

1. Why is the tutorial for NCAT 2.0 rather than NCAT 3.0?

The user interface and functionality is very similar, so the NCAT 2.0 tutorial will still help NCAT 3.0 users get started. As NCAT is enhanced further, updated tutorials will be added.

2. Will time-dependent operations, dynamic global reference frame transformations, and web services be available for NCAT 3.0?

Yes, those enhancements will be added in the future.

3. What is the maximum file size that can be submitted to multipoint conversion?

NCAT allows up to 500K in file size

4. WGS 84 is not an option in the conversion tool. If I have records from all over the world then which NAD 83 do I use in place of WGS 84?

All versions of WGS 84 will soon be added to NCAT, along with several other global dynamic reference frames (e.g., all versions of ITRF), along with the ability to transform between them and the modernized NSRS frames. For now, you can use HTDP to transform WGS 84 (any version at any epoch) to NAD 83(2011/PA11/MA11) epoch 2010.0, and then use the transformed NAD 83 coordinates in NCAT. You may access HTDP from [here](#)

5. Is there a batch mode for the Web service or plans to implement one?

No, there is no batch mode for web service.

6. Are the results from NCAT and VDatum the same?

NCAT and VDatum share the same codebase and the results should be consistent between them for the NSRS prior to modernization. VDatum will not integrate NCAT 3.0 until testing is complete. Until that occurs, results from the two programs may not agree.

7. **I expect the NCAT output to have a combined factor and linear distortion, but they are missing. Is there something special that I have to do to get it to work?**

An ellipsoid height is needed for combined factor and linear distortion computations. Please be sure to choose the horizontal+height option and enter a height. For output in the modernized NSRS, providing either an ellipsoid or orthometric height will allow computing the combined factor and linear distortion. For legacy datums, an ellipsoid height must be provided.

8. **How can I convert an elevation measurement for my home based on mean sea level datum from 1929 to reflect a more recent datum?**

Please access NCAT from [here](#)

Once the page comes up, please select horizontal+height from the top row. Select orthometric from the third row. Enter your latitude, longitude and orthometric height. Towards the bottom of the screen you see an option to choose an input geopotential or vertical datum. Pick NGVD 29 from the dropdown and click submit. You should see the transformed height under "Transformed Coordinate".

9. **Will NCAT transform coordinates between the legacy NSRS (NAD 83, NAD 27, NAVD 88, NGVD 29, etc.) and the modernized NSRS (NATRF2022, NAPGD2022, etc.)?**

Yes, NCAT 3.0 provides this functionality.

10. **Is there a simple tutorial (or YouTube demo) on how to use the NGS Coordinate Conversion and Transformation Tool (NCAT)?**

You can find tutorial videos [here](#) and click on the Tutorial & FAQ's tab.

11. **Can I get the tool to give me lat/lon in degrees-minutes-seconds instead of decimals of a degree?**

The tool does generate results in both decimal degrees and

degrees-minutes-seconds

- 12. Where can I access the source code for NCAT?** The engine that powers NCAT, known as ncat-lib, is publicly available on [github](#). However, NCAT 3.0 will not be made available on github until testing is complete.

- 13. Which browser is recommended for NCAT?**

While NCAT works on all browsers, legacy versions of IE have known issues. NGS recommends Chrome for the best user experience.

- 14. Does NCAT convert between ellipsoid and orthometric heights?**

Yes, NCAT 3.0 converts between ellipsoid and orthometric heights for output in the modernized NSRS. If an ellipsoid height is provided, an orthometric height is computed and vice versa. However, this functionality is only available for output in the modernized NSRS. Such conversions are not performed for prior datums.

- 15. Is the web-based NCAT tool a replacement for Corpscon 6?**

No. CORPSCON is an official U.S. Army Corps of Engineers product, not an NGS product. Though CORPSCON offered integrated NGS products long before NCAT, it has always been under the control of USACE. Although NGS is not aware of any issues with CORPSCON integrating NGS products and services, the only official tools NGS endorses for use in the NSRS are those directly under NGS control, such as NCAT.

- 16. It appears that the NAD 27 to NAD 83(1986) transformation changed when comparing NADCON 4 (or NADCON 2.1 which I believe was used in Corpscon 6) vs. NCAT's results. Is there documentation as to why these two superseded systems would experience a change in transformation results?**

NADCON 5.0 release 20160901 supersedes all previous versions of NADCON. Minor differences are possible between NADCON 5.0 release 20160901 and legacy versions. [NOAA Technical Report NOS NGS 63 \(PDF, 17 MB\)](#) provides detailed information on NADCON 5.0 release 20160901 (including why these

differences exist), and the digital archive includes plots and data.

17. Is NCAT a replacement tool for Corpscon version 6?

NGS, the authoritative source for conversions/transformations grids, provides through its NCAT program the latest transformation grids for horizontal and vertical transformations. Industry or other agency conversion/transformation tools such as Corpscon version 6 (which is maintained by the U.S. Army Corps of Engineers) and others may or may not incorporate the latest grids. As such use of NCAT is strongly encouraged.