**ETH**
Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

**Institute of Environmental Engineering**

Prof. Dr. Paolo Burlando
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Management

# SEMINAR

**Tuesday, April 16, 16:00 h**, ETH Hönggerberg HIL D 60.1

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## Monitoring landslide hydrology across the United States to advance process understanding and inform landslide warning systems

Abstract:

The U.S. Geological Survey's Landslide Hazards Program maintains a landslide monitoring network across a broad range of hydroclimatic and geographic regions. Many years of rainfall and climatic forcing data, and the attendant pore-water pressure, volumetric water content, and water-table response dynamics reveal insights into a variety of controls on landslide initiation. Data displayed in near-real time on the USGS website currently provide situational awareness in a variety of settings and have allowed us to develop new hydro-meteorological thresholds to forecast landslide initiation. In the first part of this presentation I will provide a brief tour of selected sites, which highlight the value of in-situ monitoring for improved quantitative understanding of landslide hydrology. In the second half, I will discuss our improved empirical and deterministic approaches to inform landslide warning systems using rainfall forecasts and measurements of antecedent soil saturation.

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