



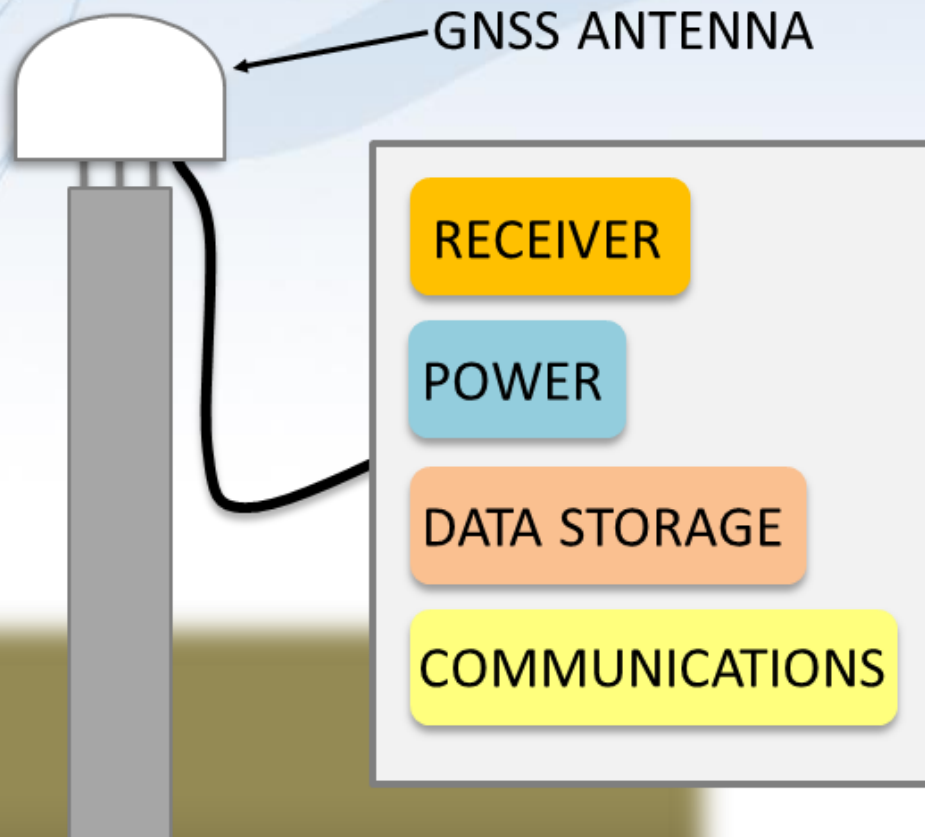
# Tying your non-NCN CORS to the NSRS

*64<sup>th</sup> CGSIC Meeting  
September 2024*

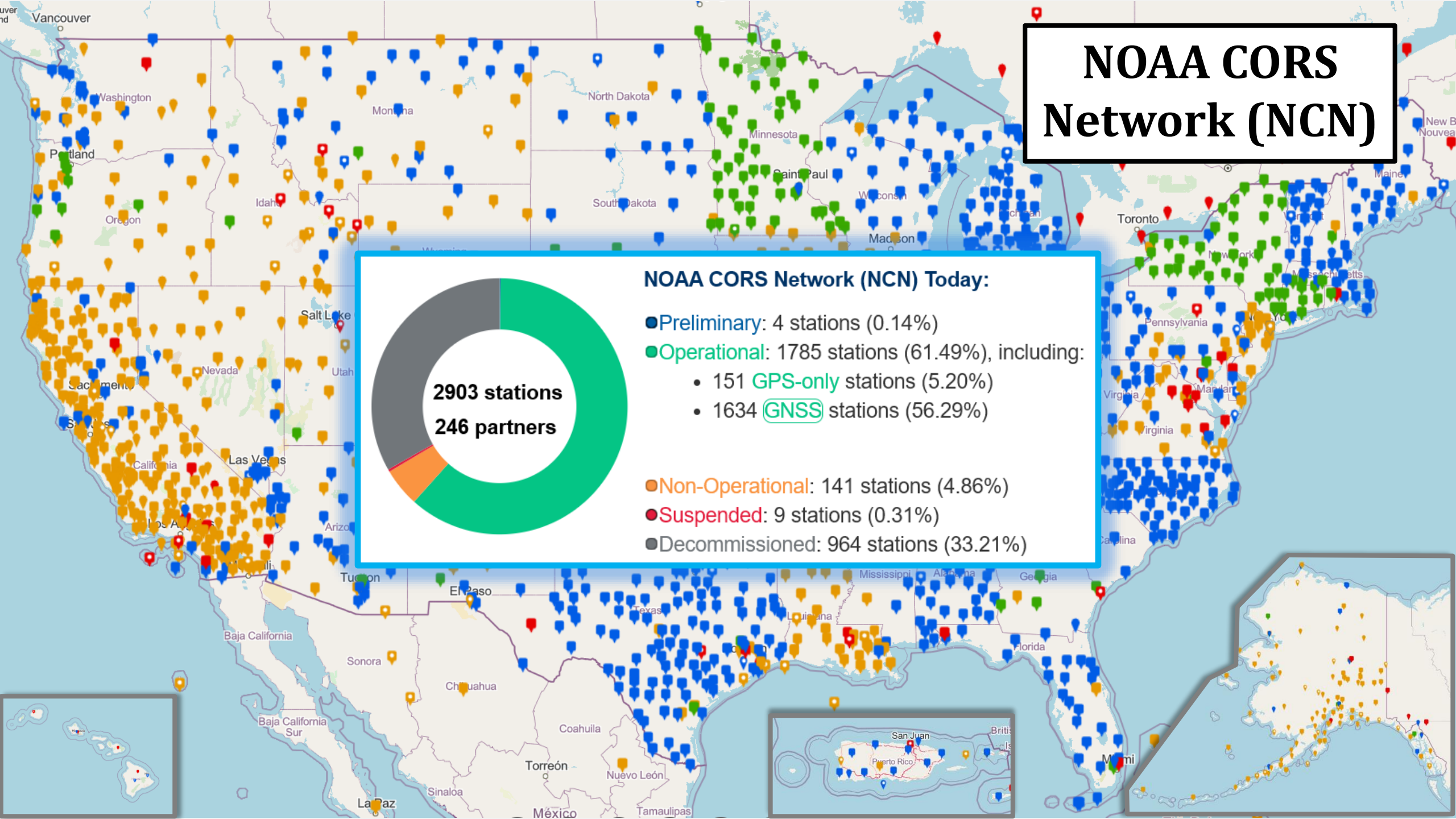
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240-988-5486**

# Continuously Operating Reference Station



# NOAA CORS Network (NCN)



**NOAA CORS Network (NCN) Today:**

- **Preliminary:** 4 stations (0.14%)
- **Operational:** 1785 stations (61.49%), including:
  - 151 **GPS-only** stations (5.20%)
  - 1634 **GNSS** stations (56.29%)
- **Non-Operational:** 141 stations (4.86%)
- **Suspended:** 9 stations (0.31%)
- **Decommissioned:** 964 stations (33.21%)

**2903 stations**  
**246 partners**

# NCN Guidelines (Aug 2020)

## **B.2. Location, Obstructions and Radio Frequency Environment**

Proposed CORS will be **no closer than 70 km from an existing CORS** (NGS Executive Steering Committee on 22 September 2012).

Exception to this minimum distance will be made on an individual basis based on two criteria:

- a) NOAA and other Federal agency needs
- b) Data quality of nearby CORS is poor compared to proposed site (See G)

Hyperlink →

**Guidelines for New and Existing Continuously Operating Reference Stations (CORS)**

# How do you do this?



## OPUS Projects 5.2

National Geodetic Survey

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OPUS Projects provides simple management and processing tools for your survey projects involving multiple sites and multiple occupations. Advantages include:

- Customizable data processing via the PAGES software suite
- Visualization and management aids
- Adjustments tied to the National Spatial Reference System

### Learn More:

- **What is OPUS Projects?** (*video, 11:26*)
- **Training videos** and **calendar**
- **User Guide**
- **WinDesc Tutorial Video**
- **OP5 for GPSONBM2023**
- **WEBINAR: Using RTN Data in OP5 for GPSONBM**

If you're interested in submitting your project's results for publication in the NGS Integrated Database (IDB) and have not done so, please visit the **NGS Survey Project Proposal web site** to request a required project tracking number. In addition, for publication all survey marks must be described by creating description files in NGS software **WinDesc**.

**OPUS menu**

home / upload

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# OPUS Projects

Results From **ALL SESSIONS**

|   |  |  |  |              |
|---|--|--|--|--------------|
| <b>Controls</b>   | <b>LEGEND</b>  | <b>MARKS:</b>  | <b>LEGEND</b>  | <b>MARKS</b> |
| <ul style="list-style-type: none"> <li>Preferences</li> <li>Project List</li> <li>Solutions</li> <li>Add Project Tracking ID</li> <li>Show File</li> <li>Send Email</li> <li>Upload Description</li> <li>Upload Field Logs</li> <li>Refresh PID Information</li> <li>Upload GNSS Vectors</li> <li>Set up Adjustment</li> <li>Export Adjustments</li> <li>Upload Project Report</li> <li>Review and Submit to NGS</li> <li>Delete Project</li> </ul> | <ul style="list-style-type: none"> <li>MARKS:  CORS</li> <li>STATUS:  meet preferences</li> <li>Baselines:  Network Adjustment</li> <li> 3D, Static processing only</li> <li> do not meet preferences</li> <li> GNSS Session</li> <li> 3D, Uploaded GVX only</li> <li> are not included</li> <li> RTK</li> <li> 3D, Static processing + GVX</li> <li> have error</li> <li> Other GNSS</li> </ul> | <ul style="list-style-type: none"> <li> ohga</li> <li> ohpi</li> <li> ohts</li> <li> ohva</li> </ul> | <ul style="list-style-type: none"> <li>Add MARKS</li> <li><b>CORS</b></li> <li> aubn</li> <li> colb</li> <li> frec</li> <li> garf</li> <li> gust</li> <li> infw</li> <li>Add/Del CORS</li> </ul> |              |

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# What do you need?

- 1 or more CORS (*not* already in NCN)
- Photos of antenna setup
- 5 RINEX files of 24 hrs each
- Station Descriptions
  - Must be created using WinDesc software
- Project Report

# WinDesc

- NGS-supplied software
- Not *only* for Station Descriptions
- Standardizes project metadata
- Necessary to ensure data integrity
  - Prevents duplicate stations
  - Facilitates efficient review of projects



# WinDesc

The image shows a screenshot of the WinDesc software interface. It consists of several overlapping windows:

- Data Set Information**: A form with fields for Job Code (OH), Country (US), State, Agency Name (OHIO DEPARTMENT OF TRANSPORTATION), Accession Code (GPS), No. (9764), C.O.P. Name, Proj Title (NON-NCN CORS BLUEBOOK PROJECT), Com, email, Photo Directory, Horizontal Datum (83), Order, Class, Vertical Datum (88), Order, Class, Project Limits (Minimum, Maximum), Latitude (N), Longitude (W), and Elevation. An OK button is at the bottom.
- Recovery Desc of A Mark Not in NGSIDB**: A window with a menu bar (Edit, Insert, Template, Options, Close, Help) and two tabs: Historical Descriptive Text and New Descriptive Text. The main text area contains three paragraphs of station location and description. At the bottom are buttons for Clear, Format, Spelling, and Close. A status bar at the bottom shows Caps, Num Lock, Char: 0 of 591, Free: 4309, and Sel:0.
- Complete Descriptive Text of a Recovered Mark Not in the NGS IDB**: A window with a menu bar (Edit, Insert, Template, Options, Close, Help) and two tabs: Historical Descriptive Text and New Descriptive Text. The main text area contains three paragraphs of station location and description. At the bottom are buttons for Clear, Format, Spelling, and Close. A status bar at the bottom shows Text: 715 Chr.
- Design**: A form with fields for Alias, ID (OHTS), Load, GPS, Y, VM, C.O.P. (DJB), Cond, FI/Proj/Rec., Setting, and Year. Buttons for D-Sht, Delete, Save, and Clear are at the bottom.

# Where to do I start?

- Regional Geodetic Advisors
  - We can assist, clarify questions, discuss goals
- NGS Survey Project Proposal
  - Tell us your plans
  - We can ensure you follow proper methods

# Regional Geodetic Advisor Program

14 RGAs across country

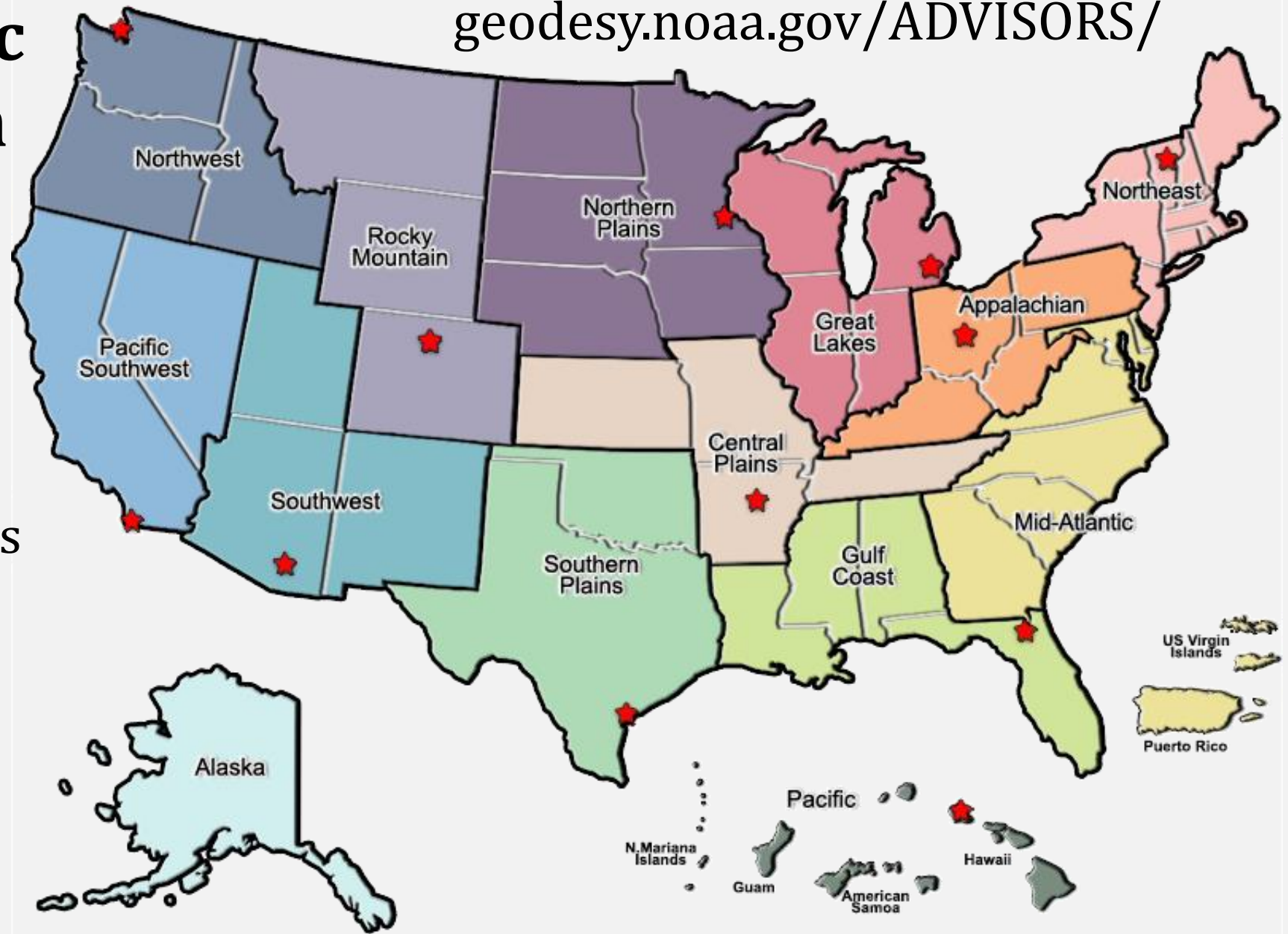
We are here to support:

- You
- Your constituents
- Our Federal Partners

*Questions about  
NSRS Modernization?*

- Reach out now
- Be prepared

[geodesy.noaa.gov/ADVISORS/](http://geodesy.noaa.gov/ADVISORS/)





# Survey Project Proposal - version 3.8

National Geodetic Survey

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## Survey Proposal

We publish high-accuracy GPS and/or differential leveling observations which meet our criteria. **Describe your project below** to receive helpful data files and advice about your project.

- Read **OPUS manual**
- **NGS Bluebook Policy**
- **Ht Mod Requirements**
- **Privacy Act Statement**

*(Fields marked with an asterisk (\*) are required)*

### PROJECT INFORMATION:

Project Title: \*

State: \*

Select One State



Survey Type:

GPS



[Survey Proposal](#)

[Bluebook Project](#)

[Adjust Guidelines](#)

[Leveling Project](#)

[NOS NGS-58](#)

[NOS NGS-59](#)

[FAA AC16](#)

[OPUS-Projects Get Started Info](#)

[Sample Survey Report](#)

# What's the difference?

**NCN**

**Non-NCN in NGSIDB**

*Both have their place!*

If you can't be in the NCN,  
NGSIDB is next best thing.

DS1601 NETWORK 0.26 0.51 0.09 0.12 0.26 -0.05134766  
DS1601 -----  
DS1601 Click [here](#) for local accuracies and other accuracy information.

<https://geodesy.noaa.gov/ADVISORS/>

-use any major search engine: “NGS advisors”

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