



**NATIONAL
GEODETIC
SURVEY**

Core Beta Release of Products and Tools for the Modernized NSRS



Core Beta Products and Tools

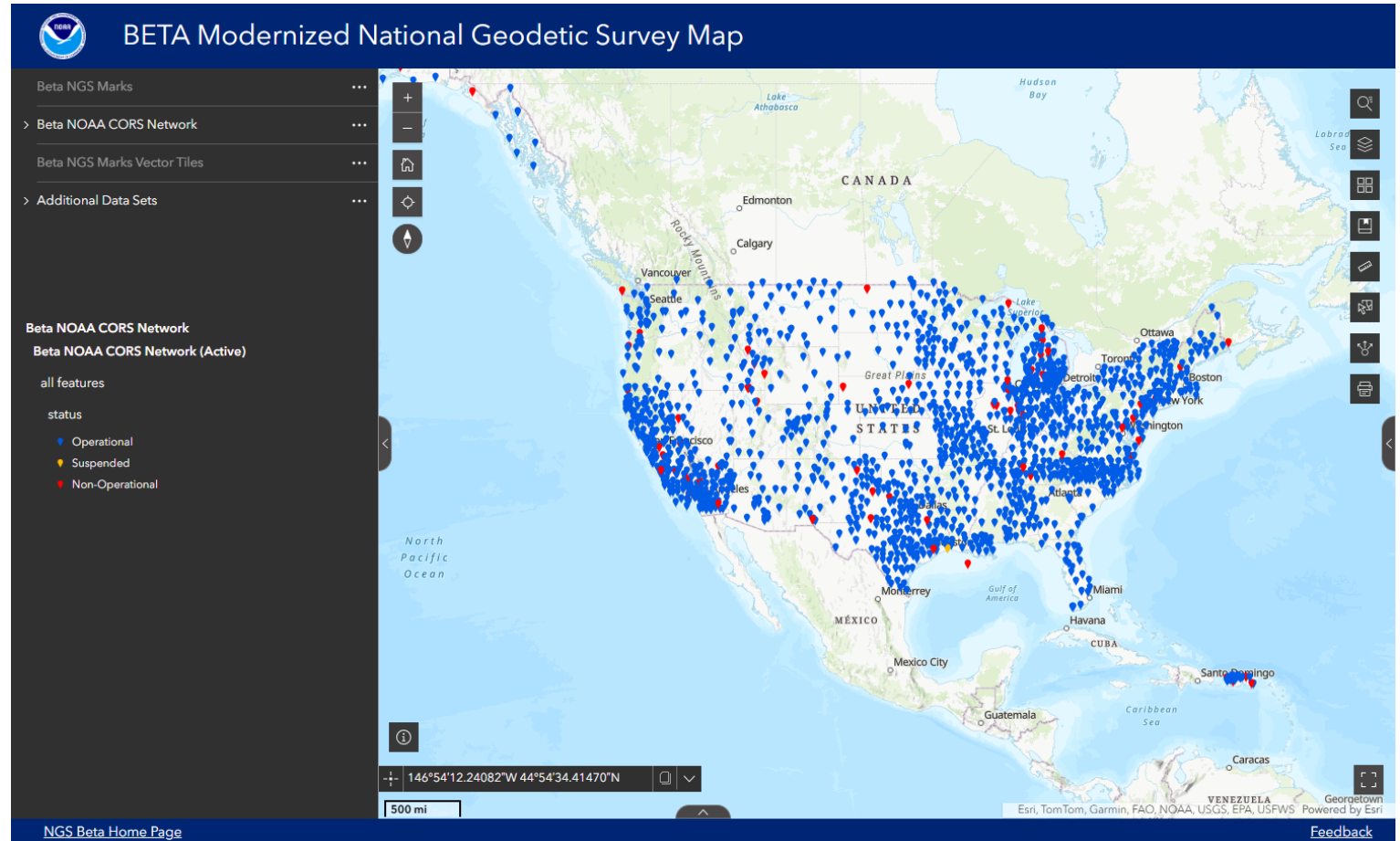
- Data Delivery System (DDS)
- NGS Coordinate Conversion and Transformation Tool (NCAT)
- OPUS Static

Data Delivery System (DDS)

- serves as the primary gateway for discovering, visualizing, and accessing geodetic data and products in the modernized NSRS
- integrates a modernized **NGS Map**, with two new products—**Geodetic Station Pages**, and **Geodetic Mark Pages**—into a consistent, API-driven experience for accessing geodetic control information and products.

Beta Modernized NGS Map

- <https://experience.arcgis.com/experience/78a50f5215e7487d9ad9c8f910af7be2>

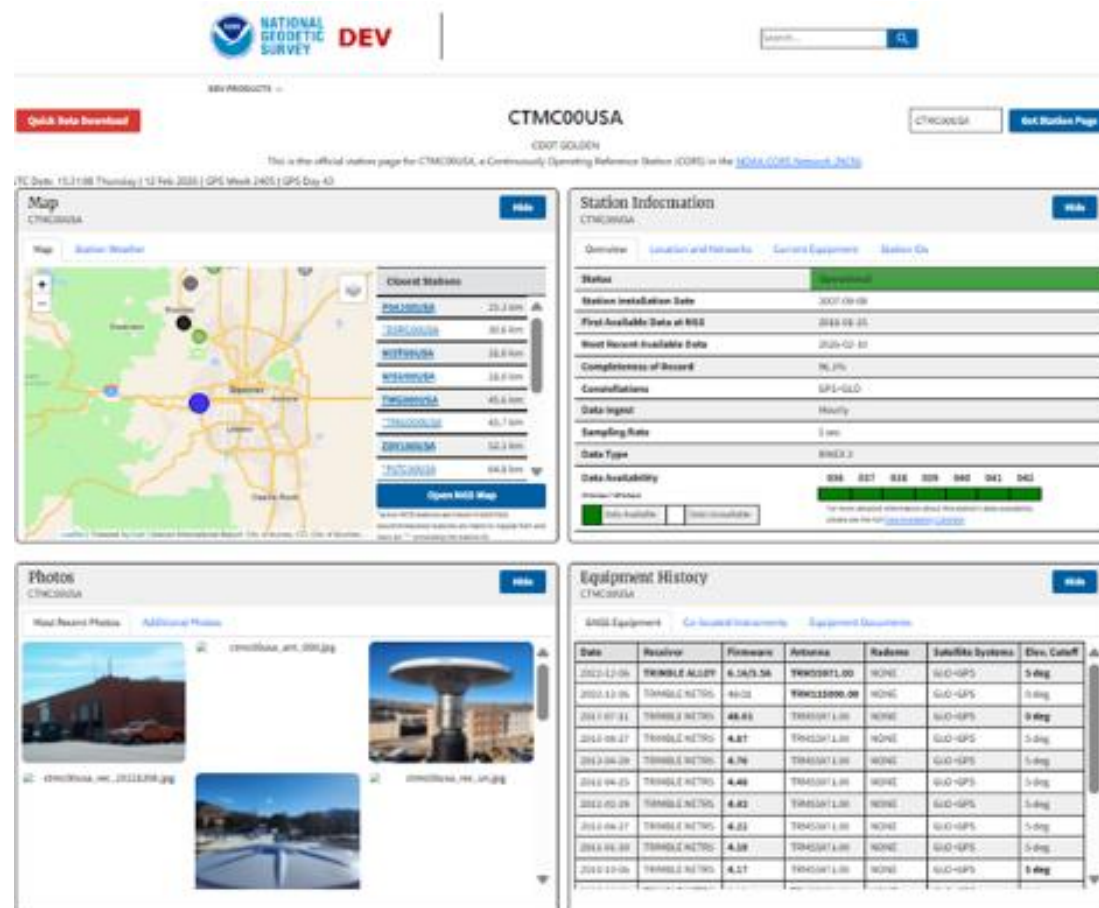


Geodetic Station Pages

- Geodetic Station Pages replace the current NOAA CORS Network (NCN) station pages.
- Provide access to
 - station metadata
 - reference epoch coordinates (RECs)
 - updated CORS coordinate functions (CCFs)
 - related geodetic products
 - Filter specific attributes (state/county)
 - Export to variety of

Beta Geodetic Station Page

- <https://beta.ngs.noaa.gov/DDS/geodetic-station-pages/#/>



The screenshot displays the NOAA Beta Geodetic Station Page for station CTMC00USA. The page is divided into several sections:

- Map:** A map showing the station location in Golden, Colorado. A list of closest stations is provided on the right.
- Station Information:** A table providing details about the station, including its status, installation date, first available date, and data type.
- Photos:** A gallery of photos showing the station and its surroundings.
- Equipment History:** A table listing the equipment used at the station, including the date, receiver, firmware, antenna, radome, satellite systems, and elevation cutoff.

Station Information Table:

Station Information	Value
Status	Operational
Station Installation Date	2007-09-08
First Available Date at NGS	2015-08-25
Most Recent Available Date	2025-02-10
Completeness of Record	96.8%
Constituents	GPS+GLD
Data Input	Manually
Sampling Rate	1 sec
Data Type	RINEX 2

Equipment History Table:

Date	Receiver	Firmware	Antenna	Radome	Satellite Systems	Elev. Cutoff
2022-12-08	Trimble NetRS	6.3A(1.58)	TRN450071.00	NOVA	GLD+GPS	5 deg
2022-12-08	Trimble NetRS	49.02	TRN450071.00	NOVA	GLD+GPS	5 deg
2021-07-31	Trimble NetRS	48.81	TRN450071.00	NOVA	GLD+GPS	5 deg
2019-08-27	Trimble NetRS	4.81	TRN450071.00	NOVA	GLD+GPS	5 deg
2019-04-28	Trimble NetRS	4.79	TRN450071.00	NOVA	GLD+GPS	5 deg
2018-04-25	Trimble NetRS	4.49	TRN450071.00	NOVA	GLD+GPS	5 deg
2017-02-28	Trimble NetRS	4.42	TRN450071.00	NOVA	GLD+GPS	5 deg
2016-04-27	Trimble NetRS	4.33	TRN450071.00	NOVA	GLD+GPS	5 deg
2015-06-09	Trimble NetRS	4.18	TRN450071.00	NOVA	GLD+GPS	5 deg
2014-12-08	Trimble NetRS	4.11	TRN450071.00	NOVA	GLD+GPS	5 deg

Beta Geodetic Mark Pages

- Geodetic Mark Pages replace the current ASCII datasheets with interactive pages
- provide access to
 - mark metadata
 - reference epoch coordinates (RECs)
 - and related geodetic products

Beta Geodetic Marks Page

- <https://beta.ngs.noaa.gov/DDS/geodetic-mark-pages/#/>

Geodetic Mark Pages

Switch Mark: JV3192 Q 35 Print to PDF Export CSV Export JSON Export Text

JV3192 Update PIDs

NSRS Coordinates

JV3192: Q 35 Hide

RECs Reported OPUS-Share Geopotential

Reference Epoch Coordinates

⚠ This mark has no REC geometric coordinates. There are reported latitude and longitude values available in the "Reported" tab.

✓ Reference Epoch Coordinates are suitable for geodetic control.

Epoch	Geometric Frame	Lat/Lon Unit	Linear Units	
2020.0	ITRF2020	DMS	Meters	
Geopotential Datum		Coordinates	Latitude	Longitude
NAPGD2022		φ/λ/h	(-90 to +90)	(-180 to +180)

	Value	Unit	Std Dev	Std Unit
Latitude (φ)	Data not available	DMS	Data not available	meters
Longitude (λ)	Data not available	DMS	Data not available	meters
Ellipsoid Height (h)	Data not available	meters	Data not available	meters
Orthometric Height (H)	74.787	meters	± 0.0046	meters

Archived Datasheet

Mark Information

JV3192: Q 35 Hide

Primary Info Location Info

Designation	Q 35
Stamping	Q 35 1938
Stability	B-Monument will probably hold position well
Setting	36-Massive structures (other than listed below)

Photos

JV3192: Q 35 Hide

No photos

NGS Coordinate and Transformation Tool (NCAT)

- updated to support coordinate conversions and transformations involving both the current and modernized NSRS
- transformations using NADCON & VERTCON
- coordinate conversions
- expanded geopotential calculations, including conversions between ellipsoid and orthometric heights
- 14-parameter Helmert transformations for international RFs
- support for estimating the changes of coordinates between two epochs

Beta NCAT

- <https://beta.ngs.noaa.gov/NCAT/>

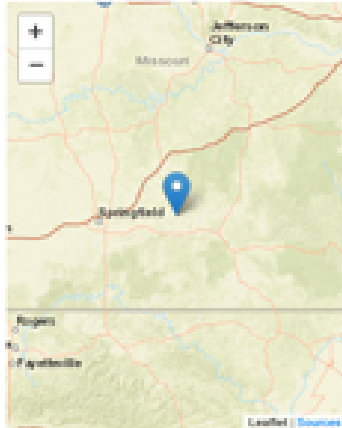
[Single Point Conversion](#)
[Multipoint Conversion](#)
[Web services](#)
[Downloads](#)
[Tutorial & FAQs](#)
[About NCAT](#)

Convert/Transform from:

Select the type of horizontal coordinate:

☒ Horizontal
 ☐ Horizontal/height
 ☐ XYZ

☒ Geodetic lat-long
 ☐ SPC
 ☐ UTM
 ☐ USNG



Enter lat-lon in decimal degrees

Lat

Lon

or degrees-minutes-seconds

Lat

Lon

or drag map marker to a location of interest

Input reference frame (historically called "horizontal datum")

Output reference frame (historically called "horizontal datum")

Don't see a reference frame in the list? [Click here to learn more.](#)

SPC zone

[Submit](#)

Click blue bar(s) to expand/collapse

Converted Coordinate

Reference Frame:

[Lat-Lon/Height](#)
[SPC](#)
[UTM/USNG](#)
[XYZ \(m\)](#)

You may change the default UTM zone. The change is processed interactively once a lat-long is converted; DO NOT click the Submit button.

[Customize Export](#)

OPUS Static 5.2

- updated to process static GNSS observations directly in the modernized NSRS using multi-constellation data
- solutions in NSRS 2022 terrestrial reference frames
- International Terrestrial Reference Frame of 2020 (ITRF2020)
- State Plane Coordinate System of 2022 (SPCS2022)
- orthometric heights in the North American-Pacific Geopotential Datum of 2022 (NAPGD2022), where available.

Beta OPUS-Static

- <https://beta.ngs.noaa.gov/OPUS/>

Upload your data file.
Solve your GNSS position & tie it to the National Spatial Reference System.
What is OPUS? FAQs

Choose File no file chosen
data file of dual-frequency GNSS observations. [sample](#)

NONE ▼
antenna - choosing wrong may degrade your accuracy.

0.000 meters above your mark.
antenna height of your antenna's reference point.

email address - your solution will be sent here. [Privacy Act Statement](#)

constellations ☒ GPS ☒ GLONASS ☒ GALILEO ☐ BEIDOU ☐ QZSS

frames let OPUS choose ▼

formats standard ▼

base stations Identify any CORS you wish to explicitly 'Use' or 'Exclude' from your solution using the buttons. [find CORS IDs](#)

Use:

ILSANKUSA
INLANKUSA
ILLANKUSA
ABQ1ANKUSA
ABQ2ANKUSA
ABWANKUSA

 Exclude:

state plane let OPUS choose ▼

share my solution No, don't share ▼

Upload

sample solutions

OPUS Share

- **OPUS-Share** functionality remains available during the beta testing period, allowing users to share solutions.
- **Solutions shared through the beta system are temporary and will not be retained nor migrated to the operational system when beta testing concludes.**

A Final Word about the Beta Website

- Products found on the NGS beta website are preliminary releases that are for testing and evaluation only; they are not final products nor do they contain any authoritative NGS data or tools. To provide feedback on any of the content on this site, please email **ngs.feedback@noaa.gov**.