

Metadata Report

Project Name *Surveys of Chon Aksu and Aksu Earthquake Scarps, Kyrgyzstan, 2022*

Summary *These data cover two locations where the 1911 Chon Kemin earthquake ruptured along portions of the Aksu and Chon Aksu valleys north of Issyk Kol. These data were collected using a Phantom 4 Pro v2.0 with Teokit dGPS system. All heights are ellipsoidal.*

Personnel

- PI(s) *Ian Pierce, Ramon Arrowsmith, Kanatbek Abdrakhmatov, Richard Walker*
- Field staff
- Additional team members

Site Information

- Site description *The sites are near Aksu and Chon Aksu, Kyrgyzstan*
- Site objective *The objective was to document at high resolution the surface rupture of the 1911 Chon-Kemin earthquake.*
- Site location (GPS cords and/or map) *42.8 N, 77.5E*
- Site conditions *Partly cloudy, fair weather*
- Date/time spent at each site *The sites were surveyed between July 24-28, 2022.*

Survey Results

- Equipment used *Emlid Reach RS2 as base station & single GCP. Phantom Pro v2.0 UAS with Teokit dGPS*
- GPS solutions *1 base station/GCP used*
- Errors *0.2 cm accuracy in PPP of base station, 5 cm accuracy of photo locations*
- Alignments *Sparse & Dense clouds aligned using high setting.*
- Collection methods *Litchi autopilot at ~200 m above ground surface, 7.5 m/s UAS velocity, and 2s photo intervals.*

Products

- Date of dataset collection *July 24-28, 2022*
- Coordinate system of datasets *WGS 84 UTM Z43N*
- Spatial resolution *5 cm/pix ortho, 10 cm/pix DEM*
- Horizontal Accuracy *0.2 m*
- Vertical Accuracy *0.2 m (variable)*
- Data formats *GeoTIF, LAZ*
- Data processing methods *CSRS PPP processing of base location, TeoBox PPK processing of UAS locations, Agisoft Metashape processing of imagery & DEMs.*

Misc Notes

There are known seam issues between chunks captured on different days.

There were also problems with the drone autofocus leading to some issues in the sharpness of images and this has produced some seamlines and unsightly areas.

Elevations are Ellipsoidal