

ISO Geodetic Registry

<i>Item class</i>	GeodeticCRS	
<i>Name</i>	SIRGAS-CON SIR15P01 - XYZ	
<i>Item status</i>	VALID	
<i>Identifier</i>	446	
<i>Alias</i>	SIR15P01	
<i>Alias</i>	SIRGAS	
<i>Alias</i>	SIRGAS-CON	
<i>Alias</i>	SIRGAS Multi-Year Solution 2015	
<i>Alias</i>	Geocentric Reference System for the Americas	
<i>Alias</i>	Sistema de Referencia Geocentrico para las Americas	
<i>Information source</i>	<i>Title</i>	Sistema de Referencia Geocentrico para las Americas (SIRGAS)
	<i>Author</i>	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)
	<i>Publisher</i>	Sistema de Referencia Geocéntrico para las Américas (SIRGAS)
	<i>Publication date</i>	2018
	<i>Other citation details</i>	Website
<i>Information source</i>	<i>Title</i>	SIR15P01: Multiyear solution for the SIRGAS Reference Frame, link to ZIP archive
	<i>Author</i>	L. Sanchez, H. Drewes
	<i>Publisher</i>	PANGAEA
	<i>Publication date</i>	2016
	<i>Series/Journal name</i>	PANGAEA
<i>Information source</i>	<i>Issue identification</i>	10.1594/PANGAEA.862536
	<i>Other citation details</i>	In supplement to: Sánchez, L; Drewes, H (2016): Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America. Journal of Geodynamics, 102, 1-23, https://doi.org/10.1016/j.jog.2016.06.005
	<i>Title</i>	VEMOS2015: Velocity and deformation model for Latin America and the Caribbean, link to ZIP archive
	<i>Author</i>	L. Sanchez, H. Drewes
	<i>Publisher</i>	PANGAEA
<i>Information source</i>	<i>Publication date</i>	2016
	<i>Series/Journal name</i>	PANGAEA
	<i>Issue identification</i>	10.1594/PANGAEA.863131
	<i>Other citation details</i>	In supplement to: Sánchez, L; Drewes, H (2016): Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America. Journal of Geodynamics, 102, 1-23, https://doi.org/10.1016/j.jog.2016.06.005
	<i>Title</i>	Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America
<i>Information source</i>	<i>Author</i>	L. Sanchez, H. Drewes
	<i>Publisher</i>	Elsevier
	<i>Publication date</i>	2016
	<i>Series/Journal name</i>	Journal of Geodynamics
	<i>Issue identification</i>	102.0
<i>Information source</i>	<i>Page</i>	2023-01-01
	<i>Other citation details</i>	Data for paper included in two supplements: Sanchez L., Drewes H (2016): SIR15P01: Multiyear solution for the SIRGAS Reference Frame, link to ZIP archive, PANGAEA,

	doi:10.1594/PANGAEA.862536; Sanchez L., Drewes H (2016): VEMOS2015: Velocity and deformation model for Latin America and the Caribbean, link to ZIP archive, PANGAEA, doi:10.1594/PANGAEA.863131.
<i>Data source</i>	ISO Geodetic Registry
<i>Scope</i>	Spatial referencing
<i>Datum</i>	SIRGAS Continuously Operating Network SIR15P01
<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>	South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.	
<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>	SIRGAS Continuously Operating Network SIR15P01
<i>Item status</i>	VALID
<i>Identifier</i>	109
<i>Alias</i>	SIR15P01
<i>Alias</i>	SIRGAS
<i>Alias</i>	SIRGAS-CON
<i>Alias</i>	SIRGAS Multi-Year Solution 2015
<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> SIR15P01: Multiyear solution for the SIRGAS Reference Frame, link to ZIP archive</p> <p><i>Author</i> L. Sanchez, H. Drewes</p> <p><i>Publisher</i> PANGAEA</p> <p><i>Publication date</i> 2016</p> <p><i>Series/Journal name</i> PANGAEA</p> <p><i>Issue identification</i> 10.1594/PANGAEA.862536</p> <p><i>Other citation details</i> In supplement to: Sánchez, L; Drewes, H (2016): Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America. Journal of Geodynamics, 102, 1-23, https://doi.org/10.1016/j.jog.2016.06.005</p>
<i>Information source</i>	<p><i>Title</i> Sistema de Referencia Geocentrico para las Americas (SIRGAS)</p> <p><i>Author</i> Sistema de Referencia Geocéntrico para las Américas (SIRGAS)</p> <p><i>Publisher</i> Sistema de Referencia Geocéntrico para las Américas (SIRGAS)</p> <p><i>Publication date</i> 2018</p> <p><i>Other citation details</i> Website</p>
<i>Information source</i>	<p><i>Title</i> Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America</p> <p><i>Author</i> L. Sanchez, H. Drewes</p> <p><i>Publisher</i> Elsevier</p> <p><i>Publication date</i> 2016</p> <p><i>Series/Journal name</i> Journal of Geodynamics</p> <p><i>Issue identification</i> 102.0</p> <p><i>Page</i> 2023-01-01</p> <p><i>Other citation details</i> Data for paper included in two supplements: Sanchez L., Drewes H (2016): SIR15P01: Multiyear solution for the SIRGAS Reference Frame, link to ZIP archive, PANGAEA, doi:10.1594/PANGAEA.862536; Sanchez L., Drewes H (2016): VEMOS2015: Velocity and deformation model for Latin America and the Caribbean, link to ZIP archive, PANGAEA, doi:10.1594/PANGAEA.863131.</p>
<i>Information source</i>	<p><i>Title</i> VEMOS2015: Velocity and deformation model for Latin America and the Caribbean, link to ZIP archive</p> <p><i>Author</i> L. Sanchez, H. Drewes</p> <p><i>Publisher</i> PANGAEA</p> <p><i>Publication date</i> 2016</p> <p><i>Series/Journal name</i> PANGAEA</p>

	<i>Issue identification</i>	10.1594/PANGAEA.863131
	<i>Other citation details</i>	In supplement to: Sánchez, L; Drewes, H (2016): Crustal deformation and surface kinematics after the 2010 earthquakes in Latin America. Journal of Geodynamics, 102, 1-23, https://doi.org/10.1016/j.jog.2016.06.005
<i>Data source</i>		ISO Geodetic Registry
<i>Remarks</i>		Replaces SIR14P01. Replaced by SIR17P01.
<i>Anchor definition</i>		Realized by a frame of 303 continuously operating stations using GPS and GLONASS observations from March 2010 to April 2015 and aligned to IGB08 at epoch 2013.0. Weekly normal equations from March 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 VEMOS2015 used to propagate coordinates from an arbitrary epoch to the 2013.0 reference epoch.
<i>Release date</i>		2016
<i>Coordinate Reference Epoch</i>		2013.0
<i>Scope</i>		Spatial referencing
<i>Ellipsoid</i>		GRS 1980
<i>Prime Meridian</i>		Greenwich

Extent

<i>Description</i>	South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.	
<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>	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														

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<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 °	

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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	

<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>	Geocentric Z	
<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	