# ISO Geodetic Registry

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|---|---|---|
| *Item class* | GeodeticCRS | |
| *Name* | **NAD83(CSRS) v7 - XYZ** | |
| *Item status* | VALID | |
| *Identifier* | 448 | |
| *Alias* | North American Datum 1983 v7 | |
| *Alias* | NAD83v7 | |
| *Alias* | Canadian Spatial Reference System 1998 | |
| *Alias* | NAD83 | |
| *Alias* | NAD83(CSRS) | |
| *Alias* | NAD83(CSRS)v7 | |
| *Alias* | NAD83(CSRS98) | |
| *Alias* | CSRS98 | |
| *Alias* | Canadian Spatial Reference System | |
| *Alias* | CSRS | |
| *Information source* | *Title* | Reference Frames: National & International |
| | *Author* | M. Craymer |
| | *Publisher* | Canadian Geodetic Survey, Surveyor General Branch, Earth Sciences Sector, Natural Resources Canada |
| | *Publication date* | 2017-05-01 |
| | *Series/Journal name* | Presentation to Canadian Geodetic Reference Systems Committee Meeting, Ottawa, May 1-2, 2017 |
| *Information source* | *Title* | The Canadian Spatial Reference System (CSRS) |
| | *Author* | Canadian Geodetic Survey |
| | *Publisher* | Canadian Geodetic Survey, Surveyor General Branch, Earth Sciences Sector, Natural Resources Canada, Government of Canada |
| | *Publication date* | 2016-08-30 |
| *Data source* | ISO Geodetic Registry | |
| *Scope* | Spatial referencing | |
| *Datum* | North American Datum of 1983 (CSRS) version 7 | |
| *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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|---|---|---|
| *Description* | **Canada - onshore and offshore - Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon.** | |
| *Geographic Bounding Box* | *West-bound longitude* | -141.01 |
| | *North-bound latitude* | 90.0 |
| | *East-bound longitude* | -47.74 |
| | *South-bound latitude* | 40.04 |

# ISO Geodetic Registry

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|---|---|---|
| *Item class* | GeodeticDatum | |
| *Name* | **North American Datum of 1983 (CSRS) version 7** | |
| *Item status* | VALID | |
| *Identifier* | 166 | |
| *Alias* | North American Datum 1983 v7 | |
| *Alias* | NAD83v7 | |
| *Alias* | Canadian Spatial Reference System 1998 | |
| *Alias* | NAD83 | |
| *Alias* | NAD83(CSRS) | |
| *Alias* | NAD83CSRS | |
| *Alias* | NAD83(CSRS)v7 | |
| *Alias* | NAD83(CSRS98) | |
| *Alias* | CSRS98 | |
| *Alias* | Canadian Spatial Reference System | |
| *Alias* | CSRS | |
| *Information source* | *Title* | The Evolution of NAD83 in Canada: Addendum |
| | *Author* | M. Craymer |
| | *Publisher* | Canadian Institute of Geomatics |
| | *Publication date* | 2006 |
| | *Series/Journal name* | Geomatica |
| | *Issue identification* | Volume 60, No. 4 |
| | *Page* | 433.0 |
| *Information source* | *Title* | The Evolution of NAD83 in Canada |
| | *Author* | M. Craymer |
| | *Publisher* | Canadian Institute of Geomatics |
| | *Publication date* | 2006 |
| | *Series/Journal name* | Geomatica |
| | *Issue identification* | Volume 60, No. 2 |
| | *Page* | 151-164 |
| *Information source* | *Title* | Reference Frames: National & International |
| | *Author* | M. Craymer |
| | *Publisher* | Canadian Geodetic Survey, Surveyor General Branch, Earth Sciences Sector, Natural Resources Canada |
| | *Publication date* | 2017-05-01 |
| | *Series/Journal name* | Presentation to Canadian Geodetic Reference Systems Committee Meeting, Ottawa, May 1-2, 2017 |
| *Information source* | *Title* | The Canadian Spatial Reference System (CSRS) |
| | *Author* | Canadian Geodetic Survey |
| | *Publisher* | Canadian Geodetic Survey, Surveyor General Branch, Earth Sciences Sector, Natural Resources Canada, Government of Canada |
| | *Publication date* | 2016-08-30 |
| *Data source* | ISO Geodetic Registry | |
| *Remarks* | Adopted by the Canadian federal government for Canada, and by the provincial governments in Alberta and Prince Edward Island. Replaces NAD83(CSRS) v6. | |
| *Anchor definition* | Realization of the North American Datum of 1983 for the Canadian Spatial Reference System, referred to as CSRS98 or CSRS. The frame is defined by a time-dependent seven parameter transformation of ITRF2014 3D geocentric Cartesian coordinates and velocities for | |

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| | Canadian and bordering US and Greenland areas at reference epoch 2010.0. The frame is kept aligned to North America at other epochs using the NNR-NUVEL-1A estimate of three Cartesian rotation rates of change representing the tectonic plate motion of North America. The origin, scale and orientation of the frame are nominally defined to be that for the BIH Terrestrial System 1984 (BTS84). |
| *Release date* | 2017-05-01 |
| *Coordinate Reference Epoch* | 2010.0 |
| *Scope* | Spatial referencing |
| *Ellipsoid* | GRS 1980 |
| *Prime Meridian* | Greenwich |

## Extent

| | | |
|---|---|---|
| *Description* | **Canada - onshore and offshore - Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon.** | |
| *Geographic Bounding Box* | *West-bound longitude* | -141.01 |
| | *North-bound latitude* | 90.0 |
| | *East-bound longitude* | -47.74 |
| | *South-bound latitude* | 40.04 |

# ISO Geodetic Registry

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|---|---|---|
| *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

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|---|---|---|
| *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

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|---|---|---|
| *Item class* | CartesianCS | |
| *Name* | **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.** | |
| *Item status* | VALID | |
| *Identifier* | 45 | |
| *Alias* | 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. | |
| *Alias* | ECEF | |
| *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 geocentric coordinate reference systems. | |

## Axes

| | | |
|---|---|---|
| *Item class* | CoordinateSystemAxis | |
| *Name* | **Geocentric X** | |
| *Item status* | VALID | |
| *Identifier* | 33 | |
| *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 | |
| *Abbreviation* | X | |
| *Direction* | Geocentre > equator/0°E | |
| *Unit* | metre | |

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|---|---|
| *Item class* | CoordinateSystemAxis |
| *Name* | **Geocentric Y** |
| *Item status* | VALID |
| *Identifier* | 37 |

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|---|---|---|
| *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 | |
| *Abbreviation* | Y | |
| *Direction* | Geocentre > equator/90°E | |
| *Unit* | metre | |

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|---|---|---|
| *Item class* | CoordinateSystemAxis | |
| *Name* | **Geocentric Z** | |
| *Item status* | VALID | |
| *Identifier* | 39 | |
| *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 | |
| *Abbreviation* | Z | |
| *Direction* | Geocentre > north pole | |
| *Unit* | metre | |