### Hashtags: #earth, #trackalandslide

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### Tags: Data Visualization, Imagery, Model

**Challenge Description**

Landslides occur all over the world, causing many fatalities, destroying livelihoods, and causing extensive economic damage. Create a way to inform people before landslides occur or to help people recover after a landslide. Incidences of landslides depend on several factors, such as slope terrain, vegetation, and recent rainfall. Increased climate variability, deforestation, and population pressures are making landslides a more pervasive threat. Crowdsourcing has the potential to complement satellite-based Earth observation landslide products, and in the process inform more people of the potential dangers of landslides.

One possibility is to design a mobile application that enables users to report landslides in their vicinity and collect user-acquired imagery (pictures, videos) showing the extent of damages caused by observed landslides. The app could provide data layers for users to view the latest rainfall data, current landslide susceptibility maps, and areas of high slope terrain near the user's location. The app could allow people to enter comments conveying their own perspectives on landslide susceptibility. The map could also display an aggregated summary of users’ landslide reports and comments.

**Background**

Landslides take the lives of many people in areas where landslide warnings or alerts do not reach large portions of the population. For example, in Uganda several landslides have killed hundreds of people in the last few years alone. Unfortunately, in Mesoamerica landslides are also increasing in frequency and becoming deadlier.

SERVIR, a NASA-USAID joint project, receives many requests to provide landslide susceptibility maps. NASA Goddard Space Flight Center is a leader in mapping landslide susceptibilities using remotely sensed data. The satellite rainfall-derived landslide susceptibility maps provide a global, near real time perspective.

**Solution Ideas**

Here are some ways for you to frame this solution:

Create a web app or mobile app that allows users to designate a landslide location (e.g., by drawing a point or polygon on a map or by manually entering geospatial coordinates). The app could enable users to view latest rainfall data, landslide susceptibility maps, and elevation datasets; or allow users to make an imagery association, in the form of video or still photos, with landslide entry; or enable the users to enter their comments on the landslide susceptibility map. The app could link the users’ geographical location to the responses; and/or synthesize the user responses and display over a geographic area, along with the remotely sensed data and products.

**Sample Resources**

* <http://pps.gsfc.nasa.gov>
* <http://www2.jpl.nasa.gov/srtm/>
* <http://ags.servirlabs.net/arcgis/rest/services>
* <http://trmm.gsfc.nasa.gov/publications_dir/potential_landslide.html>
* <https://www.servirglobal.net>