ISO Geodetic Registry

Item class	GeodeticCRS	
Name	**SIRGAS-CON SIR09P01 - LatLonEHt**	
Item status	VALID	
Identifier	451	
Alias	SIRGAS	
Alias	SIRGAS-CON	
Alias	SIRGAS Multi-Year Solution 2009	
Alias	Geocentric Reference System for the Americas	
Alias	Sistema de Referencia Geocentrico para las Americas	
Alias	SIR09P01	
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*	The new Multi-year Position and Velocity Solution SIR09P01 of the IGS Regional Network Associate Analysis Centre (IGS RNAAC SIR)
	Author	W. Seemueller, L. Sanchez, M. Seitz
	Publisher	Springer Berlin Heidelberg
	Publication date	2011
	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	136.0
	Page	675-680
Information source	*Title*	The position and velocity solution SIR09P01 of the IGS Regional Network Associate Analysis Centre for SIRGAS (IGS RNAAC SIR)
	Author	W. Seemueller, M. Seitz, L. Sanchez, H. Drewes
	Publisher	Deutsches Geodaetisches Forschungsinstitut, Munich, Germany
	Publication date	2009
	Series/Journal name	DGFI Report
	Issue identification	No. 85
Information source	*Title*	The 2009 Horizontal Velocity Field for South America and the Caribbean
	Author	H. Drewes, O. Heidbach
	Publisher	Springer Berlin Heidelberg
	Publication date	2012
	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	136.0
	Page	657-664
	Other citation details	In Kenyon S., Pacino M., Marti U. (eds) Geodesy for Planet Earth. International Association of Geodesy Symposia, Vol 136. Springer, Berlin, Heidelberg
Data source	ISO Geodetic Registry	
Scope	Spatial referencing	
Datum	SIRGAS Continuously Operating Network SIR09P01	
Coordinate System	Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.	

Extent

Description	**South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.**	
Geographic Bounding Box	*West-bound longitude*	-122.19
	North-bound latitude	32.72
	East-bound longitude	-25.28
	South-bound latitude	-59.87

ISO Geodetic Registry

Item class	GeodeticDatum	
Name	**SIRGAS Continuously Operating Network SIR09P01**	
Item status	VALID	
Identifier	181	
Alias	SIRGAS	
Alias	SIRGAS-CON	
Alias	SIRGAS Multi-Year Solution 2009	
Alias	Geocentric Reference System for the Americas	
Alias	Sistema de Referencia Geocentrico para las Americas	
Alias	SIR09P01	
Information source	*Title*	The position and velocity solution SIR09P01 of the IGS Regional Network Associate Analysis Centre for SIRGAS (IGS RNAAC SIR)
	Author	W. Seemueller, M. Seitz, L. Sanchez, H. Drewes
	Publisher	Deutsches Geodaetisches Forschungsinstitut, Munich, Germany
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	Author	W. Seemueller, L. Sanchez, M. Seitz
	Publisher	Springer Berlin Heidelberg
	Publication date	2011
	Series/Journal name	International Association of Geodesy Symposia
	Issue identification	136.0
	Page	675-680
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
Data source	ISO Geodetic Registry	
Remarks	Replaces DGF08P01. Replaced by SIR10P01.	
Anchor definition	Realized by a frame of 128 continuously operating stations using GPS observations from January 2000 to January 2009 and aligned to IGS05 at epoch 2005.0. GPS data from January 2000 to November	

	2006 reprocessed using the first reprocessing campaign products (IG1) of the International GNSS Service and absolute phase centre calibrations referring to the IGS05/IGb05 reference frame. Velocity model VEMOS2009 used to propagate coordinates from an arbitrary epoch to the 2005.0 reference epoch.
Release date	2009
Coordinate Reference Epoch	2005.0
Scope	Spatial referencing
Ellipsoid	GRS 1980
Prime Meridian	Greenwich

Extent

Description	**South America - onshore and offshore. Central America - onshore and offshore. Mexico - onshore and offshore.**	
Geographic Bounding Box	*West-bound longitude*	-122.19
	North-bound latitude	32.72
	East-bound longitude	-25.28
	South-bound latitude	-59.87

ISO Geodetic Registry

Item class	Ellipsoid	
Name	**GRS 1980**	
Item status	VALID	
Identifier	27	
Alias	Geodetic Reference System 1980	
Alias	GRS1980	
Alias	IAG GRS80	
Alias	International 1979	
Alias	GRS80	
Information source	*Title*	Geodetic Reference System 1980
	Author	H. Moritz
	Publisher	Springer International Publishing
	Publication date	2003-03
	Series/Journal name	Journal of Geodesy
	Issue identification	Volume 74, No. 1
	Page	128–162
Information source	*Title*	Geodetic Reference System 1980
	Author	H. Moritz
	Publisher	International Association of Geodesy
	Publication date	1984
	Series/Journal name	Bulletin Geodesique
	Issue identification	Volume 58, No. 3
	Page	395-405
Data source	ISO Geodetic Registry	
Remarks	Adopted by IUGG 1979 Canberra. Inverse flattening is derived from geocentric gravitational constant GM = 3986005e8 m*m*m/s/s, dynamic form factor J2 = 108263e-8 and Earth's angular velocity = 7292115e-11 rad/s.	
Semi-major axis	6378137.0 m	
Inverse flattening	298.257222101 m	

ISO Geodetic Registry

Item class	PrimeMeridian	
Name	**Greenwich**	
Item status	VALID	
Identifier	25	
Alias	Zero meridian	
Information source	*Title*	Why the Greenwich meridian moved
	Author	S. Malys, J.H. Seago, N.K. Pavlis, P.K. Seidelmann, G.H. Kaplan
	Publisher	Springer International Publishing
	Publication date	2015-12
	Series/Journal name	Journal of Geodesy
	Issue identification	Volume 89, No. 12
	Page	1263–1272
Information source	*Title*	IERS Conventions (2010)
	Author	G. Petit, B.J. Luzum (eds)
	Publisher	Verlag des Bundesamts fur Kartographie und Geodasie
	Publication date	2010
	Edition date	
	Series/Journal name	IERS Technical Notes
	Issue identification	36.0
	Other citation details	ISSN: 1019-4568
Data source	ISO Geodetic Registry	
Greenwich longitude	0.0 °	

ISO Geodetic Registry

Item class	EllipsoidalCS	
Name	**Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.**	
Item status	VALID	
Identifier	46	
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 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

Item class	CoordinateSystemAxis	
Name	**Geodetic latitude**	
Item status	VALID	
Identifier	38	
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 geographic 2D and geographic 3D coordinate reference systems.	
Abbreviation	Lat	
Direction	north	
Unit	degree (supplier to define representation)	

Item class	CoordinateSystemAxis	
Name	**Geodetic longitude**	
Item status	VALID	
Identifier	34	
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 geographic 2D and geographic 3D coordinate reference systems.	
Abbreviation	Lon	
Direction	east	
Unit	degree (supplier to define representation)	

Item class	CoordinateSystemAxis	
Name	**Ellipsoidal height**	
Item status	VALID	
Identifier	36	
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 only as part of an ellipsoidal 3D coordinate system in a geographic 3D coordinate reference system, never on its own.	
Abbreviation	h	
Direction	up	
Unit	metre	