

Updated high-resolution displacements along the creeping central San Andreas Fault from repeat lidar

C. Hanagan

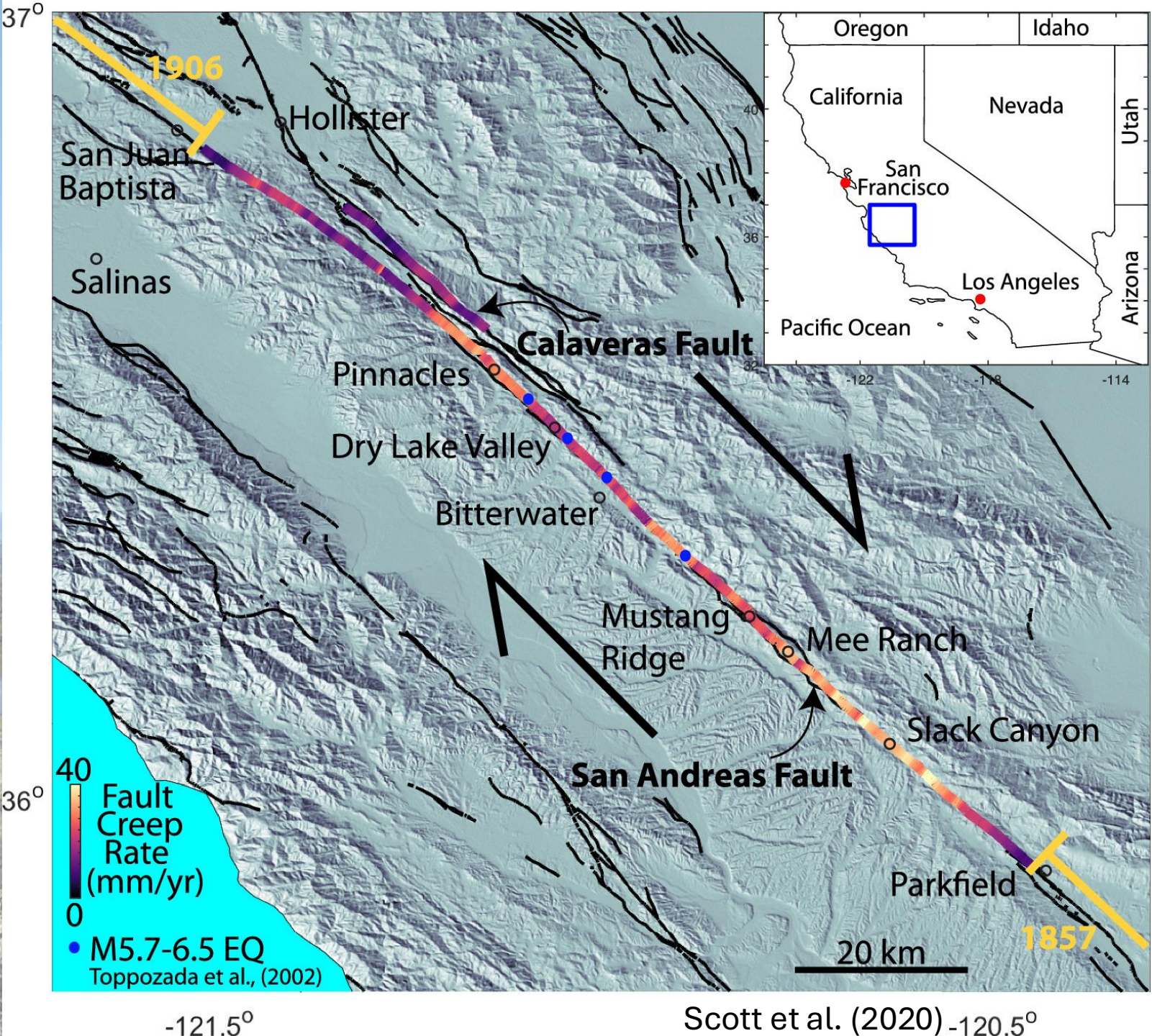
S. DeLong, J. Vermeer

USGS Earthquake Science Center

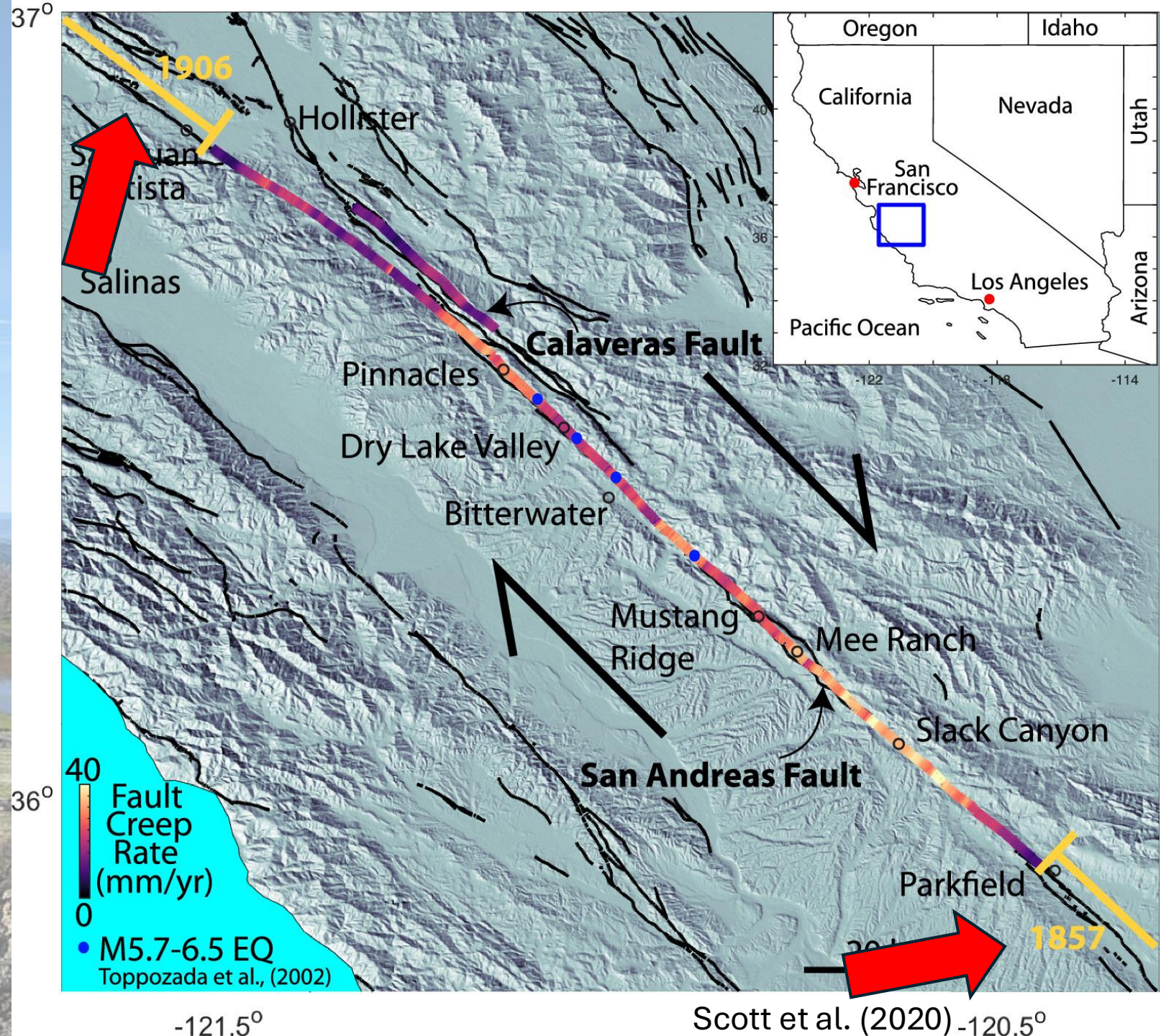
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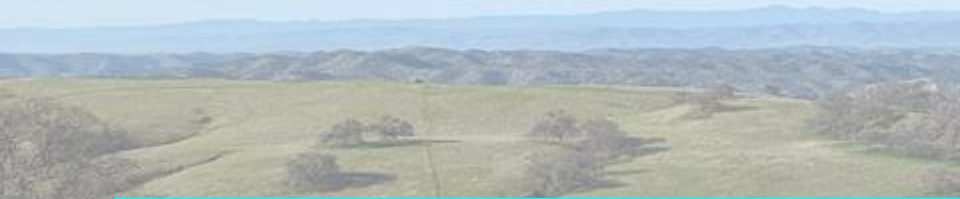
Central San Andreas Fault



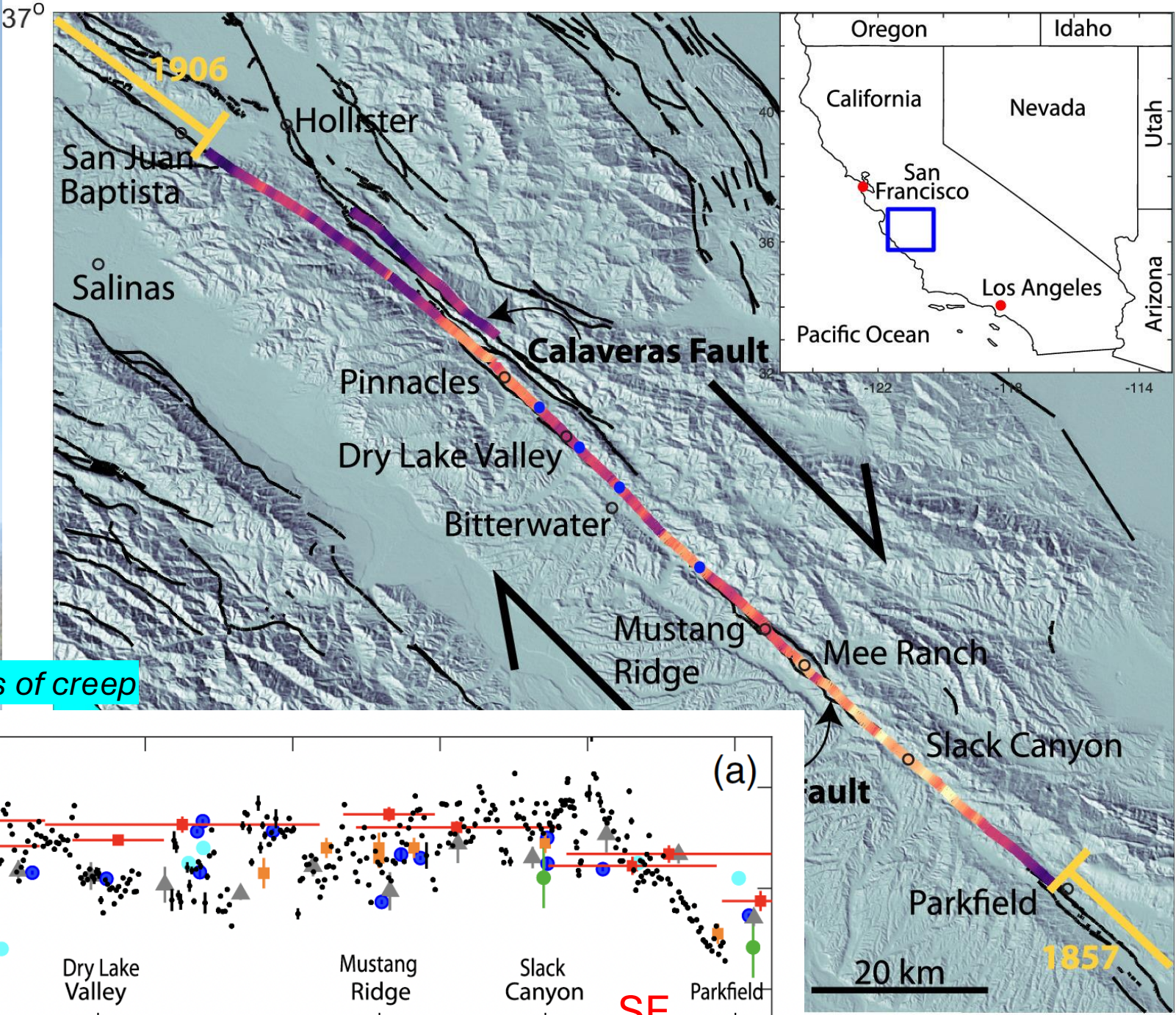
Central San Andreas Fault



Central San Andreas Fault



Field and Remote Sensing measurements of creep



t al. (2020) -120.5°

Central San Andreas Fault

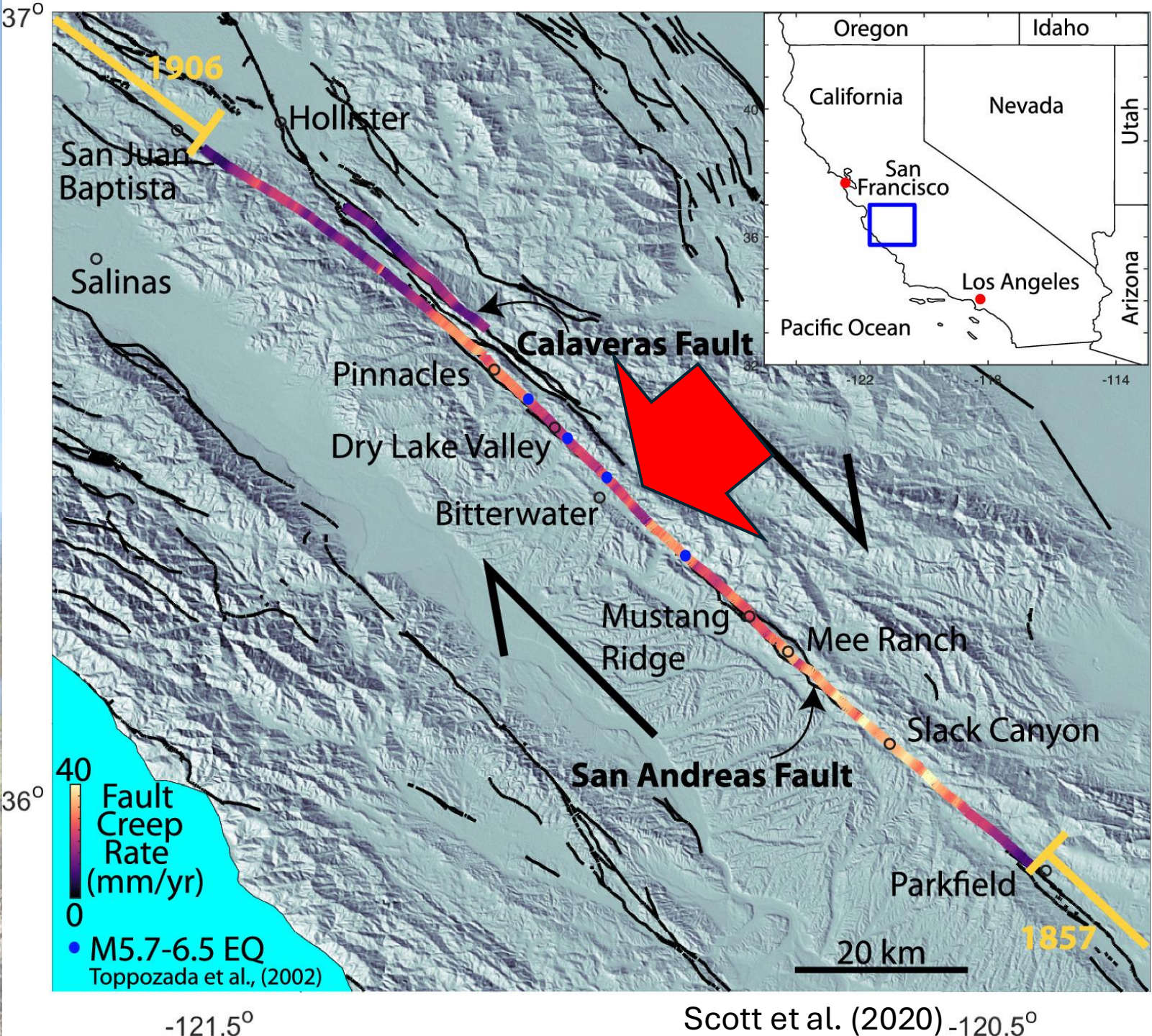




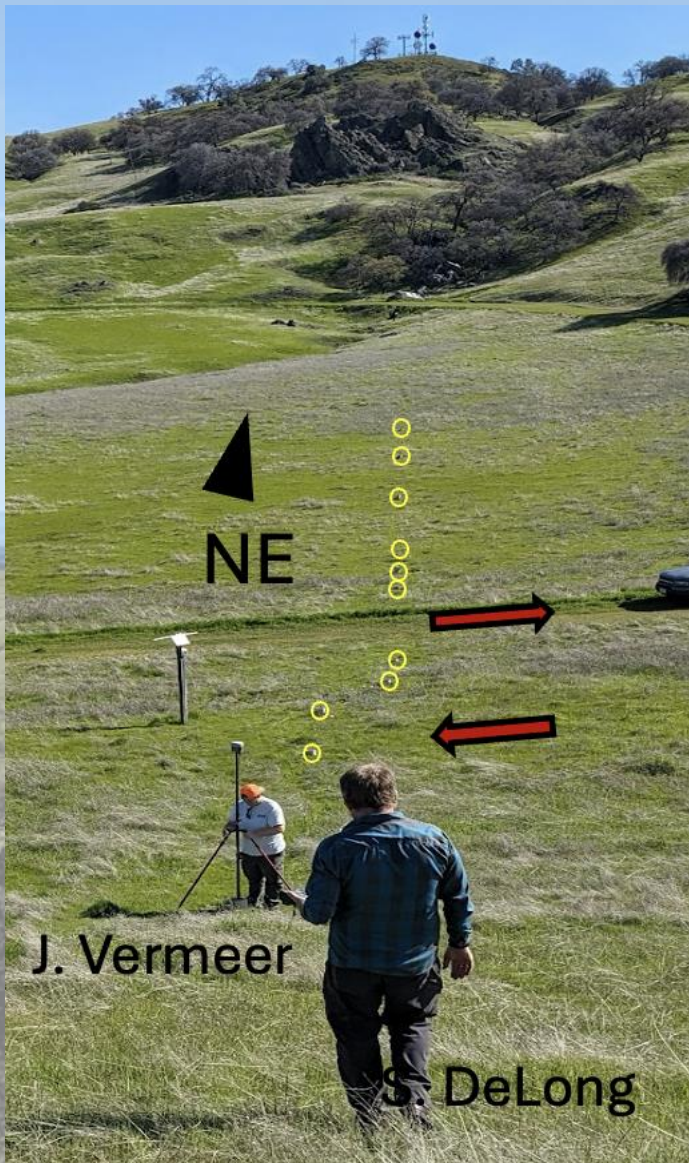




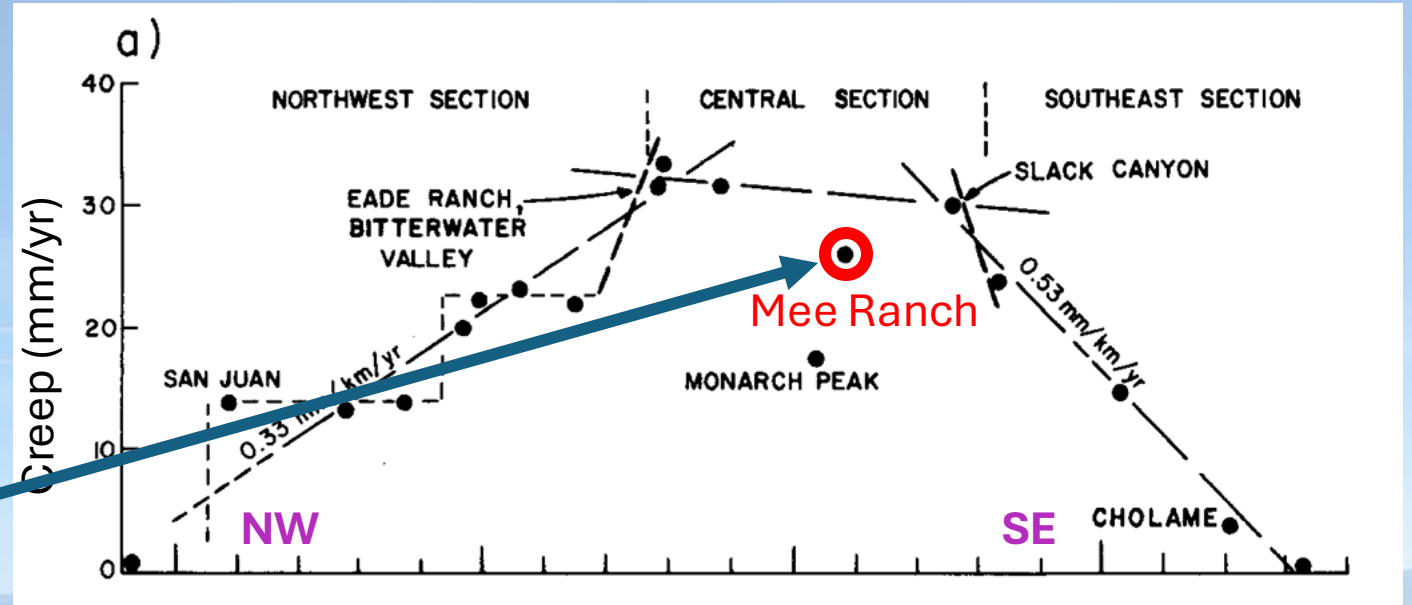
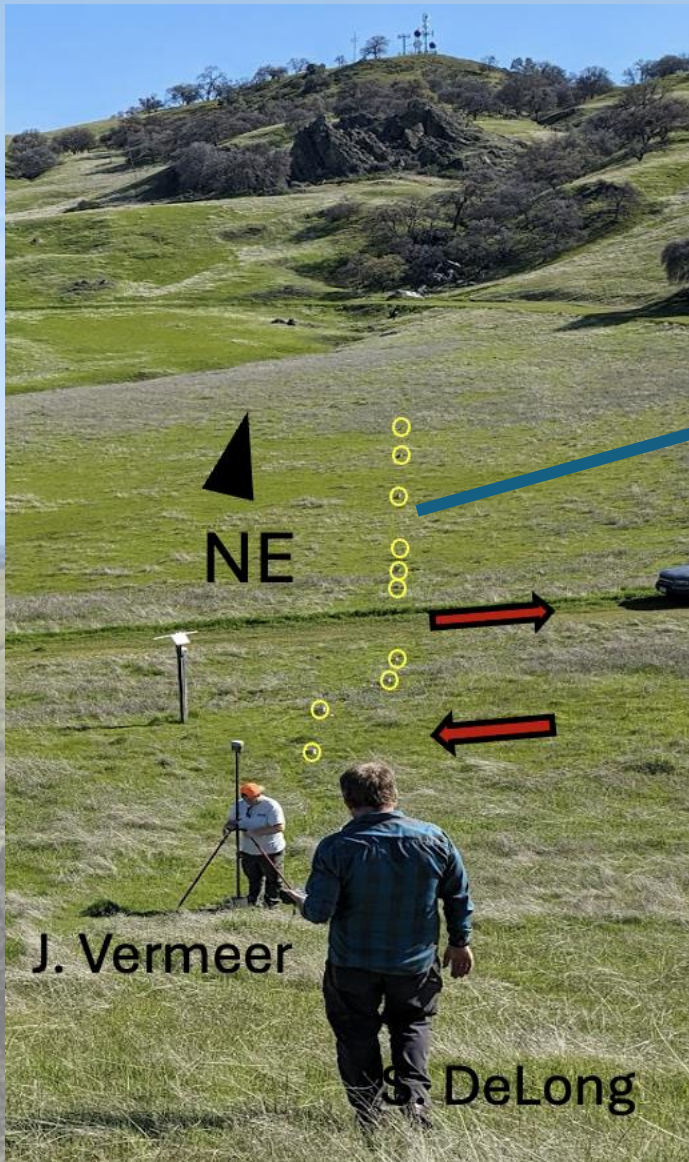
Figure 13. Northwest wall of DeRose Winery showing evidence of incremental creep (fault slip) along the San Andreas fault. View is to the southwest; photograph taken November 2005.



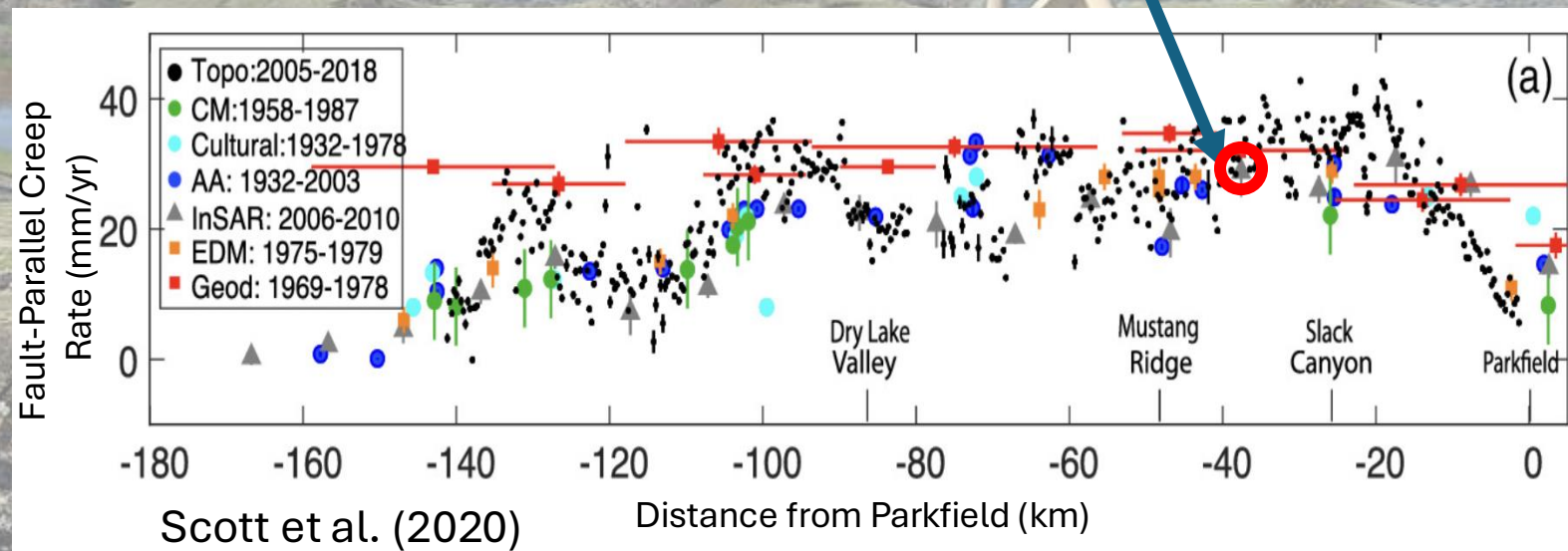
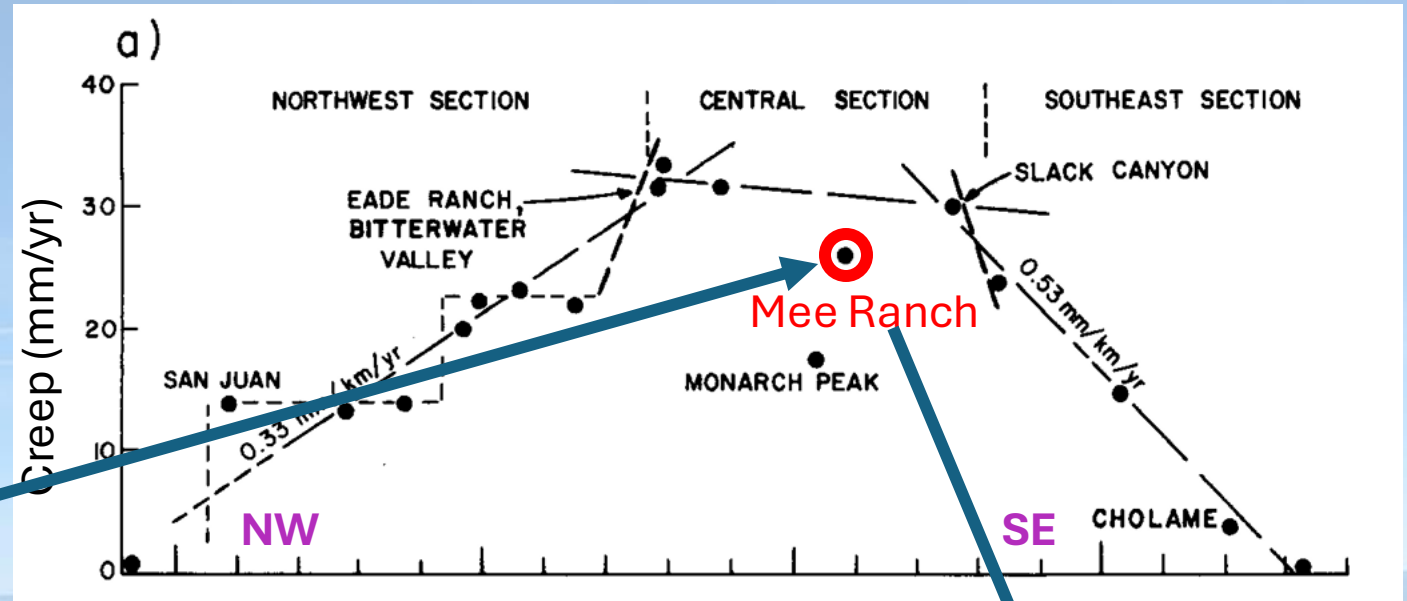
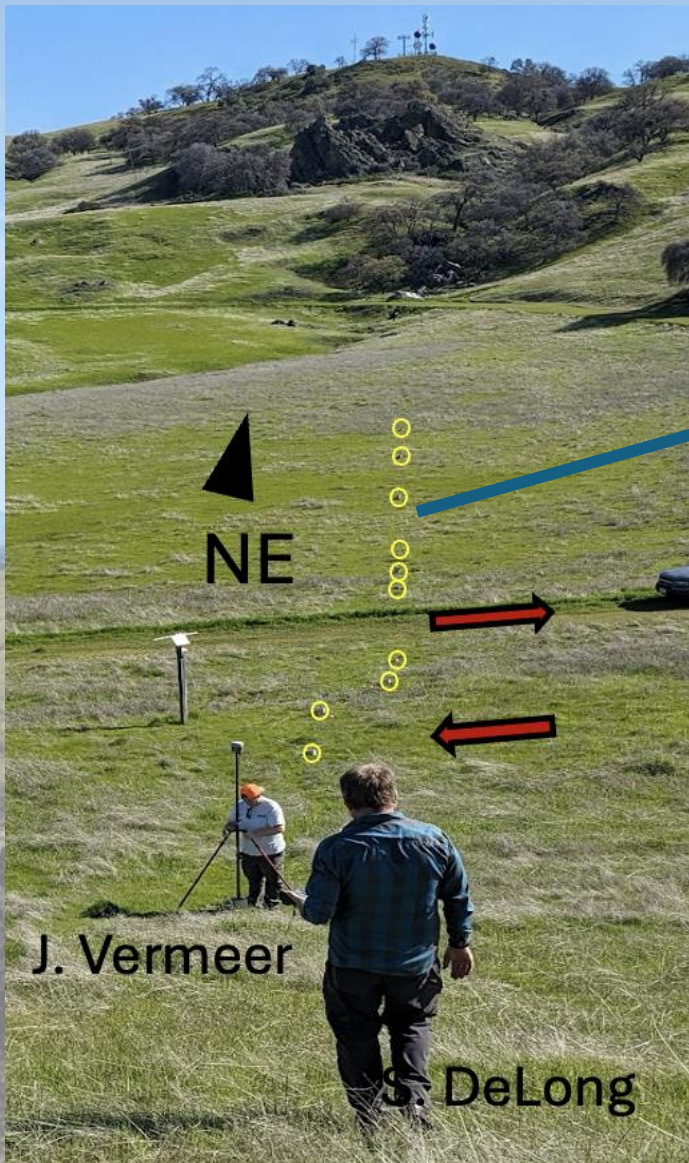
Alignment Array (Mee Ranch est 1970)



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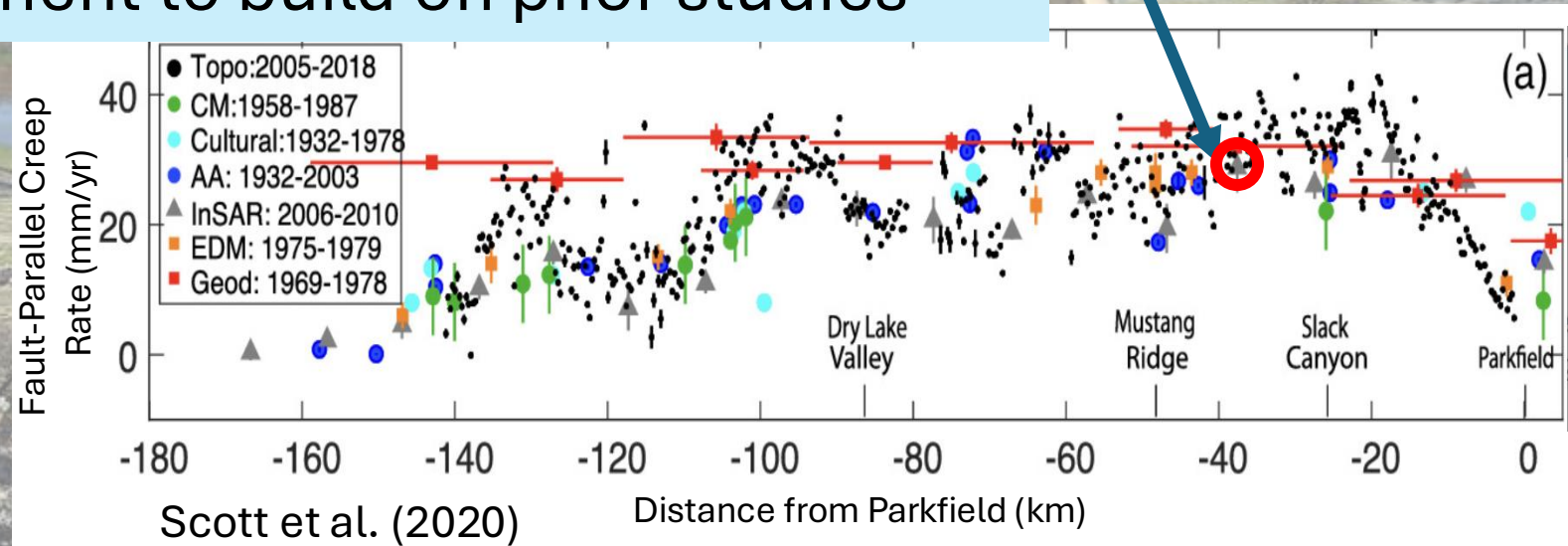
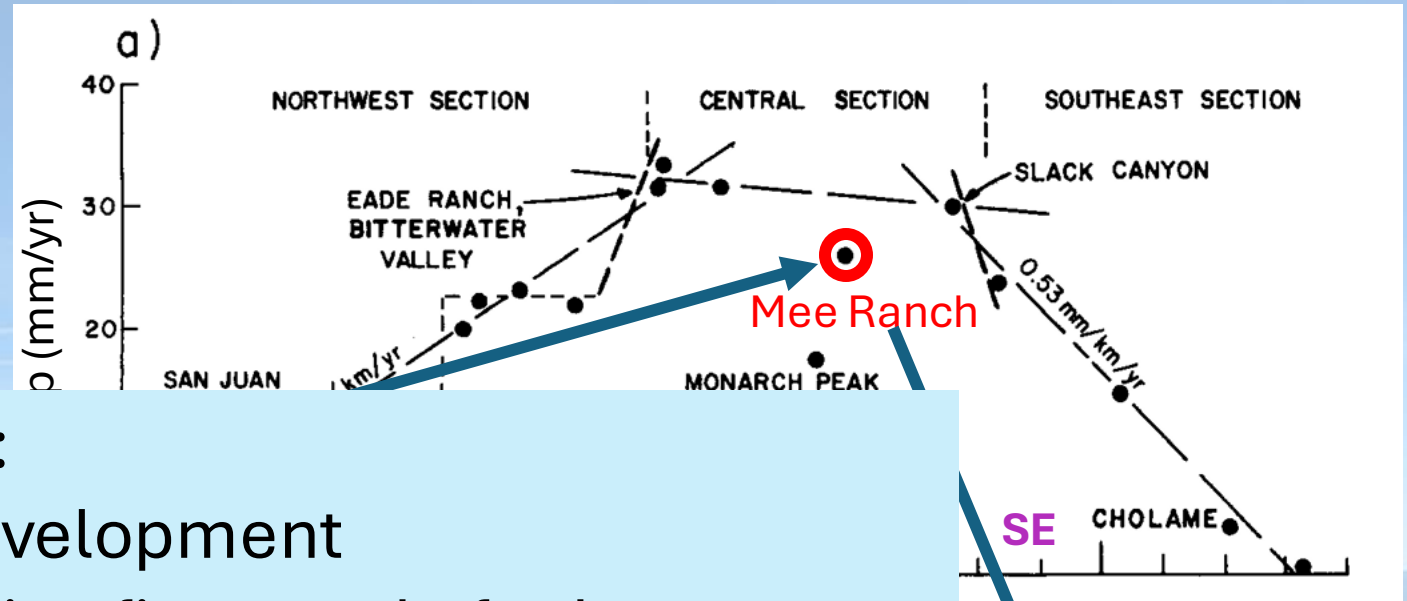


Alignment Array (Mee Ranch est 1970)



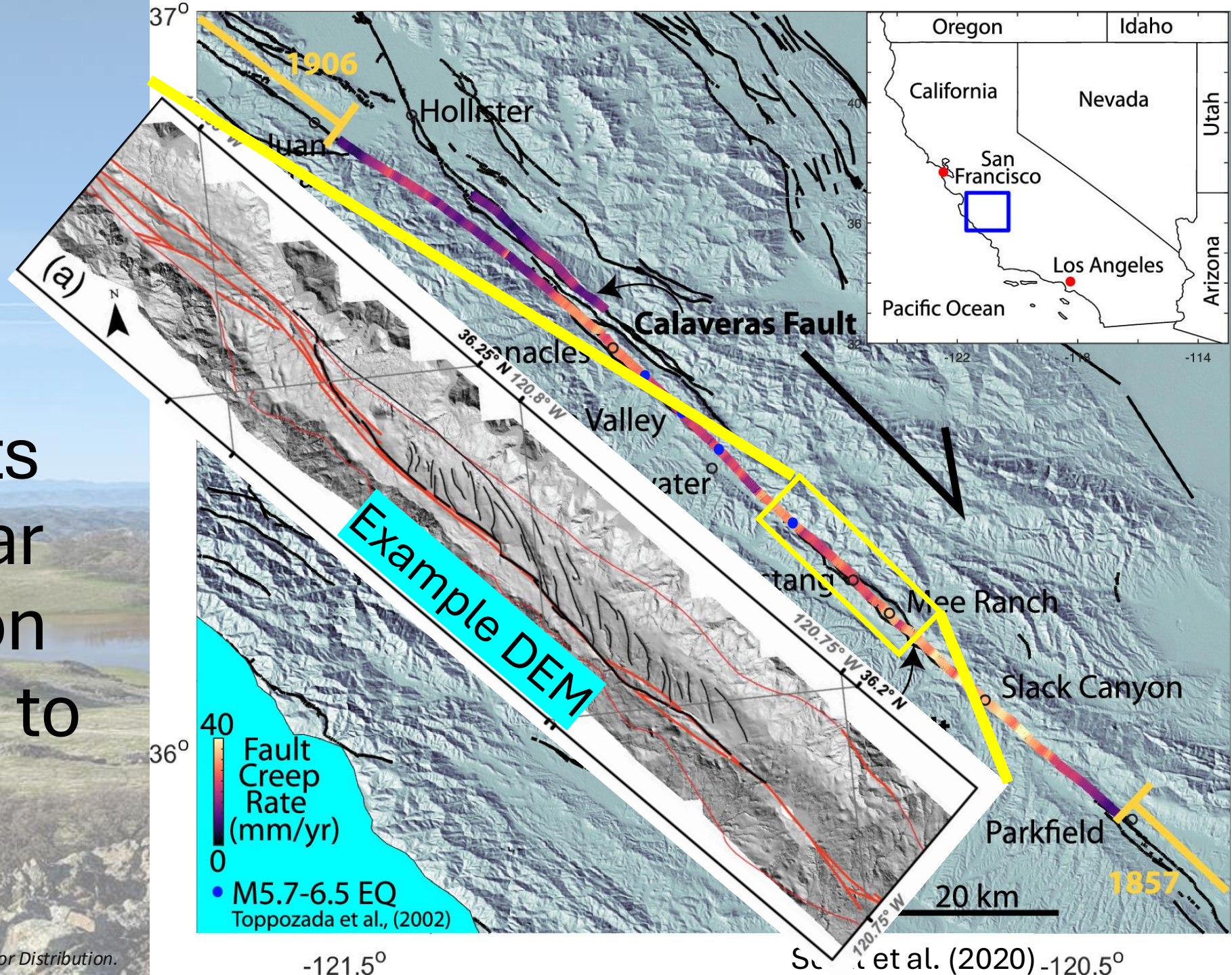
Ideal Fault for:

1. Methods development
2. Understanding finer-scale fault development to build on prior studies

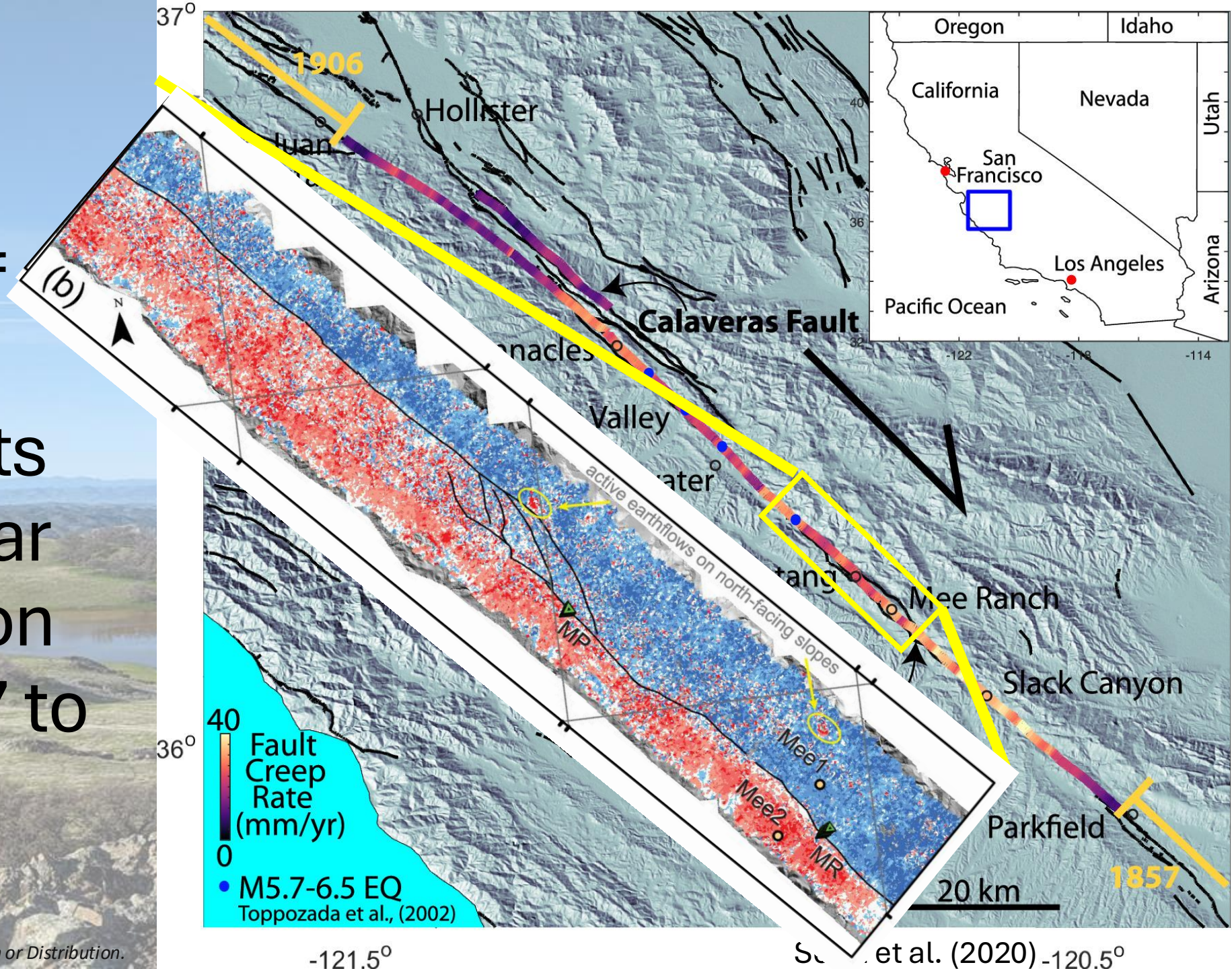


Scott et al. (2020)

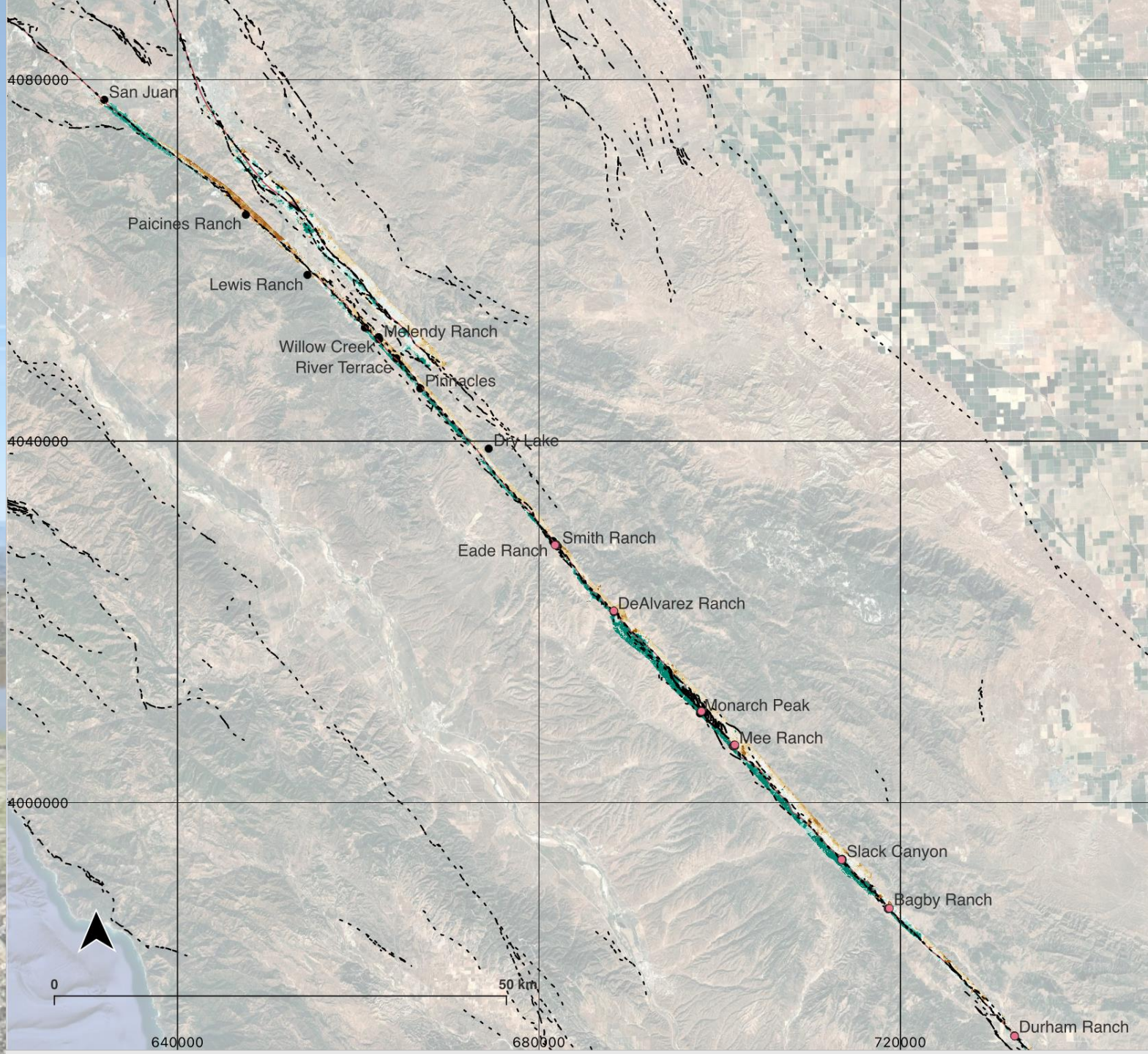
Increasing resolution of creep measurements with 0.5 m lidar digital elevation models (~2007 to 2018)



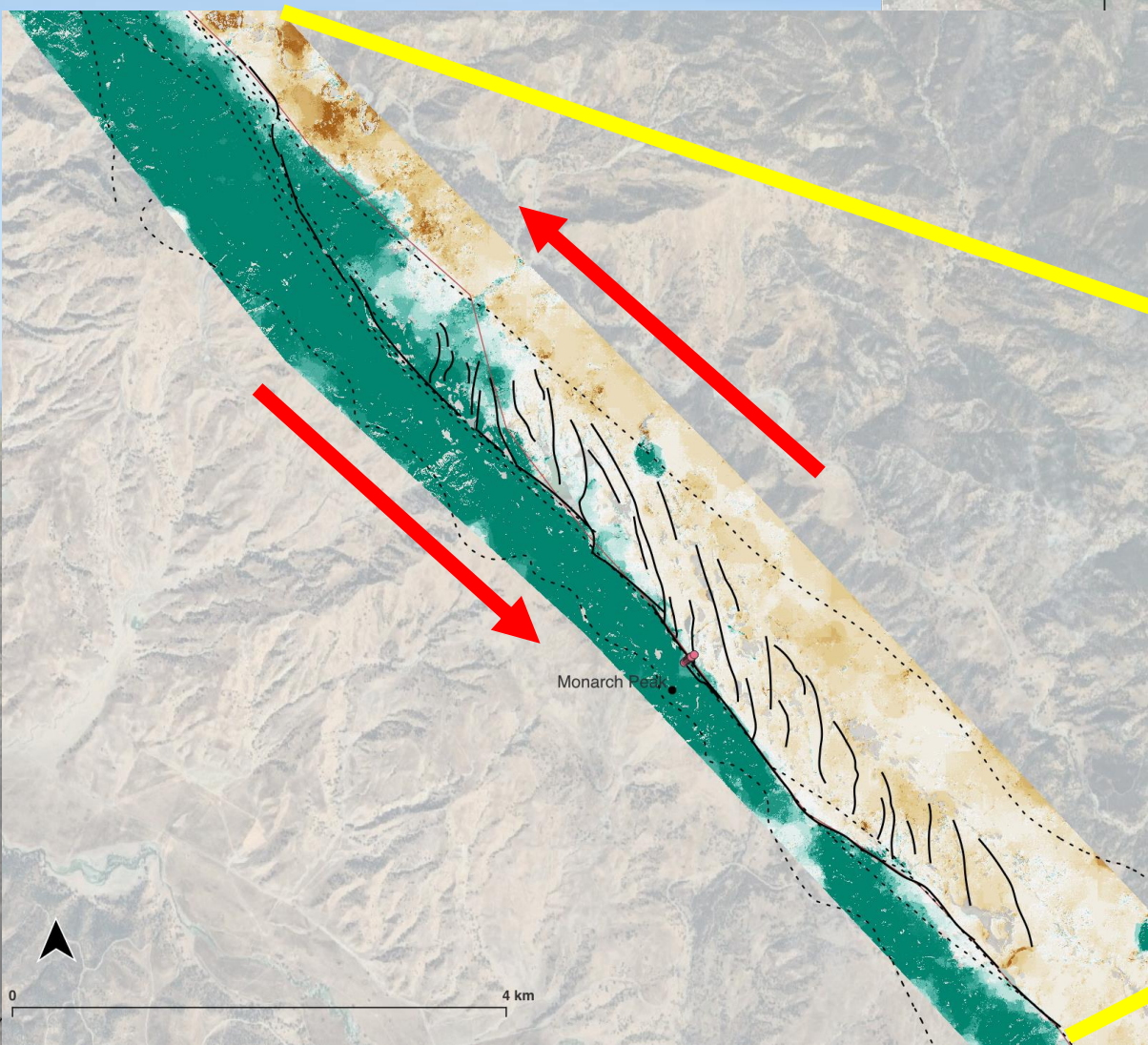
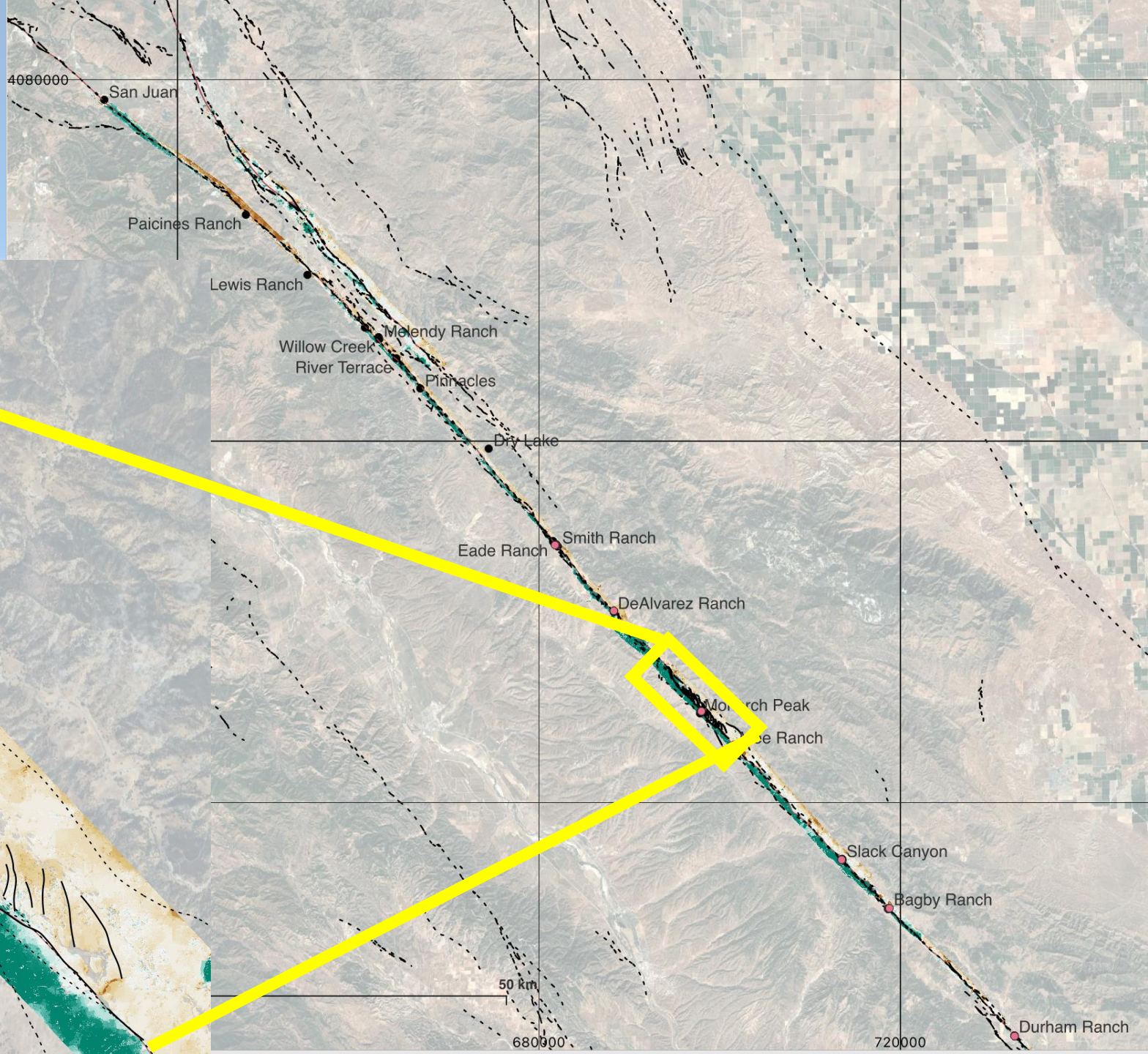
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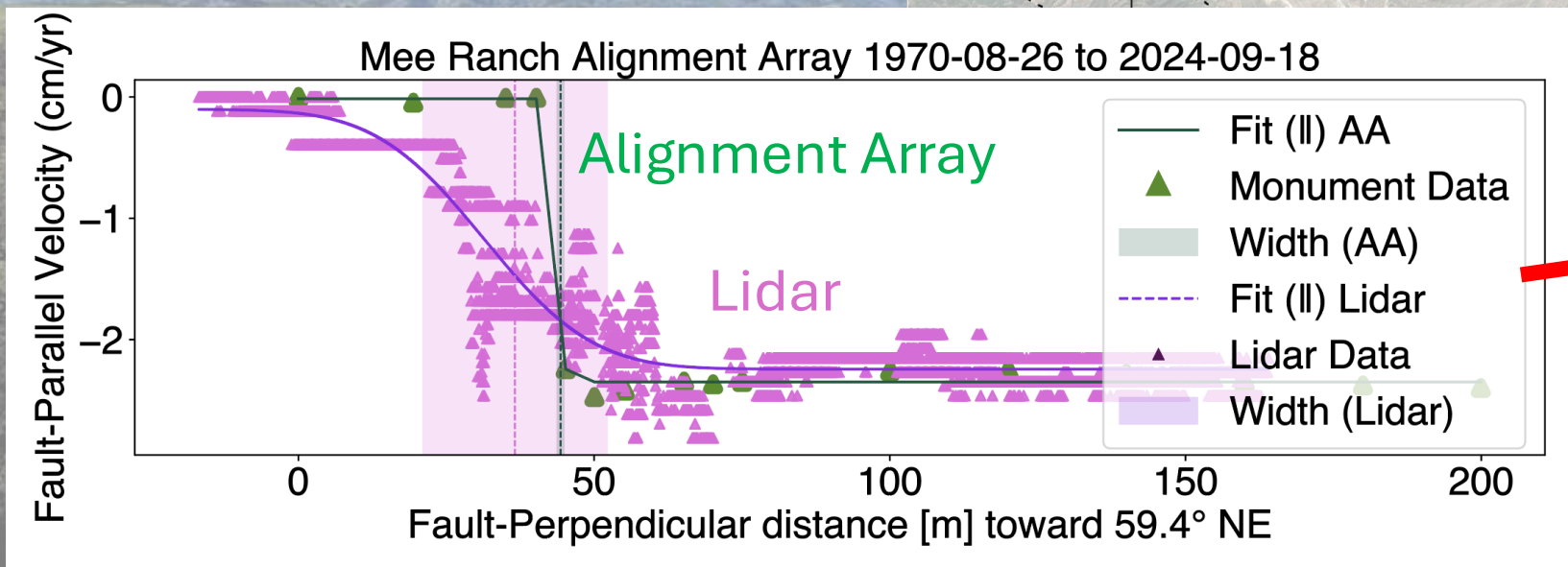
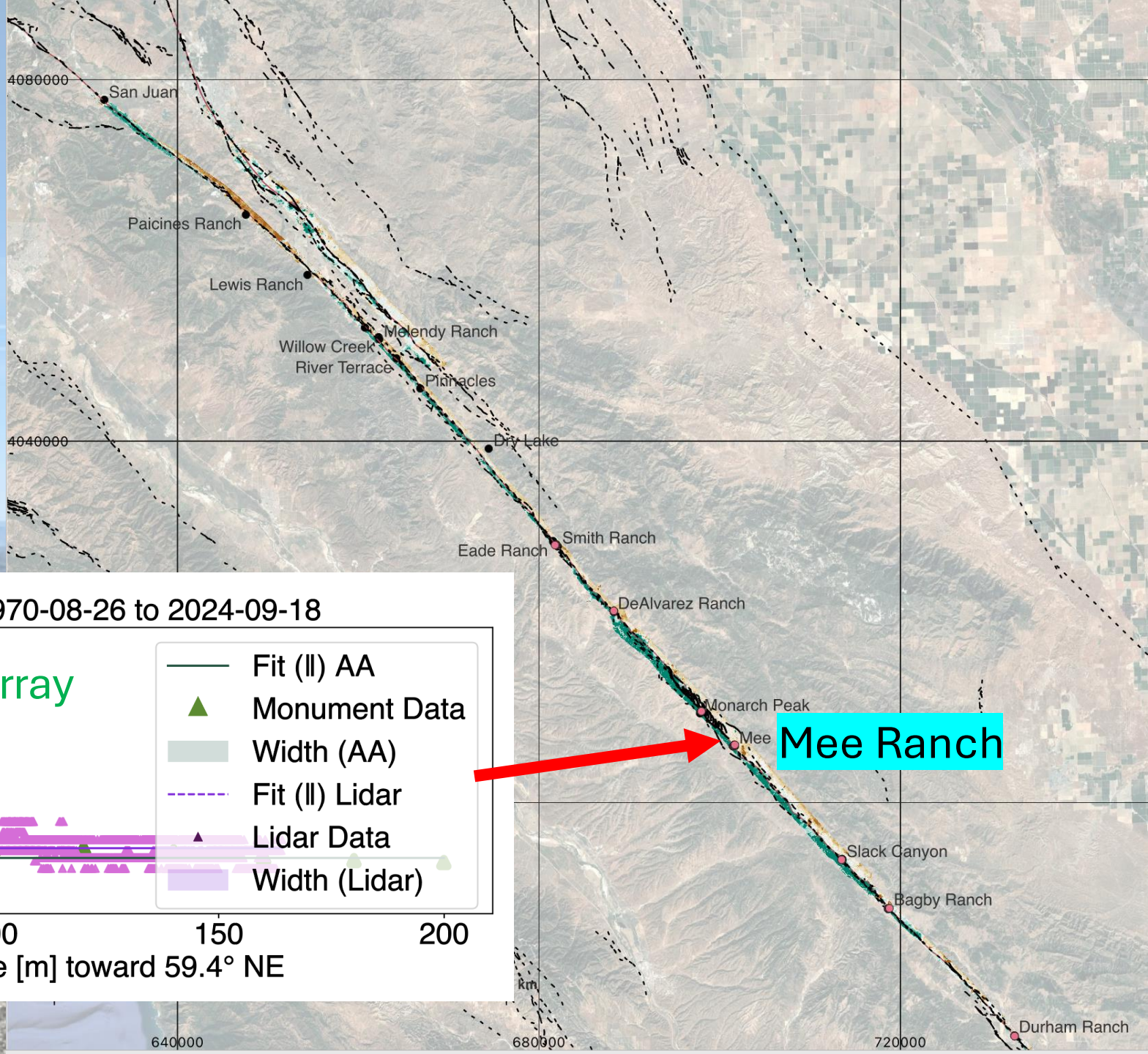
Velocity maps from 11 year repeat lidar @ 0.5 m resolution



Velocity maps

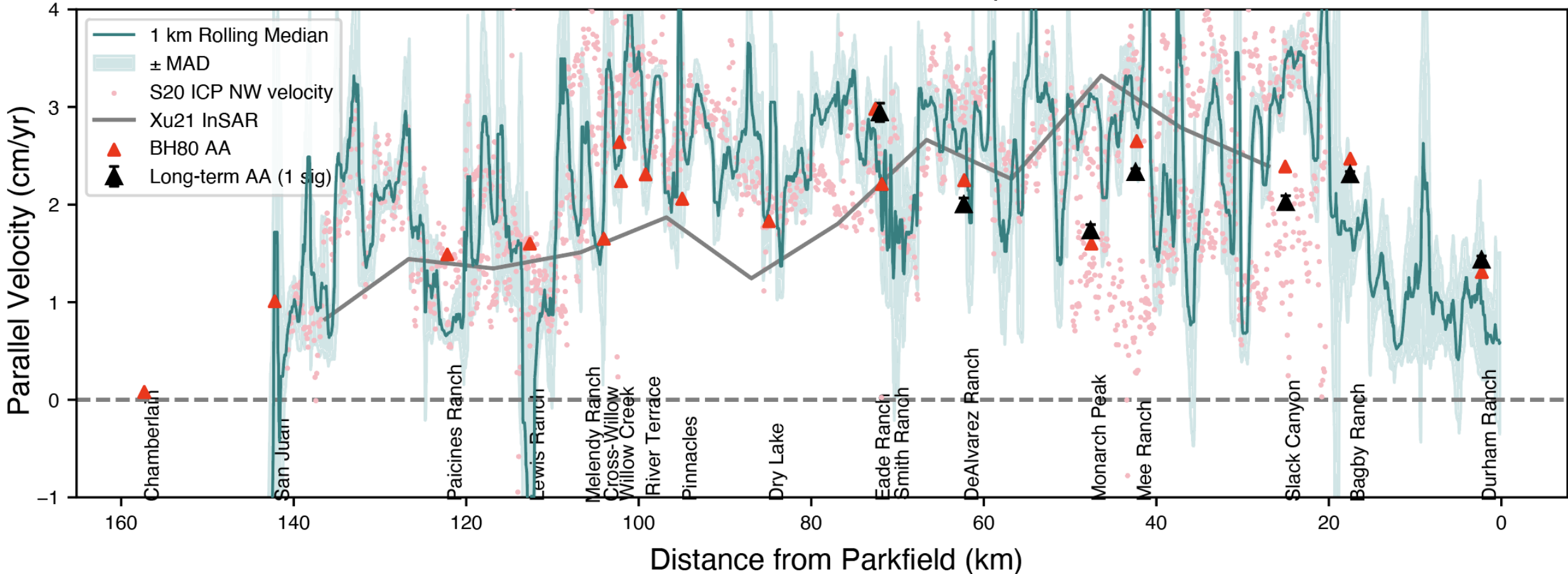


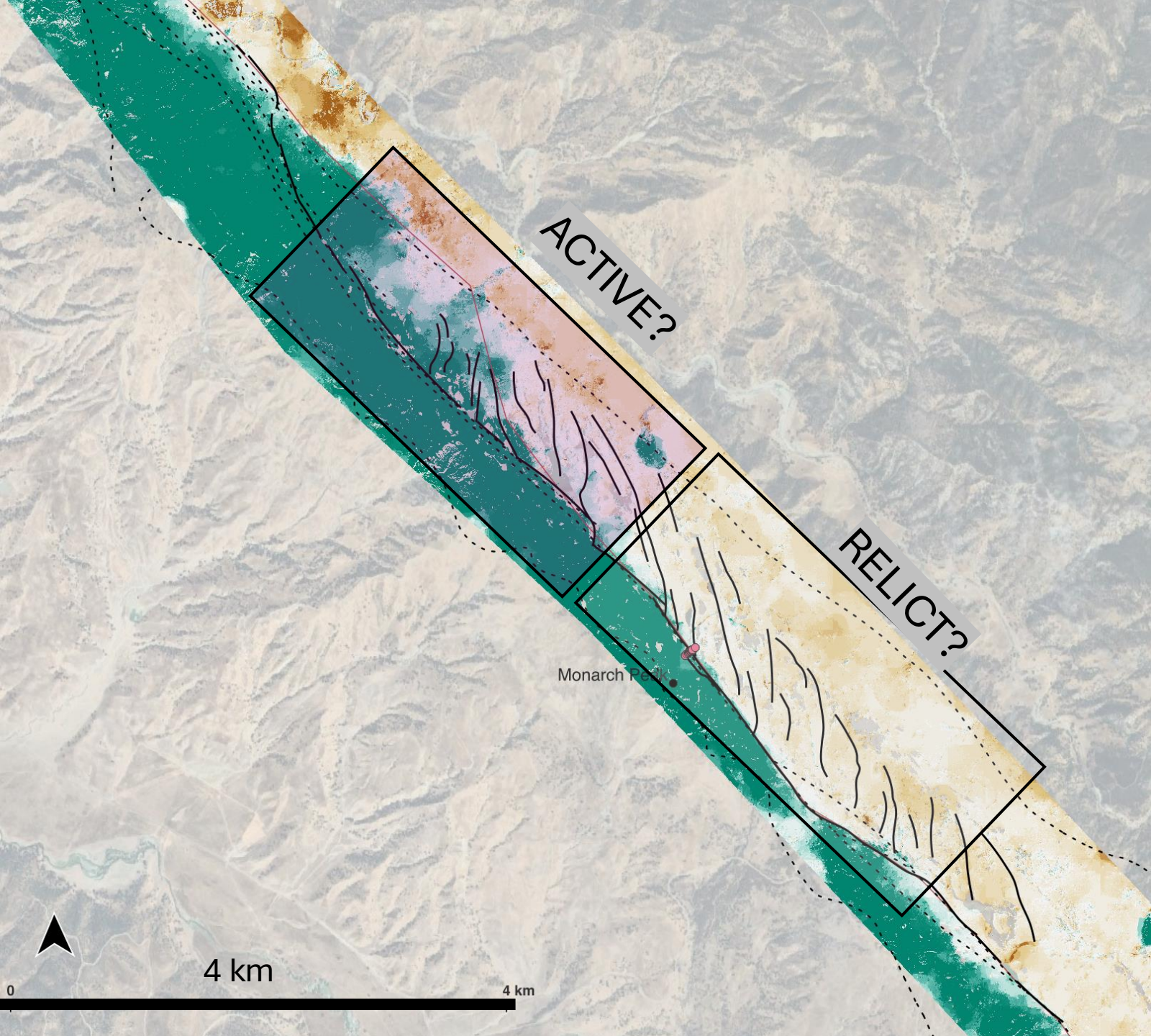
Velocity maps



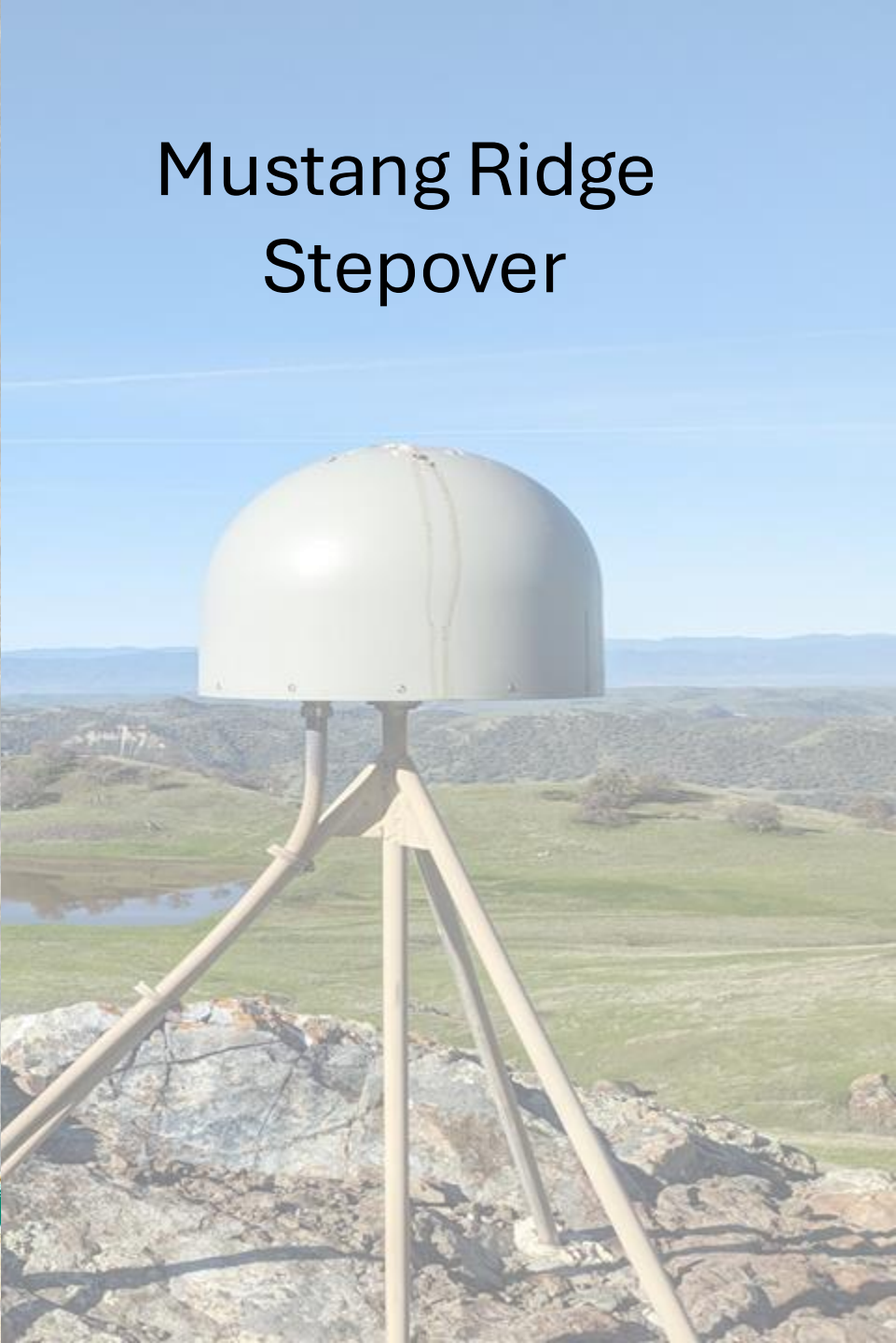
Mee Ranch

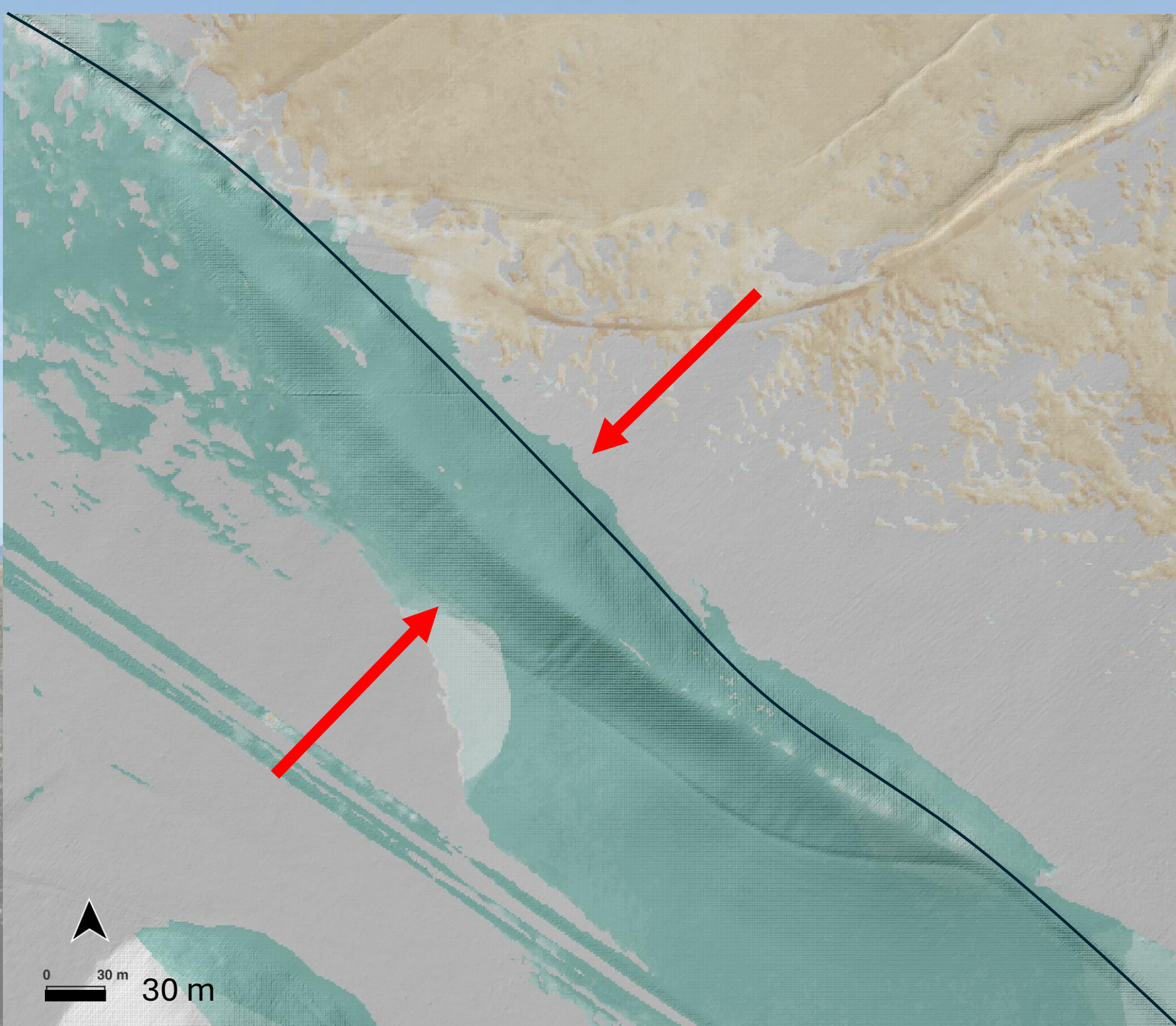
Central San Andreas Fault Creep Rate





Mustang Ridge Stepover





Active small-scale pressure ridge



Thanks for listening!

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Key goals:

1. Methods development
2. Understanding finer-scale fault development to build on prior studies

