



## FPRN News

January 28, 2016

### Special Edition

#### **WE HAVE COMPLETED THE CUSTOM GEOID FILE FOR THE STATE OF FLORIDA.**

The Florida Custom Geoid Model, "FPRNGD16", expands on the NGS "Geoid12b" in two ways:

- (1) The number of points used by FPRNGD16 was increased by nearly 50 percent over that used by Geoid12b. Geoid12B uses 2470 points in its hybrid model while FPRNGD16 has added 1002 points to the model.
- (2) Geoid12b does not fit used points exactly, FDOT has improved to make the hybrid model fit closer.

In the FPRNGD16 model it was decided to use 0.08 meters as a tolerance where GPS benchmarks would be rejected - this resulted in 118 of the 3472 total points being removed.

The FPRNGD16 hybrid geoid model has a root-mean-square error (RMS) of fit for the GPS benchmarks of 0.008 meters. The corresponding RMS of the Geoid12b hybrid model is 0.022 meters (both computed after excluding those misfits larger than 0.08 meters).

The FPRNGD16 hybrid geoid model has 3025 GPS benchmarks that fit better than 0.01 meters. The corresponding Geoid12b hybrid model has 1712 points which fit better than 0.01 meters.

The FPRN geoid model is of NGS standard "bin" format gridded to the NGS standard of one minute of latitude and longitude.

All adjustments are for the vertical component of the FPRN. The FPRN staff strongly recommends you localize on local published benchmarks.

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