

Metadata Report

Project Name Sinabung Volcano (Indonesia), June 20, 2018

Summary

UAS oblique optical image survey of Sinabung Volcano, North Sumatra, Indonesia. Dataset contains UAS images and the dense point cloud and DEM produced by structure-from-motion processing with Agisoft Metashape. Survey conducted on June 20, 2018 using a DJI Matric 210 UAS and DJI Zenmuse X4S optical camera. Two UAS flights from different launch locations, flown approximately 45 minutes apart, were used to collect the images. Final model used 454 images. Dataset used for manuscript currently under review in *Frontiers in Earth Science*. <Will update document with citation when published>

For additional information please contact Dr. Brett Carr (University of Arizona) at bbcarr@arizona.edu

Personnel

- PI: Dr. Brett B. Carr (Lamont-Doherty Earth Observatory, Columbia University)
- Field staff: Dr. Loïc Vanderkluysen (Drexel University), Danielle Moyer (Drexel University), Christine Sealing (Drexel University), Emily Carey (Drexel University), Annisa Nurina Adani (Universitas Gadjah Mada), Riski Budi Pratiwi (Universitas Gadjah Mada)
- Additional team members: Dr. Einat Lev (Lamont-Doherty Earth Observatory); Dr. Gayatri Indah Marliyani (Universitas Gadjah Mada); Dr. Amanda Clarke (Arizona State University)

Site Information

- Site description: Sinabung Volcano is an active andesitic stratovolcano located in the Karo Regency of North Sumatra, Indonesia.
- Site objective: Collect UAS images for SfM mapping. Use point cloud and DEM produced by SfM processing with previous DEMs to calculate erupted volume during ongoing eruption. Use SfM DEMs and a slope stability model to quantify lava dome collapse hazards.
- Site location: 3.170509 N, 98.393870 E
- Site conditions: Clear, calm weather. Ongoing eruption prevented UAS flights in proximity to the volcano. Ash plume present during UAS flights.
- Date/time spent at each site: June 20, 2018. Total time to conduct both UAS flights, including changing launch locations between flights, was ~3 hours between 8-11am.

Survey Results

- Equipment used: DJI Matrice 210; DJI Zenmuse X4S
- GPS solutions: GPS onboard DJI M210. No surveyed ground control due to ongoing eruption in region of interest.
- Errors: See attached report produced by Agisoft Metashape
- Alignments: None. Georeferencing used image geotags.



Products

- Date of dataset collection: June 20, 2018
- Coordinate system of datasets: WGS 84 UTM Zone 47N
- Spatial resolution: 0.87 m (DEM), 1.32 points/m² (dense cloud)
- Horizontal Accuracy: 0.6 m
- Vertical Accuracy: 1.8 m
- Data formats: .las point cloud; .tif DEM geotiff
- Data processing methods: Agisoft Metashape v1.6

Misc Notes

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