# DATATHON: Nepal theme

## Context

The April 2015 Nepal earthquake killed more than 9,000 people and injured more than 23,000. It occurred at 11:56 NST on 25 April, with a magnitude of 8.1 on the Richter scale. Its epicenter was east of the district of Lamjung, and it was the worst natural disaster to strike Nepal since the 1934 Nepal–Bihar earthquake. Hundreds of thousands of people were made homeless with entire villages flattened across many districts of the country. Centuries-old buildings were destroyed at UNESCO World Heritage sites in the Kathmandu Valley. Continued aftershocks occurred throughout Nepal within 15–20 minute intervals, with one shock reaching a magnitude of 6.7 on 26 April. The country also continues to have a major risk of landslides. A major aftershock occurred on 12 May 2015 with a magnitude of 7.3. The epicenter was near the Chinese border between the capital of Kathmandu and Mt. Everest, and more than 200 people were killed and more than 2,500 injured.

The Department of Geography and Environment at the University of Southampton has played a key role in data analysis and provision to multiple UN and other humanitarian agencies to support the earthquake response, including:

1. Production of high resolution population maps of the region through the WorldPop project ([www.worldpop.org](http://www.worldpop.org)): e.g. <http://www.usaid.gov/sites/default/files/documents/1866/05.06.15-USAID-DCHANepalEarthquakeMap.pdf>
2. Analysis of anonomised mobile phone call data records to map population displacements through the Flowminder Foundation ([www.flowminder.org](http://www.flowminder.org), [www.worldpop.org.uk/nepal](http://www.worldpop.org.uk/nepal)): e.g. <http://nepalitimes.com/article/nation/Ncell-Flowminder-track-movement-of-nepalis-post-earthquake,2278>

## Ongoing challenges:

The Earthquake may have occurred 3 months ago now, but significant ongoing challenges remain as Nepal tries to rebuild, particularly as the monsoon season has just started. Landslides and floods during the monsoon season impact lives and livelihoods in Nepal every year. The localised impact of these natural hazards will place an additional burden on earthquake-affected households. In addition, there will be landslides and floods in districts that were not affected by the earthquake, stretching national capacity to respond. Moreover, many people remain displaced and in temporary accommodation, making them particularly vulnerable.

## Background reading:

Landslide/flood risks: <https://www.humanitarianresponse.info/en/system/files/documents/files/150623_monsoon_hazard_analysis_final_.pdf>

Example situational analysis:

<http://reliefweb.int/report/nepal/nepal-earthquake-weekly-situation-update-10-july-2015>

## Example uses of big data/social media/crowdsourcing:

Reported deaths: http://www.codefornepal.org/2015/04/map-of-reported-nepalearthquake-deaths/

Crisis-maps using twitter damage postings: <https://micromappers.wordpress.com/maps/>

Crowdsourced damage assessments: <https://geosprocket.cartodb.com/viz/bb5ed630-ee1e-11e4-8dca-0e018d66dc29/embed_map>

Crowdsourced assessments: <http://quakemap.org/>

Crowdsourced mapping: <http://www.openstreetmap.org/relation/184633>

Tweet crisismap: <http://vision.sdsu.edu/ec2/geoviewer/nepal-kathmandu#>

ESRI various maps: <http://www.esri.com/services/disaster-response/earthquakes/nepal-earthquake-maps>

## Available Data Sets:

WorldPop data tool: <http://worldpop.geodata.soton.ac.uk/>

WorldPop Nepal population data: <http://www.worldpop.org.uk/nepal/>

Flowminder population displacement estimates: <https://data.hdx.rwlabs.org/dataset/population-movements-after-the-nepal-earthquake-v-3-up-to-11th-june-2015>

General open Nepal datasets: <https://data.hdx.rwlabs.org/group/nepal-earthquake>

NGA open data: <http://nepal.nga.opendata.arcgis.com/>

Various datasets: <http://www.nysgis.net/nepal-earthquake-data-links/>

Various datasets: <http://www.tech4relief.com/2015/04/27/working-list-of-data-sources-for-nepal-earthquake-mappers-and-analysts/>

Various Nepal data: <http://gis.harvard.edu/services/project-consultation/project-resume/nepal-earthquake-geographic-community-response>

More broadly, free GIS datasets from Robin Wilson (Southampton Geography): <http://freegisdata.rtwilson.com/>