

ISO Geodetic Registry

Item class	GeodeticCRS		
Name	ITRF2008 - XYZ		
Item status	VALID		
Identifier	242		
Alias	IERS Terrestrial Reference Frame 2008		
Alias	International Terrestrial Reference Frame 2008		
Information source	Title	Analysis and results of ITRF2008	
	Author	Z. Altamimi, X. Collilieux, L. Metivier	
	Publisher	International Earth Rotation and Reference Systems Service Central Bureau, Verlag des Bundesamts fur Kartographie und Geodasie, Frankfurt am Main, Germany	
	Publication date	2012-01-01	
	Edition date		
	Series/Journal name	IERS Technical Notes	
	Issue identification	37.0	
	Information source	Title	ITRF2008 is available on line
Author		IERS	
Publication date		2010-05-31	
Edition date			
Series/Journal name		IERS Message	
Data source	Issue identification	164.0	
	ISO Geodetic Registry		
Remarks	Replaces ITRF2005 - XYZ. Replaced by ITRF2014 - XYZ.		
Scope	Spatial referencing		
Datum	International Terrestrial Reference Frame 2008		
Coordinate System	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

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

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<i>Item class</i>	GeodeticDatum	
<i>Name</i>	International Terrestrial Reference Frame 2008	
<i>Item status</i>	VALID	
<i>Identifier</i>	179	
<i>Alias</i>	IERS Terrestrial Reference Frame 2008	
<i>Alias</i>	ITRF2008	
<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>Information source</i>	<i>Other citation details</i>	ISSN: 1019-4568
	<i>Title</i>	ITRF2008 is available on line
	<i>Author</i>	IERS
	<i>Publication date</i>	2010-05-31
	<i>Edition date</i>	
<i>Information source</i>	<i>Series/Journal name</i>	IERS Message
	<i>Issue identification</i>	164.0
	<i>Title</i>	Analysis and results of ITRF2008
	<i>Author</i>	Z. Altamimi, X. Collilieux, L. Metivier
	<i>Publisher</i>	International Earth Rotation and Reference Systems Service Central Bureau, Verlag des Bundesamts fur Kartographie und Geodasie, Frankfurt am Main, Germany
<i>Information source</i>	<i>Publication date</i>	2012-01-01
	<i>Edition date</i>	
	<i>Series/Journal name</i>	IERS Technical Notes
	<i>Issue identification</i>	37.0
	<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	Replaces ITRF2005. Replaced by ITRF2014. This is a purely Cartesian reference frame with no ellipsoid defined. GRS80 is the ellipsoid recommended by the IAG and IERS.	
<i>Anchor definition</i>	Realisation of the IERS Terrestrial Reference System (ITRS) at reference epoch 2005.0. Origin is defined such that it has zero translations and translation rates with respect to the mean Earth center of mass, averaged by the SLR station positions time series. Scale is defined by nullifying the scale factor and its rate with respect to the mean of VLBI and SLR long-term solutions as obtained by stacking their respective time series. Orientation (at epoch 2005.0) and its rate are aligned to the ITRF2005 using 179 stations of high geodetic quality. Datum defined by a set of 3 dimensional Cartesian station coordinates and velocities given by the citations.	
<i>Release date</i>	2010-05-31	
<i>Coordinate Reference Epoch</i>	2005.0	
<i>Scope</i>	Spatial referencing	
<i>Ellipsoid</i>	GRS 1980	
<i>Prime Meridian</i>	Greenwich	

Extent

Description **World.**

<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

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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														

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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

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	

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	

<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	