



GFDRR Innovation Lab

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Fall 2015 Meeting of the GFDRR Consultative Group
October 29, 2015

Overview

Three areas of focus

- Advancing the field of risk identification
- Consolidating knowledge for better decisions
- Capacity building through broader project engagement



Advancing the Field of Risk Identification

Supporting data creation for preparedness in Malawi, Madagascar and Comoros

- ❑ To identify and map assets at risk, village locations, transportation networks and village facilities and to make this data open
- ❑ Train local government officials, university students, local communities and local NGOs
- ❑ Results:
 - Malawi: 21,000 buildings, 10,000 showers and family toilets mapped in 450 districts
 - Comoros & Madagascar: two training events held



Partners: World Bank, Malawi NDMA, Humanitarian OpenStreetMap Team, US State Department, local innovation NGO "Habaka"

Advancing the Field of Risk Identification

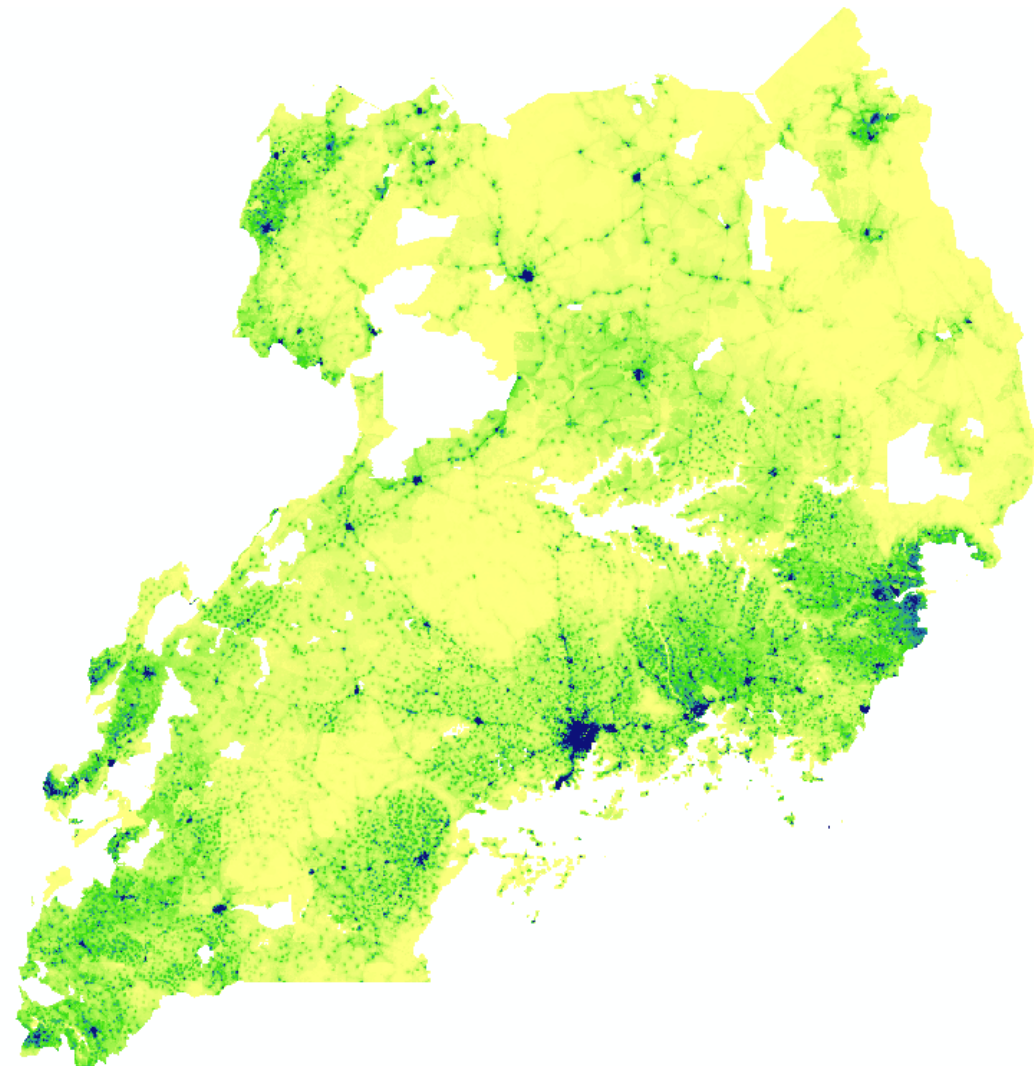
Rapid creation of *dynamic* risk profiles for Uganda, Ethiopia, Kenya, Senegal and Niger for flood, drought, landslide, earthquake & volcanic eruption

- Risks to settlements, GDP, transport, critical facilities & agriculture
- Risk calculated for 2015 and 2050 using GDP, population density and emissions (RCP 6.0) projections
- Considers seasonal variability in loss due to El Nino/La Nina
- All hazard, exposure and vulnerability data and risk results will be made open to all stakeholders
- All results available in March 2016

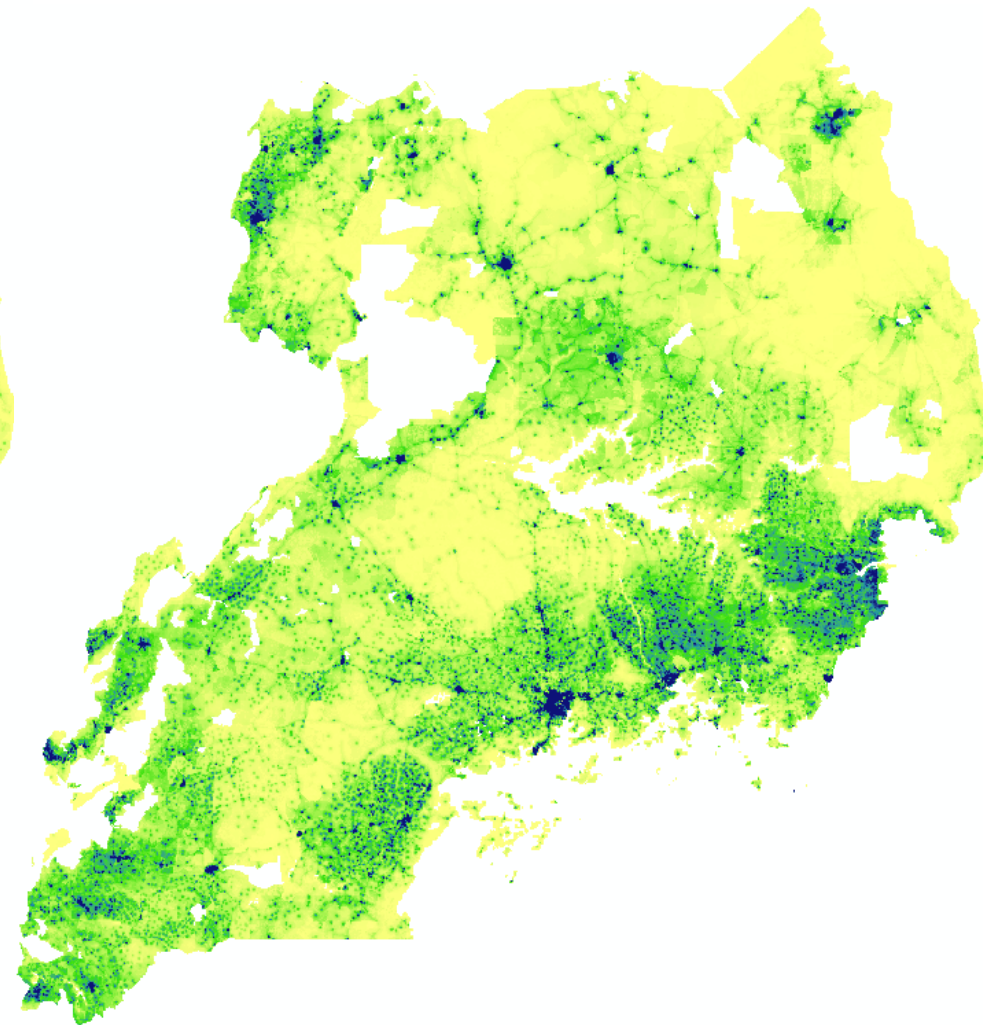
Partners: ACP-EU, ImageCAT, CIMA Foundation, Deltares, Global Volcano Model, Global Earthquake Model, ARUP, British Geological Survey, University of Pavia, Risk Engineering, World Bank

Advancing the Field of Risk Identification

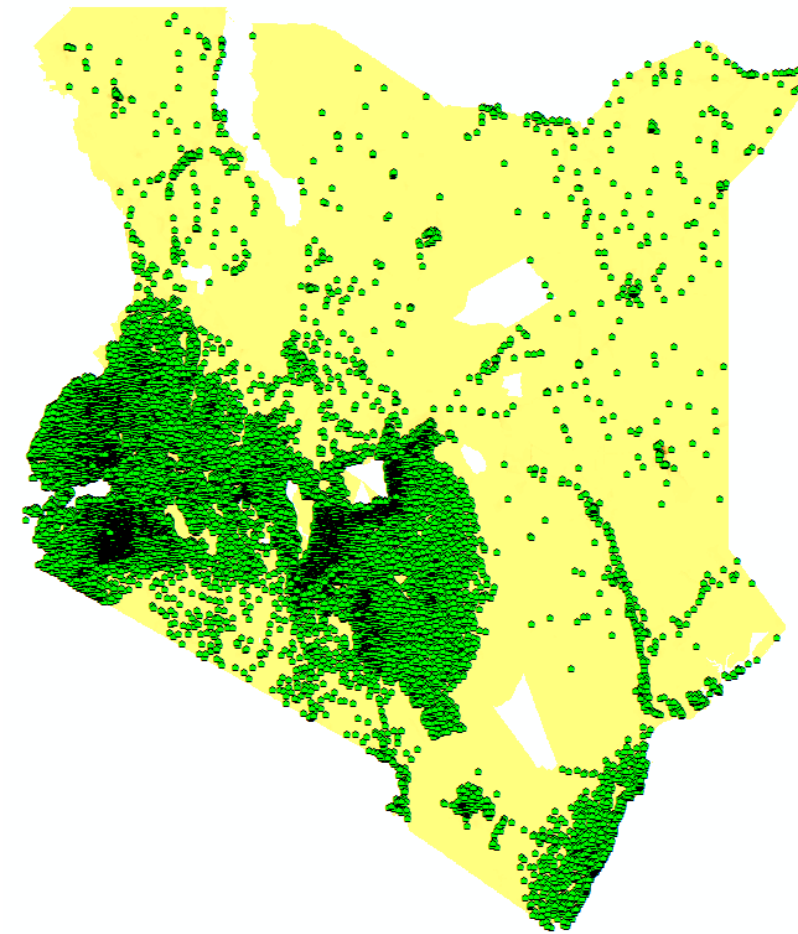
Rapid creation of *dynamic* risk profiles for Uganda, Ethiopia, Kenya, Senegal and Niger for flood, drought, landslide, earthquake & volcanic eruption



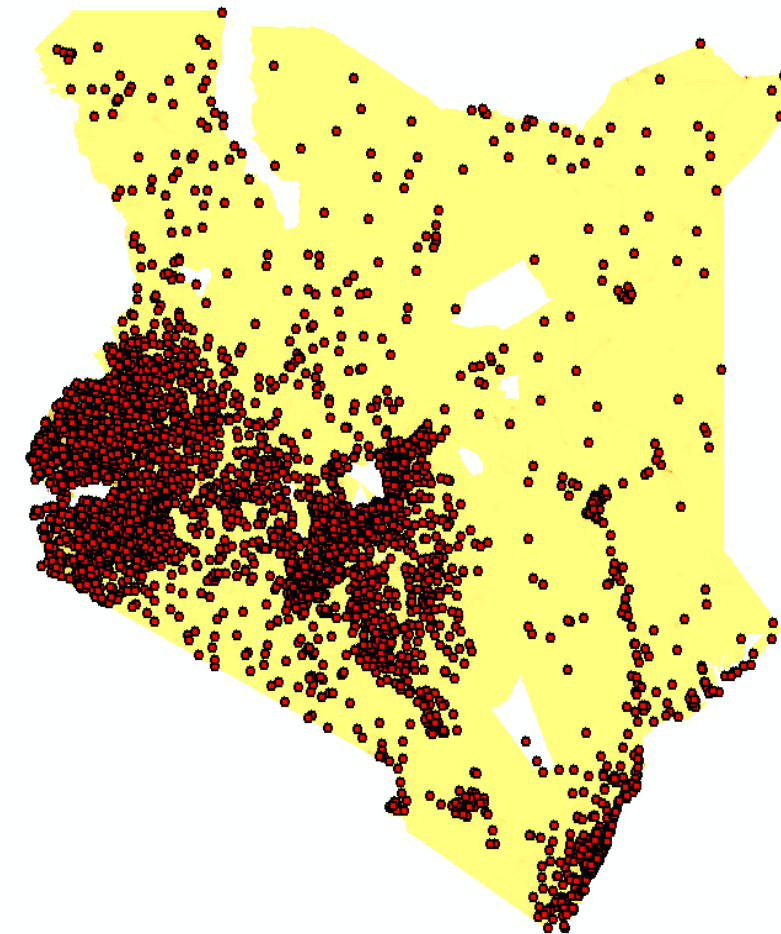
Uganda - population - 2010



Uganda - population - 2050



Kenya - Educational
Facilities

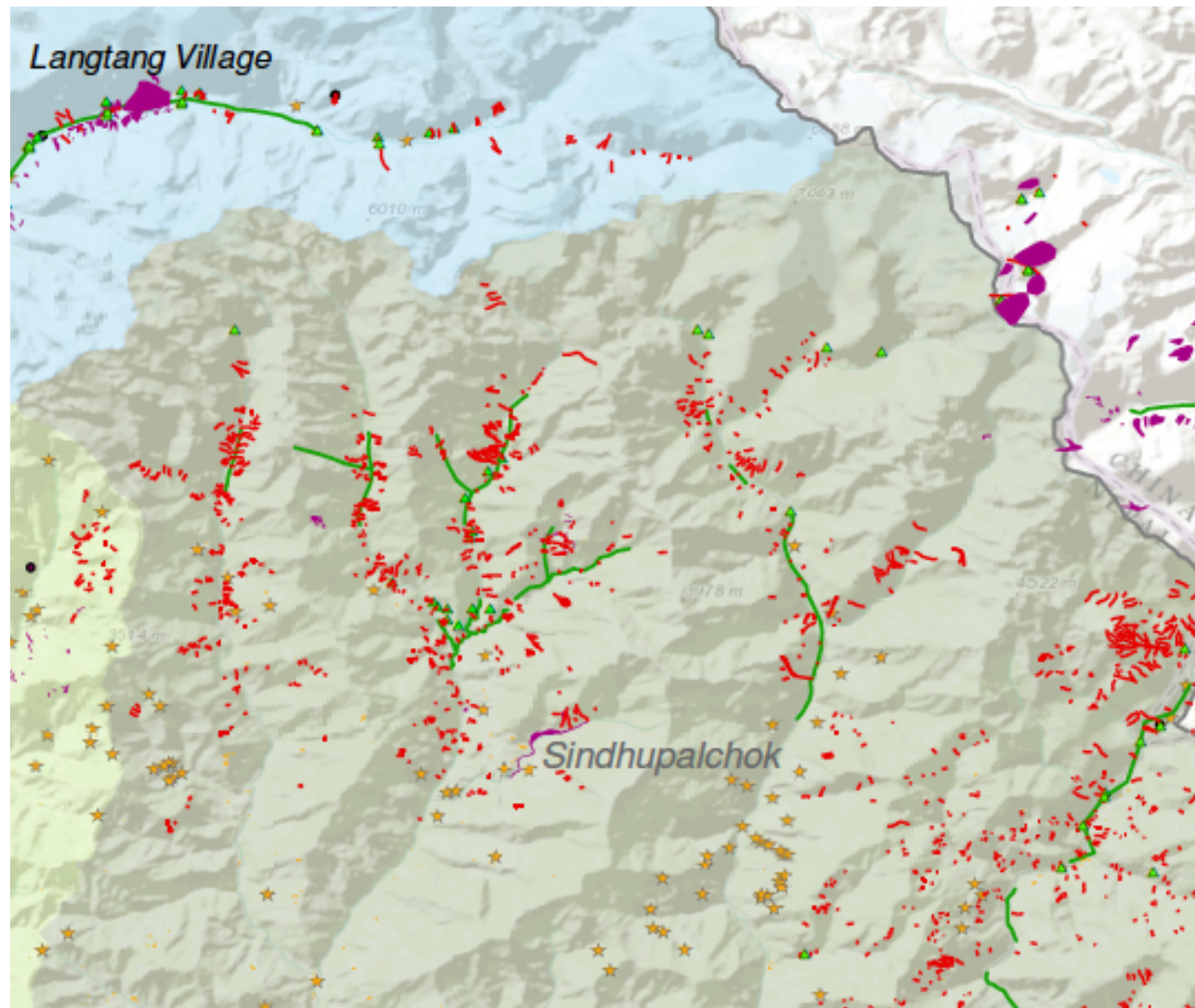


Kenya - Health Facilities

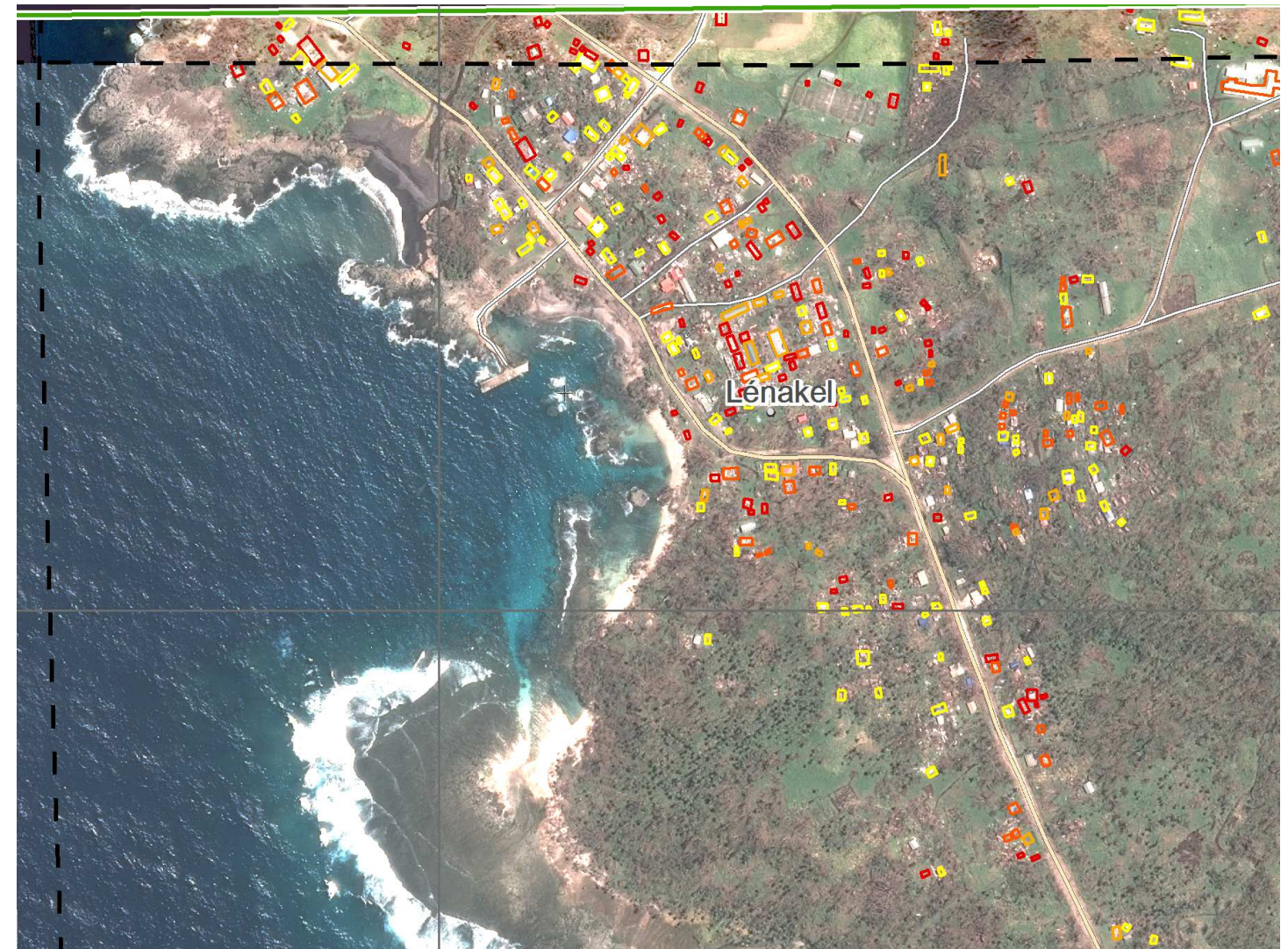
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Advancing the Field of Risk Identification

Determining disaster impacts in Nepal, Dominica, Vanuatu & Myanmar



Identifying landslides in Nepal

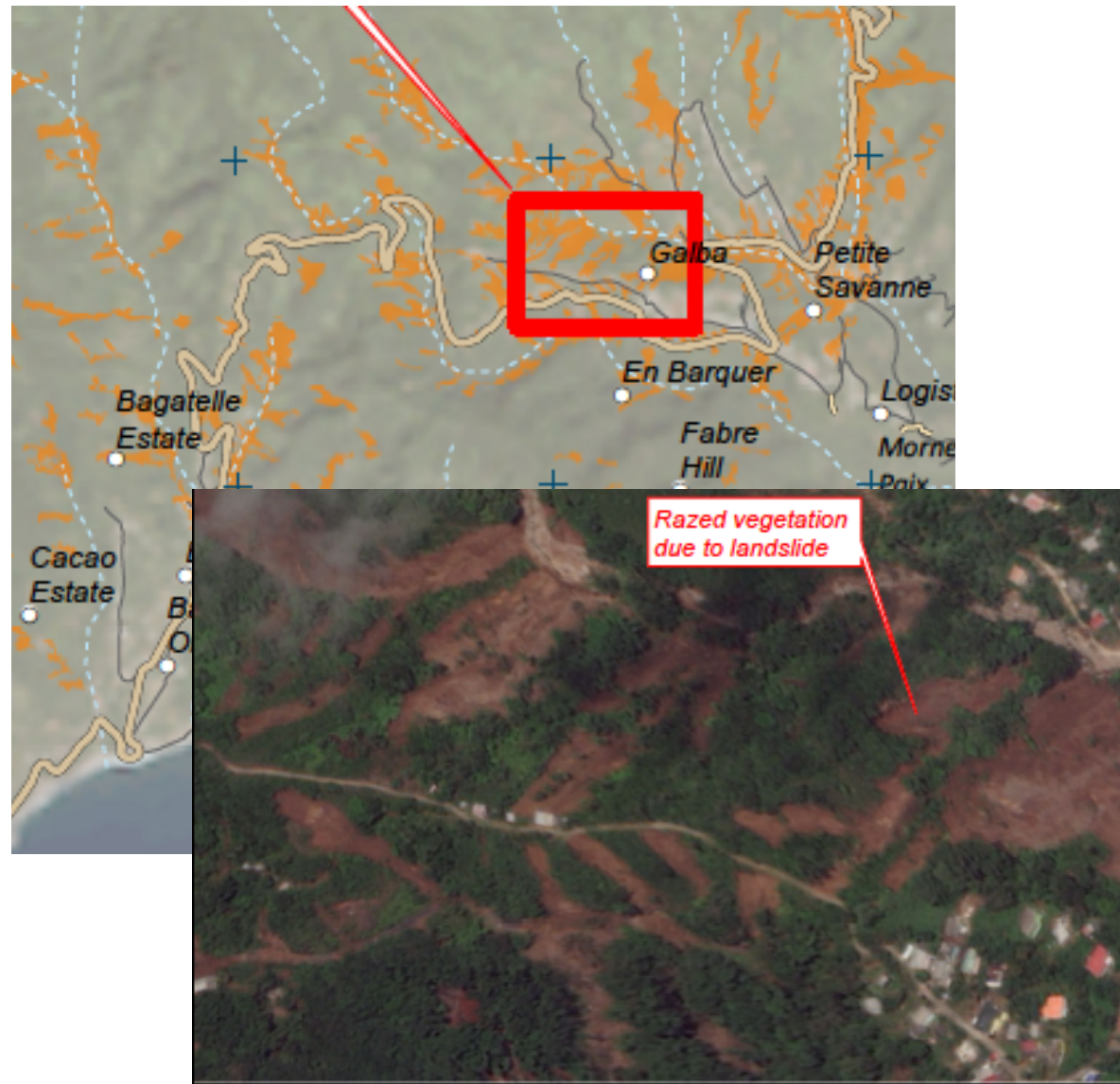


Destroyed and damaged buildings, Tana Is., Vanuatu

Partners: UNOSAT, Italian Space Agency, EU (Copernicus), NASA, German Space Agency, Canadian Space Agency, Deltares, CIMA, Karlsruhe Institute of Technology, Stanford University, ImageCAT, OSM, Red Cross, US State Department, British Geological Survey, ICIMOD, World Bank

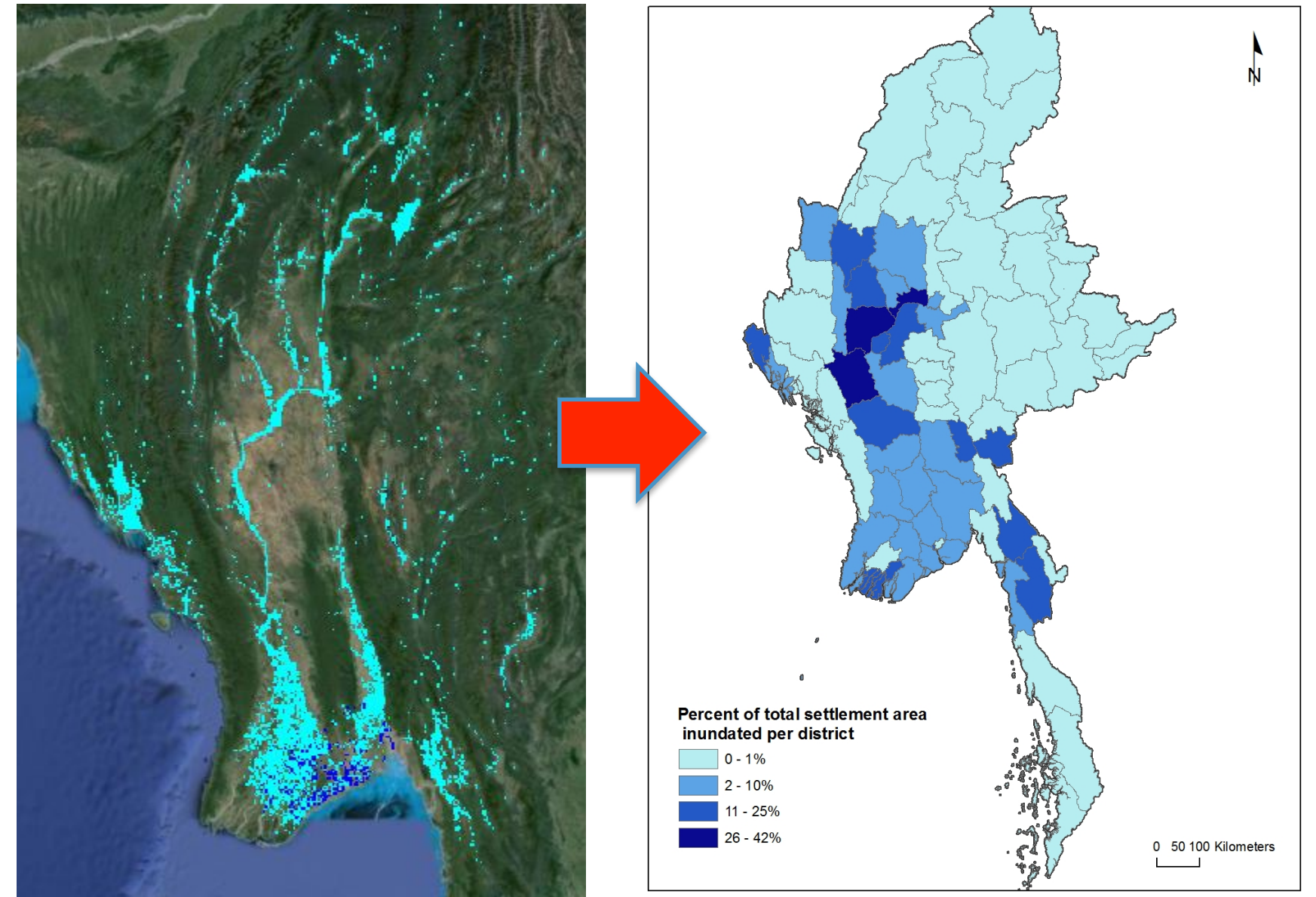
Advancing the Field of Risk Identification

Determining disaster impacts in Nepal, Dominica, Vanuatu & Myanmar



Identifying landslides after TC Erika in Dominica

Partners: UNOSAT, Italian Space Agency, EU (Copernicus), NASA, German Space Agency, Canadian Space Agency, Deltares, CIMA, Karlsruhe Institute of Technology, Stanford University, ImageCAT, OSM, Red Cross, US State Department, British Geological Survey, ICIMOD, World Bank



Inundation in Myanmar

Advancing the Field of Risk Identification

Fostering Innovation through the GFDRR-DFID Challenge Fund

❑ 264 submissions, 15 proposals funded – here are four examples

Organization	Flood Tags and Philippine Red Cross	Future Water	Institut de recherche pour le développement	UNESCO Jakarta
Description	Flood identification and visualization using Twitter in the Philippines	Using drones to monitor dykes and levees in Mozambique pre- and post-disaster	Using attenuation of cellphone signals to monitor rainfall in Burkino Faso	Development of an safe school mobile app to visually inspect schools in Indonesia
Grant funding (US\$)	\$100,000	\$50,000	\$100,000	\$100,000

Partners: DFID, Geohazards International, NIWA, International Red Cross/Red Crescent, UNISDR, World Bank

Consolidating Knowledge for Better Decisions

The making of a riskier future: How our decisions are shaping future disaster risk (working title)

Key messages:

1. Disasters risks are *rapidly increasing* – due to changing population, GDP, urbanization and environmental conditions – however, the full effects of climate change *may not be felt* for another 15-30 years.
2. Risk assessments *fail to account* for changing climate, population, urbanization and environmental conditions *reducing the opportunity* to highlight long-term, cost-effective options for risk reduction.
3. The drivers of dynamic risk are *within the control of decision makers* and so there is a *huge opportunity today* to manage the risks of tomorrow.

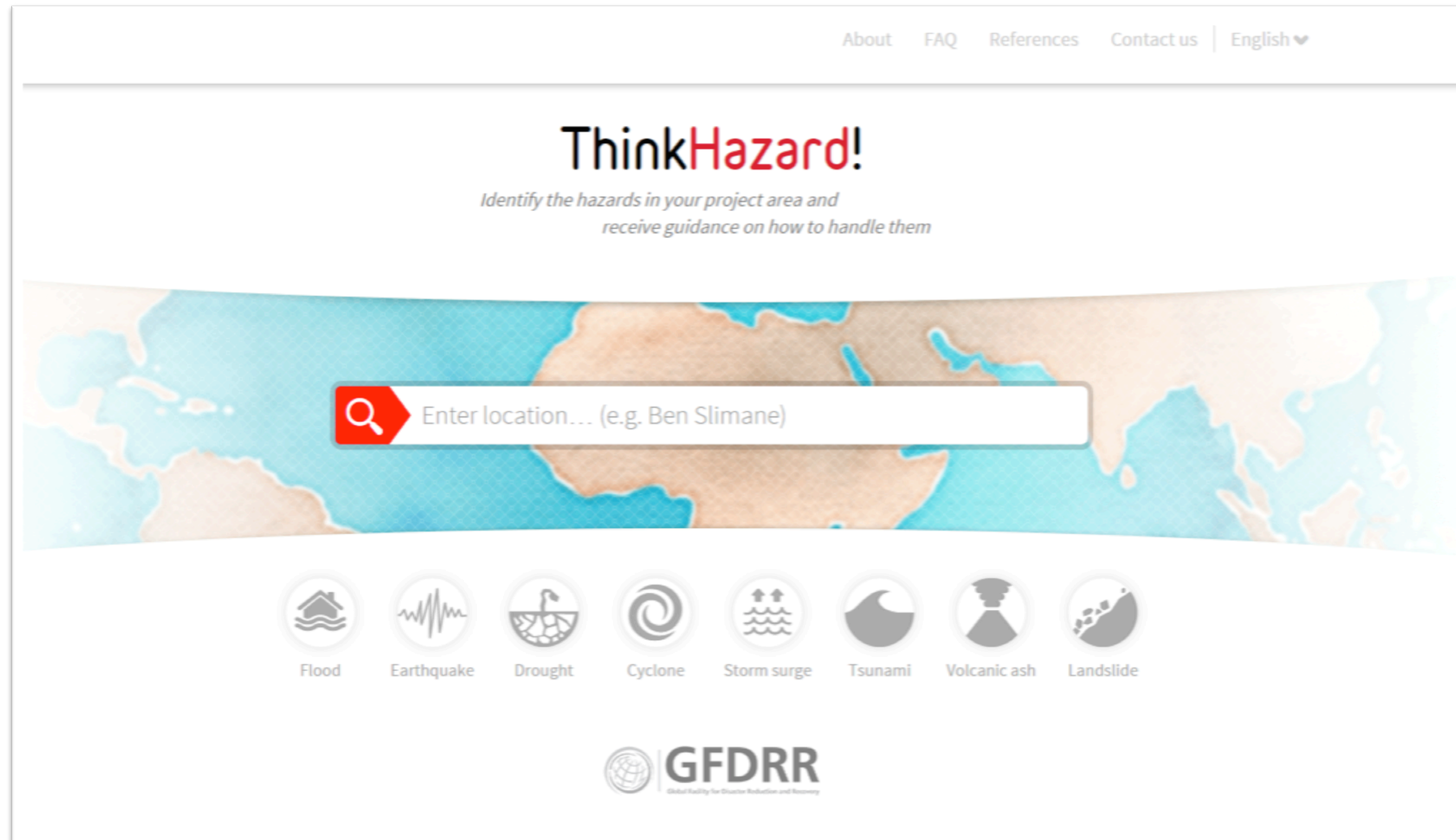
Partners: GNS Science, Deltares, Stanford University, Red Cross/Red Crescent Climate Centre, VU University, NIWA, WaterLand Experts, Climate Central, RMS, Karlsruhe Institute of Technology, UCL, University of Melbourne, Université Libre de Bruxelles, University of Tokyo, Royal Netherlands Meteorological Institute, & World Bank



GFDRR
Global Facility for Disaster Reduction and Recovery

Consolidating Knowledge for Better Decisions

Think Hazard!



[alpha version](#)

Partners: BRGM, Deltares, CamptoCamp, UNISDR, Aon Benfield, Global Earthquake Model, Global Volcano Model, & World Bank

Consolidating Knowledge for Better Decisions

Think Hazard!

- ❑ Beta version with all hazards – December 2015
- ❑ Official Launch – May 2016
- ❑ We need your help:
 - Access to open hazard datasets at district, provincial and national levels
 - Guidance notes for non-specialists on how to reduce risk in their sector by hazard
 - User testing of the Beta version in January 2015

Capacity Building through Broader Project Engagement

Code for Resilience in Action – “SMS Lapli” in Haiti

- ❑ Open-source platform created by students
- ❑ Will collect, analyze and distribute data from >100 rainfall stations in real time.
- ❑ Information available for farmers, civil protection committees & government ministries



Partners in Haiti: Haiti Ministry of Agriculture, Natural Resources & Urban Development (MARNDP), Agency for Food Security (CNSA), Center for Geospatial Information & ESIH

Capacity Building through GFDRR Country Projects

1-5 day training programs

❑ Topics:

- establishment and maintenance of geospatial platforms (eg. GeoNode);
- data collection (eg. OpenStreetMap)
- Analytics for preparedness (eg. InaSAFE);
- Design, implementation and communication of risk assessment

❑ Modality: field-based, serious games, computer-based, fellowships

Partners: Various in-country experts and institutions, Red Cross/Red Crescent Climate Center, MapAction, Humanitarian OpenStreetMap, Red Cross, Kartoza, GeoSolutions & World Bank



Questions...



Visit: <https://www.gfdrr.org/innovation-lab>

Consolidating Knowledge for Better Decisions

The making of a riskier future: How our decisions are shaping future disaster risk (working title)

- Visualizing data in understandable way
- Interactive [report](#) on GFDRR website

