

## Now available: NOAA Technical Memorandum NOS NGS 92

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Wed, Nov 20, 2024 at 10:32 AM

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# NGS News

## Now available: NOAA Technical Memorandum NOS NGS 92

This week, NGS published [NOAA Technical Memorandum NOS NGS 92 \(NGS 92\)](#) to provide **classification, standards, and specifications for using GPS/GNSS surveying measurements in conjunction with OPUS Projects software**, as these types of surveys were not well-established by the dates of the previous 1997 and 2008 publications. Using NGS 92, users can establish geodetic control referenced to the National Spatial Reference System (NSRS) in the quantity, proximity, timeliness, and the accuracy and precision needed for their applications. Any user has the option to submit their GNSS surveys to NGS for review and publication as a part of the NSRS.

NGS 92 has detailed specifications for achieving intended network and local accuracies that meet the needs of a broad range of applications. Three positional classifications are introduced: local, secondary, and primary. By adhering to the specifications in NGS 92, the following network and local accuracies at the 95% confidence level are expected to be achieved:

- Local: 2.5 cm horizontal, 5 cm ellipsoid height, 6 cm orthometric height
- Secondary: 1.5 cm horizontal, 3 cm ellipsoid height, 4 cm orthometric height
- Primary: 1 cm horizontal, 2 cm ellipsoid height, 3 cm orthometric height

NGS 92 addresses using a combination of multiple static (2+ hours) and real-time kinematic (5+ minutes) GNSS occupations. Real-time kinematic (RTK) occupations may use a single base (SRTK) or a network (NRTK). The observation method requirements are flexible, allowing the surveyor to choose the most efficient method for the project. NGS 92 includes clear standards and specifications to help obtain high accuracy results using the chosen methods.

NGS 92 replaces earlier documents that were published to guide users in establishing high-accuracy GPS-derived heights, known as NOAA TM NOS NGS 58 and NOAA TM NOS NGS 59. NGS 92 supplements "Standards and Specifications for Geodetic Control Networks" which was published before the broad accessibility of GPS. The OPUS Projects User Guide should be consulted in tandem with NGS 92, and OPUS Projects training is highly recommended.

NGS has a long history of providing guidance for geospatial professionals to establish or tie to geodetic control networks. Today, NGS's highly accurate geodetic control network consists of stable, identifiable marks with published positions referenced to datums designed and established by NGS. These marks provide a consistent geospatial framework for scientific purposes, engineering projects, navigation, precision agriculture, emergency response, disaster recovery, and community resilience.

For more information and background, watch our April 2023 webinar, [Classifications, Standards, and Specifications Supporting OPUS Projects 5.1](#). For questions or concerns, please email NGS at [ngs.infocenter@noaa.gov](mailto:ngs.infocenter@noaa.gov).

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