

# Land reflection seismic, hydrogeological and magnetic study of an area prone to quick-clay landslides in southwest Sweden - Hydrogeological modeling of an area prone to quick-clay landslides in southwest Sweden

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## Citation

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## Creator/Principal investigator(s)

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## Research principal

[Uppsala University](#) - Department of Earth Sciences

## Description

Quick-clay landslides are common geohazards in Nordic countries and Canada. The presence of potential quick clays is confirmed using geotechnical investigations, but near-surface geophysical methods, such as seismic and resistivity surveys, can also help identifying coarse-grained materials associated to the development of quick clays. We present the results of four reflection seismic profiles next to the Göta River in Sweden, along which many quick-clay landslide scars exist. An extensive coarse-grained layer exists in the sedimentary sequence and is interpreted and modeled in a regional context. Hydrological modeling of the coarse-grained layer is performed. Magnetic data are also studied within this investigation.

## Language

[English](#)

## Time period(s) investigated

2018-01-01 - 2018-03-05

## Data format / data structure

[Numeric](#)

## Geographic spread

Geographic location: [Sweden](#), [Västra Götaland County](#)

## Responsible department/unit

Department of Earth Sciences

### Research area

[Earth and related environmental sciences](#) (Standard för svensk indelning av forskningsämnen 2011)

[Geoscientific information](#) (INSPIRE topic categories)

[Natural environment](#) (CESSDA Topic Classification)

### Keywords

[Landslides](#), [Hydrology](#), [Electric/magnetic field exposure](#), [Seismic profile](#)

### Publications

Salas-Romero, S., Malehmir, A., Snowball, I., & Dessirier, B., Subsurface characterization of a quick-clay vulnerable area using near-surface geophysics and hydrological modelling, accepted in Solid Earth, 2019

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

### Polygon (Lon/Lat)

10.963187, 59.262034

10.963187, 57.14008

14.714817, 57.14008

14.714817, 59.262034

10.963187, 59.262034

### Accessibility level

Access to data through SND

Access to data is restricted

### Use of data

[Things to consider when using data shared through SND](#)

### Versions

Version 2.0. 2019-09-09

[Version 1.0](#). 2019-01-14

### Related research data in SND's catalogue

[Land reflection seismic, hydrogeological and magnetic study of an area prone to quick-clay landslides in southwest Sweden](#)

[Land reflection seismic, hydrogeological and magnetic study of an area prone to quick-clay landslides in southwest Sweden - Modeled subsurface interfaces of an area prone to quick-clay landslides in southwest Sweden](#)

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