

ISO Geodetic Registry

Item class	GeodeticCRS	
Name	ETRF94 - LatLonEHt	
Item status	VALID	
Identifier	407	
Alias	European Terrestrial Reference Frame 1994	
Information source	Title	ETRS89 realization: Current status, ETRF2005 and Future Development
	Author	Z. Altamimi
	Publication date	2008-06-17
	Edition date	
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
Information source	Series/Journal name	IERS Technical Note
	Issue identification	1.0
	Title	Effect of recent revisions to the geomagnetic reversal time scale on estimates of current plate motions
	Author	C.S. DeMets, R.G. Gordon, D.F. Argus, S. Stein
Information source	Publisher	American Geophysical Union
	Publication date	1994-10-01
	Edition date	
	Series/Journal name	Geophysical Research Letters
Information source	Issue identification	Volume 21, Issue 20
	Title	Memo : Specifications for reference frame fixing in the analysis of a EUREF GPS campaign (version 8)
	Author	C. Boucher, Z. Altamimi
	Publisher	Institute National de l'Information Geographique et Forestiere (IGN), Laboratoire de Recherche en Geodesie (LAREG)
Data source	Publication date	2011-05-18
	Edition date	
Scope	Spatial referencing	
Datum	European Terrestrial Reference Frame 1994	
Coordinate System	Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.	

Extent

<i>Description</i>	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,
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**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

<i>Item class</i>	GeodeticDatum	
<i>Name</i>	European Terrestrial Reference Frame 1994	
<i>Item status</i>	VALID	
<i>Identifier</i>	172	
<i>Alias</i>	ETRF94	
<i>Information source</i>	<i>Title</i>	EUREF Technical Note 1: Relationship and Transformation between the International and the European Terrestrial Reference Systems
	<i>Author</i>	Z. Altamimi
	<i>Publisher</i>	Institut National de l'Information Géographique et Forestière (IGN), France
	<i>Publication date</i>	2018-06-28
	<i>Series/Journal name</i>	IERS Technical Note
<i>Information source</i>	<i>Issue identification</i>	1.0
	<i>Title</i>	Memo : Specifications for reference frame fixing in the analysis of a EUREF GPS campaign (version 8)
	<i>Author</i>	C. Boucher, Z. Altamimi
	<i>Publisher</i>	Institute National de l'Information Geographique et Forestiere (IGN), Laboratoire de Recherche en Geodesie (LAREG)
	<i>Publication date</i>	2011-05-18
<i>Information source</i>	<i>Edition date</i>	
	<i>Title</i>	ETRS89 realization: Current status, ETRF2005 and Future Development
	<i>Author</i>	Z. Altamimi
	<i>Publication date</i>	2008-06-17
<i>Data source</i>	<i>Edition date</i>	
		ISO Geodetic Registry
<i>Remarks</i>	The ETRF94 reference frame is a realisation of the ETRS89 reference system.	
<i>Anchor definition</i>	Coincides with ITRF94 in orientation and scale at epoch 1989.0 realigned to ITRF89 at epoch 1989.0 using 3 translations and is fixed to the stable part of the Eurasian tectonic plate through 3 rotation rates derived from the NNR-NUVEL-1A geophysical model, representing the Eurasian plate's angular velocity about its Euler pole.	
<i>Coordinate Reference Epoch</i>	1989.0	
<i>Scope</i>	Spatial referencing	
<i>Ellipsoid</i>	GRS 1980	
<i>Prime Meridian</i>	Greenwich	

Extent

<i>Description</i>	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,
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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

<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

<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>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>Information source</i>	<i>Publication date</i>	2010
	<i>Edition date</i>	
	<i>Series/Journal name</i>	IERS Technical Notes
	<i>Issue identification</i>	36.0
	<i>Other citation details</i>	ISSN: 1019-4568
<i>Data source</i>	ISO Geodetic Registry	
<i>Greenwich longitude</i>	0.0 °	

ISO Geodetic Registry

<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)
	<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>	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
<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	