



What is it?

Why Participate?

How to do it? It's 1-2-3:

Find

Collect

Share

Contribute!

GPS on Bench Marks

NOAA's National Geodetic Survey encourages anyone with survey-grade Global Positioning System (GPS) receivers to help perform **GPS on Bench Marks (GPS on BMs)** to support the development of GEOID18 and transformation tools that will be produced for the **North American-Pacific Geopotential Datum of 2022 (NAPGD2022)**. GPS on BM data for GEOID18 will be accepted through the end of August 2018.

The nation's height system, the **North American Vertical Datum of 1988 (NAVD 88)**, is founded on historic geodetic leveling surveys that use thousands of bench marks, most of which have not been positioned with GPS. Adding GPS coordinates to these marks allows them to be used in NGS' modern height reference-surface modeling. GEOID18 will be the last hybrid geoid model NGS will produce to enable GPS-derived NAVD88 heights.

1. Find local bench marks. Visit our website at Geodesy.noaa.gov/GPSonBM for a priority listing of marks to occupy and maps to help you find them. Contact your **NGS geodetic advisor** for more details, or email us at nsg.GPSonBM@noaa.gov.

2. Collect GPS on your selected bench mark following careful field procedures.

- Complete reconnaissance at your selected mark to ensure its usability, and submit a mark recovery via DSWorld.
- Collect a 4+-hour GPS data file.
- Use a fixed-height tripod (recommended), and brace the legs with sandbags or chain.
- Verify antenna type, height, and plumb.
- Take two photos of the mark, and note any changes to the existing mark description. (Optional: use observer field log with this step.)

3. Share your data by uploading to our **Online Positioning User Service (OPUS)** on the NGS website Geodesy.noaa.gov/OPUS.

NGS will use data collected to develop **GEOID18**, increase access to NAVD 88, and enable conversions to **NAPGD2022**.