

North American Datum 1983 (NAD83) is based on a network of land-based geodetic stations as well as VLBI, SLR, terrestrial azimuth data. Like WGS84, NAD83 predated accurate vertical GPS measurements when it was first released in 1986.

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The various releases reflect network changes over time.

| release | frame | identical to |
|---------|----------------------------|---------------------|
| 1986 | Original" NAD83(1986) | |
| 1989-97 | NAD83(HARN) or NAD83(HPGN) | ITRF89... |
| 1994 | NAD83(CORS93) | ITRF93 |
| 1996 | NAD83(CORS96) epoch 1997.0 | ITRF96 |
| 2007 | NAD83(NSRS2007) | |
| 2011 | NAD83(2011) epoch 2010.00 | IGS08 epoch 2005.00 |

In 1989 all stations adjusted to High Accuracy Reference Networks (also called High Precision

Geodetic Networks) measurements. At this point in time, NAD83 became a 3-dimensional reference frame in that now incorporated not only X,Y but ellipsoid heights. In 1993, 94 and 96, all stations adjusted to Continually Operating Reference Stations (CORS) measurements. 2007 was the last major update of all passive stations (monuments, brass caps) to NAD83(2007) a.k.a. NAD83(NSRS2007). Active stations (CORS stations) did not until Jan 1, 2002 to NAD83(2002.00) in the Conterminus US. Tectonically active areas have additional NAD83 frames -

NAD83(PACP00) for Pacific plate users

NAD83(MarP00) for Mariana plate users

NAD83(2003.00) for AK users after Denali earthquake

With the National Adjustment of 2011, the most updated versions are for all active and passive stations are -

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□□□□□□□□□□□□□□□□□□□□□□□□ **NAD83(2011)**□□□□□□□□□□□□□□□□□□□□□□□□ **for AK and the Conterminus US**

These newest realizations of NAD83 do not involve a datum change. The origin, scale and orientation of NAD 83(2011) are identical to those of NAD 83(CORS96, PacP00 and MarP00). The two biggest reasons for coordinates changes for the new realizations are the change in reference epoch and the move from relative to absolute antenna calibrations. Other contributing factors include new/revised processing algorithms, improved discontinuity identification, several years of additional GPS data, and an improved definition of the global reference frame, IGS08.

In September 2011, NGS released the 6th and **most current realizations of NAD83 - NAD83(2011, PA11 and MA11) epoch 2010.00**
– as part of the National Adjustment of 2011.

External links to more on evolution of datums : [NGS/R. Snay and T. Soler, Electronic Data Solutions](#)