



Fostering the uptake of satellite Earth Observation data for landslide hazard understanding: the CEOS Landslide Pilot

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Landslides occur around the world, on every continent, and play an important role in the evolution of landscapes. They also represent a serious hazard in many areas of the world. Despite their importance, it has been estimated that past landslide and landslide potential maps cover less than 1% of the slopes in these landmasses. Systematic information on the type, abundance, and distribution of existing landslides is lacking. Even in countries where landslide information is abundant (e.g. Italy), the vast majority of landslides caused by meteorological (intense or prolonged rainfall, rapid snowmelt) or geophysical (earthquake) triggers go undetected. This paucity of knowledge has consequences on the design of effective remedial and mitigation measures. Systematic use of Earth observation (EO) data and technologies can contribute effectively to detect, map, and monitor landslides, and landslide prone hillsides, in different physiographic and climatic regions.

The CEOS (Committee on Earth Observation Satellites) Working Group on Disasters has recently launched a Landslide Pilot (period 2017-2019) with the aim to demonstrate the effective exploitation of satellite EO across the full cycle of landslide disaster risk management, including preparedness, response, and recovery at global, regional, and local scales, with a distinct multi-hazard focus on cascading impacts and risks. The Landslide Pilot is focusing efforts on three objectives:

1. Establish effective practices for merging different Earth Observation data (e.g. optical and radar) to better monitor and map landslide activity over time and space.
2. Demonstrate how landslide products, models, and services can support disaster risk management for multi-hazard and cascading landslide events.
3. Engage and partner with data brokers and end users to understand requirements and user expectations and get feedback through the activities described in objectives 1-2.

The Landslide Pilot was endorsed in April 2016 and work started in fall 2016. The first data from the CEOS space agencies will become available in early 2017. The pilot is focused on two main regions (Nepal and the US Pacific Northwest), and five experimental regions (US Southeast Alaska, sub-part of China, the Caribbean, Peru, and Indonesia).

The objective of this contribution is to present the Landslide Pilot and the working methodology to a broader scientific community with the goal of further encouraging active involvement.