Earth Observations Risk Toolkit:
Honduras and Haiti use cases

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www.earthobservations.org
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Group on Earth Observations (GEO)

• 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
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.

**Joint Action Plan (2021 - 2024): Outcomes of the Aguascalientes Declaration**

Prepared by:

[Logos of various organizations involved]
EO Risk Toolkit as part of RiX

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

Current contents:
• 2 early warning tools (flood/drought)
• 1 post-disaster data & info assessment service
• 1 Sendai reporting method
Forecasting tool helps reduce storm loss and damage in Honduras

GEOGloWS ECMFW Streamflow Service helped Honduras' state-owned power company manage reservoir volumes before a major hurricane, reducing damage and economic losses.

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.
Results & impact: damage to Sula Valley vastly reduced

$3,792 \text{ m}
Hurricane Mitch (Category 5) in 1998

> $2,171 \text{ m}
Hurricanes Eta & Iota

- 40%

Note:

✓ Sula Valley: Honduras most vulnerable area
✓ El Cajón Dam: the only structure in place capable of controlling the massive volume of runoff (39% of total water discharge) to the Sula Valley

The valley receives water discharges from 4 rivers

The only major river control structure in the upper basin is the Central Hidroeléctrica Francisco Morazán, with about 39% of the water contribution to the valley.
Ugandan crop monitoring system enables early drought response

A national early warning system developed with GEOGLAM partners helped unlock millions of dollars in financing and benefit 90,405 households.

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.
Results and impacts:
Prediction of drought-induced crop failure enabled the government to take early action through Social Safety Net Program (Disaster Risk Financing).

Financing benefitted 90,405 households through livelihood asset creation, building structures to mitigate against:
- floods
- erosion of fertile agricultural soil

$11 m economic saving (4 yrs)
in reactive food aid costs
Contact us about EO and DRR
Extra slides
• 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*

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

- Sendai Framework for DRR: 37, 58%
- 4 Sendai Framework Priorities: 42, 66%
- 7 Sendai Framework Global Targets: 33, 52%
- 38 Sendai Framework Indicators: 24, 38%

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

- Target A: 1
- Target B: 11
- Target C: 5
- Target D: 13
- Target E: 17
- Target F: 21
- Target G: No Answer

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