ISO Geodetic Registry

Item class	GeodeticCRS	
Name	**ITRF2020 - LatLonEHt**	
Item status	VALID	
Identifier	803	
Alias	International Terrestrial Reference Frame 2020	
Alias	IERS Terrestrial Reference Frame 2020	
Information source	*Title*	ITRF2020
	Author	International Earth Rotation and Reference Systems Service (IERS)
	Publisher	Institut National de l'Information Geographique et Forestiere (IGN)
	Revision date	2022-04-15
	Other citation details	Webpage: https://itrf.ign.fr/en/solutions/itrf2020 (accessed 2022-04-18)
Information source	*Title*	ITRF2020 is available on line
	Author	Z. Altamimi
	Publisher	International Earth Rotation and Reference Systems Service (IERS)
	Publication date	2022-04-19
	Series/Journal name	IERS Message
	Issue identification	456
	Other citation details	https://datacenter.iers.org/data/2/message_456.txt (accessed 2022-04-19)
Data source	ISO Geodetic Registry	
Remarks	Replaces ITRF2014 - LatLonEHt.	
Scope	Spatial referencing	
Datum	International Terrestrial Reference Frame 2020	
Coordinate System	Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.	

Extent

Description	**World**	
Geographic Bounding Box	*West-bound longitude*	-180.0
	North-bound latitude	90.0
	East-bound longitude	180.0
	South-bound latitude	-90.0

ISO Geodetic Registry

Item class	GeodeticDatum	
Name	**International Terrestrial Reference Frame 2020**	
Item status	VALID	
Identifier	801	
Alias	IERS Terrestrial Reference Frame 2020	
Alias	ITRF2020	
Information source	*Title*	ITRF2020 is available on line
	Author	Z. Altamimi
	Publisher	International Earth Rotation and Reference Systems Service (IERS)
	Publication date	2022-04-19
	Series/Journal name	IERS Message
	Issue identification	456
	Other citation details	https://datacenter.iers.org/data/2/message_456.txt (accessed 2022-04-19)
Information source	*Title*	ITRF2020
	Author	International Earth Rotation and Reference Systems Service (IERS)
	Publisher	Institut National de l'Information Geographique et Forestiere (IGN)
	Revision date	2022-04-15
	Other citation details	Webpage: https://itrf.ign.fr/en/solutions/itrf2020 (accessed 2022-04-18)
Data source	ISO Geodetic Registry	
Remarks	Replaces ITRF2014. This is a purely Cartesian reference frame with no ellipsoid defined. GRS80 is the ellipsoid recommended by the IAG and IERS.	
Anchor definition	Realisation of the IERS Terrestrial Reference System (ITRS) at reference epoch 2015.0. Origin of the long-term frame is defined using the concept of internal constraints such that there are zero translation parameters at epoch 2015.0 and zero translation rates between the ITRF2020 and the ILRS SLR long-term frame over the time-span 1993.0-2021.0. Scale of the long-term frame is defined using the concept of internal constraints such that there are zero scale and scale rate between ITRF2020 and the scale and scale rate averages of VLBI selected sessions up to 2013.75 and SLR weekly solutions covering the time-span 1997.7-2021.0. Orientation is defined such that there are zero rotation parameters at epoch 2015.0 and zero rotation rates between the ITRF2020 and ITRF2014. The datum is defined by a set of 3 dimensional Cartesian station coordinates, velocities, annual and semi-annual seasonal terms, and post-seismic deformation models given by the citations.	
Release date	2022-04-15	
Coordinate Reference Epoch	2015.0	
Scope	Spatial positioning	
Ellipsoid	GRS 1980	
Prime Meridian	Greenwich	

Extent

Description	**World**	
Geographic Bounding Box	*West-bound longitude*	-180.0
	North-bound latitude	90.0
	East-bound longitude	180.0

South-bound latitude	-90.0

ISO Geodetic Registry

Item class	Ellipsoid	
Name	**GRS 1980**	
Item status	VALID	
Identifier	27	
Alias	Geodetic Reference System 1980	
Alias	GRS1980	
Alias	IAG GRS80	
Alias	International 1979	
Alias	GRS80	
Information source	*Title*	Geodetic Reference System 1980
	Author	H. Moritz
	Publisher	Springer International Publishing
	Publication date	2003-03
	Series/Journal name	Journal of Geodesy
	Issue identification	Volume 74, No. 1
	Page	128–162
Information source	*Title*	Geodetic Reference System 1980
	Author	H. Moritz
	Publisher	International Association of Geodesy
	Publication date	1984
	Series/Journal name	Bulletin Geodesique
	Issue identification	Volume 58, No. 3
	Page	395-405
Data source	ISO Geodetic Registry	
Remarks	Adopted by IUGG 1979 Canberra. Inverse flattening is derived from geocentric gravitational constant GM = 3986005e8 m*m*m/s/s, dynamic form factor J2 = 108263e-8 and Earth's angular velocity = 7292115e-11 rad/s.	
Semi-major axis	6378137.0 m	
Inverse flattening	298.257222101 m	

ISO Geodetic Registry

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

ISO Geodetic Registry

Item class	EllipsoidalCS	
Name	**Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.**	
Item status	VALID	
Identifier	46	
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 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

Item class	CoordinateSystemAxis	
Name	**Geodetic latitude**	
Item status	VALID	
Identifier	38	
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 geographic 2D and geographic 3D coordinate reference systems.	
Abbreviation	Lat	
Direction	north	
Unit	degree (supplier to define representation)	

Item class	CoordinateSystemAxis	
Name	**Geodetic longitude**	
Item status	VALID	
Identifier	34	
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 geographic 2D and geographic 3D coordinate reference systems.	
Abbreviation	Lon	
Direction	east	
Unit	degree (supplier to define representation)	

Item class	CoordinateSystemAxis	
Name	**Ellipsoidal height**	
Item status	VALID	
Identifier	36	
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 only as part of an ellipsoidal 3D coordinate system in a geographic 3D coordinate reference system, never on its own.	
Abbreviation	h	
Direction	up	
Unit	metre	