



# NSRS Modernization News

Issue 3, March 2016

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

## Nomenclature

NGS has begun finalizing the names to replace NAD 83, NAVD 88, and IGLD 85. Our decision is expected to be made soon, so please watch this space for more details!

## Legislation

Currently, 48 states have legislation defining their state-based coordinate system, specifically referring to NAD 83 by name. In 2022, NAD 83 will be replaced, and its replacement will **not** be named NAD 83 (see above). NGS, the National Society of Professional Surveyors (NSPS), and the American Association of Geodetic Surveying (AAGS) have formed a joint committee to work on new template legislation to aid states in transitioning their legislation to new wording. Whereas the new wording will not name any datum specifically, it will nonetheless reference the most **recent** NSRS datum. Users of the NSRS interested in this topic are asked to send concerns or comments to Dru Smith at [dru.smith@noaa.gov](mailto:dru.smith@noaa.gov).

## Major Projects

A variety of NGS projects now underway all contribute in their own way to the modernization of the NSRS. Significant milestones are highlighted below.

### Improve the Toolkit (Lead: Krishna Tadepalli):

The various tools in the current NGS toolkit do many things, but for the most part, they do them independently. Two major functions of the tools are **converting** coordinates (XYZ to lat/lon/height, or UTM to State Plane, etc.) and **transforming** between datums (NAD 27 to NAD 83, or NGVD 29 to NAVD 88). A new, fully-integrated, Web-based toolkit is being developed, and most current tools for converting and transforming will be placed in this one single toolkit. At this time, it contains tools only for **converting** coordinates. It is currently in beta testing. Please try it out and let us know what you think at: <http://beta.ngs.noaa.gov/gtkweb/>

## Geometric Transformation Consistency

(Lead: Dr. Dru Smith) Grids for CONUS transformations have been completed to perform the following transformations:

US Standard Datum	-> NAD 27
NAD 27	-> NAD 83(1986)
NAD 83(1986)	-> NAD 83(HARNs)
NAD 83(HARNs)	-> NAD 83(FBNs)
NAD 83(FBNs)	-> NAD 83(NSRS2007)
NAD 83(NSRS2007)	-> NAD 83(2011)

These grids, and the software to interpolate from them, will be loaded into the new NGS Toolkit (see earlier section) in the next few months.

Grids for Alaska are currently under investigation. Once finished, work will progress to Hawaii, Puerto Rico, the U.S. Virgin Islands, then American Samoa, and finally Guam and the Commonwealth of the Northern Mariana Islands. When complete, all of these grids will also be loaded into the new NGS Toolkit in the coming months.

### GSVS17 (Lead: Dr. Derek Van Westrum):

NGS has postponed fieldwork for the third and final Geoid Slope Validation Survey until 2017 (now known as GSVS17). This will allow some much needed time to complete mark setting, arrange for a Deflection of Vertical (DoV) instrument to be available, and to organize field crews. The 80 or so final marks will be installed during the spring of 2016 in preparation for the 2017 survey season.

GRAV-D progress last quarter: **up 2.4% to 49.5%**  
Ahead of Schedule!

Recently: Arizona, New Mexico, Florida, Texas, the Gulf of Mexico, Atlantic Ocean, and Mexico

