ISO Geodetic Registry

Item class	Transformation	
Name	**ATRF2014 to GDA2020 [GA v1]**	
Item status	VALID	
Identifier	790	
Information source	*Title*	Australian Terrestrial Reference Frame
	Author	Geoscience Australia
	Publisher	Geoscience Australia
	Revision date	2020
	Other citation details	Website. https://www.icsm.gov.au/australian-terrestrial-reference-frame (accessed 2021-09-27)
Information source	*Title*	Australian Terrestrial Reference Frame (ATRF): Technical Implementation Plan
	Author	Intergovernmental Committee on Surveying and Mapping (ICSM)
	Publisher	Geoscience Australia
	Revision date	2020-02-12
	Edition	Version 2.3
	Edition date	2020-02-12
	Other citation details	https://www.icsm.gov.au/sites/default/files/2020-02/ATRF%20Technical%20Implementation%20Plan%20v2.3_1.pdf (accessed 2021-09-27)
Data source	ISO Geodetic Registry	
Remarks	Australian Plate Motion Model	
Operation version	GA v1	
Scope	Spatial referencing	
Operation accuracy	0.03 m	
Source CRS	ATRF2014 - XYZ	
Target CRS	GDA2020 - XYZ	
Operation method	Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)	

Extent

Description	**Australia including Lord Howe Island, Macquarie Island, Ashmore and Cartier Islands, Christmas Island, Cocos (Keeling) Islands, Norfolk Island. All onshore and offshore.**	
Geographic Bounding Box	*West-bound longitude*	93.41
	North-bound latitude	-8.47
	East-bound longitude	173.34
	South-bound latitude	-60.56

Operation parameter values

X-axis translation	0.0 millimetre
Y-axis translation	0.0 millimetre
Z-axis translation	0.0 millimetre
X-axis rotation	0.0 milliarc-second
Y-axis rotation	0.0 milliarc-second
Z-axis rotation	0.0 milliarc-second

Scale difference	0.0 parts per billion
Rate of change of X-axis translation	0.0 millimetre per year
Rate of change of Y-axis translation	0.0 millimetre per year
Rate of change of Z-axis translation	0.0 millimetre per year
Rate of change of X-axis rotation	1.50379 milliarc-second per year
Rate of change of Y-axis rotation	1.18346 milliarc-second per year
Rate of change of Z-axis rotation	1.20716 milliarc-second per year
Rate of change of scale difference	0.0 parts per billion per year
Time reference	2020.0 year

ISO Geodetic Registry

Item class	OperationMethod
Name	**Time-Dependent Coordinate Frame Transformation (geocentric Cartesian domain)**
Item status	VALID
Identifier	94
Alias	Time-Dependent 7-Parameter Transformation
Alias	14-Parameter Transformation
Alias	Time-Dependent Coordinate Frame Transformation
Data source	ISO Geodetic Registry
Remarks	Note the analogy with the Time-dependent Position Vector Transformation but beware of the differences! The Position Vector Transformation convention is used by IAG.
Formula	Geomatics Guidance Note No 7, part 2: Coordinate Conversions and Transformations including Formulas

Operation parameters

X-axis translation
Y-axis translation
Z-axis translation
X-axis rotation
Y-axis rotation
Z-axis rotation
Scale difference
Rate of change of X-axis translation
Rate of change of Y-axis translation
Rate of change of Z-axis translation
Rate of change of X-axis rotation
Rate of change of Y-axis rotation
Rate of change of Z-axis rotation
Rate of change of scale difference
Time reference