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**Title of the Session:** Open Earth Observation Data for Disaster Response

**Date:** 24/04/2017 to 30/04/2017

## **Summary**

The Group on Earth Observations (GEO) coordinates Earth observations for a changing planet characterized by extreme weather events such as droughts, floods, and coastal storms and the impacts those events have on communities with increasing numbers of people vulnerable to the elements due to poor living conditions. Drought-induced wildfires that threaten rural communities can be identified and tracked using Earth observations now that data are becoming available in real time; vulnerable low-lying coastal and river valley communities can be warned of rising waters using Earth observations allowing time for people to seek higher ground. Other hazardous events such as volcanos and earthquakes have devastating consequences but the rescue missions can harness Earth observations to speed up the emergency response.

## **Context**

Government investments in Earth observations satellite programmes, such as USGS's Landsat allow scientists the capability to monitor the environment with precision. Not long ago, scientists were required to pay to download each Landsat image but as of 2007, those data are now freely available. ESA operates a fleet of spacecraft which study and monitor the Earth, including four Copernicus Sentinel satellites - the latest being Sentinel-1B, launched in April, 2016. Together they provide more than 6 Terabytes of data a day, free of charge, to more than 44,000 users worldwide. As a comparison, this amount of data is more than the daily volume of photos uploaded by all Facebook users.

The Global Earth Observation System of Systems (GEOSS) has more than 200 million open EO data resources accessible for better decisions on a range of areas from food security, to protection of biodiversity, renewable energy and disaster response. The GEOSS portal is [here](#). In February 2017 there was a free virtual seminar, which covered the open Earth observation data that is available for disaster purposes and all materials are [here](#).

GEO's community extends through 104 member governments and 106 participating organizations, including UNISDR. Five Initiatives have been established to address how to ensure the relevant EO data on disaster resilience is shared with local and regional disaster agencies. The GEO Initiative on Data Access for Risk Management (GEO-DARMA) draws on regional institutions in Latin America, Africa and Southeast Asia to determine regional and national projects most likely to benefit from better use of EO data for disaster risk reduction. The GEO Initiative on Geohazard Supersites and Natural Laboratories (GSNL) focuses on an open science approach, especially at the local government level.

GEO is building a platform to consolidate global data and information on wildfires through the Global Wildfire Information System (GWIS) initiative. Data and information on the sustainability of global water supplies and global variability of water scarcity is available through the Global Drought Information System (GDIS). GEO's water sustainability initiative,

GEOGLOWS, aims to provide a coordination framework for all water-related initiatives including drought and flood, under the GEO programme.

The interconnectivity of the GEO community is designed to respond both to connections among the Sustainable Development Goal indicators – such as those for DRR under Goal 1 on zero poverty, Goal 11 on sustainable cities and Goal 13 on climate action; and between the SDGs and the broader global agenda under the Sendai Framework and multilateral environmental agreements, including the Paris Agreement. GEO is uniquely placed to look at the crossover international Earth observation activities in each of these areas.

GEO will be at the Global Platform on Disaster Reduction in Mexico to bring GEOSS, GEO-DARMA and GSNL to the attention of the global community to help harness the Data Revolution and protect people and property from the hazards of extreme weather and geologic events, reducing the number of preventable deaths from disasters.