ISO Geodetic Registry

Item class	GeodeticCRS	
Name	**ETRF89 - XYZ**	
Item status	VALID	
Identifier	308	
Alias	ETRF89	
Alias	ETRS89-XYZ	
Alias	ETRS89 / (X, Y, Z)	
Alias	EUREF89	
Information source	*Title*	Report on the Symposium of the IAG Subcommission for the EUREF held in Florence 28 - 31 May 1990
	Author	IAG
	Publisher	Verlag des Bayerischen Akademie der Wissenschaften
	Publication date	1992
	Edition date	
	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
	Issue identification	1.0
Information source	*Title*	EUREF Technical Note 1: Relationship and Transformation between the International and the European Terrestrial Reference Systems
	Author	Z. Altamimi
	Publisher	Institut National de l'Information Géographique et Forestière (IGN), France
	Publication date	2018-06-28
	Series/Journal name	IERS Technical Note
	Issue identification	1.0
Information source	*Title*	ETRS89 realization: Current status, ETRF2005 and Future Development
	Author	Z. Altamimi
	Publication date	2008-06-17
	Edition date	
Information source	*Title*	Report on the Symposium of the IAG Subcommission for the EUREF held in Vienna 14 and 16 August 1991
	Author	IAG
	Publisher	Verlag des Bayerischen Akademie der Wissenschaften
	Publication date	1992
	Edition date	
	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
	Issue identification	1.0
Information source	*Title*	Report on the Symposium of the IAG Subcommission for the EUREF held in Berne 4 - 6 March 1992
	Author	IAG
	Publisher	Verlag des Bayerischen Akademie der Wissenschaften
	Publication date	1992
	Edition date	
	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
	Issue identification	1.0
Data source	ISO Geodetic Registry	

Remarks	The distinction in usage between ETRF89 and ETRS89 is confused: although in principle conceptually different in practice both are used as synonyms.
Scope	Spatial referencing
Datum	European Terrestrial Reference Frame 1989
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	**Europe - onshore and offshore: Albania, Andorra, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, Netherlands, Norway including Svalbard and Jan Mayen, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom (UK) including Channel Islands and Isle of Man, Vatican City State.**	
Geographic Bounding Box	*West-bound longitude*	-16.1
	North-bound latitude	84.17
	East-bound longitude	39.65
	South-bound latitude	32.88

ISO Geodetic Registry

Item class	GeodeticDatum	
Name	**European Terrestrial Reference Frame 1989**	
Item status	VALID	
Identifier	128	
Alias	ETRF89	
Alias	EUREF 89	
Alias	European Terrestrial Reference System 1989	
Alias	ETRS89	
Alias	ETRS 89	
Information source	*Title*	Report on the Symposium of the IAG Subcommission for the EUREF held in Vienna 14 and 16 August 1991
	Author	IAG
	Publisher	Verlag des Bayerischen Akademie der Wissenschaften
	Publication date	1992
	Edition date	
	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
	Issue identification	1.0
Information source	*Title*	EUREF Technical Note 1: Relationship and Transformation between the International and the European Terrestrial Reference Systems
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	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
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	Author	IAG
	Publisher	Verlag des Bayerischen Akademie der Wissenschaften
	Publication date	1992
	Edition date	
	Series/Journal name	IAG Subcommission for the European Reference Frame (EUREF) Publication
	Issue identification	1.0
Information source	*Title*	ETRS89 realization: Current status, ETRF2005 and Future Development
	Author	Z. Altamimi
	Publication date	2008-06-17

	Edition date
Data source	ISO Geodetic Registry
Remarks	ETRS89 is the reference system and ETRF89 is its first realization. Unfortunately the two terms have been used synonymously, which has caused some confusion amongst users. The reference frame should be referred to as ETRF89 to distinguish it from other realizations of ETRS89.
Anchor definition	Coincides with ITRF89 at epoch 1989.0 and is fixed to the stable part of the Eurasian tectonic plate through 3 rotation rates derived from the AM02 geophysical model, representing the Eurasian plate's angular velocity about its Euler pole.
Release date	1990
Coordinate Reference Epoch	1989.0
Scope	Spatial referencing
Ellipsoid	GRS 1980
Prime Meridian	Greenwich

Extent

Description	**Europe - onshore and offshore: Albania, Andorra, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Monaco, Montenegro, Netherlands, Norway including Svalbard and Jan Mayen, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom (UK) including Channel Islands and Isle of Man, Vatican City State.**	
Geographic Bounding Box	*West-bound longitude*	-16.1
	North-bound latitude	84.17
	East-bound longitude	39.65
	South-bound latitude	32.88

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	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

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	Y	
Direction	Geocentre > equator/90°E	
Unit	metre	

Item class	CoordinateSystemAxis	
Name	**Geocentric Z**	
Item status	VALID	
Identifier	39	
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	Z	
Direction	Geocentre > north pole	
Unit	metre	