Summary of GEER Activities

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Available Data Resources

- Detailed ground measurements of surface cracks near Highway 178 for M6.4 and M7.1 ruptures
- UAV Structure from Motion point clouds and digital surface models for M6.4 and M7.1 ruptures south of Highway 178
- UAV SfM point clouds and DSM’s in Trona and Argus where liquefaction-induced lateral spreading was observed
- Documentation of pipeline rupture where it crosses M6.4 and M7.1 ruptures
- Many ground motion records
Surface Rupture

Stewart et al. (2019)
Broken concrete water pipe crossing M7.1 rupture

Stewart et al. (2019)
Liquefaction Effects

Shallow groundwater near Searles Lake resulted in liquefaction and lateral spreading that affected Trona and Argus.

Stewart et al. (2019)
Research Needs

• Compare SfM products with ground measurements of surface rupture. Key question: How small can a ground crack or offset be to be visible in the SfM products?

• Gather information about liquefaction effects in Trona, Argus, and within the Searles Lake region. Geotechnical investigation data necessary there. Compare SfM products and “before” images from Google Earth to quantify ground displacements.

• Incorporate recorded ground motions into next iteration of ground motion models.

• Detailed study of pipeline crossing the fault ruptures.

Thank You!