

NOAA's National Geodetic Survey (NGS) to replace GEOID12B with GEOID18

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In early 2019, NOAA's National Geodetic Survey (NGS) will replace GEOID12B with GEOID18, a new hybrid geoid model to deliver improved GPS-derived NAVD 88-equivalent orthometric heights. This new model will serve as the official means for obtaining NAVD 88-equivalent heights via GPS. It will be the last hybrid geoid model that NGS will create before NAVD 88 is replaced by NAPGD2022.

NGS will use available GPS on bench mark data to create the new model. Recent analysis of existing GPS on bench mark data and a prototype of the new hybrid geoid model created using that data has highlighted areas where additional data is needed to either confirm or update the local relationships between the ellipsoid, orthometric, and geoid heights.

Included herewith is a prioritized list of bench marks for which additional GPS data is needed to improve the hybrid model. Data submitted on these marks will also support the development of the transformation tools that will be developed as part of the transition to the new datums.

Data to support the hybrid geoid model will be accepted through **August 31, 2018**. NGS will continue to accept data to support the transformation tools through 2020. New prioritized lists of marks to support the transformation tools will be made available over the next few years as analysis of data requirements progresses.

For the marks included in the attached document, NGS is requesting support in two ways:

1. Attempt to locate the marks on the list and submit a mark recovery through [DS World](#). Check this NGS page for [more information on mark recovery](#).
2. Collect 4 or more hours (more is better) of GNSS data on the mark following [NGS guidelines](#), submit the data to [OPUS](#) and select the option to Share.

More information, including training material, is available on the NGS GPS on Bench Marks (GPS on BM) website. Two matching, independent GPS observations are required for each mark. The list indicates how many observations we have so far on each mark (obs_cnt column). A tracking map showing the currently prioritized marks and the number of observations we have on each will be added to the GPS on BM website in the near future. To maximize efficiency, please check this map before observing a mark to ensure that the required data has not already been submitted.

Please note: Marks on this list may be inaccessible, destroyed, or not GPS'able. If this is the case, please locate and observe another nearby NAVD 88 mark, within ~10 km.

The mark list is provided in three file formats, but all contain the same information, so choose the format you are most comfortable with: excel spreadsheet, esri shapefile, and Google Earth kmz.

The image below shows the changes between GEOID12B and the prototype hybrid geoid model. While data is needed on all the marks in the list, you may further focus your data collection efforts by looking for areas in this image that show large changes in your region. For

further information or to discuss options for collaborating with other regional partners, please consult with your [NGS Regional Geodetic Advisor](#) and/or [State Geodetic Coordinator](#). Questions may also be directed to ngs.GPSonBM@noaa.gov.

*****Due to the shutdown of the Federal Government, links in this email to NOAA resources such as OPUS, DS World, and training material will not be available until normal operations resume. In the meantime, please proceed with collecting data and prepare to submit to OPUS and DS World when they become available.*****

