



Landslide Monitoring and Risk Assessment Using NASA Earth System Data

March 11, 13, & 18, 2025

10:00-11:30 EDT (UTC-4) or 14:00-15:30 EDT (UTC-4)

This three-part introductory training will cover a number of topics relating to landslides, demonstrating a wide variety of NASA Earth science data uses to characterize landslides and their impacts. The training will provide the scientific background of landslides to answer important questions such as: What is a landslide? Where do they occur? What causes them, and why?

Participants will learn how satellite-based Earth observations can inform landslide science and disaster planning with a focus on key observations and model data, including optical and synthetic aperture radar (SAR) based analysis. The training will include how NASA data and models can be used to automate landslide detection to rapidly map where landslides have occurred post-disaster using the NASA SALaD model (Semi-Automatic Landslide Detection). The training will also cover how satellite-based Earth observations can better predict the location and timing of landslides using the global LHASA model (Landslide Hazard Assessment model for Situational Awareness). These open source tools can help communities prepare for and respond to landslides all over the world.

Part 1: Remote Sensing for Landslide Science and Disaster Planning

ARSET Host: Sean McCartney

Guest Instructors: Robert Emberson

- Core concepts
- Satellite observations of landslides
- Ancillary data
- Optional independent activity

Part 2: Mapping Landslide Occurrence Using Earth Observations

ARSET Host: Sean McCartney

Guest Speakers: Robert Emberson, Pukar Amatya

- Landslide mapping using satellite data
- Automated mapping
- Non-optical detection
- Optional independent activity

Part 3: Remote Sensing and Landslide Susceptibility

ARSET Host: Sean McCartney

Guest Instructors: Robert Emberson

- Landslide susceptibility
- Constructing susceptibility models
- Dynamic hazard models



ARSET empowers the global community through remote sensing training.