



Emergency Management
NC DEPARTMENT OF PUBLIC SAFETY

North Carolina Geodetic Survey (NCGS): Positioning NC today and for the future!



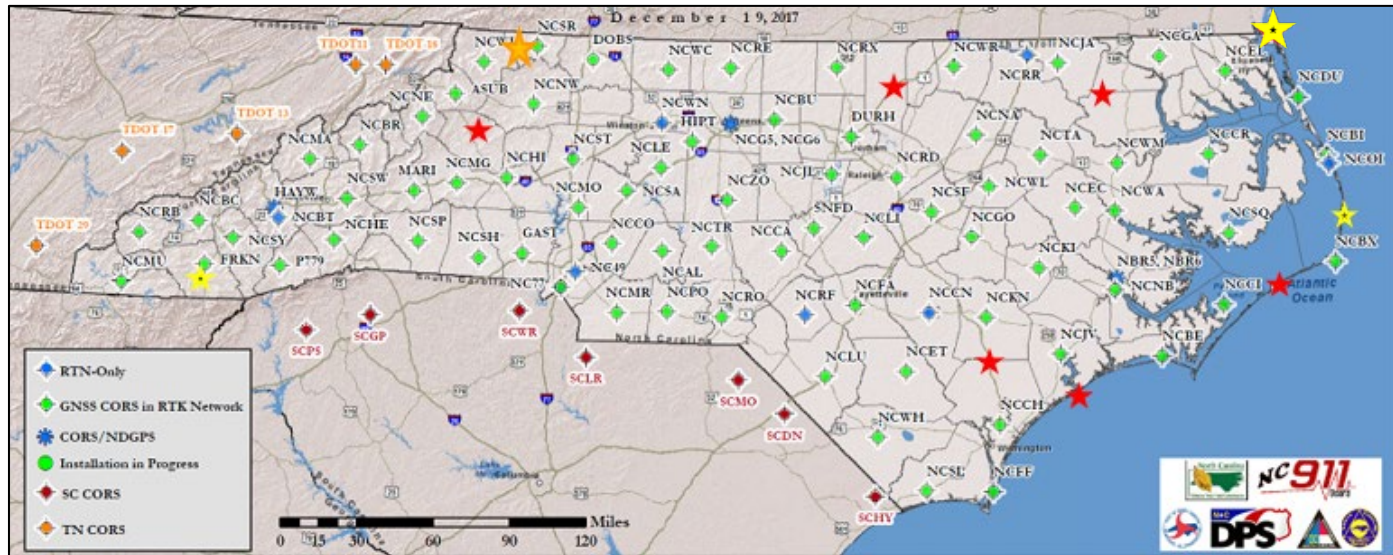
**State Mapping Advisory Committee
October 11, 2023**

Geodetic Control





North Carolina (NC) Continuously Operating Reference Station (CORS) Network

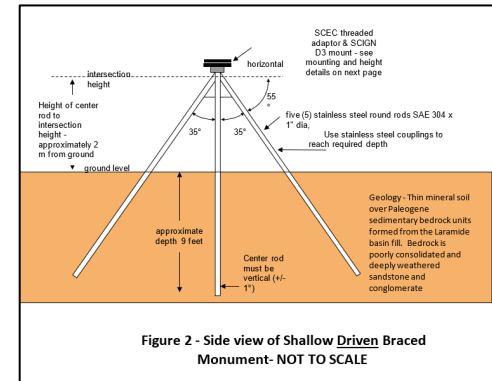


Future CORS location = ★
CORS installed = ★
Earthquake CORS = ★





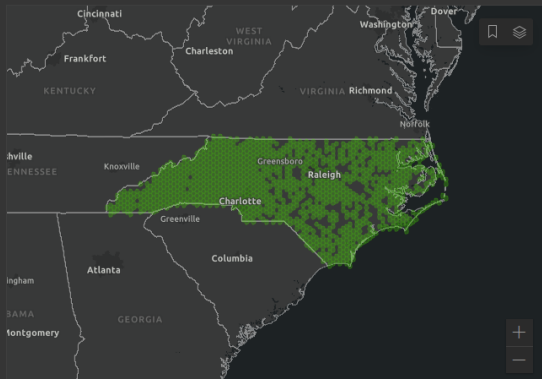
CORS installed at Burnsville to Replace NCBR Operational (NCBV) Submitted to NGS for inclusion into the NOAA Network





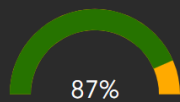
GPS on Bench Marks for the Transformation Tool Progress Dashboard NOAA's National Geodetic Survey

- Hawaii
- Idaho
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Maine
- Maryland
- Massachusetts
- Michigan
- Minnesota
- Mississippi
- Missouri
- Montana
- Nebraska
- Nevada
- New Hampshire
- New Jersey
- New Mexico
- New York
- North Carolina
- North Dakota
- Ohio
- Oklahoma
- Oregon
- Pennsylvania
- Puerto Rico
- Rhode Island



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA | US Census
To see remaining marks to be collected use [GTT Web Map App](#)

10km Priority Hexagons Completed



10km Hexagons Done **1.3k** Total 10km Hexagons **1.4k**

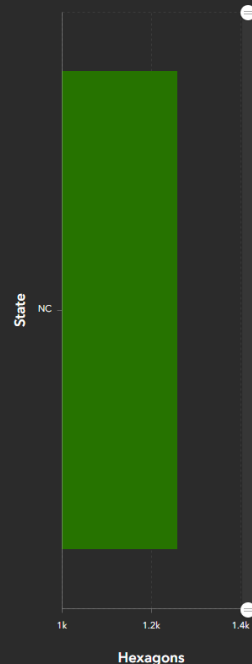
10km Priority A Remaining

122

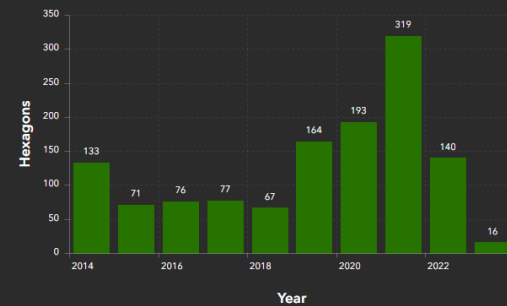
10km Priority B Remaining

67

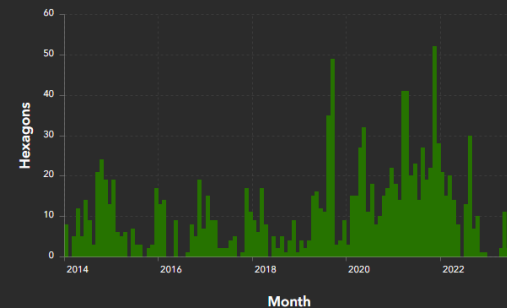
10 km Completed by State



10 km Completed Hexagons Annually



10 km Completed Hexagons Monthly

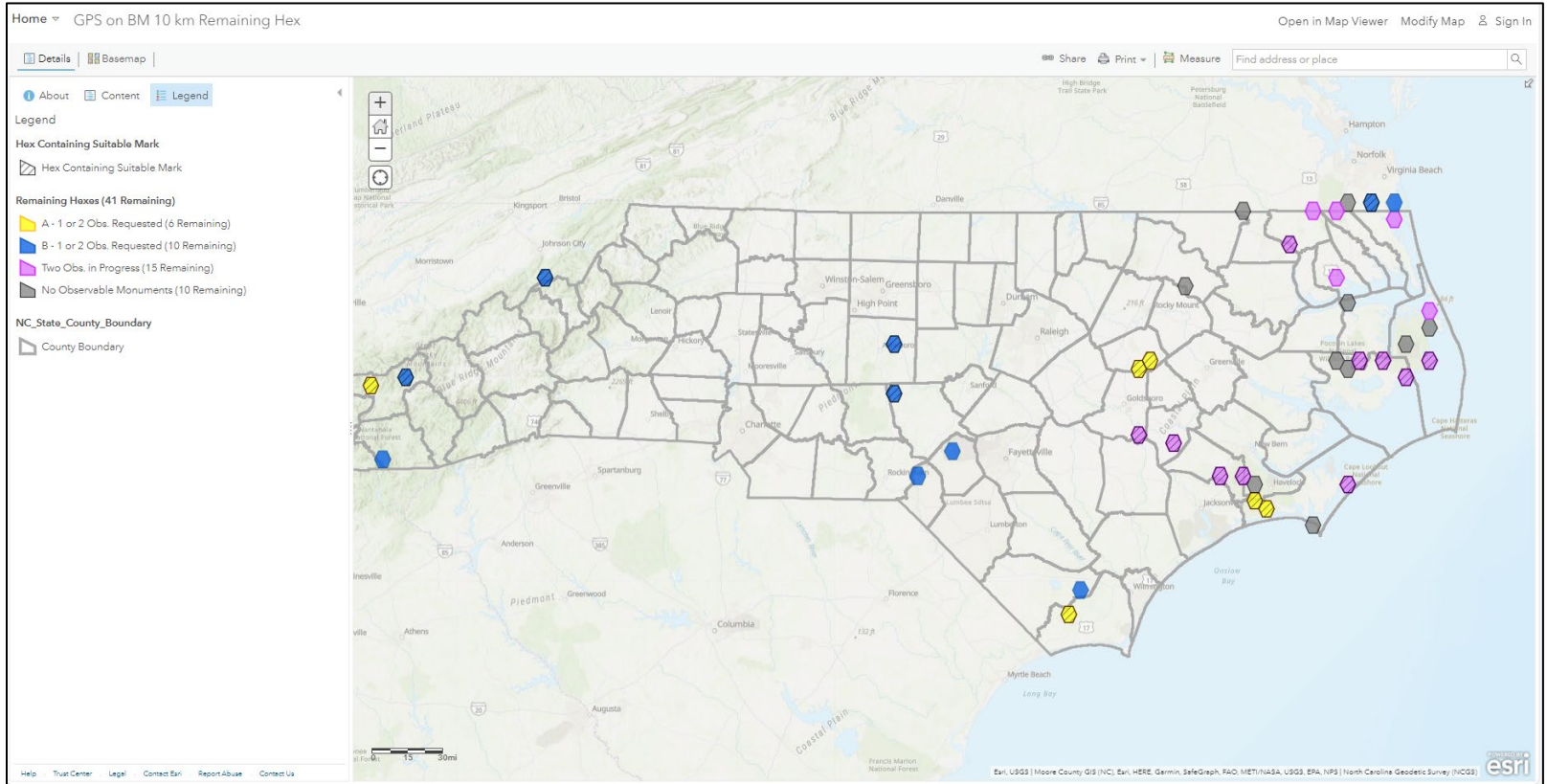


◀ Sel... ▶

10km Indicators 2km Indicators

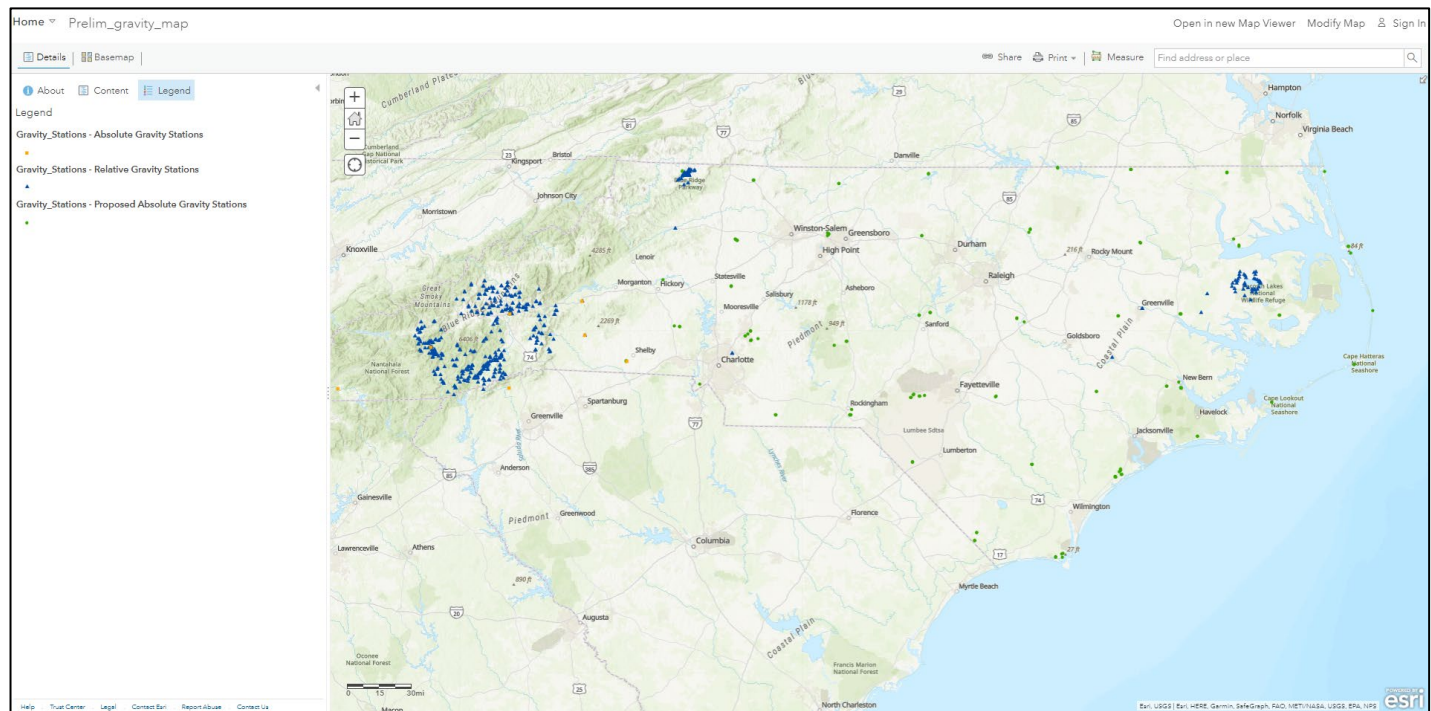
10km Charts 2km Charts








Gravity Data Collection





New Datums are Coming! 2025

National Geodetic Survey Positioning America for the Future
geodesy.noaa.gov



New Datums Are Coming!

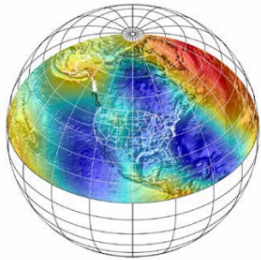
New Datums

NOAA is Replacing NAD 83 and NAVD 88.
NOAA's National Geodetic Survey (NGS) will be replacing the datums of the National Spatial Reference System (NSRS), including the **North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88)**. NGS will provide the tools to easily transform between the new and old datums. Read the NGS Ten-Year Plan and visit the **New Datums Web page** on our site to learn more.

Benefits
The new reference frames (geometric and geopotential) will rely primarily on **Global Navigation Satellite Systems (GNSS)**, such as the Global Positioning System (GPS), as well as on a gravimetric geoid model resulting from NGS' **Gravity for the Redefinition of the American Vertical Datum (GRAV-D)** Project.

The target accuracy of differential orthometric heights (heights relative to sea level) in the geopotential reference frame will be 2 centimeters over any distance, where possible.

What You Can Expect
The magnitude of change with the new datums will vary depending on the datum you are using and your geographic location. The new geometric datum will change latitude, longitude, and ellipsoid height between 1 and 4 meters. In the conterminous United States (CONUS), the new vertical datum will change heights on average 50 centimeters, with approximately a 1-meter tilt towards the Pacific Northwest.



The new datums will extend across CONUS and U.S. territories. The terrestrial reference frames replacing NAD 83 will be consistent with geocentric global reference frames defining latitude and longitude. The geopotential datum replacing NAVD 88 will be based on a gravimetric geoid model, enhanced by data from NGS' Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project.

National Oceanic and Atmospheric Administration • National Geodetic Survey

