

ISO Geodetic Registry

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|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Item class | GeodeticCRS | |
| Name | SIRGAS2000 - XYZ | |
| Item status | VALID | |
| Identifier | 384 | |
| Alias | SIRGAS 2000 | |
| Alias | Geocentric Reference System for the Americas | |
| Alias | SIRGAS2000 | |
| Alias | Sistema de Referencia Geocentrico para las Americas | |
| Alias | South American Geocentric Reference System 2000 | |
| Alias | Geocentric Reference System for South America | |
| Information source | Title | Results of the SIRGAS campaign 2000 and coordinates variations with respect to the 1995 South American geocentric reference frame |
| | Author | H. Drewes, K. Kaniuth, C. Voelksen, S.M. Alves Costa, L.P. Souto Fortes |
| | Publisher | Springer Berlin Heidelberg |
| | Publication date | 2005 |
| | Series/Journal name | International Association of Geodesy Symposia |
| | Issue identification | 128.0 |
| | Page | 32-37 |
| 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 |
| Information source | Other citation details | In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg |
| | 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 |
| Scope | Spatial referencing | |
| Datum | Sistema de Referencia Geocentrico para America del Sur 2000 | |
| 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

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|--------------------|---------------------------------------------------------------------------------------------------------------------|
| <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

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|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------|------------------|--------------------------------------------------------------|-------------------------|------|-------------------------------|-----------------------------------------------|-----------------------------|-------|-------------|---------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Item class</i> | GeodeticDatum | | | | | | | | | | | | | | | | |
| <i>Name</i> | Sistema de Referencia Geocentrico para America del Sur 2000 | | | | | | | | | | | | | | | | |
| <i>Item status</i> | VALID | | | | | | | | | | | | | | | | |
| <i>Identifier</i> | 169 | | | | | | | | | | | | | | | | |
| <i>Alias</i> | SIRGAS 2000 | | | | | | | | | | | | | | | | |
| <i>Alias</i> | Geocentric Reference System for the Americas | | | | | | | | | | | | | | | | |
| <i>Alias</i> | SIRGAS2000 | | | | | | | | | | | | | | | | |
| <i>Alias</i> | Sistema de Referencia Geocentrico para las Americas | | | | | | | | | | | | | | | | |
| <i>Alias</i> | South American Geocentric Reference System 2000 | | | | | | | | | | | | | | | | |
| <i>Alias</i> | Geocentric Reference System for South America | | | | | | | | | | | | | | | | |
| <i>Information source</i> | <table> <tr> <td><i>Title</i></td><td>Sistema de Referencia Geocentrico para las Americas (SIRGAS)</td></tr> <tr> <td><i>Author</i></td><td>Sistema de Referencia Geocéntrico para las Américas (SIRGAS)</td></tr> <tr> <td><i>Publisher</i></td><td>Sistema de Referencia Geocéntrico para las Américas (SIRGAS)</td></tr> <tr> <td><i>Publication date</i></td><td>2018</td></tr> <tr> <td><i>Other citation details</i></td><td>Website</td></tr> </table> | <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 | | | | | | |
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| <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> | <table> <tr> <td><i>Title</i></td><td>Deformation of the South American crust estimated from finite element and collocation methods</td></tr> <tr> <td><i>Author</i></td><td>H. Drewes, O. Heidbach</td></tr> <tr> <td><i>Publisher</i></td><td>Springer Berlin Heidelberg</td></tr> <tr> <td><i>Publication date</i></td><td>2005</td></tr> <tr> <td><i>Series/Journal name</i></td><td>International Association of Geodesy Symposia</td></tr> <tr> <td><i>Issue identification</i></td><td>128.0</td></tr> <tr> <td><i>Page</i></td><td>544-549</td></tr> <tr> <td><i>Other citation details</i></td><td>In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg</td></tr> </table> | <i>Title</i> | Deformation of the South American crust estimated from finite element and collocation methods | <i>Author</i> | H. Drewes, O. Heidbach | <i>Publisher</i> | Springer Berlin Heidelberg | <i>Publication date</i> | 2005 | <i>Series/Journal name</i> | International Association of Geodesy Symposia | <i>Issue identification</i> | 128.0 | <i>Page</i> | 544-549 | <i>Other citation details</i> | In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg |
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| <i>Author</i> | H. Drewes, O. Heidbach | | | | | | | | | | | | | | | | |
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| <i>Series/Journal name</i> | International Association of Geodesy Symposia | | | | | | | | | | | | | | | | |
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| <i>Page</i> | 544-549 | | | | | | | | | | | | | | | | |
| <i>Other citation details</i> | In Sanso F. (eds) A Window on the Future of Geodesy. International Association of Geodesy Symposia, Vol 128. Springer, Berlin, Heidelberg | | | | | | | | | | | | | | | | |
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| <i>Author</i> | H. Drewes, K. Kaniuth, C. Voelksen, S.M. Alves Costa, L.P. Souto Fortes | | | | | | | | | | | | | | | | |
| <i>Publisher</i> | Springer Berlin Heidelberg | | | | | | | | | | | | | | | | |
| <i>Publication date</i> | 2005 | | | | | | | | | | | | | | | | |
| <i>Series/Journal name</i> | International Association of Geodesy Symposia | | | | | | | | | | | | | | | | |
| <i>Issue identification</i> | 128.0 | | | | | | | | | | | | | | | | |
| <i>Page</i> | 32-37 | | | | | | | | | | | | | | | | |
| <i>Data source</i> | ISO Geodetic Registry | | | | | | | | | | | | | | | | |
| <i>Remarks</i> | Name changed from "South American Geocentric Reference System" to "Geocentric Reference System of the Americas" in 2001. Replaces SIRGAS95. Replaced by DGF00P01 for continuous stations in some SIRGAS countries. | | | | | | | | | | | | | | | | |
| <i>Anchor definition</i> | Realized by a frame of 184 continuously operating and campaign stations using GPS observations from ten days in May 2000 and aligned to ITRF2000 at epoch 2000.4. Velocity model VEMOS2003 used to propagate coordinates from an arbitrary epoch to the 2000.4 reference epoch. | | | | | | | | | | | | | | | | |
| <i>Release date</i> | 2005 | | | | | | | | | | | | | | | | |
| <i>Coordinate Reference Epoch</i> | 2000.4 | | | | | | | | | | | | | | | | |
| <i>Scope</i> | Spatial referencing | | | | | | | | | | | | | | | | |

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|-----------------------|-----------|
| <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 | | | | | | | | | | | | | | |
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| <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

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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>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

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|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <i>Item class</i> | CartesianCS | |
| <i>Name</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. | |
| <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> | Geocentric X | |
| <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> | Geocentric Y | |
| <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 |
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| | <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 | |