ISO Geodetic Registry

Item class	VerticalCRS	
Name	**EVRF2019 - NHt**	
Item status	VALID	
Identifier	765	
Alias	European Vertical Reference Frame 2019	
Alias	EVRF2019	
Information source	*Title*	Conventions for the Definition and Realization of a European Vertical Reference System (EVRS) - EVRS Conventions 2007
	Author	J. Ihde, J. Mäkinen, M. Sacher
	Publisher	International Association of Geodesy Subcommission 1.3a EUREF
	Revision date	2019-01-11
	Other citation details	https://evrs.bkg.bund.de/SharedDocs/Downloads/EVRS/EN/Publications/EVRFConventions2007.pdf (accessed 2020-11-30)
Information source	*Title*	EVRF2019
	Author	Bundesamt fuer Kartogrphie und Geodaesie
	Publisher	Bundesamt fuer Kartogrphie und Geodaesie
	Revision date	2020-09-07
	Other citation details	Website. https://evrs.bkg.bund.de/Subsites/EVRS/EN/EVRF2019/evrf2019.html (accessed 2020-11-30)
Information source	*Title*	EVRF2019 as new realization of EVRS
	Author	M. Sacher, G. Liebsch
	Publisher	International Association of Geodesy Subcommission 1.3a EUREF
	Publication date	2019-05-22
	Series/Journal name	EUREF Symposium 2019, Tallinn, Estonia
	Other citation details	http://www.euref.eu/symposia/2019Tallinn/01-01-Sacher.pdf (accessed 2020-11-30)
Data source	ISO Geodetic Registry	
Remarks	European Vertical Reference Frame 2019 in zero tide system. See EVRF2019mean-NHt for mean-tide realization of EVRF2019. Replaces EVRF2007-NHt.	
Scope	Spatial referencing	
Datum	European Vertical Reference Frame 2019	
Coordinate System	Vertical CS. Axis: height (H). Orientation: up. UoM: m.	

Extent

Description	**Europe - onshore - Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France - mainland, Germany, Gibraltar, Hungary, Italy - mainland, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russia - west of approximately 60 deg E, San Marino, Slovakia, Slovenia, Spain**

	- mainland, Sweden, Switzerland, Ukraine, United Kingdom - Great Britain mainland, Vatican City State.	
Geographic Bounding Box	*West-bound longitude*	-9.56
	North-bound latitude	77.07
	East-bound longitude	69.16
	South-bound latitude	35.95

ISO Geodetic Registry

Item class	VerticalDatum	
Name	**European Vertical Reference Frame 2019**	
Item status	VALID	
Identifier	763	
Alias	EVRF2019	
Information source	*Title*	EVRF2019
	Author	Bundesamt fuer Kartogrphie und Geodaesie
	Publisher	Bundesamt fuer Kartogrphie und Geodaesie
	Revision date	2020-09-07
	Other citation details	Website. https://evrs.bkg.bund.de/Subsites/EVRS/EN/EVRF2019/evrf2019.html (accessed 2020-11-30)
Information source	*Title*	Conventions for the Definition and Realization of a European Vertical Reference System (EVRS) - EVRS Conventions 2007
	Author	J. Ihde, J. Mäkinen, M. Sacher
	Publisher	International Association of Geodesy Subcommission 1.3a EUREF
	Revision date	2019-01-11
	Other citation details	https://evrs.bkg.bund.de/SharedDocs/Downloads/EVRS/EN/Publications/EVRFConventions2007.pdf (accessed 2020-11-30)
Information source	*Title*	EVRF2019 as new realization of EVRS
	Author	M. Sacher, G. Liebsch
	Publisher	International Association of Geodesy Subcommission 1.3a EUREF
	Publication date	2019-05-22
	Series/Journal name	EUREF Symposium 2019, Tallinn, Estonia
	Other citation details	http://www.euref.eu/symposia/2019Tallinn/01-01-Sacher.pdf (accessed 2020-11-30)
Data source	ISO Geodetic Registry	
Remarks	EVRF2019 is realized by an adjustment of geopotential numbers of the Unified European Levelling Network in the zero-tide system, followed by computation of Normal heights, referenced to the GRS80 ellipsoid. Measurements of BY, CH, DK, EE, FI, LT, LV, NO, RU, SE were reduced to epoch 2000 using the vertical velocity model NKG2016LU for Nordic countries and a set of velocities for Switzerland, provided by Swisstopo. See EVRF2019mean for the mean-tide realization of EVRF2019. Replaces EVRF2007.	
Anchor definition	Height at Normal Amsterdams Peil (NAP) is zero, realised by least squares fit to 12 datum points of EVRF2007 solution.	
Release date	2020-09	
Coordinate Reference Epoch	2000.0	
Scope	Spatial referencing	

Extent

Description	**Europe - onshore - Andorra, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France - mainland, Germany, Gibraltar, Hungary, Italy - mainland, Latvia, Liechtenstein,**

	Lithuania, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russia - west of approximately 60 deg E, San Marino, Slovakia, Slovenia, Spain - mainland, Sweden, Switzerland, Ukraine, United Kingdom - Great Britain mainland, Vatican City State.	
Geographic Bounding Box	*West-bound longitude*	-9.56
	North-bound latitude	77.07
	East-bound longitude	69.16
	South-bound latitude	35.95

ISO Geodetic Registry

Item class	VerticalCS	
Name	**Vertical CS. Axis: height (H). Orientation: up. UoM: m.**	
Item status	VALID	
Identifier	42	
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 vertical coordinate reference systems.	

Axes

Item class	CoordinateSystemAxis	
Name	**Gravity-related height**	
Item status	VALID	
Identifier	35	
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 a 1D vertical coordinate system.	
Abbreviation	H	
Direction	up	
Unit	metre	