

Training course: Shallow landslide modelling for vegetated slopes using SOSlope

Date: Saturday 7 December 2019
Place: U.S. Geological Survey, 345 Middlefield Rd, Menlo Park, CA 94025
Registration: Send email to office@ecorisq.org
Local contact: Kevin Schmidt, kschmidt@usgs.gov, 650 439 2302

Description of SOSlope:

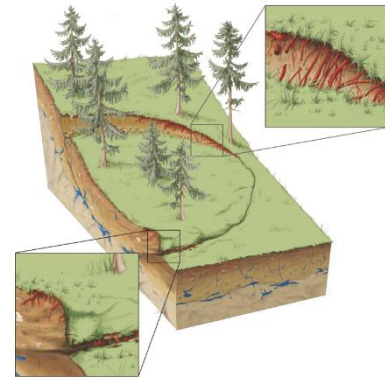
- A new model for slope stability taking into account root reinforcement due to vegetation and tensional/compressional forces arising from both roots and soil
- Uses displacement-controlled, fibre-bundle model concepts for estimating forces in roots and soil
- Based on a discrete element formulation
- Uses a simplified rainfall infiltration model with dual-porosity soil
- Estimates factor of safety and zones of failure during a rainfall event
- GUI based, easy to use, accessible via ecorisq, an international association for natural hazard risk management

References:

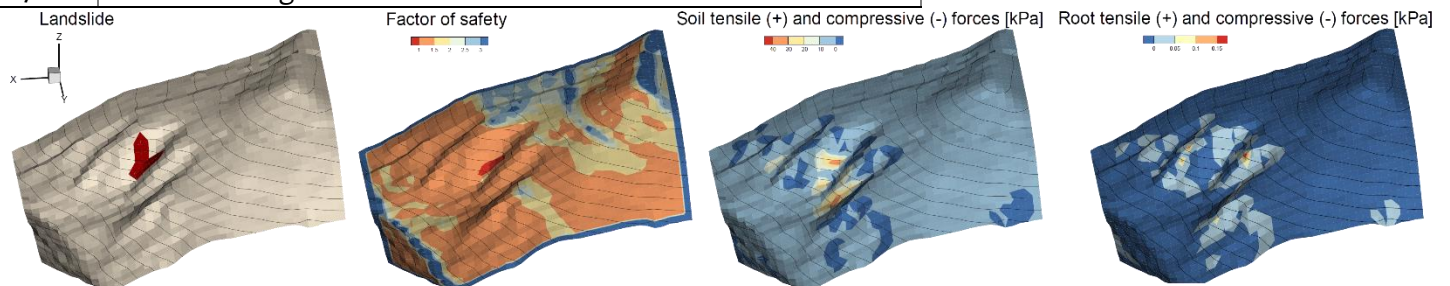
- Cohen and Schwarz (2017), Tree-root control of shallow landslides, Earth Surf. Dynam., 5, 451–477
- <http://www.ecorisq.org/ecorisq-tools>

Agenda

9:00	Welcome coffee
9:30	Introduction of the course & presentation of the participants
9:45	Introduction to SOSlope
10:00	SOSlope discrete element model
10:15	SOSlope hydrology
10:45	Coffee break
11:00	SOSlope soil mechanics
11:30	SOSlope root mechanics
12:00	Lunch
13:00	SOSlope installation and test cases
13:30	SOSlope approach and methodology
14:00	SOSlope exercises and examples
15:00	Coffee break
15:30	Hands on exercises with participants
17:00	End of training course



SOSlope takes into account root reinforcement in both tension and compression during shallow landslide initiation like, for example, at the head scarp and at the toe of the landslide.



SOSlope can predict shallow landslide location, compute factor of safety and tensile and compressive forces in soil and roots.

Things to bring:

- Laptop with GIS program and SOSlope installed
- DEM of own project for exercise application

For more information:

Denis Cohen-Corticchiato (USA)
Cell: 575 404 0701
email: denis.cohen@gmail.com

Massimiliano Schwarz (Switzerland)
Work: +41 31 910 2179
email: massimiliano.schwarz@bfh.ch