

Dzhungarian Fault, Kazakhstan, trench site

Uploader:

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Target: Dzhungarian Fault (right-lateral strike-slip fault) in Eastern Kazakhstan; UAV survey to measure the vertical and horizontal offsets across a fault scarp. This site was also trenched.



Data collectors: Christoph Grützner, Austin Elliott, Aidyn Mukambayev

Survey date: 2016-08-27

Survey method: Structure-from-Motion from UAV aerial images

UAV: DJI Phantom 2

Flight altitude: 60-80 m

Camera: Canon PowerShot SX230 HS

Positioning: built-in camera GPS; four ground control points measured with RTK DGPS

SfM software: AgiSoft Photoscan Professional

of photos: 1,444

of tie points: 73,418

Dense cloud: 44,149,751 points

DEM size: 15,142 x 12,363 pixels

DEM Resolution: 0.13 m/px

EPSG: 4326 (WGS84 cartographic)

DEM filetype: GeoTIFF

Orthophoto Resolution: 0.05 m/px

Files: The original source images are available upon request from Christoph Grützner

GCPs:

<u>Id</u>	<u>Description</u>	<u>X</u>	<u>Y</u>	<u>Z</u>
BULR		81,2094919	45,9747647	439,272
DZH0	dzh-rov	81,1984774	45,9719511	449,6475
DZH1	dzh-rov	81,2094919	45,9747647	439,272
DZH2	dzh-rov	81,1983684	45,9717717	454,7068
DZH3	dzh-rov	81,1983363	45,9717874	455,6412
DZH4	dzh-rov	81,1932043	45,9734295	469,5691
DZH5	dzh-rov	81,1942231	45,974562	456,6538
DZH6	dzh-rov	81,1979395	45,9728533	447,3635
DZH8	dzh-rov	81,2007588	45,971771	448,0595

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Related work: Campbell, G. E., Walker, R. T., Abdrakhmatov, K., Schwenninger, J. L., Jackson, J., Elliott, J. R., & Copley, A. (2013). The Dzhungarian fault: Late Quaternary tectonics and slip rate of a major right-lateral strike-slip fault in the northern Tien Shan region. *Journal of Geophysical Research: Solid Earth*, 118(10), 5681-5698.

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