

ISO Geodetic Registry

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|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Item class</i> | GeodeticDatum |
| <i>Name</i> | International Terrestrial Reference Frame 1991 |
| <i>Item status</i> | VALID |
| <i>Identifier</i> | 143 |
| <i>Alias</i> | ITRF91 |
| <i>Alias</i> | ITRF 91 |
| <i>Alias</i> | IERS Terrestrial Reference Frame 1991 |
| <i>Information source</i> | <p><i>Title</i> No-net-rotation model of current plate velocities incorporating plate motion model NUVEL-1</p> <p><i>Author</i> D.F. Argus, R.G. Gordon</p> <p><i>Publisher</i> American Geophysical Union</p> <p><i>Publication date</i> 1990-05-01</p> <p><i>Edition date</i></p> <p><i>Series/Journal name</i> Geophysical Research Letters</p> <p><i>Issue identification</i> Volume 18, Issue 11</p> |
| <i>Information source</i> | <p><i>Title</i> ITRF 91 and its associated velocity field</p> <p><i>Author</i> C. Boucher, Z. Altamimi, L. Duhem</p> <p><i>Publisher</i> Central Bureau of IERS - Observatoire de Paris, 61 avenue de l'Observatoire, 75014 Paris, France</p> <p><i>Publication date</i> 1992-10-01</p> <p><i>Edition date</i></p> <p><i>Series/Journal name</i> IERS Technical Notes</p> <p><i>Issue identification</i> 12.0</p> |
| <i>Information source</i> | <p><i>Title</i> IERS Conventions (2010)</p> <p><i>Author</i> G. Petit, B.J. Luzum (eds)</p> <p><i>Publisher</i> Verlag des Bundesamts fur Kartographie und Geodasie</p> <p><i>Publication date</i> 2010</p> <p><i>Edition date</i></p> <p><i>Series/Journal name</i> IERS Technical Notes</p> <p><i>Issue identification</i> 36.0</p> <p><i>Other citation details</i> ISSN: 1019-4568</p> |
| <i>Data source</i> | ISO Geodetic Registry |
| <i>Remarks</i> | Replaces ITRF90. Replaced by ITRF92. This is a purely Cartesian reference frame with no ellipsoid defined. GRS80 is the ellipsoid recommended by the IAG and IERS. |
| <i>Anchor definition</i> | Realisation of the IERS Terrestrial Reference System (ITRS) at reference epoch 2008.0. Origin is defined by SLR. Scale is defined by SLR noting that the scales of some VLBI Solutions (GSFC, NOAA and NAOMZ) are consistent with SLR. Orientation is defined such that no global rotation exists with respect to ITRF90. In order to insure the condition of no-net-rotation of the ITRS orientation with respect to the crust, NNR-NUVEL1 was selected as the reference motion model. Datum defined by a set of 3 dimensional Cartesian station coordinates and velocities given by the citations. The ITRF91 velocity field has been obtained by combination of several site velocity fields estimated by SLR and VLBI analysis centers. |
| <i>Release date</i> | 1992-10-01 |
| <i>Coordinate Reference Epoch</i> | 1988.0 |
| <i>Scope</i> | Spatial referencing |
| <i>Ellipsoid</i> | GRS 1980 |
| <i>Prime Meridian</i> | Greenwich |

Extent

| | | | |
|--------------------------------|-----------------------------|--|--------|
| <i>Description</i> | World. | | |
| <i>Geographic Bounding Box</i> | <i>West-bound longitude</i> | | -180.0 |
| | <i>North-bound latitude</i> | | 90.0 |
| | <i>East-bound longitude</i> | | 180.0 |
| | <i>South-bound latitude</i> | | -90.0 |

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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 | | | | | | | | | | | | | | |

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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 |
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| | <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 ° | |