

ISO Geodetic Registry

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|---------------------------|--|---|
| <i>Item class</i> | GeodeticCRS | |
| <i>Name</i> | NAD 83 (HARN) CORRECTED - LatLonEHt | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 204 | |
| <i>Alias</i> | NAD83(1997) | |
| <i>Information source</i> | <i>Title</i> | NADCON 5.0: Geometric Transformation Tool for points in the National Spatial Reference System |
| | <i>Author</i> | D. Smith, A. Bilich |
| | <i>Publisher</i> | NOAA's National Geodetic Survey |
| | <i>Publication date</i> | 2017-03-27 |
| | <i>Edition date</i> | 2017-03-27 |
| | <i>Series/Journal name</i> | NGS Technical Report |
| | <i>Other citation details</i> | Replaces version 4.2 and all earlier. Provides gridding algorithm, datum transformations, and extents of covnversion grids. |
| | <i>Title</i> | Notice to Adopt Standard Method for Horizontal Datum Transformation |
| | <i>Author</i> | US Government |
| | <i>Publisher</i> | Office of Federal Register, NARA |
| <i>Information source</i> | <i>Publication date</i> | 1990-08-10 |
| | <i>Edition date</i> | 1990-08-10 |
| | <i>Series/Journal name</i> | Federal Register Notice |
| | <i>Issue identification</i> | Volume 55, No. 155, Document: 00-18809 |
| | <i>Page</i> | 32681.0 |
| | <i>Other citation details</i> | Mandates use of NADCON for official transformations between datums |
| | | |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Scope</i> | Spatial referencing | |
| <i>Datum</i> | North American Datum of 1983 (High Accuracy Regional Network) Corrected | |
| <i>Coordinate System</i> | Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre. | |

Extent

| | | |
|--------------------------------|--|-------|
| <i>Description</i> | Puerto Rico - onshore and offshore. Virgin Islands (US) - onshore and offshore. | |
| <i>Geographic Bounding Box</i> | <i>West-bound longitude</i> | -69.0 |
| | <i>North-bound latitude</i> | 19.0 |
| | <i>East-bound longitude</i> | -64.0 |
| | <i>South-bound latitude</i> | 17.0 |

ISO Geodetic Registry

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|---------------------------|---|---|
| <i>Item class</i> | GeodeticDatum | |
| <i>Name</i> | North American Datum of 1983 (High Accuracy Regional Network) Corrected | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 149 | |
| <i>Alias</i> | NAD83(1997) | |
| <i>Alias</i> | NAD83(HARN) Corrected | |
| <i>Information source</i> | <i>Title</i> | Notice to Adopt Standard Method for Horizontal Datum Transformation |
| | <i>Author</i> | US Government |
| | <i>Publisher</i> | Office of Federal Register, NARA |
| | <i>Publication date</i> | 1990-08-10 |
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| | <i>Title</i> | NADCON 5.0: Geometric Transformation Tool for points in the National Spatial Reference System |
| <i>Information source</i> | <i>Author</i> | D. Smith, A. Bilich |
| | <i>Publisher</i> | NOAA's National Geodetic Survey |
| | <i>Publication date</i> | 2017-03-27 |
| | <i>Edition date</i> | 2017-03-27 |
| | <i>Series/Journal name</i> | NGS Technical Report |
| | <i>Other citation details</i> | Replaces version 4.2 and all earlier. Provides gridding algorithm, datum transformations, and extents of covnversion grids. |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Remarks</i> | Replaces ND83(HARN) in Puerto Rico and US Virgin Islands only. Replaced by NAD83 (FBN). | |
| <i>Anchor definition</i> | A realization of NAD83 for Puerto Rico and the U.S. Virgin Islands only. The original HARN solution for Puerto Rico and the U.S. Virgin Islands was found to be shifted30 cm appoximately eastward. Positions had been obtained on this, so it is retained in the original HARN solutions. This replaces that effective in 1997 with corrected positions. | |
| <i>Scope</i> | Spatial referencing | |
| <i>Ellipsoid</i> | GRS 1980 | |
| <i>Prime Meridian</i> | Greenwich | |

Extent

| | | |
|--------------------------------|--|-------|
| <i>Description</i> | Puerto Rico - onshore and offshore. Virgin Islands (US) - onshore and offshore. | |
| <i>Geographic Bounding Box</i> | <i>West-bound longitude</i> | -69.0 |
| | <i>North-bound latitude</i> | 19.0 |
| | <i>East-bound longitude</i> | -64.0 |
| | <i>South-bound latitude</i> | 17.0 |

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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 fur Kartographie und Geodasie |
| | <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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|---------------------------|--|---|
| <i>Item class</i> | EllipsoidalCS | |
| <i>Name</i> | Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre. | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 46 | |
| <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>Remarks</i> | Used in geographic 3D coordinate reference systems. Horizontal coordinates referenced to this CS are in degrees. Any degree representation (e.g. DMSH, decimal, etc.) may be used but that used must be declared for the user. | |

Axes

| | | |
|---------------------------|---|---|
| <i>Item class</i> | CoordinateSystemAxis | |
| <i>Name</i> | Geodetic latitude | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 38 | |
| <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>Remarks</i> | Used in geographic 2D and geographic 3D coordinate reference systems. | |
| <i>Abbreviation</i> | Lat | |
| <i>Direction</i> | north | |
| <i>Unit</i> | degree (supplier to define representation) | |

| | | |
|---------------------------|---------------------------|---|
| <i>Item class</i> | CoordinateSystemAxis | |
| <i>Name</i> | Geodetic longitude | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 34 | |
| <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) |
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| | <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>Remarks</i> | Used in geographic 2D and geographic 3D coordinate reference systems. | |
| <i>Abbreviation</i> | Lon | |
| <i>Direction</i> | east | |
| <i>Unit</i> | degree (supplier to define representation) | |

| | | |
|---------------------------|--|---|
| <i>Item class</i> | CoordinateSystemAxis | |
| <i>Name</i> | Ellipsoidal height | |
| <i>Item status</i> | VALID | |
| <i>Identifier</i> | 36 | |
| <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 |
| | ISO Geodetic Registry | |
| <i>Data source</i> | ISO Geodetic Registry | |
| <i>Remarks</i> | Used only as part of an ellipsoidal 3D coordinate system in a geographic 3D coordinate reference system, never on its own. | |
| <i>Abbreviation</i> | h | |
| <i>Direction</i> | up | |
| <i>Unit</i> | metre | |