

# Metadata Report

Survey of the Incapuquio Fault (Santa Elena), South Peru (April 2018)

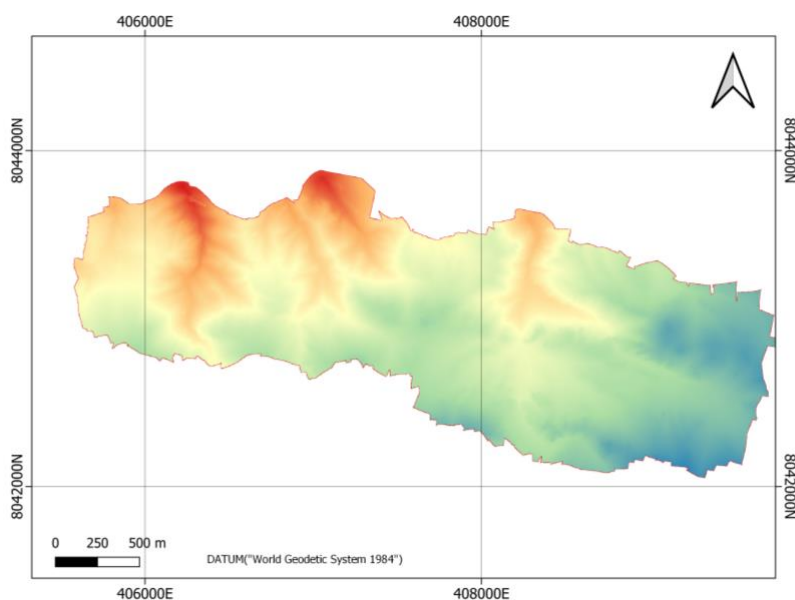
Summary: Photogrammetric survey of fault scarps on the Incapuquio Fault near Santa Elena. These data form part of the study by *Benevente et al., 2021* published in *Tectonics*.

## Personnel:

- PI(s) : Carlos Benavente Escobar
- Field staff : Lorena Rosell, Enoch Aguirre, Briant García, Anderson Palomino
- Additional team members: Xavier Robert, Sam Wimpenny

## Site Information

- Site description: Fault scarps at Santa Elena, Tacna, South Peru
- Site objective: Create a high-resolution DEM of the Incapuquio Fault to measure the height and morphology of the fault scarps.
- Site location (GPS cords and/or map):



- Site conditions: High-relief region of the Peruvian forearc, generally extremely dry with little vegetation and bare alluvial surfaces.
- Date/time spent at each site: 09 April 2018, ~8 hours

### Survey Results

- Equipment used: UAS- eBee senseFly drone, Trimble R10 GNSS receiver, Agisoft Photoscan.
- Total RMSE of Ground Control Points:
  - Santa Elena: 5.19 cm
- Collection methods: The drone was flown at low altitude (a few tens of metres) over the study area collecting photos. The collection of ground control points was performed using the Real Time Kinematic (RTK) technique. Ground control points were used to guide image matching through Agisoft Photoscan.

### Products

- Date of dataset collection: 09 April 2018
- Coordinate system of datasets: WGS84/UTM zone 19S (EPSG: 32719)
- DEMs resolution:
  - Santa Elena Zone: 8.04 cm/px
- RMS Reprojection errors:
  - Santa Elena Zone: 0.28m
- Data formats: Raster, (.laz point cloud also available upon request).
- Data processing methods: Structure from Motion / Photogrammetry in Agisoft Photoscan.

### Misc Notes: