

Issue 29 July 2022

# NSRS Modernization News

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[geodesy.noaa.gov/datums/newdatums/TrackOurProgress.shtml](https://geodesy.noaa.gov/datums/newdatums/TrackOurProgress.shtml)

## Decisions and Timelines

NGS has recently begun to re-stack the priorities for NSRS modernization. The following decisions were recently approved for public release:

- NGS will release all *data* for the modernized NSRS before all *tools* are built.
- NGS will focus on *updating* tools like OPUS-S and OPUS-Projects to work with the modernized NSRS before *building* new tools.
- NGS will adopt TRANS4D (v0.3.3 or later) as IFDM2022 version 1.0.
- The new estimated timeline for release of the modernized NSRS (data + limited tools) is **mid-2025**.

## Progress in Ongoing Projects

NGS is implementing **33 ongoing projects** related to NSRS modernization. Here are some highlights:

### 2020.00 REC Adjustments (Project Manager: Dr. Dru Smith)

Though not yet a formal project, in the last few months NGS has done a substantive analysis of all NOAA CORS Network and IGS network stations (including their metadata and antennae history). This has led to an analysis of all GNSS-based vectors in the NGS IDB and OPUS-Share. Data checking and cleaning has yielded a combined set of vectors in various reference frames and epochs. Issues such as the use of ARPs or L1 Phase centers are being corrected so that a vector with a CORS as one endpoint always means the CORS GRP is the

endpoint. This effort will lead to an input set of vectors, all in ITRF2014, all at epoch 2020.00, which will yield the “alpha” set of geometric RECs. Future work will look at using the adjusted ellipsoid heights as control for a similar “alpha” adjustment of orthometric RECs. All of this work will lead to the formal “2020 REC projects” that will ultimately rely on ITRF2020, GEOID2022, EPP2022, IFDM2022 and LASER to create the final 2020.00 RECs on passive control that will be part of the release of the modernized NSRS.

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

NGS is reviewing designs of 806 SPCS2022 zones submitted by stakeholders in 28 states, and completing an additional 162 zones designed by NGS. Review of stakeholder designs should be done in September, and we plan to provide complete preliminary designs for all SPCS2022 zones before the end of 2022 for review by stakeholders and other customers. Based on the feedback received, we will correct any errors and make minor adjustments to the designs, with a target of finalizing and distributing all zone definitions in early to mid-2023.

GRAV-D progress last quarter: **up 2.0% to 94.7%**

**AHEAD OF** (new) Schedule!

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