

# ISO Geodetic Registry

Item class	GeodeticCRS		
Name	SIRGAS-CON DGF04P01 - XYZ		
Item status	VALID		
Identifier	345		
Alias	SIRGAS		
Alias	DGF04P01		
Alias	SIRGAS-CON		
Alias	DGFI04P01		
Alias	SIRGAS Multi-Year Solution 2004		
Alias	Geocentric Reference System for the Americas		
Alias	Sistema de Referencia Geocentrico para las Americas		
Information source	Title	Station positions and velocities of the IGS regional network for SIRGAS	
	Author	W. Seemüller, K. Kaniuth, H. Drewes	
	Publisher	Deutsches Geodaetisches Forschungsinstitut, Munich, Germany	
	Publication date	2004	
	Series/Journal name	DGFI Report	
	Issue identification	No. 76	
Information source	Title	Sistema de Referencia Geocentrico para las Americas (SIRGAS)	
	Author	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)	
	Publisher	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)	
	Publication date	2018	
	Other citation details	Website	
	Information source	Title	Deformation of the South American crust estimated from finite element and collocation methods
Author		H. Drewes, O. Heidbach	
Publisher		Springer Berlin Heidelberg	
Publication date		2005	
Series/Journal name		International Association of Geodesy Symposia	
Issue identification		128.0	
Page		544-549	
Other citation details		In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg	
Data source	ISO Geodetic Registry		
Scope	Spatial referencing		
Datum	SIRGAS Continuously Operating Network DGF04P01		
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

<i>Description</i>	<b>South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.</b>
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<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-122.19
	<i>North-bound latitude</i>	32.72
	<i>East-bound longitude</i>	-25.28
	<i>South-bound latitude</i>	-59.87

# ISO Geodetic Registry

Item class	GeodeticDatum	
Name	SIRGAS Continuously Operating Network DGF04P01	
Item status	VALID	
Identifier	160	
Alias	SIRGAS	
Alias	DGF04P01	
Alias	SIRGAS-CON	
Alias	DGFI04P01	
Alias	SIRGAS Multi-Year Solution 2004	
Alias	Geocentric Reference System for the Americas	
Alias	Sistema de Referencia Geocentrico para las Americas	
Information source	Title	Sistema de Referencia Geocentrico para las Americas (SIRGAS)
	Author	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)
	Publisher	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)
	Publication date	2018
	Other citation details	Website
Information source	Title	Deformation of the South American crust estimated from finite element and collocation methods
	Author	H. Drewes, O. Heidbach
	Publisher	Springer Berlin Heidelberg
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	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	128.0
	Page	544-549
	Other citation details	In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg
Information source	Title	Station positions and velocities of the IGS regional network for SIRGAS
	Author	W. Seemüller, K. Kaniuth, H. Drewes
	Publisher	Deutsches Geodaetisches Forschungsinstitut, Munich, Germany
	Publication date	2004
	Series/Journal name	DGFI Report
	Issue identification	No. 76
Data source	ISO Geodetic Registry	
Remarks	Replaces DGF02P01. Replaced by DGF05P01.	
Anchor definition	Realized by a frame of 69 continuously operating stations using GPS observations from June 1996 to July 2004 and aligned to ITRF2000 at epoch 2003.0. Velocity model VEMOS2003 used to propagate coordinates from an arbitrary epoch to the 2003.0 reference epoch.	
Release date	2004	
Coordinate Reference Epoch	2003.0	
Scope	Spatial referencing	
Ellipsoid	GRS 1980	
Prime Meridian	Greenwich	

Extent

<i>Description</i>	<b>South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.</b>		
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-122.19	
	<i>North-bound latitude</i>	32.72	
	<i>East-bound longitude</i>	-25.28	
	<i>South-bound latitude</i>	-59.87	

# ISO Geodetic Registry

<i>Item class</i>	Ellipsoid	
<i>Name</i>	<b>GRS 1980</b>	
<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>	<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>	<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>	<b>Greenwich</b>	
<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 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>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	<b>Geocentric 3D right-handed Cartesian CS.</b> <b>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.</b>	
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	<b>Geocentric X</b>	
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	<b>Geocentric Y</b>	
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>	<b>Geocentric Z</b>	
<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	