

# Update from



# Working Group

PB-25: 7-8 Feb 2023  
Geneva, Switzerland

Rui Kotani, DRR Coordinator at GEOSEC

With support from Dave Borges, DRR-WG co-chair

1. Aim to develop and implement a **coherent and crosscutting approach** within GEO for DRR
2. Serve as **Primary GEO liaison to UNDRR**
3. Determine **links and actionable opportunities** among other priorities



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



## Disaster Risk Reduction Working Group

[about us](#) / [governance](#) / [contribute](#) / [contact us](#) / [resources](#) / [members](#)

### About us

The Group on Earth Observations (GEO) supports efforts to build disaster resilience and Disaster Risk Reduction (DRR). The GEO Work Programme (GWP) is currently implementing more than two dozen activities using Earth Observations (EO) for disaster preparedness and prevention, mitigation of potential damage, and better management of and recovery from disasters. Significant reductions in fatalities and property damage can be achieved by strengthening cooperation and data sharing for satellite and surface data to manage risks posed by fires, floods, earthquakes, and other hazards. Better information, made widely accessible, leads to improved understanding of disaster risk.

GEO's DRR Working Group (DRR-WG) was established in June 2020 to develop and implement a coherent and crosscutting approach within GEO to advance the use of EO to support national DRR and resilience efforts. The DRR-WG promotes awareness of relevant global policy frameworks, such as the [United Nations Office for Disaster Risk Reduction \(UNDRR\) Sendai Framework for Disaster Risk Reduction 2015-2030](#), while serving as the primary GEO liaison to UNDRR. The DRR-WG also collaborates with other working groups and activities across the GEO engagement priorities relating to three international policy areas, namely climate action, sustainable development and urban resilience.

### Governance

#### DRR Working Group Co-chairs and Deputy-chairs

Three co-chairs are selected by and from the DRR-WG members. Each co-chair leads a designated subgroup (SG) and is supported in their role by three deputy chairs.

- GEO DRR WG Co-Chair - SG1 Lead: David Borges, NASA, United States
- SG1 Deputy Chairs: Fernando Belda (Spain), Tatiya Chuentragum (Thailand), Godstime James (Nigeria)
- GEO DRR WG Co-Chair - SG2 Lead: Nathaniel K. Newlands, Agriculture and Agri-Food Canada
- SG2 Deputy Chairs: Abdullahi Aliyu (Nigeria), Nhilce Esquivel (Sweden), John LaBrecque (IUGG)
- GEO DRR WG Co-Chair - SG3 Lead: Kene Onukwube, DEAR Africa, Nigeria
- SG3 Deputy Chairs: Cheila Cullen (United States), Ghulam Rasul (ICIMOD), Ramesh P.

[https://earthobservations.org/drr\\_wg.php](https://earthobservations.org/drr_wg.php)

# Disaster Risk Reduction Working Group

## Subgroup 1:



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

## Subgroup 2:



**UNDRR Coordination** led by *Nathaniel Newlands (Agriculture/Statistics Canada)*

## Subgroup 3:



**Climate Change, SDG, Urban activities coordination** led by *Kene Onukwube (DEAR Africa, Nigeria)*



Supported by **GEOSEC**: Steven Ramage (Chief Engagement Officer) & Rui Kotani (DRR Coordinator)

# 10 Tasks

*through deepening relationship with*



&



(WG5 disasters)

## SG1: GEO Work Programme Coordination

SG1 aims to develop and implement a coherent and crosscutting approach within GEO to advance the use of EO to support countries' disaster risk reduction and resilience efforts. SG1 works closely with SG2 and SG3 to understand real requirements at the national level and communicate these requirements to relevant activities within the GWP while:

- Highlighting aspects of the GWP related to DRR, and describe key elements and locations of each activity (*Task 1.1: Development of Joint Engagement Mapping Exercise and dashboard*);
- Promoting sharing of data and knowledge to improve DRR, including through good practices and impact (*Task 1.2: Development of EO Risk Toolkit and GAR Contributing Papers*); and
- Promoting awareness of relevant global policy frameworks across the GWP, such as UN-GGIM WG-Disasters Strategic Framework on Geospatial Information and Services (*Task 1.3: Outreach and engagement events/meetings*).

## SG2: UNDRR Coordination for Sendai Framework Priorities

SG2 leverages the efforts of SG1 and uses the combined resources of SG2 to promote the dissemination and use of EO to strengthen disaster risk reduction capabilities according to country needs as identified by UNDRR. Serving as primary GEO liaison to UNDRR, SG2 works towards:

- Increasing the use of EO data for local and national DRR strategies (*Task 2.1: Assessment of EO descriptions in DRR strategies of GEO member countries*); (*Task 2.2: Policy briefs and use cases on the use of EO to create disaster loss data for DRR strategies and for reporting on the Sendai Monitor Global Indicators [via [EO4Sendai-Monitoring](#)]*); (*Task 2.3: Development and implementation of EO-leveraged data collection tools to visualize vulnerability and exposure to be used in DRR strategies*);
- Increasing the use of GNSS-enhanced EO data through consortia (*Task 2.4: GAR Contribution Paper, policy briefs and new partnerships with ITU [via [GEODESY4Sendai](#)]*); and
- Increasing the use of EO data to show trends over time and hot spots while predicting and analyzing future risks (*Task 2.5: Use cases and workshops [via [GSNL](#)]*).

## SG3: Climate Change and SDG Coordination

SG3 leverages SG1 efforts to provide an overview of links, and actionable opportunities, between disaster risk reduction, climate change, SDGs, and urban activities. Serve as primary link to CC-WG, SDG and Urban related activities, SG3 is working on:

- Developing EO-links between DRR, Climate Change and SDGs, notably for adaptation, early warning and resilience (*Task 3.1: Policy briefs on EO use in handling various types of natural hazards, such as landslides, wildfire and snow melt*) (*Task 3.2: Compendium with collection of texts and references on EO's role in SDG targets and indicators in relation to the SFDRR and the Paris Agreement [in collaboration with [HPI](#), [EO4SDG](#) etc.]*).

# 10 Tasks




Focus today


Status	Task#	Key elements	GWP activities
✓ done+followup	1.1	Joint mapping	all
✓ ongoing	1.2	EO Risk Toolkit + UNGAR paper	all (so far: GEOGLAM, GEOGLoWS, EO4DRM, EO4SendaiMonitoring, GSNL, GFRM, EuroGEO,)
✓ ongoing	1.3	Communication + Outreach	all
✓ ongoing	2.1	EO for DRR strategies	all
✓ Done	2.2	Support for Sendai reporting	EO4Sendai-Monitoring
? Revival	2.3	Vulnerability & exposure	EO4Sendai-Monitoring
✓ ongoing	2.4	GNSS-enhanced EO data	GEODESY4Sendai
△ In Progress	2.5	Geohazard use case	GSNL
△ In Progress	3.1	Analysis of various hazards	all
✓ done+followup	3.2	SDG targets and indicators	all (so far: HPI, GEOLDN, GEO MTN)

# Main Achievements

# 1.1: Joint mapping




## Disaster Risk Reduction - recommendations


 Engage with **DRR focal points and users**:

- Establish collaboration with at least one specific **national stakeholder for DRR**, such as Sendai Framework national focal points and civil protection agencies.

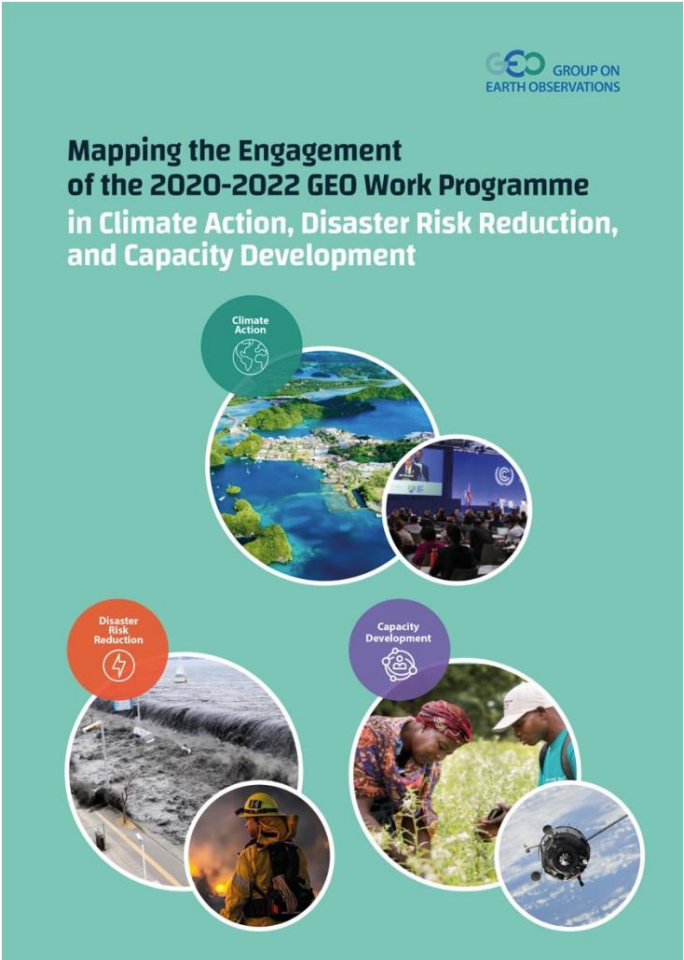
Support the **implementation** of the Sendai Framework:

 • Develop or improve **tools, services and methodologies** that contribute to **specific Sendai Framework Targets and Indicators**, notably on Early Warning (Target G) and SFDRR/SDG common indicators.

Seek opportunities for **collaboration** with other GWP activities, Regional GEOs and CC-WG:

 • Focus on **nexus areas** to develop an integrated approach to address increasingly systemic nature of disaster risk where events overlap and interplay with **multiple risk drivers**.

Recommendations: Disaster Risk Reduction Slide 24



GROUP ON EARTH OBSERVATIONS

## Mapping the Engagement of the 2020-2022 GEO Work Programme in Climate Action, Disaster Risk Reduction, and Capacity Development

Climate Action  
Disaster Risk Reduction  
Capacity Development

Published in May 2022

- ✓ Follow-up: compiled a list of about 30 African **Sendai National focal points**

# 1.2: EO Risk Toolkit



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

**Earth Observations Risk Toolkit**

PROVIDING OPEN EARTH OBSERVATION TOOLS AND SERVICES FOR DISASTER RISK REDUCTION

COLLABORATORS:

UNDRR | GROUP ON EARTH OBSERVATIONS | esri | THE SCIENCE OF WHERE?

Presenting the Earth Observations Risk Toolkit as part of on the [Ignite Stage](#) (May 25, 2022)

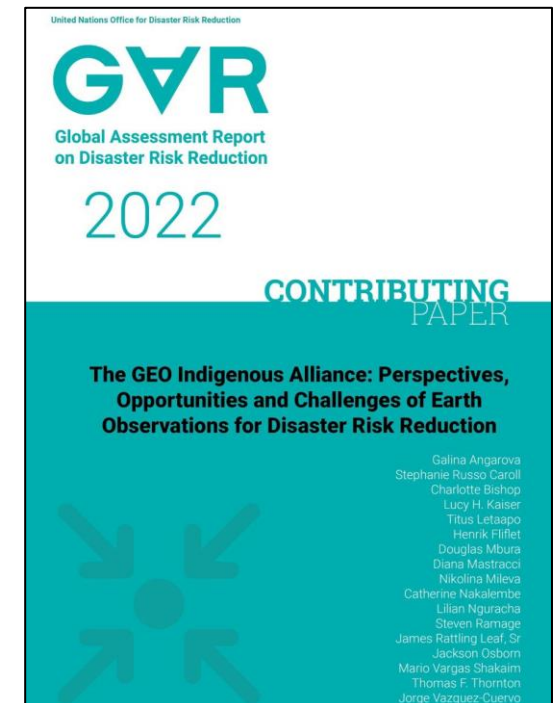
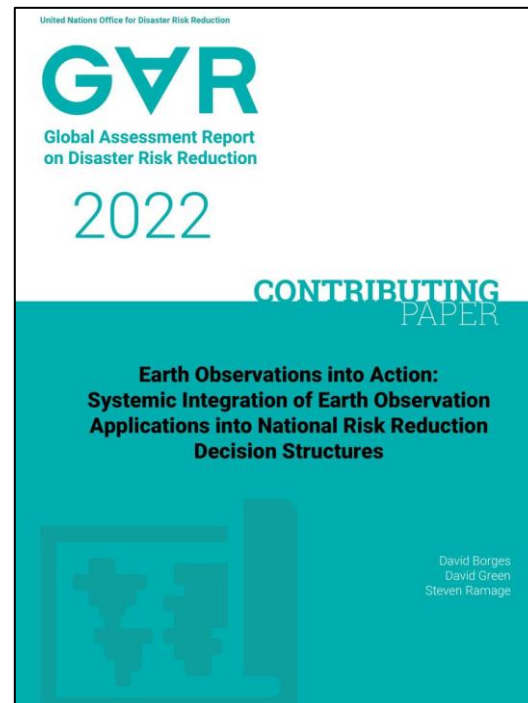




# 1.2: UN Global Assessment Report 2022

3 GAR 2022 Contributing Papers published:

- [EO \(GWP activities\) for DRR action](#)
- [Global Navigation Satellite System for hazards](#)
- [Indigenous knowledge for DRR](#)



→Scientific publication

# 1.2: 2 key points in the main GAR 2022

- **EO is useful in all disaster phases:**
  1. for improving the understanding of long-term changes in climate and impact on people;
  2. for seasonal weather forecasts as well for early warning of hazardous events;
  3. to the ongoing international efforts to provide the close to real-time impact assessment on disasters
- **Data scarcity**, especially **open-source data**, is a remaining key challenge for the development of **quality models** to underpin DRR-decision-making in many countries, and **GEO has been filling the gap**

Highlighting:



GEO's efforts on **Wildfire, air quality, pollution** monitoring, *suggesting potential contributions to improved **public health***

EO4DRM

GWIS

HPI

EO4Health

Geodesy4Sendai

...

# 1.3 Outreach & events to communicate the points



A GEO blog



# 1.3 GEO Week side events in support of GEO solutions uptake in Ghana

**GEO** GROUP ON EARTH OBSERVATIONS

## GEO WEEK 2022

GLOBAL ACTION FOR LOCAL IMPACT

Side Event: EO Risk Toolkit Information session

Monday, 31 October 2022  
1400h – 1530h GMT / UTC | Meeting Room 1

Speakers: David Borges, Nils Hempelmann, Allison Craddock, Andrew Speszuka, Ebenet Victor Addabab, Rui Kotani, Karanteng Abrokwah, Rheo Katsanakis, Neo Dedei Tetteh.

**GEO** GROUP ON EARTH OBSERVATIONS

## GEO WEEK 2022

GLOBAL ACTION FOR LOCAL IMPACT

Side Event: Earth Observation and Health: Early Warning Systems and beyond!

Tuesday, 31 October 2022  
1100h – 1230h GMT / UTC | Room 117a

Speakers: Franz Immler, Jean Dusert, Haris Kontos, Dennis Laryea, Azize Millago, Antar Julia, Rui Kotani, John Haynes, Juli Trifari, Helena Chapman, Gina Tsarouchi, Darren Lumbriso, Frederic Bartumeus, Nikolaos Stilianakis.

*3 ideas emerged from 2 side events*



# 1.3 Past events with UNDRR and UNGGIM: engaging the Jamaican co-chair team

Addressing Systemic Risk in Jamaica 17h00-18h30 CEST - [View Recording](#) [Download slide deck](#)

## Description

Jamaica, a Small Island Developing State, accounted for 11% of disasters in the Caribbean region between 1981 and 2018. The country is particularly vulnerable to hurricanes, whose effects are often exacerbated by other hazards, such as floods, landslides, earthquakes and droughts. As disasters pose a significant threat to Jamaica's infrastructure, human life and macroeconomic outlook, the government is actively seeking ways to better utilize Earth observations in addressing integrated risks.

GEO and the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) with their working groups related to Disaster Risk Reductions and America Regions have developed a new partnership called the Aguascalientes Declaration (September 2021) to advance the use of EO/Geospatial, Statistical, Science and other data for addressing disasters.

## Moderator(s), Speaker(s) and Panelist(s)



GLOBAL PLATFORM FOR DISASTER RISK REDUCTION  
BALI INDONESIA 23-28 MAY 2022

**Earth Observation Risk Toolkit Launch Event**

25 May, Taman Jepang room (BNDCC)  
17:00 - 17:15 Bali time (UTC+8)

IGNITE STAGE



- GEO GLOWS  
GLOBAL WATER SUSTAINABILITY
- GEO GLAM  
Global Agricultural Monitoring
- GWIS  
Global Wildfire Information System
- GEODESY4Sendai
- GEO  
Human Planet Initiative
- EO4DRM

with **AmeriGEO**

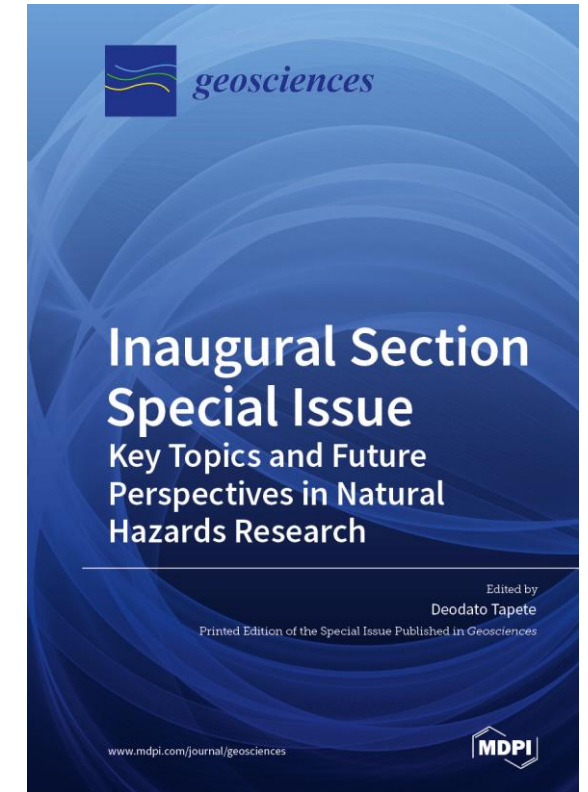
# 3.1: Analysis of various hazards in support for the uptake of EO for systemic risk

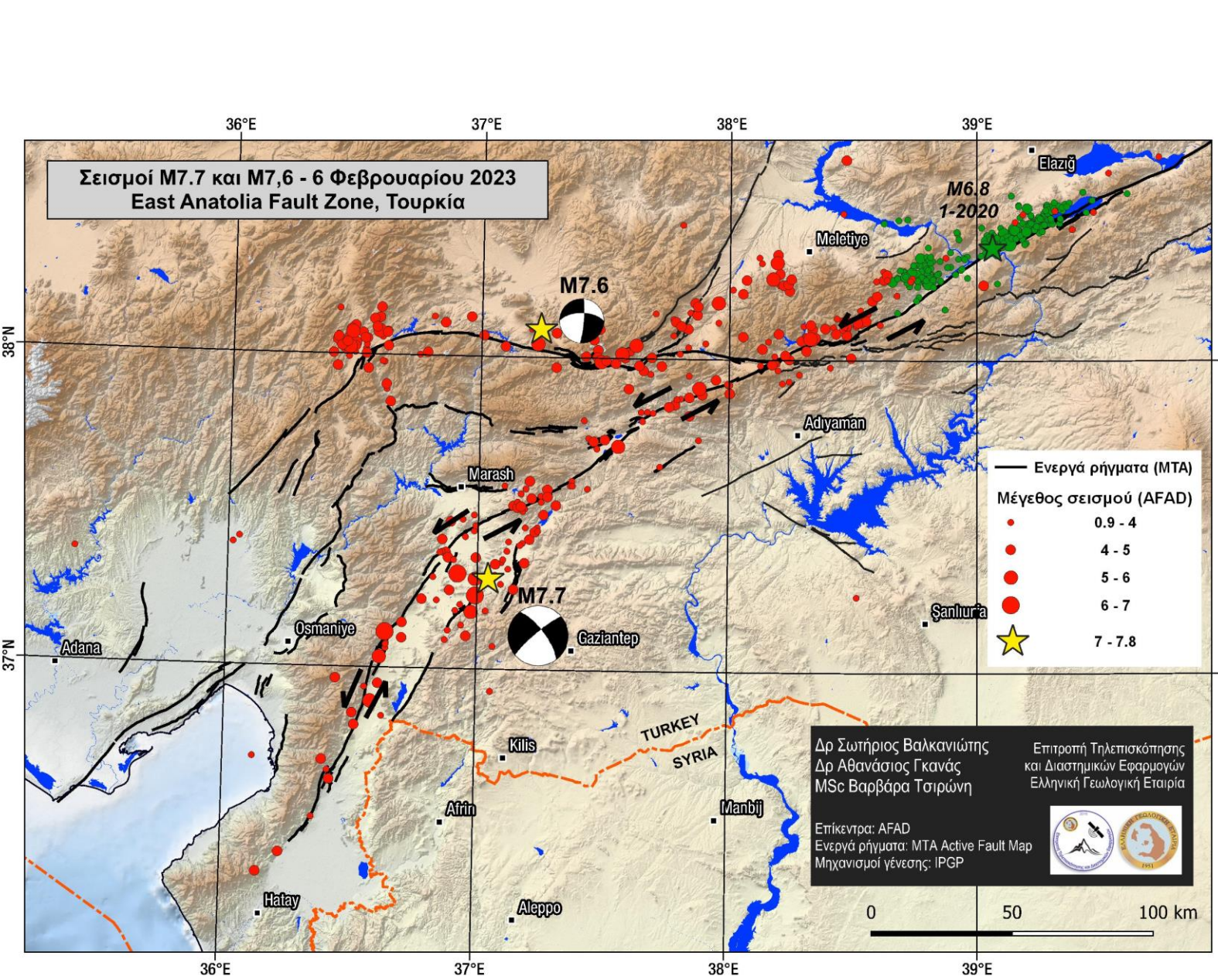
- **Scientific review paper (MDPI – Geoscience special issue)**  
**Big Data, Small Island: Earth Observations for Improving Flood and Landslide Risk Assessment**



Uptake in  
Jamaica

- **SWOT analysis structure, online stakeholder survey**  
systemic, compounding risk (EO data, models, tools)
- **USAID proposal / LACI**





Ihlas News Agency (iha) | Via Reuters



Sertac Kayar | Reuters



Omar Haj Kadour | AFP | Getty Images

Source : : Dr Athanassios Ganas, National Observatory of Athens

# The Way Forward

- Assess the impact and usefulness of the WG
  - An online survey to be rolled out between March and May 2023
  - To be prepared jointly by the four WG coordinators and Co-chairs
  - To be disseminated to key stakeholders, including the GEO WG member, GWP activity leads, PB members, GEO Members, GEO Secretariat, etc.
  - Survey outcomes and recommendations on the future of the WGs to be presented to the PB for decision at the PB-26 meeting in June 2023
- Continue working towards existing deliverables
- Governance decisions and Co-chairs elections put on hold before the GEO-19 Plenary



**THANK YOU**

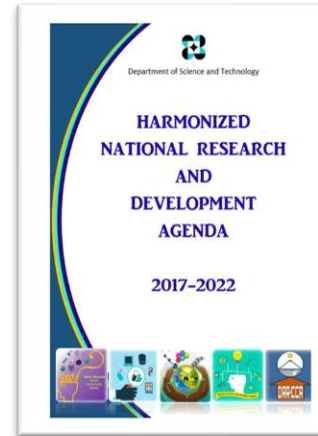
# BACK-UP Slides

**Other Achievements  
and  
ongoing efforts**

# 2.1 Analysis of EO for language in DRR strategies



DRR Law & Strategy



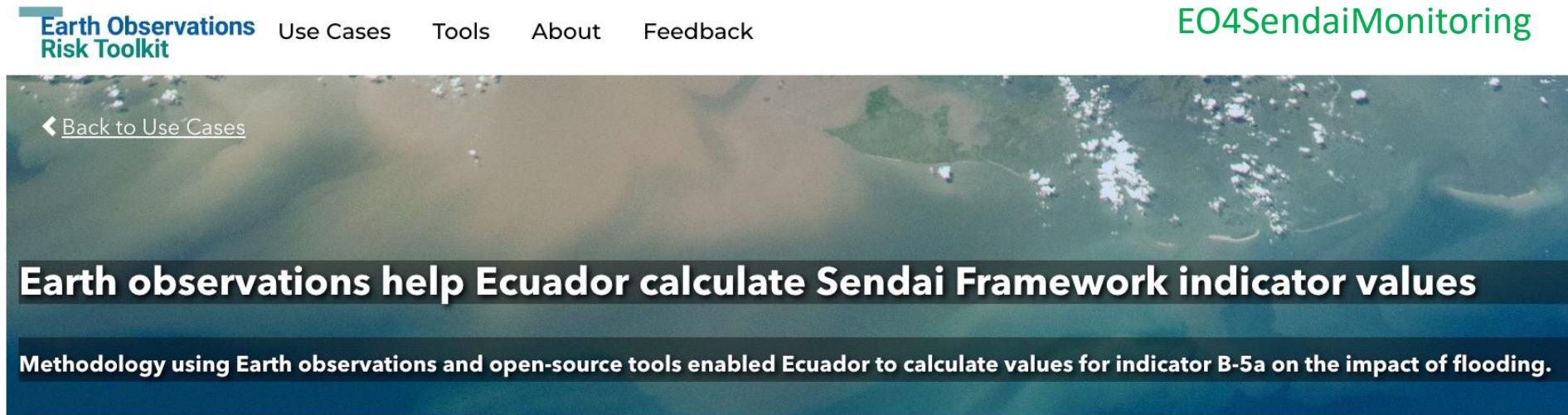
Coherence of Philippines S&T, SDG, CC, DRR strategies



Jamaica



# 2.2: Support for Sendai reporting: use case in EO Risk Toolkit



Sendai Reporting method

## Summary

Ecuador's National Service for Risk and Emergency Management (SNGRE) used a set of open-source Earth observation tools and a methodology for flood hazard mapping to calculate values for indicator B-5a of the Sendai Framework for Disaster Risk Reduction (SFDRR), quantifying the number of workers in agriculture whose crops were damaged or destroyed by flooding. The 2017 SFDRR B-5a indicator values for three distinct ecological regions within Ecuador are ready to be reported to the Sendai Monitor by SNGRE.

# 2.4: GNSS-enhanced EO data for Jamaica

**The GAR2022 call to action**

Measure what we value

Design systems to factor in how human minds make decisions about risk

Reconfigure governance and financial systems to work across silos and design in consultation with affected people

United Nations Office for Disaster Risk Reduction

# GAR

Global Assessment Report on Disaster Risk Reduction

## 2022

CONTRIBUTING PAPER

### Transdisciplinary application of Global Navigation Satellite System Radio Occultation (GNSS-RO) to characterize atmospheric hazards and model systemic risk\*

Mayra I. Oyola-Merced  
Allison B. Craddock  
Chi Ao  
Olga Verkhoglyadova

GEODESY4Sendai



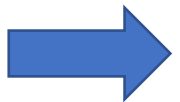
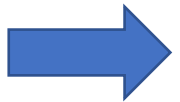
Jamaica



# 3.2: SDG Targets and indicators

SDG	YOUR NAME	How climate change affects each of these goals? Focus on identifying the issues, GEO data, and examples such as climate hazards
1. No Poverty		<p>About 1.1% of the world are living in extreme poverty (less than \$1.90 a day) in 2019. Sustainable food production is crucial to overcome this challenge. Leveraging on data collected by satellites to assess the health of agriculture production, land degradation data would help target the most vulnerable and developing regions that are most at risk of food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
2. Zero Hunger	Kate Chikanda	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
3. Good Health & Well-being	Walter Tschering	<p>SDG 3 aims to ensure good health and well-being. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
4. Quality Education	Kate Chikanda	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
5. Gender Equality	Kate Chikanda	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
6. Clean Water & Sanitation	Lucretia Schmitt, Steve Lyle	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
7. Affordable & Clean Energy	Olivera Kovic	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
8. Decent Work & Economic Growth	Olivera Kovic	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
9. Industry, Innovation & Infrastructure	Olivera Kovic	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
10. Reduced Inequalities	Olivera Kovic	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
11. Sustainable Cities & Communities	Denise Eichenlaub	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
12. Responsible Consumption & Production	Chika Collins	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
13. Climate Action	Adrian Lathin	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
14. Life Below Water	Renee Singh	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
15. Life on Land	Renee Singh	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
16. Peace, Justice & Strong Institutions	Roger Palmaro	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>
17. Partnerships	Roger Palmaro	<p>Climate change has a huge effect on food health and well-being. Some of the issues that affect food health are: reduced crop yields, increased crop losses, and increased crop pests and diseases. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production. Land and water resources are also affected by climate change, leading to reduced agricultural productivity and food insecurity. This data can be used to improve agricultural practices, increase crop yields, and reduce the impact of climate change on food production.</p>

Compendium with collection of texts and references on EO roles in SDG targets and indicators



**Anchor Session One: Integrated implementation of GEO work programme activities**

**GEO WEEK 2021**  
Accelerating action

NEW

**GAR SR 2023**

**Risk-informing the Sustainable Development Goals**

Metrics and measures to build resilience in a changing climate

GEO DRR WG, 12 January 2023

UN Office for Disaster Risk Reduction



In progress

## 2.5: GSNL use case for EO Risk Toolkit in pipeline



Sangay volcano in Ecuador in Sep. 2020



Volcano Nyiragongo's eruption in May 2021

REVIVAL effort

## 2.3: Vulnerability and exposure

Revival effort of a task to contribute to UNDRR tools for risk knowledge



GEO contribution ?

Welcome to DesInventar Sendai !!!

Disaster loss data for Sustainable Development Goals and Sendai Framework Monitoring System



Available datasets worldwide

Detailed disaster loss data for more than 89 countries are available →

Update on  
DesInventar Sendai

+

Policy paper



WORLD  
METEOROLOGICAL  
ORGANIZATION

by



UNDRR  
UN Office for Disaster Risk Reduction

