NGS releases early look at transformation parameters defining th[illegible]ernized NSRS

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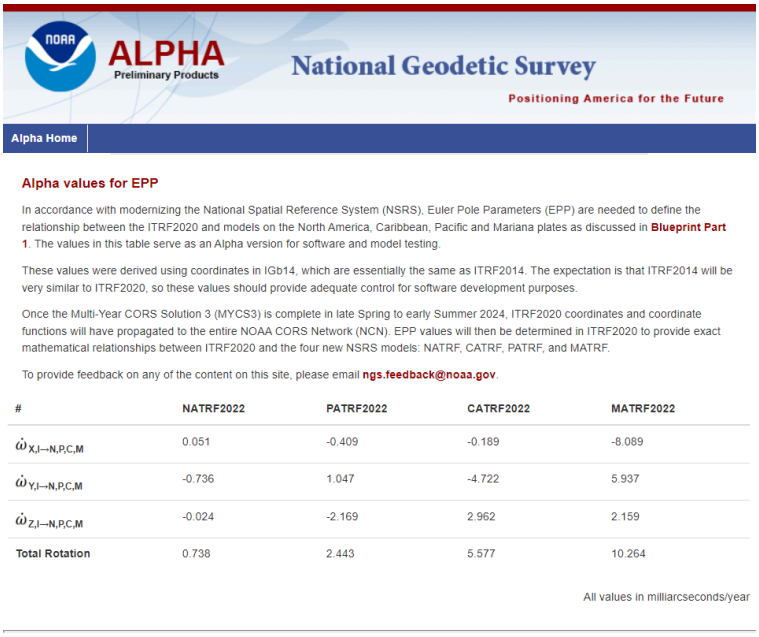
NGS News

Test the Alpha version of the EPP2022 model today

Some of the primary definitional elements of the upcoming modernized National Spatial Reference System are the transformation parameters between ITRF2020 and the four frames NATRF2022, PATRF2022, CATRF2022 and MATRF2022. These transformation parameters are collectively known as Euler Pole Parameters (EPPs), and will be released as a model called EPP2022 once they are tested and approved.

The EPPs are estimated preliminary values and available on the NGS Alpha website. The Alpha website is dedicated for early-release products of the modernized National Spatial Reference System (NSRS). Once all of the components of the modernized NSRS are considered final and ready for public testing and feedback, they, including the EPP2022, will be released to the NGS Beta website. The availability of all components of the modernized NSRS on the NGS Beta website is expected mid to late 2025.



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Alpha values for EPP

In accordance with modernizing the National Spatial Reference System (NSRS), Euler Pole Parameters (EPP) are needed to define the relationship between the ITRF2020 and models on the North America, Caribbean, Pacific and Mariana plates as discussed in **Blueprint Part 1**. The values in this table serve as an Alpha version for software and model testing.

These values were derived using coordinates in IGb14, which are essentially the same as ITRF2014. The expectation is that ITRF2014 will be very similar to ITRF2020, so these values should provide adequate control for software development purposes.

Once the Multi-Year CORS Solution 3 (MYCS3) is complete in late Spring to early Summer 2024, ITRF2020 coordinates and coordinate functions will have propagated to the entire NOAA CORS Network (NCN). EPP values will then be determined in ITRF2020 to provide exact mathematical relationships between ITRF2020 and the four new NSRS models: NATRF, CATRF, PATRF, and MATRF.

To provide feedback on any of the content on this site, please email **ngs.feedback@noaa.gov**.

#	NATRF2022	PATRF2022	CATRF2022	MATRF2022
$\dot{\omega}_{X,I\rightarrow N,P,C,M}$	0.051	-0.409	-0.189	-8.089
$\dot{\omega}_{Y,I\rightarrow N,P,C,M}$	-0.736	1.047	-4.722	5.937
$\dot{\omega}_{Z,I\rightarrow N,P,C,M}$	-0.024	-2.169	2.962	2.159
Total Rotation	0.738	2.443	5.577	10.264

All values in milliarcseconds/year

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