



Issue 18, January 2020

NSRS Modernization News

For all issues of **NSRS Modernization News**, visit:
geodesy.noaa.gov/datums/newdatums/TrackOurProgress.shtml

Epoch 2020.0 has just passed!

One of the primary services of the modernized NSRS will be Reference Epoch Coordinates, or RECs, at passive geodetic control marks within the NSRS. The first such RECs will be computed and loaded into the NSRS database during calendar year 2022, and will refer to **epoch 2020.0** (which may have slipped by, unnoticed, around dinnertime in most parts of the USA on December 31, 2019.) The initial computation of 2020.0 RECs will rely on Final Discrete Coordinates (FDCs) derived from GPS surveys from 1996 onward. Also the Intra-Frame Velocity Model (IFVM) of 2022 (IFVM2022) will be used to estimate motions of points through time, from the epoch of each FDC to the 2020.0 epoch. Users interested in having the most accurate 2020.0 RECs on passive marks of interest are encouraged to survey those points before the end of calendar year 2021, so they may be included in the 2022 effort (if they have not already been surveyed in the last few years). This will minimize any modeling errors that might be in IFVM2022.

Progress in Ongoing Projects

There are currently 24 ongoing NGS NSRS modernization projects. Here are highlights from two:

Geoid Monitoring Service (Project Manager: Dr. Kevin Ahlgrén)

NGS has released [NOAA Technical Report NOS NGS 68](#), which outlines plans to monitor the time-dependent geoid. While such changes are “small” relative to the larger crustal changes of the Earth, they are significant to NGS’s target accuracy of a sub-centimeter NSRS.

GRAV-D (Project Manager: Jeffery Johnson)

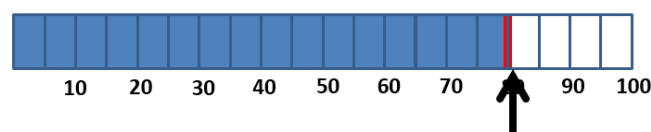
For the first time since the inception of GRAV-D, we have fallen behind schedule. It cannot be over-emphasized that this is not the fault of the hard-working people who make up the GRAV-D team. Unforeseen weather issues have dogged us, and as the “to-do” area shrinks, the ability to temporarily move to another (weather-clear) area diminishes. Mechanical issues have also been a particularly bad nuisance of late. Another real impact was the unfortunate government shutdown which coincided with the NGS plan to survey the logistically difficult Pacific islands region. Although NGS was able to recover somewhat and get part of Hawaii done, the damage to the schedule has had significant ripple effects.

NGS will diligently try to get back on schedule. However it should be noted that GRAV-D is the most obvious “long pole in the tent” of the NSRS modernization effort. Without GRAV-D completing 100% coverage, GEOID2022 will not have 100% coverage, and NGS has no plans at this time to release a modernized NSRS with an incomplete geoid model. However it remains too early to tell how all this will impact the date of the final roll-out of the modernized NSRS.

GRAV-D progress last quarter: **up 1.9% to 80.9%**

Behind Schedule!

Recently: Oklahoma



Schedule: 81%