

# ISO Geodetic Registry

<i>Item class</i>	GeodeticCRS																
<i>Name</i>	<b>SIRGAS-CON SIR13P01 - XYZ</b>																
<i>Item status</i>	VALID																
<i>Identifier</i>	413																
<i>Alias</i>	SIRGAS																
<i>Alias</i>	SIRGAS Multi-Year Solution 2013																
<i>Alias</i>	SIRGAS-CON																
<i>Alias</i>	SIR13P01																
<i>Alias</i>	Geocentric Reference System for the Americas																
<i>Alias</i>	Sistema de Referencia Geocentrico para las Americas																
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<i>Publication date</i>	2018																
<i>Other citation details</i>	Website																
<i>Data source</i>	ISO Geodetic Registry																
<i>Scope</i>	Spatial referencing																
<i>Datum</i>	SIRGAS Continuously Operating Network SIR13P01																
<i>Coordinate System</i>	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>	
<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>	GeodeticDatum
<i>Name</i>	<b>SIRGAS Continuously Operating Network SIR13P01</b>
<i>Item status</i>	VALID
<i>Identifier</i>	177
<i>Alias</i>	SIRGAS
<i>Alias</i>	SIRGAS Multi-Year Solution 2013
<i>Alias</i>	SIRGAS-CON
<i>Alias</i>	SIR13P01
<i>Alias</i>	Geocentric Reference System for the Americas
<i>Alias</i>	Sistema de Referencia Geocentrico para las Americas
<i>Information source</i>	<p><i>Title</i> The 2009 Horizontal Velocity Field for South America and the Caribbean</p> <p><i>Author</i> H. Drewes, O. Heidbach</p> <p><i>Publisher</i> Springer Berlin Heidelberg</p> <p><i>Publication date</i> 2012</p> <p><i>Series/Journal name</i> International Association of Geodesy Symposia</p> <p><i>Issue identification</i> 136.0</p> <p><i>Page</i> 657-664</p> <p><i>Other citation details</i> In Kenyon S., Pacino M., Marti U. (eds) Geodesy for Planet Earth. International Association of Geodesy Symposia, Vol 136. Springer, Berlin, Heidelberg</p>
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<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	Replaces SIR11P01. Replaced by SIR14P01. First multi-year solution after the El Maule earthquake of February 2010.
<i>Anchor definition</i>	Realized by a frame of 108 continuously operating stations using GPS observations from April 2010 to June 2013 and aligned to IGB08 at epoch 2012.0. Weekly normal equations from April 2010 to April 2011 were reprocessed using the second reprocessing campaign products (IG2) of the International GNSS Service and absolute phase centre calibrations referring to the IGS08 reference frame. Velocity model VEMOS2009 used to propagate coordinates from an arbitrary epoch to the 2012.0 reference epoch.
<i>Release date</i>	2013
<i>Coordinate Reference Epoch</i>	2012.0
<i>Scope</i>	Spatial referencing
<i>Ellipsoid</i>	GRS 1980

<i>Prime Meridian</i>	Greenwich
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## 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

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<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														
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<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>	<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 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

<i>Item class</i>	CartesianCS	
<i>Name</i>	<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>	
<i>Item status</i>	VALID	
<i>Identifier</i>	45	
<i>Alias</i>	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.	
<i>Alias</i>	ECEF	
<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 geocentric coordinate reference systems.	

## Axes

<i>Item class</i>	CoordinateSystemAxis	
<i>Name</i>	<b>Geocentric X</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	33	
<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>	X	
<i>Direction</i>	Geocentre > equator/0°E	
<i>Unit</i>	metre	

  

<i>Item class</i>	CoordinateSystemAxis	
<i>Name</i>	<b>Geocentric Y</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	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
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	<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	