

Issue 32 April 2023



NSRS Modernization News

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geodesy.noaa.gov/datums/newdatums/TrackOurProgress.shtml

GRAV-D Aleutian Survey Successful Despite Challenges

In a stroke of bad luck, the long-planned GRAV-D trip to the outer Aleutian Islands was interrupted just after getting started. On Monday, April 11 the Russian Shiveluch Volcano erupted, spewing ash up to 50,000 feet. This ash began to drift toward the Aleutians, which interrupted GRAV-D flights for two days before the wind blew the ash out of the region. The eruption and an aircraft maintenance issue early in the project raised concern that data would not be collected over the Aleutian Island Region during the short time allocated for those flights (only 21 days in April 2023). However, the last part of the project was very successful, averaging six, 8.5-hour flights per week. The crew collected data for all of the high and medium priority data lines, and two of the low priority flights as well. The resulting data collection preserves the nominal 10 km data line spacing 70 km or more south of the islands, and then switches to a 20 km spacing until the entire GRAV-D target region is covered. Even with significant challenges, the NGS field team and the NOAA Aircraft Operations Center flight crew worked hard and are bringing home a high-quality airborne gravity data set in the region.

OPUS Projects 5.1 released

As mentioned in [issue 29](#), NGS is focusing on improvements to the existing OPUS-S and OPUS-Projects programs, eventually modifying them to work with GNSS data in the modernized NSRS, before working on software that will integrate leveling, classical, gravity and GNSS data, known as OPUS 6.

In alignment with that decision, OPUS-Projects 5.1 is now [live on the NGS website](#). OPUS-Projects 5.1 fully supports the uploading, QA/QC, adjustment, and submission for publication of real-time kinematic (RTK) vectors in the GVX file format.

Progress in Ongoing Projects

There are currently **32 ongoing projects** related to NSRS modernization around NGS. Here are some highlights.

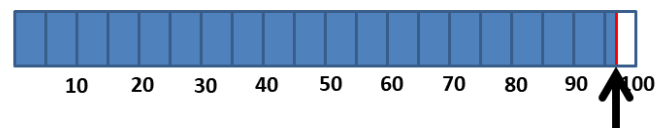
2020.00 REC adjustments (Project Manager: Dr. Dru Smith)

NGS has successfully run “alpha” adjustments on all existing GNSS vectors in our holdings (630,000+ vectors across 116,000+ points). This yielded ellipsoid heights which, combined with xGEOID20 were held as constraints for an “alpha” adjustment of all leveling runnings in our holdings (2,000,000+ runnings over 900,000+ points). With these tests in place, NGS will now begin the arduous process of cleaning the data more fully, in preparation for final adjustments that will yield coordinates in the modernized NSRS.

GRAV-D progress last quarter: **up 0.2% to 97.0%**

ON Schedule!

Recently: AK



Schedule: 97.0%