3D Imaging

Users can locate postseismic products of the Ridgecrest Earthquake (M6.4 (July 4, 2019) and M7.1 (July 5, 2019)) by navigating to the "3D Imaging" tab and clicking on the box labeled "Postseismic Products of Ridgecrest Earthquake."

The data was collected by Andrea Donnellan and Gregory Lyzenga.

Figure 1: Earthquake Damage on California Hwy 178 figure adapted by (Ben Brooks, USGS)

More information regarding the data can be obtained by clicking on the citation below

Andrea Donnellan, Gregory Lyzenga, Adnan Ansar, Christine Goulet, Jun Wang, Marlon Pierce; Targeted High-Resolution Structure from Motion Observations over the MwMw 6.4 and 7.1 Ruptures of the Ridgecrest Earthquake Sequence. Seismological Research Letters doi: https://doi.org/10.1785/0220190274

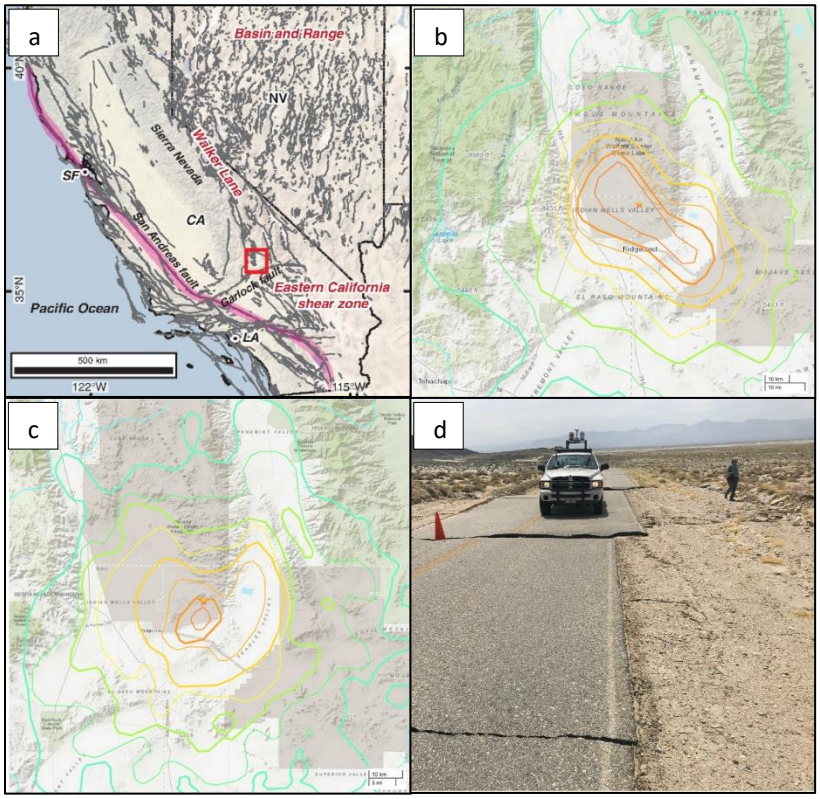

Figure 2: Figures from 2019 Ridgecrest earthquake

2(a) Boxed location shows location of the Ridgecrest earthquakes. Picture adapted from (Jobe et al., 2020)

2(b) Shaking intensity levels associated with each contour color shown for Mw 7.1 earthquake event. Warm colors represent higher intensity and color colors represent lower intensity. Picture adapted from (USGS, 2020).

2(c) Shaking intensity levels associated with each contour color shown for Mw 6.4 earthquake event. Warm colors represent higher intensity and color colors represent lower intensity. Picture adapted from (USGS, 2020).

2(d) Road offset on the road at Naval Air Weapons Station China Lake (NAWSCL) from the M7.1 rupture (Ben Brooks, USGS).

The products included in the 3D Imaging tab comprise of,

1. **Inferred rupture traces and orthomosaic images** for the M6.4 earthquake and M7.1 earthquake, which can be selected by clicking on the corresponding box. The inferred rupture traces can be downloaded as a KML.
2. Six **point cloud** (in LAZ format), which can be downloaded for each earthquake by clicking on "Point Cloud" across the listed dates which range from 2019/07/09 to 2019/09/27. Further, clicking on the "2cm DSM" option will download a 2 cm Digital Surface Model (in LAZ format). A quality report can be accessed by clicking on "Report."
3. **Digital Surface Model (DSM) and orthomosaic image** ,which can be downloaded as a KMZ by clicking on "Products overview (kmz)."
4. **Data from Potee**, a viewer for large point cloud/LIDAR data sets, which can be accessed and viewed by clicking on "View Point Clouds." Potree allows for users to adjust the appearance, clip, measure, export, and complete several other actions to the orthomosaic images.
5. An **animated GIF** of the M7.1 earthquake, which can be accessed by clicking on the "Animated Gif" button under M7.1 products.

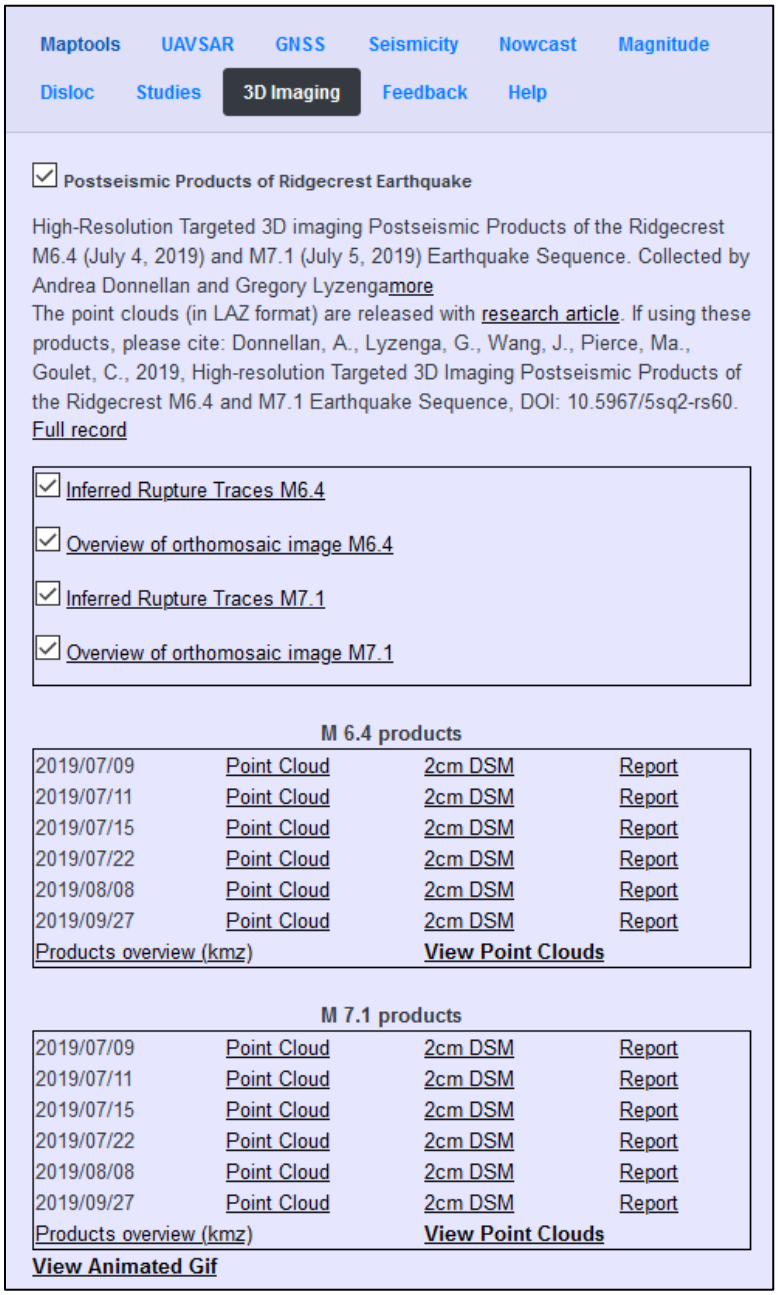

Figure 3: 3D Imaging tab content


Maptools
UAVSAR
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Postseismic Products of Ridgecrest Earthquake
High-Resolution Targeted 3D imaging Postseismic Products of the Ridgecrest M6.4 (July 4, 2019) and M7.1 (July 5, 2019) Earthquake Sequence. Collected by Andrea Donnellan and Gregory Lyzenga
more
The point clouds (in LAZ format) are released with research article. If using these products, please cite: Donnellan, A., Lyzenga, G., Wang, J., Pierce, Ma., Goulet, C., 2019, High-resolution Targeted 3D Imaging Postseismic Products of the Ridgecrest M6.4 and M7.1 Earthquake Sequence, DOI: 10.5967/5sq2-rs60.
Full record
Inferred Rupture Traces M6.4
Overview of orthomosaic image M6.4
Inferred Rupture Traces M7.1
Overview of orthomosaic image M7.1
M 6.4 products
2019/07/09 Point Cloud 2cm DSM Report
2019/07/11 Point Cloud 2cm DSM Report
2019/07/15 Point Cloud 2cm DSM Report
2019/07/22 Point Cloud 2cm DSM Report
2019/08/08 Point Cloud 2cm DSM Report
2019/09/27 Point Cloud 2cm DSM Report
Products overview (kmz)
View Point Clouds
M 7.1 products
2019/07/09 Point Cloud 2cm DSM Report
2019/07/11 Point Cloud 2cm DSM Report
2019/07/15 Point Cloud 2cm DSM Report
2019/07/22 Point Cloud 2cm DSM Report
2019/08/08 Point Cloud 2cm DSM Report
2019/09/27 Point Cloud 2cm DSM Report
Products overview (kmz)
View Point Clouds
View Animated Gif
SALT WELLS VALLEY
Skytop
E Bowman Rd