

# ISO Geodetic Registry

|                    |  |   |
|--------------------|--|---|
| Item class         | GeodeticCRS  |   |
| Name               | SIRGAS-CON DGF01P01 - LatLonEHt  |   |
| Item status        | VALID  |   |
| Identifier         | 363  |   |
| Alias              | SIRGAS   |   |
| Alias              | SIRGAS Multi-Year Solution 2001  |   |
| Alias              | SIRGAS-CON   |   |
| Alias              | DGF01P01   |   |
| Alias              | DGFI01P01  |   |
| Alias              | Geocentric Reference System for the Americas   |   |
| Alias              | Sistema de Referencia Geocentrico para las Americas  |   |
| Information source | Title  | Velocity estimates of IGS RNAAC SIRGAS stations   |
|                    | Author   | W. Seemueller, K. Kaniuth, H. Drewes  |
|                    | Publisher  | Springer Berlin Heidelberg  |
|                    | Publication date   | 2002  |
|                    | Series/Journal name  | International Association of Geodesy Symposia   |
|                    | Issue identification   | 124.0   |
|                    | Page   | 2018-10-07  |
| 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  |
| Data source        | Other citation details   | Website   |
| Scope              | ISO Geodetic Registry  |   |
| Datum              | Spatial referencing  |   |
| Coordinate System  | SIRGAS Continuously Operating Network DGF01P01   |   |
|                    | Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre. |   |

## 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> |
| <i>South-bound latitude</i> |

|        |
|--------|
| -25.28 |
| -59.87 |

# ISO Geodetic Registry

|                            |  |   |
|----------------------------|--|---|
| Item class                 | GeodeticDatum  |   |
| Name                       | SIRGAS Continuously Operating Network DGF01P01   |   |
| Item status                | VALID  |   |
| Identifier                 | 173  |   |
| Alias                      | SIRGAS   |   |
| Alias                      | SIRGAS Multi-Year Solution 2001  |   |
| Alias                      | SIRGAS-CON   |   |
| Alias                      | DGF01P01   |   |
| Alias                      | DGFI01P01  |   |
| 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   |
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|                            | Issue identification   | 128.0   |
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|                            | 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  | Velocity estimates of IGS RNAAC SIRGAS stations   |
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|                            | Publisher  | Springer Berlin Heidelberg  |
|                            | Publication date   | 2002  |
|                            | Series/Journal name  | International Association of Geodesy Symposia   |
|                            | Issue identification   | 124.0   |
|                            | Page   | 2018-10-07  |
| Data source                | ISO Geodetic Registry  |   |
| Remarks                    | Replaces DGF00P01. Replaced by DGF01P02.   |   |
| Anchor definition          | Realized by a frame of 48 continuously operating stations using GPS observations from June 1996 to April 2001 and aligned to ITRF2000 at epoch 2000.0. Velocity model VEMOS2003 used to propagate coordinates from an arbitrary epoch to the 2000.0 reference epoch. |   |
| Release date               | 2002   |   |
| Coordinate Reference Epoch | 2000.0   |   |
| 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  |  |

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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  |              |                                |               |           |                  |                                      |                         |         |                            |                     |                             |                  |             |         |
| <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  |              |                                |               |           |                  |                                      |                         |         |                            |                     |                             |                  |             |         |

# ISO Geodetic Registry

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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>         | EllipsoidalCS  |   |
| <i>Name</i>               | <b>Ellipsoidal 3D CS. Axes: latitude, longitude, ellipsoidal height. Orientations: north, east, up. UoM: degree, degree, metre.</b>  |   |
| <i>Item status</i>        | VALID  |   |
| <i>Identifier</i>         | 46   |   |
| <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 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

|                           |   |   |
|---------------------------|---|---|
| <i>Item class</i>         | CoordinateSystemAxis  |   |
| <i>Name</i>               | <b>Geodetic latitude</b>  |   |
| <i>Item status</i>        | VALID   |   |
| <i>Identifier</i>         | 38  |   |
| <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 geographic 2D and geographic 3D coordinate reference systems. |   |
| <i>Abbreviation</i>       | Lat   |   |
| <i>Direction</i>          | north   |   |
| <i>Unit</i>               | degree (supplier to define representation)                            |   |

  

|                           |                           |   |
|---------------------------|---------------------------|---|
| <i>Item class</i>         | CoordinateSystemAxis      |   |
| <i>Name</i>               | <b>Geodetic longitude</b> |   |
| <i>Item status</i>        | VALID                     |   |
| <i>Identifier</i>         | 34                        |   |
| <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 geographic 2D and geographic 3D coordinate reference systems. |  |
| <i>Abbreviation</i> | Lon   |  |
| <i>Direction</i>    | east  |  |
| <i>Unit</i>         | degree (supplier to define representation)                            |  |

  

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