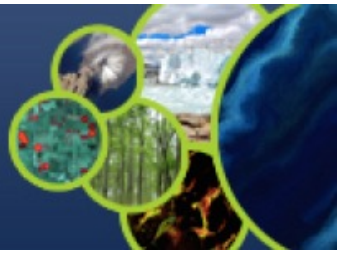
2023-2025 GWP review



- Bilateral engagements ⟶ opportunities for collaboration
- Implementation Plans ⟶ analysis of GWP activities: outputs, users, capacity-building, resources
- Results orientation ⟶ monitoring and evaluation
- Internal process ⟶ redesigned communications

(source: GEO Post-2025: "Next Steps for the GEO Work Programme" PB-24 on Sep 6)

The approach



GEO Work Programme 2023-25

Continued coordination and integration

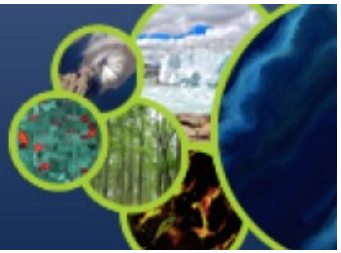
Post-2025 incubators

Learn, replicate, scale

Post-2025 GEO Work Programme

(source: GEO Post-2025: "Next Steps for the GEO Work Programme" PB-24 on Sep 6)

Coordination workshops 2022/23



Information-sharing

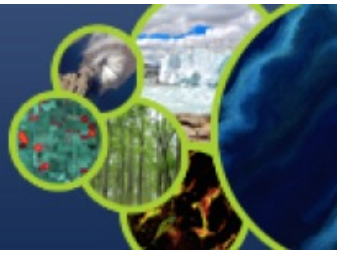
Collaborations

Integration

The 1st WS with GWP activities

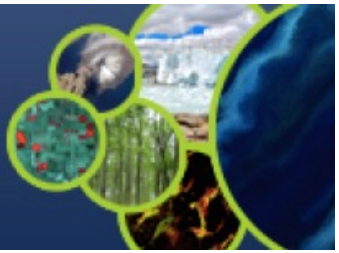
then with POs, WG-members…

Possible incubators



Nature-based Solutions	Ecosystem extent mapping and monitoring
Ocean-Climate	Ocean debris monitoring system
Climate-Urban Health	Global integrated heat and health information system
Systemic Risk	tbd
Cryosphere	tbd

Coordination workshops on "SYSTEMIC RISK" this month



Information-sharing

Collaborations

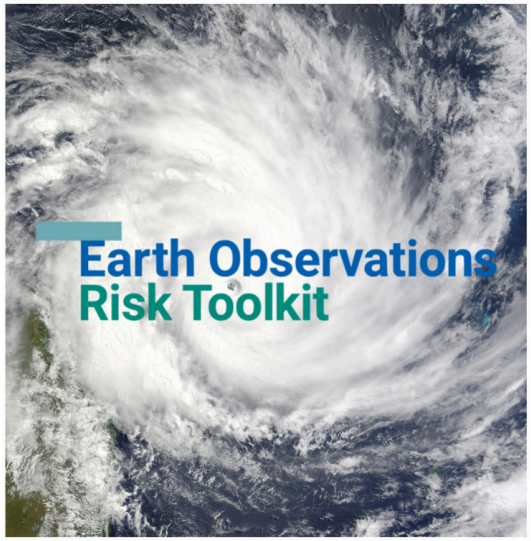
Integration

GWP activity leads:

Please fill in the Doodle poll to indicate your preferred workshop dates between **6-20 October**

See email from Madeeha Bajwa (27 Sep at 16:46 CEST)

Thank you



Extra slides

Early Warning

Summary

In 2020, the National Electric Energy Company of Honduras (Empresa Nacional de Energía Eléctrica: ENEE) used a precipitation and flood forecasting Earth observation tool to reduce loss and damage in the Sulla Valley. Equipped with forecasts from the tool, ENEE made controlled water discharges from a reservoir in between two major hurricanes: category 4 Hurricane Eta on 2 November 2020 and Category 5 Hurricane Iota on 16 November 2020. The Earth observation-based analysis was also shared with the country's national disaster risk reduction agencies, informing decisions on community evacuations.

Earth Observations Risk Toolkit

Use Cases Tools About Feedback

Early Warning

Summary

The Ugandan Office of the Prime Minister worked with partners to develop a system that can predict crop failure several months in advance and unlock disaster risk financing for vulnerable farming communities. The Global Agriculture Monitoring System (GLAM) provided objective indicators of crop damage and helped benefit 90,405 households under the Disaster Risk Financing Programme. Between 2017 and 2020, early financing release saved the government around US $11 million in reactive food aid costs.