

CGM: Postseismic modeling

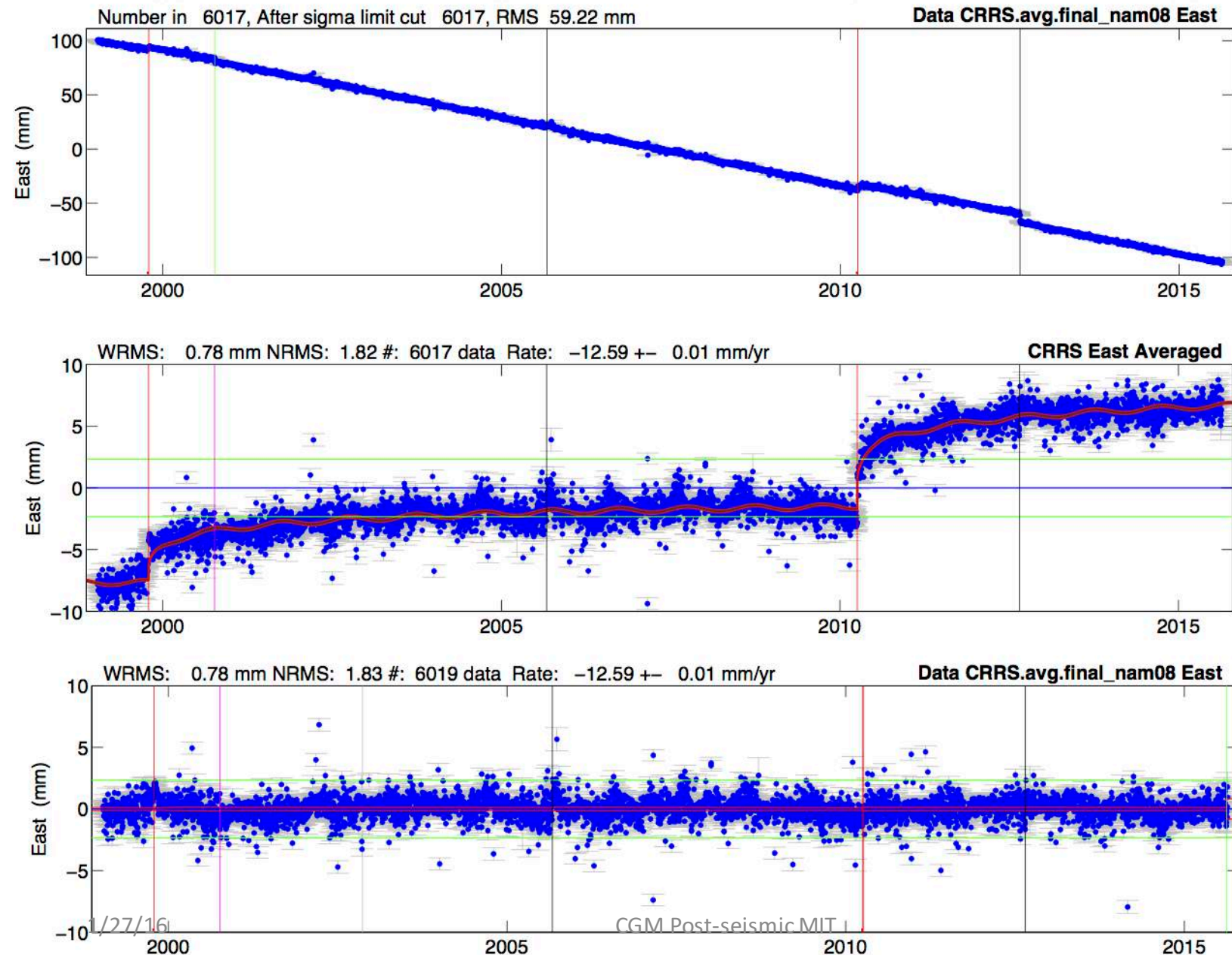
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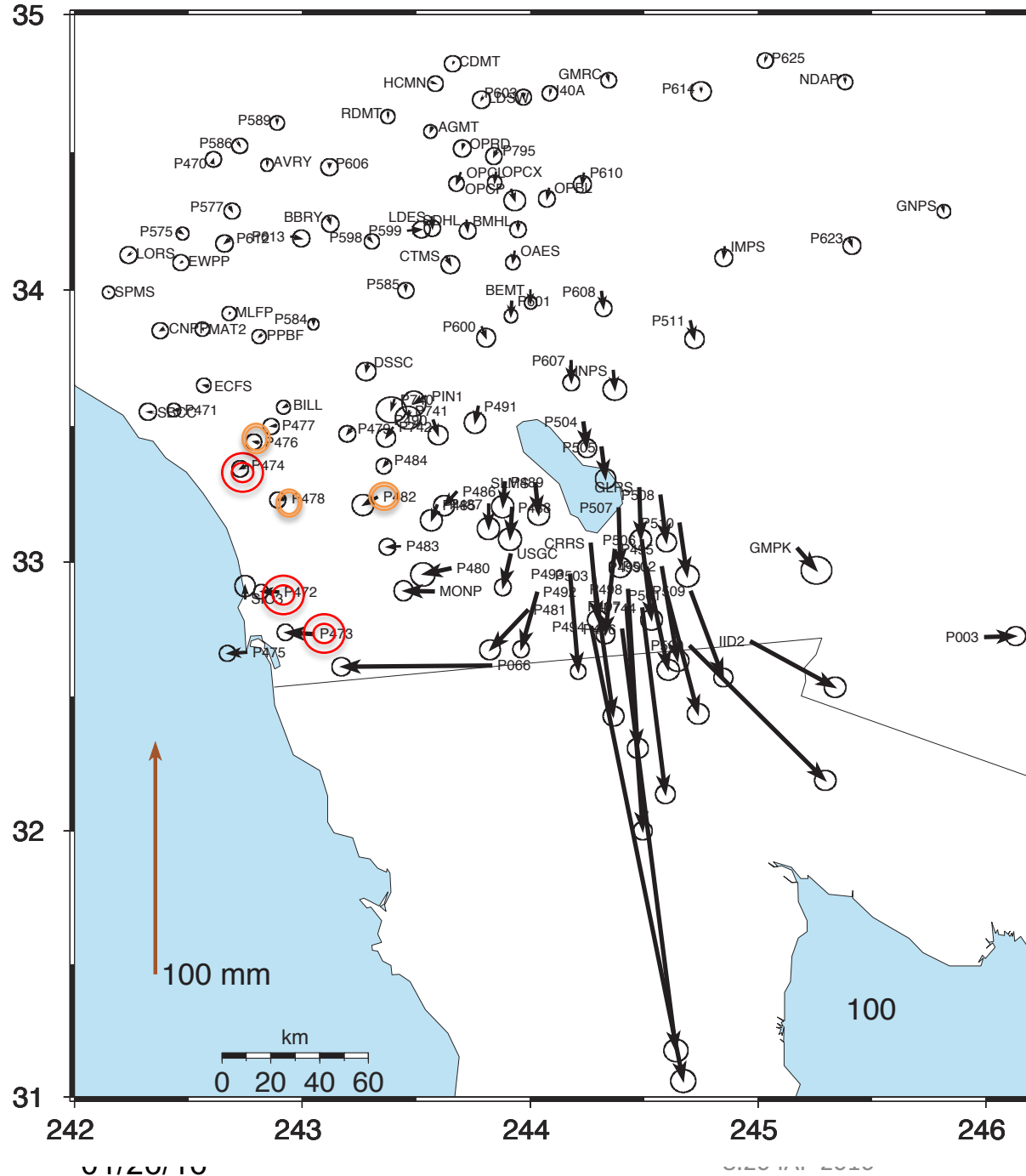
Overview

- Models used in the GAGE/PBO analyses to handle post-seismic deformations
- General sense is that exponential type decays by themselves have difficulty modeling long-period variations
- Logarithmic functions seem to provide a better parametric fit with time constants of 1-10 days.
- An alternative which is still hard to discard is that the secular motion after some earthquakes change suggestion that the elastic strain accumulation rate has changed by e.g., a change in locking depth.

Model fit example: CRRS East

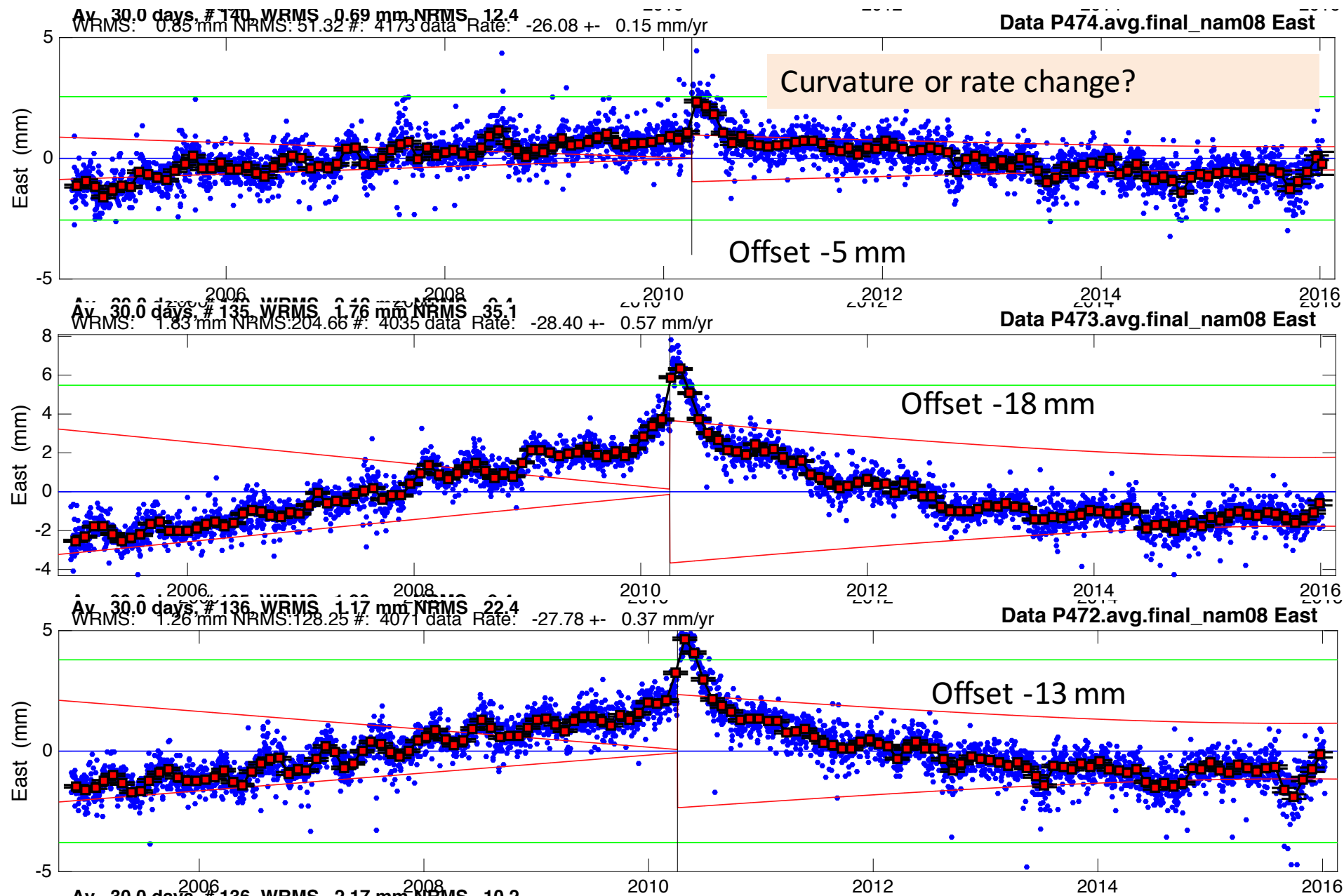


Vertical lines are times of offsets due antenna change (green), earthquake with post-seismic (red), earthquake offset only (black)

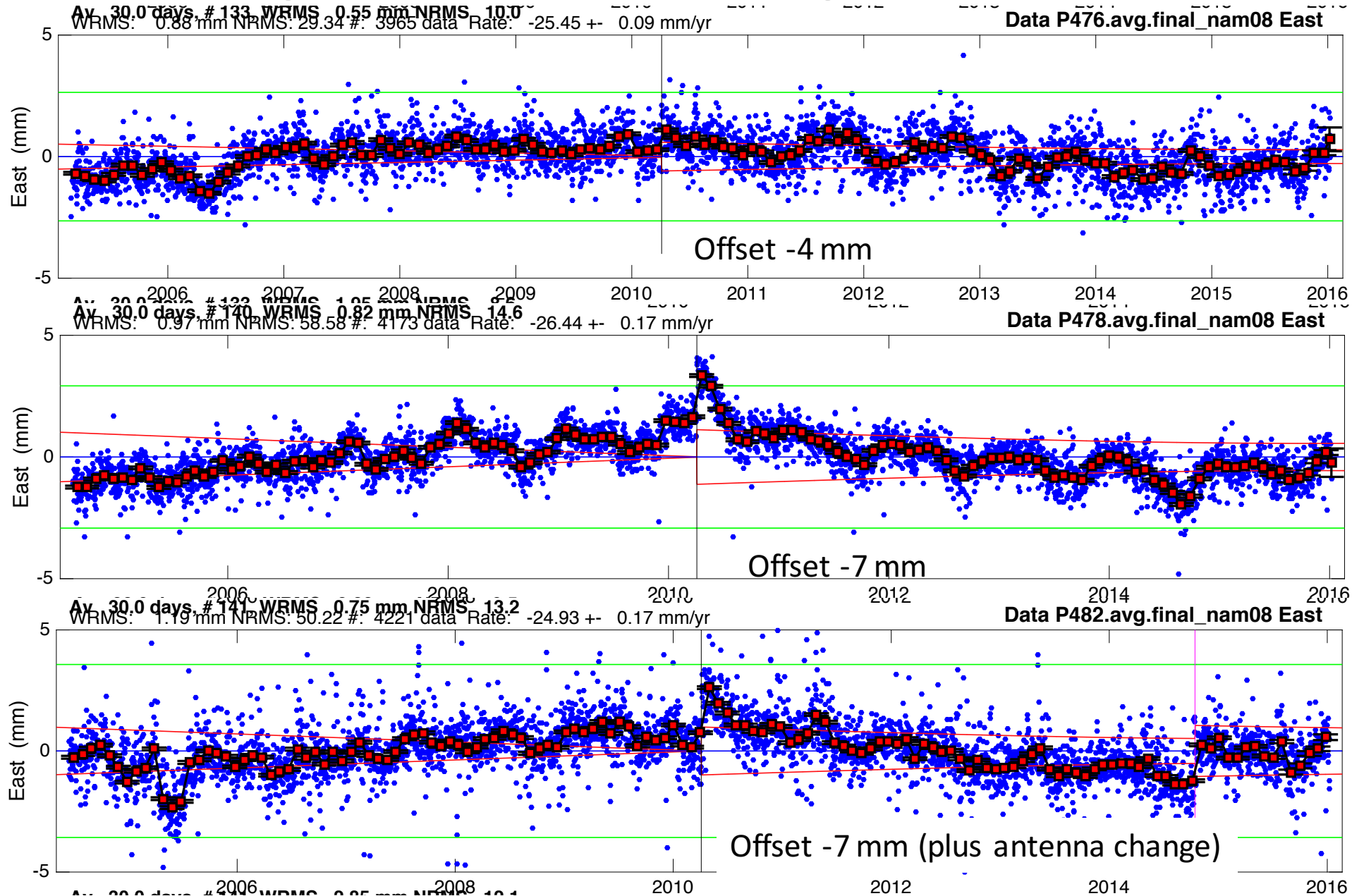


Coseismic
results from April 4,
2010 Baja 7.2
Earthquake
(El Major Cucapah
earthquake)

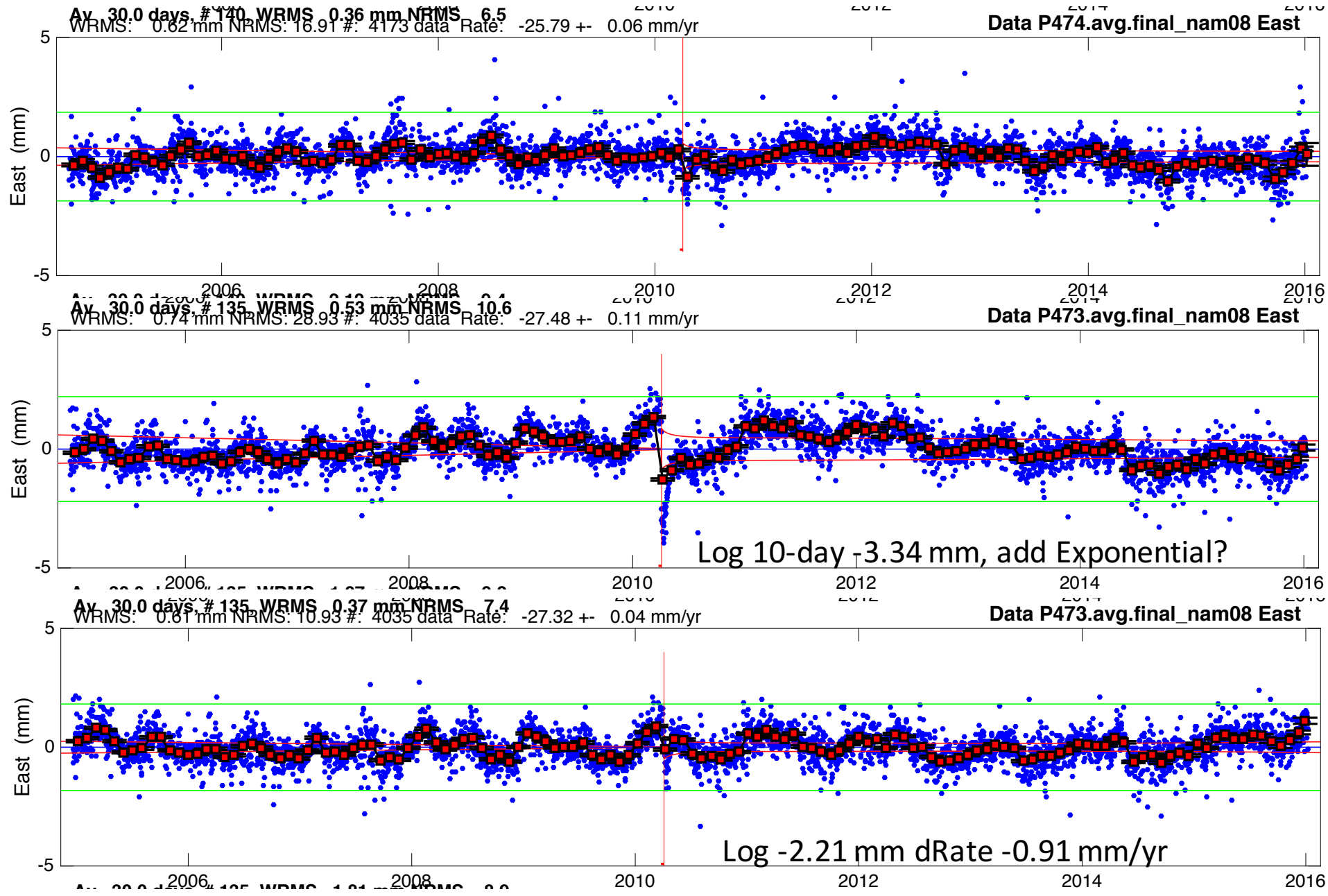
Red sites with offset only removed



Orange sites: Trend change not so clear



Removal of log and dRate



Summary

- General sense is that exponential type decays by themselves have difficulty modeling long-period variations, but with a rate change similar
- Logarithmic functions seem to provide a better parametric fit with time constants of 1-10 days.
- An alternative which is still hard to discard is that the secular motion after some earthquakes change suggestion that the elastic strain accumulation rate has changed by e.g., a change in locking depth.