



Issue 30 October 2022

# NSRS Modernization News

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## Achieving GRAV-D 100% Completion

At the outset of GRAV-D (2007–9), NGS drew geographic “target polygons” for collecting airborne gravity data. A re-consideration of those targets was done in 2012, with adjustments made to size and shape (some being quite substantial). That second generation of target polygons has stood for ten years. As NGS approaches completion of the GRAV-D airborne mission, we are making final adjustments.

The first adjustment is to slightly tweak each polygon edge to conform to the “as flown” flight lines. Some lines go a little over the original target edges and some under, though such over/under flights have no significant impact on the final geoid model. The second adjustment is removal of 12 flight lines over the Commonwealth of the Northern Mariana Islands (CNMI) trench. While scientifically interesting, NGS has determined that this data will not impact the final geoid in Guam or CNMI, the U.S. territories nearest the trench (results will be shown in a forthcoming NOAA technical report). Removing these 12 lines from the plan will allow NGS to use its limited GRAV-D resources to fly other high-priority areas. Having made these adjustments to the target polygons, NGS can now report with confidence our progress toward a more accurately defined 100% goal. These final polygons are reflected in the GRAV-D progress chart herein.

## Progress in ongoing Projects

There are currently **33 ongoing projects** related to NSRS modernization around NGS. Here are some highlights:

## GPS Campaign for Transformations (Project Manager: Galen Scott)

NGS has extended the deadline for submitting GPSONBM data for transformation tools through September 2023. Data submitted before then will be considered for use in the 2020.00 REC adjustments. Marks with valid geodetic coordinates in both the current NSRS and the modernized NSRS will be used to create updates to NADCON and VERTCON. Observations submitted to NGS after September 2023 will have RECs and Survey Epoch Coordinates (SECs) computed in the new frames, however they will not help define the transformations between the current and modernized NSRS.

## SPCS2022 (Project Manager: Dr. Michael Dennis)

NGS completed review of SPCS2022 zones designed by state stakeholders. Designs were submitted for 806 zones in 28 states, and nearly all are low-distortion projections. Most of the zone designs were approved as submitted, with NGS and stakeholders working cooperatively to modify some. When completed, these SPCS2022 zones will add to the 160 zones designed by NGS.

GRAV-D progress last quarter: **up 1.7% to 96.4%**  
**AHEAD of Schedule!**

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