

Little shift

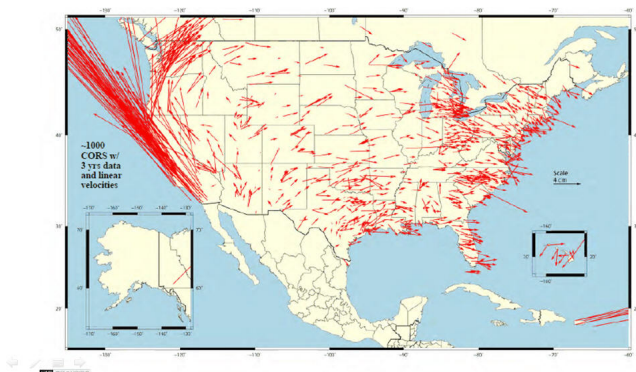
Shifts between epochs are minimal.

The following 2 images, courtesy of Michael Dennis, NGS show the difference between NAD 83(2011) epoch 2010.00 and NAD 83(CORS96) epoch 2002.00 in CONUS

Shift in *Horizontal* Positions due to Change in Ref Epoch

NAD 83(2011) epoch 2010.00 minus NAD 83(CORS96) epoch 2002.00

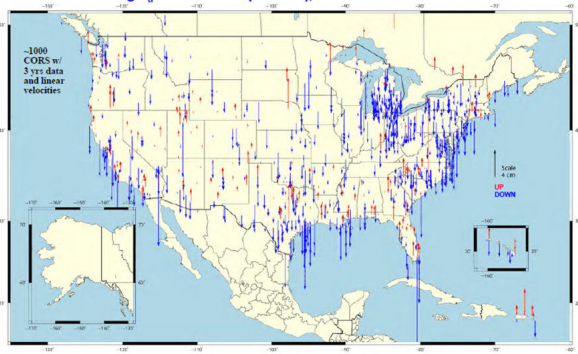
- **avg. shifts:** $\Delta E = 0.20 (\pm 5.85)$ cm; $\Delta N = 1.95 (\pm 6.42)$ cm
 - large shifts in western U.S. due to crustal deformation
 - apparent rotation in “stable” U.S. likely due to errors in NUVEL-1A (used in HTDP)



Shift in *Vertical* Positions due to Change in Ref Epoch

NAD 83(2011) epoch 2010.00 minus NAD 83(CORS96) epoch 2002.00

- avg. shift: = -0.92 cm (± 2.04) cm
 - switch to absolute antenna calibrations
 - much of eastern U.S. has downward velocities
 - effect of assuming $V_{ii} = 0$ in NAD 83(CORS96), i.e. local vertical motion



Note: A new tool is being developed to move between epochs of NAD83

NGS and Richard Snay expect GeoCONN to be released in early 2013