

Issue 27 January 2022

# NSRS Modernization News

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

## Well, it's 2022...

...and since many components of the modernized NSRS will have “2022” in their name, NGS anticipates questions about the release date. Despite best efforts, the modernized NSRS will not be released for a few more years. This was formally announced in June 2020 with [this announcement](#).

## New Paper

A new paper was released last quarter, relevant to NSRS modernization: [The Mathematical Relation between IFVM2022 as Expressed in ITRF2020 with IFVM2022 as Expressed in the Four Terrestrial Reference Frames of the Modernized NSRS with Dependence on EP2022](#) (Smith, Roman, and McFarland), NOAA TM NOS NGS 90: It documents the equations relating the Intra-frame Deformation Model of 2022 (IFDM2022, formerly called IFVM2022) across ITRF2020, NATRF2022, PATRF2022, CATRF2022, and MATRF2022.

## IFVM2022 Renamed IFDM2022

To improve accuracy in nomenclature, NGS—in collaboration with the Canadian Geodetic Survey—has changed the name of the Intra-Frame Velocity Model (IFVM2022) to Intra-Frame Deformation Model (IFDM2022).

## Progress in Ongoing Projects

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

### GVX and OPUS-Projects 5.0 (Project Manager: Dr. Daniel Gillins)

Real-time kinematic (RTK) or post-processed GNSS vectors in [GVX file format](#) can now be uploaded into [Beta OPUS-Projects 5.0](#) for least squares adjustment. Both Trimble and Topcon have released new tools in their software for exporting GVX files. Leica and i-GAGE are also developing GVX exporters. Please collect RTK data on survey marks, export results in the GVX format, and upload the GVX files to Beta OPUS-Projects 5.0 and provide NGS with feedback on the workflow.

Heads up! ***GVX format will be slightly updated in the next 12 months!*** In 2022 NGS will release an update to GVX in a joint roll-out with new formats LVX (leveling) and CVX (angles and distances). The update is driven by a need for greater consistency among the formats.

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

NGS officially extended the GPS on Bench Marks Campaign’s cut-off date by one year to **December 31, 2022**. Partners are encouraged to continue to collect and submit GPS data to NGS for modernizing the National Spatial Reference System.

GRAV-D progress last quarter: **up 1.3% to 90.9%**

**AHEAD OF** (new) Schedule!

Recently: Idaho, Tennessee

