

# Preparing for the Modernization of the NSRS

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## SUMMARY

The National Geodetic Survey and its predecessor agencies have collaborated with public and private organizations to establish reference stations at precisely determined locations over the last 200 years, setting a geodetic standard in precise positioning. NGS defines official geodetic datums for all federal mapping activities in the U.S as part of the National Spatial Reference System (NSRS). Currently the NGS is working to remove inaccuracies in the existing datums of the US. By tracking the dynamic nature of the Earth, and giving users tools to account for it, NGS will provide a new National Spatial Reference System that is semi-dynamic. To support the Modernization of the NSRS, constituents across the U.S. have been working to improve geodetic control and to prepare to enhance the data base that forms the foundation for the new NSRS.

Regional teams within the surveying and geospatial community have been working steadily across the country, improving monumentation and operations of National Continuously Operating Reference Station Network (NCN) sites in partnership with NGS through

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monument workshops and the formation of new federal, state, and local partnership working groups. In 2022, constituents in the Southwest Region (AZ, NM, UT) prepared for NSRS Modernization through increased partnership activity, improvement in positioning data and imagery, building new CORS stations with improved stability and monumentation, and siting new Foundation CORS arrays at Very Long Baseline Array (VLBA) observatories in New Mexico and Arizona. Additionally, survey control was densified through partnerships that allowed for improvements in both vertical and horizontal positioning and an increase in NGS Blue Booking submissions. By increasing the accuracy of ground control, ground truthing was improved for base station positions for LIDAR, aerial, drone, photogrammetric, and altimetric data in the region. These improvements will continue to provide multiple data sets for digital elevation modeling, and become the basis for improved datum consistency as the Southwest Region prepares for NSRS Modernization.

As the surveying, engineering, and geospatial community nationwide begins to prepare for NSRS Modernization, the NGS Regional Geodetic Advisor program will continue to provide subject matter experts who are living and working in regions across the United States to assist. These regional advisors are available to assist with questions on NSRS Modernization, establishing CORS stations and networks, training in NGS Products and Services, collecting data for the NGS GPS on Bench Marks campaign, and providing presentations or training to groups in academia, the private sector, local, state, and federal agencies across the country.

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