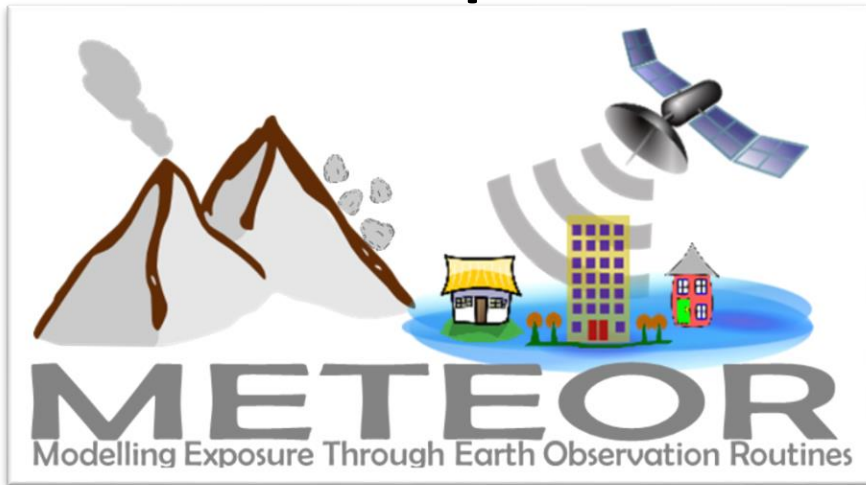# METEOR: Modelling Exposure Through Earth Observation Routines
A step towards Disaster Risk Reduction for ODA Countries

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http://meteor-project.org/

METEOR is a three year project that started in February 2018 with a focus on Nepal and Tanzania. It is developing innovative Earth Observation (EO) routines to deliver robust national-scale **exposure** and **multi-hazard** data and investigating the interaction of multi-hazards and their potential impacts on exposure. We are utilising a range of satellite imagery including radar and day- night-time optical.

The escalating impacts of natural hazards are caused mostly by increasing exposure of populations and assets. Poor understanding of the distribution and character of exposure (buildings and infrastructure) and hazards in ODA countries is a major challenge when making Disaster Risk Management (DRM) decisions locally, nationally and globally. Robust and quantitative methods are required to justify resilience decisions and risk mitigation.


Gorkha Earthquake Reconstruction in Nepal. Copyright NSET © 2018

METEOR takes a step-change by co-developing and delivering rigorous and open routines (protocols) and standards to allow quantitative assessment of exposure with explicit uncertainties.

> Risk = Hazard x Exposure x Vulnerability

The exposure data is being co-developed with partners in Nepal and Tanzania, with country-wide openly-available data subsequently delivered for the 47 least developed countries in the DAC list of ODA recipients.

National-scale geohazard footprints are being developed and provided openly for Nepal and Tanzania.

Nepal   Tanzania

Landslide   Seismic   Volcanic   Flood
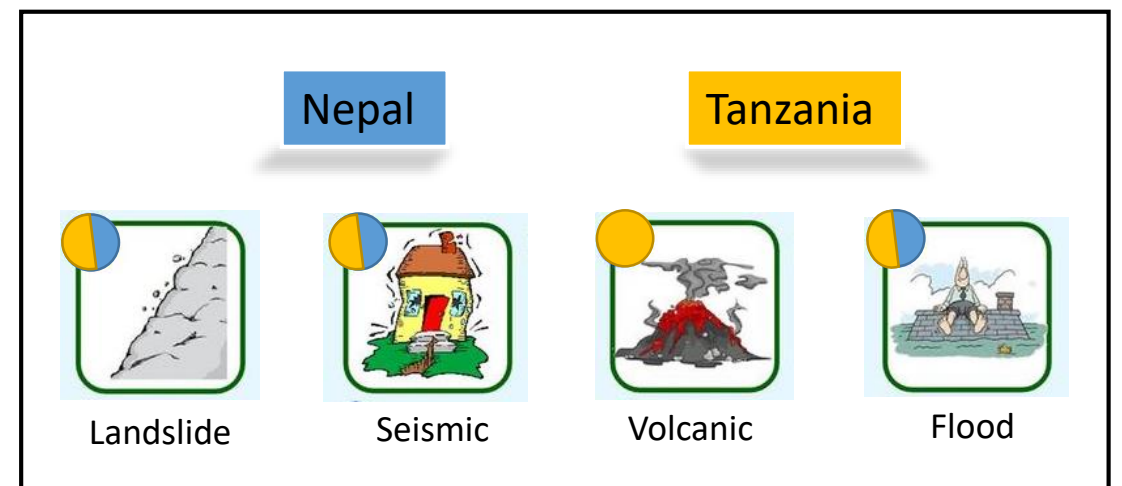
Geohazard data will be developed and openly disseminated

Our work is co-designed and co-delivered with our partners. The process of building capacity and co-delivering new consistent data will promote welfare and economic development and demonstrate the applicability of the techniques elsewhere. METEOR progress is tracked within the project by a dedicated Monitoring & Evaluation process that includes baseline, midline and endline interviews.
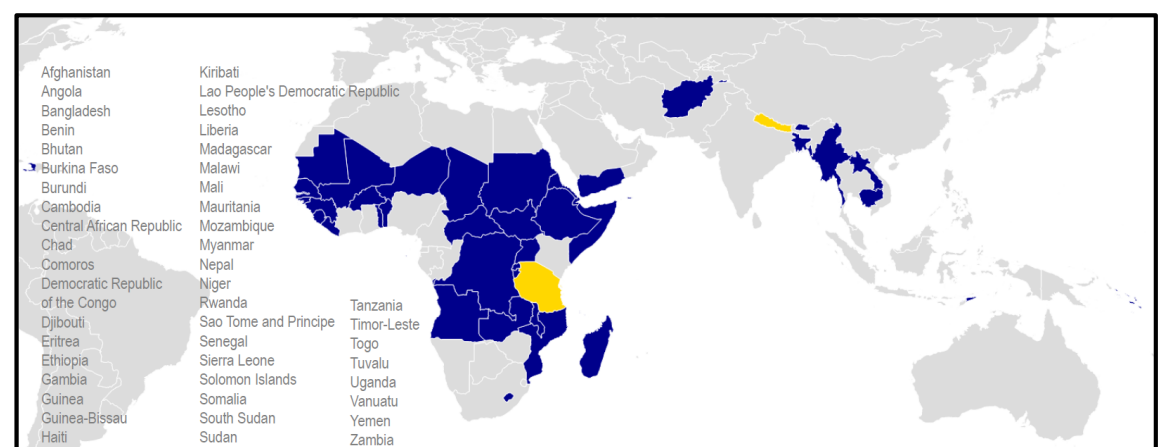
Country-wide exposure data will be produced for the countries on the ODA LDC list

All METEOR results (listed below) will be openly and freely disseminated:
- Exposure taxonomy and data models
- Country-wide exposure data for 47 countries
- National-scale hazard footprints (Nepal and Tanzania)
- Training materials and tutorials
- Information to help make better-informed DRM decisions that meet the demands of international drivers (e.g. UN Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction)

Paper 1072