



## NOTICE: HTDP new version release

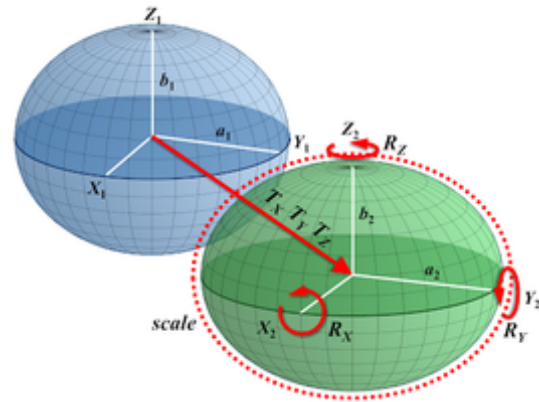
NOAA's National Ocean Service sent this bulletin at 10/21/2021 12:00 PM EDT



### NGS releases new version of the HTDP utility

HTDP (Horizontal Time-Dependent Positioning) is an NGS utility that transforms positional coordinates across time and between spatial reference frames. A new version (3.4.0) is now available on the [NGS website](#) and on [GitHub](#).

Although HTDP v3.4.0 includes several significant updates, the intent is to minimize change in output for land areas covered by the previous version, except for areas affected by new earthquake models, and for transformations involving the original ("Transit") realization of WGS 84.



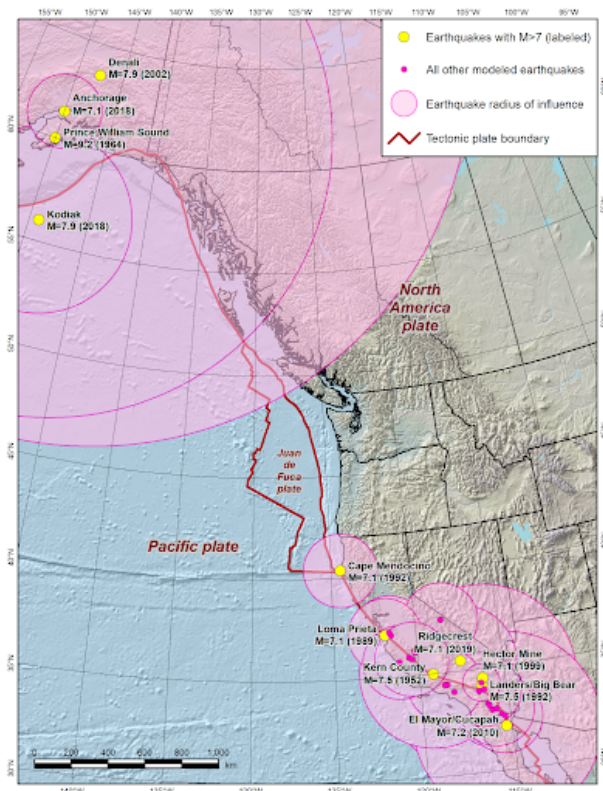
The [HTDP User Guide](#) has been extensively revised, including new figures and tables, updated instructional exercises, and more details on how reference frames and transformations are implemented. Cross-references have also been added to related definitions in the widely used [ISO Geodetic Registry](#) and [EPSG Geodetic Parameter Dataset](#).

### Three new earthquake models

Three coseismic earthquake models were added to HTDP v3.4.0:

- Ridgecrest, California (magnitude 6.4 on 7/4/2019 and magnitude 7.1 on 7/6/2019, combined into single event on 7/6/2019)
- Kodiak, Alaska (magnitude 7.9 on 1/23/2018)
- Anchorage, Alaska (magnitude 7.1 on 11/30/2018)

The map shows all coseismic earthquake models currently in HTDP, along with the radius of influence for each (beyond which it has no effect). Earthquakes of magnitude  $M > 7$  are labeled.



---

## Complete global coverage of tectonic plates

HTDP v3.4.0 includes models of 52 tectonic plates that provide complete global coverage, as shown in the map. Previous versions of HTDP only included a subset of plates with partial global coverage.

A dataset of the tectonic plate polygons (in shapefile format) is available for download on the [HTDP home page](#) and on [GitHub](#). It includes the plate rotation rates used in HTDP v3.4.0 and a metadata file.



---

## Updates to WGS 84 transformations

Although [WGS 84](#) is a product of the [National Geospatial-Intelligence Agency](#) (NGA), NOAA's NGS has long included WGS 84 transformations in HTDP. A new realization called WGS 84 (G2139) was released by NGA on January 3, 2021. It has been added to HTDP v3.4.0 and is treated as identical to ITRF2014.

Transformations involving original WGS 84 (often called the "Transit" realization) have been updated in HTDP v3.4.0. This makes HTDP consistent with the refinement of NAD 83 adopted as [NGS policy in 2000](#), and with published [International Terrestrial Reference System \(ITRS\) transformations](#). WGS 84 (Transit) is no longer treated as identical to NAD 83, as it was in earlier versions of HTDP.



---

NOAA's National Geodetic Survey  
[geodesy.noaa.gov](http://geodesy.noaa.gov)

Stay Connected with NOAA's National Ocean Service  
[Manage Subscriptions](#)