

# ISO Geodetic Registry

<i>Item class</i>	GeodeticCRS	
<i>Name</i>	<b>IGS20 - LatLonEHt</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	981	
<i>Alias</i>	International GNSS Service 2020	
<i>Information source</i>	<i>Title</i>	Upcoming switch to IGS20/igs20.atx and repro3 standards
	<i>Author</i>	Arturo Villiger
	<i>Publisher</i>	International GNSS Service (IGS)
	<i>Publication date</i>	2022-07-26
	<i>Series/Journal name</i>	IGSMail
	<i>Issue identification</i>	8238
	<i>Other citation details</i>	<a href="https://lists.igs.org/pipermail/igsmail/2022/008234.html">https://lists.igs.org/pipermail/igsmail/2022/008234.html</a> (accessed 2023-01-27)
<i>Information source</i>	<i>Title</i>	Switch of the IGS products to the IGS20.igs20.atx, repro3 standards and long filenames
	<i>Author</i>	Salim Masoumi
	<i>Publisher</i>	International GNSS Service (IGS)
	<i>Publication date</i>	2022-11-25
	<i>Series/Journal name</i>	IGSMail
	<i>Issue identification</i>	8282
	<i>Other citation details</i>	<a href="https://lists.igs.org/pipermail/igsmail/2022/008278.html">https://lists.igs.org/pipermail/igsmail/2022/008278.html</a> (accessed 2023-01-27)
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	Replaces IGB14 - LatLonEHt. Used by IGS products from 2022-11-27. An updated set of satellite and ground antenna calibrations defined in igs20.atx and post-seismic deformation models defined in psd_IGS20.snx must be used together with IGS20.	
<i>Scope</i>	Spatial referencing	
<i>Datum</i>	IGS20	
<i>Coordinate System</i>	Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.	

## Extent

<i>Description</i>	<b>World.</b>	
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-180.0
	<i>North-bound latitude</i>	90.0
	<i>East-bound longitude</i>	180.0
	<i>South-bound latitude</i>	-90.0

# ISO Geodetic Registry

<i>Item class</i>	GeodeticDatum	
<i>Name</i>	<b>IGS20</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	979	
<i>Alias</i>	International GNSS Service 2020	
<i>Information source</i>	<i>Title</i>	Switch of the IGS products to the IGS20.igs20.atx, repro3 standards and long filenames
	<i>Author</i>	Salim Masoumi
	<i>Publisher</i>	International GNSS Service (IGS)
	<i>Publication date</i>	2022-11-25
	<i>Series/Journal name</i>	IGSMail
	<i>Issue identification</i>	8282
	<i>Other citation details</i>	<a href="https://lists.igs.org/pipermail/igsmail/2022/008278.html">https://lists.igs.org/pipermail/igsmail/2022/008278.html</a> (accessed 2023-01-27)
<i>Information source</i>	<i>Title</i>	Upcoming switch to IGS20/igs20.atx and repro3 standards
	<i>Author</i>	Arturo Villiger
	<i>Publisher</i>	International GNSS Service (IGS)
	<i>Publication date</i>	2022-07-26
	<i>Series/Journal name</i>	IGSMail
	<i>Issue identification</i>	8238
	<i>Other citation details</i>	<a href="https://lists.igs.org/pipermail/igsmail/2022/008234.html">https://lists.igs.org/pipermail/igsmail/2022/008234.html</a> (accessed 2023-01-27)
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	Replaces IGB14. Used by IGS products from 2022-11-27. An updated set of satellite and ground antenna calibrations defined in igs20.atx and post-seismic deformation models defined in psd_IGS20.snx must be used together with IGS20.	
<i>Anchor definition</i>	Derived from a long-term combination of daily IGS repro3 solutions from 1994 to 2020 and aligned in origin, scale and orientation and their rates of change to ITRF2020 at epoch 2015.0 via a subset of 332 stable, well performing IGS stations.	
<i>Release date</i>	2022-11-27	
<i>Coordinate Reference Epoch</i>	2015.0	
<i>Scope</i>	Spatial referencing	
<i>Ellipsoid</i>	GRS 1980	
<i>Prime Meridian</i>	Greenwich	

## Extent

<i>Description</i>	<b>World.</b>	
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-180.0
	<i>North-bound latitude</i>	90.0
	<i>East-bound longitude</i>	180.0
	<i>South-bound latitude</i>	-90.0

# ISO Geodetic Registry

<i>Item class</i>	Ellipsoid														
<i>Name</i>	<b>GRS 1980</b>														
<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

<i>Item class</i>	PrimeMeridian	
<i>Name</i>	<b>Greenwich</b>	
<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

<i>Item class</i>	EllipsoidalCS	
<i>Name</i>	<b>Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.</b>	
<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>	<b>Geodetic latitude</b>	
<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>	<b>Geodetic longitude</b>	
<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)
	<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>	Lon	
<i>Direction</i>	east	
<i>Unit</i>	degree (supplier to define representation)	

  

<i>Item class</i>	CoordinateSystemAxis	
<i>Name</i>	<b>Ellipsoidal height</b>	
<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
<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	