

ISO Geodetic Registry

| | | |
|---------------------------|--|---|
| <i>Item class</i> | GeodeticCRS | |
| <i>Name</i> | NAD 83 (CORS96) Epoch 2002.0 - XYZ | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 294 | |
| <i>Alias</i> | North American Datum of 1983 (CORS96) Epoch 2002.0 | |
| <i>Information source</i> | <i>Title</i> | NGS No Longer Updates Published CORS Coordinates in the Following Reference Frames |
| | <i>Author</i> | National Geodetic Survey |
| | <i>Publisher</i> | National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey (NGS) |
| | <i>Revision date</i> | 2017-03-16 |
| | <i>Edition date</i> | 2017-03-16 |
| | <i>Series/Journal name</i> | NGS Online listing of transformation parameters |
| | <i>Other citation details</i> | webpage |
| <i>Information source</i> | <i>Title</i> | Continuously Operating Reference Station (CORS): History, Applications, and Future Enhancements |
| | <i>Author</i> | R.A. Snay, T. Soler |
| | <i>Publisher</i> | ASCE |
| | <i>Publication date</i> | 2008-04-01 |
| | <i>Edition date</i> | 2008-04-01 |
| | <i>Series/Journal name</i> | Journal of Surveying Engineering |
| | <i>Issue identification</i> | Volume 134, No. 4 |
| | <i>Page</i> | 95-104 |
| | <i>Other citation details</i> | NAD83 (CORS96) Epoch 1996.0,NAD83 (CORS96) Epoch 1997.0,NAD83 (CORS96) Epoch 2002.0 |
| <i>Information source</i> | <i>Title</i> | Introducing HTDP 3.1 to transform coordinates across time and spatial reference frames |
| | <i>Author</i> | C. Pearson, R.A. Snay |
| | <i>Publisher</i> | Springer-Verlag |
| | <i>Publication date</i> | 2013-01-01 |
| | <i>Edition date</i> | 2013-01-01 |
| | <i>Series/Journal name</i> | GPS Solutions |
| | <i>Issue identification</i> | Volume 17, No. 1 |
| | <i>Page</i> | 1-15 |
| <i>Information source</i> | <i>Other citation details</i> | NAD83 (2011), NAD83 (MA11), NAD83 (PA11) transformation from IGB08 |
| | | |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Scope</i> | Spatial referencing | |
| <i>Datum</i> | North American Datum of 1983 (CORS96) Epoch 2002.0 | |
| <i>Coordinate System</i> | Geocentric 3D right-handed Cartesian CS. Axes: Geocentric X,Y,Z. Orientation: Z to North Pole, [X and Y in the equatorial plane, X at Prime Meridian X in the equatorial plane at the Prime Meridian]. UoM: m. | |

Extent

| | |
|--------------------|--|
| <i>Description</i> | United States and Territories - onshore and offshore: Puerto Rico. United States (USA) - Alaska, CONUS (Alabama, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, |
|--------------------|--|

Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming). Virgin Islands (US).

Geographic Bounding Box

| | |
|-----------------------------|--------|
| <i>West-bound longitude</i> | 167.65 |
| <i>North-bound latitude</i> | 74.71 |
| <i>East-bound longitude</i> | -63.88 |
| <i>South-bound latitude</i> | 14.92 |

ISO Geodetic Registry

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|-----------------------------------|--|---|
| <i>Item class</i> | GeodeticDatum | |
| <i>Name</i> | North American Datum of 1983 (CORS96) Epoch 2002.0 | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 112 | |
| <i>Alias</i> | NAD83(CORS96) | |
| <i>Information source</i> | <i>Title</i> | Continuously Operating Reference Station (CORS): History, Applications, and Future Enhancements |
| | <i>Author</i> | R.A. Snay, T. Soler |
| | <i>Publisher</i> | ASCE |
| | <i>Publication date</i> | 2008-04-01 |
| | <i>Edition date</i> | 2008-04-01 |
| | <i>Series/Journal name</i> | Journal of Surveying Engineering |
| | <i>Issue identification</i> | Volume 134, No. 4 |
| | <i>Page</i> | 95-104 |
| | <i>Other citation details</i> | NAD83 (CORS96) Epoch 1996.0,NAD83 (CORS96) Epoch 1997.0,NAD83 (CORS96) Epoch 2002.0 |
| | <i>Title</i> | NGS No Longer Updates Published CORS Coordinates in the Following Reference Frames |
| | <i>Author</i> | National Geodetic Survey |
| | <i>Publisher</i> | National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey (NGS) |
| | <i>Revision date</i> | 2017-03-16 |
| <i>Information source</i> | <i>Edition date</i> | 2017-03-16 |
| | <i>Series/Journal name</i> | NGS Online listing of transformation parameters |
| | <i>Other citation details</i> | webpage |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Remarks</i> | Replaces NAD83 (CORS96) Epoch 1997.0. Replaced by NAD83(2011), NAD83 (MA11) and NAD83 (PA11) from 2011-09-06. | |
| <i>Anchor definition</i> | Realization of the NAD83. The frame is defined by a time-dependent seven parameter transformation of ITRF2000 3D geocentric Cartesian coordinates and velocities at reference epoch 2002.0. The frame is kept aligned to North America at other epochs using the NNR-NUVEL-1A estimate of three Cartesian rotation rates of change representing the tectonic plate motion of North America. The origin, scale and orientation of the frame are nominally defined to be that for the BIH Terrestrial System 1984 (BTS84). Passive control network from NAD83 (2007) was a densification of the NAD83 (CORS96) Epoch 2002 for the active control network, but that they are functionally equivalent. | |
| <i>Release date</i> | 2002 | |
| <i>Coordinate Reference Epoch</i> | 2002.0 | |
| <i>Scope</i> | Spatial referencing | |
| <i>Ellipsoid</i> | GRS 1980 | |
| <i>Prime Meridian</i> | Greenwich | |

Extent

| | |
|--------------------|--|
| <i>Description</i> | United States and Territories - onshore and offshore: Puerto Rico. United States (USA) - Alaska, CONUS (Alabama, Arizona, |
|--------------------|--|

Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming). Virgin Islands (US).

Geographic Bounding Box

West-bound longitude

167.65

North-bound latitude

74.71

East-bound longitude

-63.88

South-bound latitude

14.92

ISO Geodetic Registry

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|-----------------------------|--|--------------|--------------------------------|---------------|-----------|------------------|--------------------------------------|-------------------------|---------|----------------------------|---------------------|-----------------------------|------------------|-------------|---------|
| <i>Item class</i> | Ellipsoid | | | | | | | | | | | | | | |
| <i>Name</i> | GRS 1980 | | | | | | | | | | | | | | |
| <i>Item status</i> | VALID | | | | | | | | | | | | | | |
| <i>Identifier</i> | 27 | | | | | | | | | | | | | | |
| <i>Alias</i> | Geodetic Reference System 1980 | | | | | | | | | | | | | | |
| <i>Alias</i> | GRS1980 | | | | | | | | | | | | | | |
| <i>Alias</i> | IAG GRS80 | | | | | | | | | | | | | | |
| <i>Alias</i> | International 1979 | | | | | | | | | | | | | | |
| <i>Alias</i> | GRS80 | | | | | | | | | | | | | | |
| <i>Information source</i> | <table> <tr> <td><i>Title</i></td><td>Geodetic Reference System 1980</td></tr> <tr> <td><i>Author</i></td><td>H. Moritz</td></tr> <tr> <td><i>Publisher</i></td><td>Springer International Publishing</td></tr> <tr> <td><i>Publication date</i></td><td>2003-03</td></tr> <tr> <td><i>Series/Journal name</i></td><td>Journal of Geodesy</td></tr> <tr> <td><i>Issue identification</i></td><td>Volume 74, No. 1</td></tr> <tr> <td><i>Page</i></td><td>128–162</td></tr> </table> | <i>Title</i> | Geodetic Reference System 1980 | <i>Author</i> | H. Moritz | <i>Publisher</i> | Springer International Publishing | <i>Publication date</i> | 2003-03 | <i>Series/Journal name</i> | Journal of Geodesy | <i>Issue identification</i> | Volume 74, No. 1 | <i>Page</i> | 128–162 |
| <i>Title</i> | Geodetic Reference System 1980 | | | | | | | | | | | | | | |
| <i>Author</i> | H. Moritz | | | | | | | | | | | | | | |
| <i>Publisher</i> | Springer International Publishing | | | | | | | | | | | | | | |
| <i>Publication date</i> | 2003-03 | | | | | | | | | | | | | | |
| <i>Series/Journal name</i> | Journal of Geodesy | | | | | | | | | | | | | | |
| <i>Issue identification</i> | Volume 74, No. 1 | | | | | | | | | | | | | | |
| <i>Page</i> | 128–162 | | | | | | | | | | | | | | |
| <i>Information source</i> | <table> <tr> <td><i>Title</i></td><td>Geodetic Reference System 1980</td></tr> <tr> <td><i>Author</i></td><td>H. Moritz</td></tr> <tr> <td><i>Publisher</i></td><td>International Association of Geodesy</td></tr> <tr> <td><i>Publication date</i></td><td>1984</td></tr> <tr> <td><i>Series/Journal name</i></td><td>Bulletin Geodesique</td></tr> <tr> <td><i>Issue identification</i></td><td>Volume 58, No. 3</td></tr> <tr> <td><i>Page</i></td><td>395-405</td></tr> </table> | <i>Title</i> | Geodetic Reference System 1980 | <i>Author</i> | H. Moritz | <i>Publisher</i> | International Association of Geodesy | <i>Publication date</i> | 1984 | <i>Series/Journal name</i> | Bulletin Geodesique | <i>Issue identification</i> | Volume 58, No. 3 | <i>Page</i> | 395-405 |
| <i>Title</i> | Geodetic Reference System 1980 | | | | | | | | | | | | | | |
| <i>Author</i> | H. Moritz | | | | | | | | | | | | | | |
| <i>Publisher</i> | International Association of Geodesy | | | | | | | | | | | | | | |
| <i>Publication date</i> | 1984 | | | | | | | | | | | | | | |
| <i>Series/Journal name</i> | Bulletin Geodesique | | | | | | | | | | | | | | |
| <i>Issue identification</i> | Volume 58, No. 3 | | | | | | | | | | | | | | |
| <i>Page</i> | 395-405 | | | | | | | | | | | | | | |
| <i>Data source</i> | ISO Geodetic Registry | | | | | | | | | | | | | | |
| <i>Remarks</i> | Adopted by IUGG 1979 Canberra. Inverse flattening is derived from geocentric gravitational constant $GM = 3986005e8 \text{ m}^3/\text{s}^2$, dynamic form factor $J_2 = 108263e-8$ and Earth's angular velocity = $7292115e-11 \text{ rad/s}$. | | | | | | | | | | | | | | |
| <i>Semi-major axis</i> | 6378137.0 m | | | | | | | | | | | | | | |
| <i>Inverse flattening</i> | 298.257222101 m | | | | | | | | | | | | | | |

ISO Geodetic Registry

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|----------------------------|-------------------------------|---|
| <i>Item class</i> | PrimeMeridian | |
| <i>Name</i> | Greenwich | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 25 | |
| <i>Alias</i> | Zero meridian | |
| <i>Information source</i> | <i>Title</i> | Why the Greenwich meridian moved |
| | <i>Author</i> | S. Malys, J.H. Seago, N.K. Pavlis, P.K. Seidelmann, G.H. Kaplan |
| | <i>Publisher</i> | Springer International Publishing |
| | <i>Publication date</i> | 2015-12 |
| | <i>Series/Journal name</i> | Journal of Geodesy |
| | <i>Issue identification</i> | Volume 89, No. 12 |
| | <i>Page</i> | 1263–1272 |
| <i>Information source</i> | <i>Title</i> | IERS Conventions (2010) |
| | <i>Author</i> | G. Petit, B.J. Luzum (eds) |
| | <i>Publisher</i> | Verlag des Bundesamts für Kartographie und Geodäsie |
| | <i>Publication date</i> | 2010 |
| | <i>Edition date</i> | |
| | <i>Series/Journal name</i> | IERS Technical Notes |
| | <i>Issue identification</i> | 36.0 |
| <i>Data source</i> | <i>Other citation details</i> | ISSN: 1019-4568 |
| | ISO Geodetic Registry | |
| <i>Greenwich longitude</i> | 0.0 ° | |

ISO Geodetic Registry

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|--------------------|---|---|
| Item class | CartesianCS | |
| Name | Geocentric 3D right-handed Cartesian CS. Axes: Geocentric X,Y,Z. Orientation: Z to North Pole, [X and Y in the equatorial plane, X at Prime Meridian X in the equatorial plane at the Prime Meridian]. UoM: m. | |
| Item status | VALID | |
| Identifier | 45 | |
| Alias | Earth centred, earth fixed, right-handed 3D coordinate system, consisting of 3 orthogonal axes with X and Y axes in the equatorial plane, positive Z-axis parallel to mean earth rotation axis and pointing towards North Pole. UoM: m. | |
| Alias | ECEF | |
| Information source | Title | ISO 19111 Geographical information - Spatial referencing by coordinates |
| | Author | International Organization for Standardization (ISO) |
| | Publisher | International Organization for Standardization (ISO) |
| | Publication date | 2007-07-01 |
| | Edition | Second Edition |
| | Series/Journal name | International Standard |
| | Issue identification | ISO 19111:2007 |
| Data source | ISO Geodetic Registry | |
| Remarks | Used in geocentric coordinate reference systems. | |

Axes

| | | |
|--------------------|-------------------------|---|
| Item class | CoordinateSystemAxis | |
| Name | Geocentric X | |
| Item status | VALID | |
| Identifier | 33 | |
| Information source | Title | ISO 19111 Geographical information - Spatial referencing by coordinates |
| | Author | International Organization for Standardization (ISO) |
| | Publisher | International Organization for Standardization (ISO) |
| | Publication date | 2007-07-01 |
| | Edition | Second Edition |
| | Series/Journal name | International Standard |
| | Issue identification | ISO 19111:2007 |
| Data source | ISO Geodetic Registry | |
| Abbreviation | X | |
| Direction | Geocentre > equator/0°E | |
| Unit | metre | |

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|-------------|----------------------|--|
| Item class | CoordinateSystemAxis | |
| Name | Geocentric Y | |
| Item status | VALID | |
| Identifier | 37 | |

| | | |
|---------------------------|-----------------------------|---|
| <i>Information source</i> | <i>Title</i> | ISO 19111 Geographical information - Spatial referencing by coordinates |
| | <i>Author</i> | International Organization for Standardization (ISO) |
| | <i>Publisher</i> | International Organization for Standardization (ISO) |
| | <i>Publication date</i> | 2007-07-01 |
| | <i>Edition</i> | Second Edition |
| | <i>Series/Journal name</i> | International Standard |
| | <i>Issue identification</i> | ISO 19111:2007 |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Abbreviation</i> | Y | |
| <i>Direction</i> | Geocentre > equator/90°E | |
| <i>Unit</i> | metre | |

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|---------------------------|-----------------------------|---|
| <i>Item class</i> | CoordinateSystemAxis | |
| <i>Name</i> | Geocentric Z | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 39 | |
| <i>Information source</i> | <i>Title</i> | ISO 19111 Geographical information - Spatial referencing by coordinates |
| | <i>Author</i> | International Organization for Standardization (ISO) |
| | <i>Publisher</i> | International Organization for Standardization (ISO) |
| | <i>Publication date</i> | 2007-07-01 |
| | <i>Edition</i> | Second Edition |
| | <i>Series/Journal name</i> | International Standard |
| | <i>Issue identification</i> | ISO 19111:2007 |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Abbreviation</i> | Z | |
| <i>Direction</i> | Geocentre > north pole | |
| <i>Unit</i> | metre | |