

# ISO Geodetic Registry

|                           |  |  |
|---------------------------|--|--|
| <i>Item class</i>         | GeodeticCRS  |  |
| <i>Name</i>               | <b>GDA2020 - LatLon</b>  |  |
| <i>Item status</i>        | VALID  |  |
| <i>Identifier</i>         | 284  |  |
| <i>Alias</i>              | GDA2020  |  |
| <i>Information source</i> | <i>Title</i>   | Geocentric Datum of Australia 2020 Technical Manual Version 1.2                            |
|                           | <i>Author</i>  | Permanent Committee on Geodesy of the Intergovernmental Committee on Surveying and Mapping |
|                           | <i>Publisher</i>   | Intergovernmental Committee on Surveying and Mapping                                       |
|                           | <i>Publication date</i>  | 2018-08-24   |
|                           | <i>Edition date</i>  |  |
| <i>Data source</i>        | ISO Geodetic Registry  |  |
| <i>Scope</i>              | Spatial referencing.   |  |
| <i>Datum</i>              | Geocentric Datum of Australia 2020   |  |
| <i>Coordinate System</i>  | Ellipsoidal 2D CS. Axes: latitude, longitude. Orientations: north, east. UoM: degree |  |

## Extent

|                                |  |        |
|--------------------------------|--|--------|
| <i>Description</i>             | <b>Australia - onshore and offshore - mainland, Tasmania, Lord Howe Island, Norfolk Island, Macquarie Island. Christmas Island - onshore and offshore. Cocos (Keeling) Islands - onshore and offshore.</b> |        |
| <i>Geographic Bounding Box</i> | <i>West-bound longitude</i>  | 93.41  |
|                                | <i>North-bound latitude</i>  | -8.47  |
|                                | <i>East-bound longitude</i>  | 173.4  |
|                                | <i>South-bound latitude</i>  | -60.56 |

# ISO Geodetic Registry

|                                   |   |  |
|-----------------------------------|---|--|
| <i>Item class</i>                 | GeodeticDatum   |  |
| <i>Name</i>                       | <b>Geocentric Datum of Australia 2020</b>   |  |
| <i>Item status</i>                | VALID   |  |
| <i>Identifier</i>                 | 186   |  |
| <i>Alias</i>                      | GDA2020   |  |
| <i>Information source</i>         | <i>Title</i>  | Geocentric Datum of Australia 2020 Technical Manual Version 1.2                            |
|                                   | <i>Author</i>   | Permanent Committee on Geodesy of the Intergovernmental Committee on Surveying and Mapping |
|                                   | <i>Publisher</i>  | Intergovernmental Committee on Surveying and Mapping                                       |
|                                   | <i>Publication date</i>   | 2018-08-24   |
|                                   | <i>Edition date</i>   |  |
| <i>Data source</i>                | ISO Geodetic Registry   |  |
| <i>Remarks</i>                    | Replaces GDA94. The reference frame is kept fixed or aligned to the Australian tectonic plate by the Australian Plate Motion Model (PMM) using 3 rates of change of geocentric Cartesian rotations. |  |
| <i>Anchor definition</i>          | ITRF2014 at epoch 2020.0.   |  |
| <i>Release date</i>               | 2017-05   |  |
| <i>Coordinate Reference Epoch</i> | 2020.0  |  |
| <i>Scope</i>                      | Spatial referencing   |  |
| <i>Ellipsoid</i>                  | GRS 1980  |  |
| <i>Prime Meridian</i>             | Greenwich   |  |

## Extent

|                                |  |        |
|--------------------------------|--|--------|
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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  |              |                                |               |           |                  |                                      |                         |         |                            |                     |                             |                  |             |         |

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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 °                         |   |

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|                           |   |   |
|---------------------------|---|---|
| <i>Item class</i>         | EllipsoidalCS   |   |
| <i>Name</i>               | <b>Ellipsoidal 2D CS. Axes: latitude, longitude. Orientations: north, east. UoM: degree</b>   |   |
| <i>Item status</i>        | VALID   |   |
| <i>Identifier</i>         | 43  |   |
| <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 coordinate reference systems. 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 by the supplier of data. |   |

## 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)                            |