

ISO Geodetic Registry

Item class	Transformation		
Name	ITRF96 to ITRF2014 [LINZ v1]		
Item status	VALID		
Identifier	651		
Information source	Title	Transforming between ITRF and NZGD2000	
	Author	Land Information New Zealand	
	Publisher	Land Information New Zealand	
	Publication date	2017-05-09	
Data source	ISO Geodetic Registry		
Remarks	Typically used as the second step in a two-step process to transform coordinates from NZGD2000 to ITRF2014. The first step is to transform coordinates from NZGD2000, which is aligned to ITRF96 at epoch 2000.0, to ITRF96 at the specified epoch using the latest version of that transformation. The ITRF96 coordinate at the specified epoch is then transformed to ITRF2014 at the same epoch using this transformation.		
Operation version	LINZ v1		
Scope	Spatial referencing.		
Operation accuracy	0.001 m		
Source CRS	ITRF96 - XYZ		
Target CRS	ITRF2014 - XYZ		
Operation method	Time-Dependent Position Vector Transformation (geocentric Cartesian domain)		

Extent

<i>Description</i>	New Zealand - onshore and offshore - Antipodes Islands, Auckland Islands, Bounty Islands, Campbell Island Chatham Islands, Kermadec Islands, North Island, Raoul Island, Snares Islands, South Island, Stewart Island.		
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	160.0	
	<i>North-bound latitude</i>	-25.0	
	<i>East-bound longitude</i>	-170.0	
	<i>South-bound latitude</i>	-60.0	

Operation parameter values

<i>X-axis translation</i>	-6.4 millimetre
<i>Y-axis translation</i>	-3.99 millimetre
<i>Z-axis translation</i>	14.27 millimetre
<i>X-axis rotation</i>	0.16508 milliarc-second
<i>Y-axis rotation</i>	-0.26897 milliarc-second
<i>Z-axis rotation</i>	-0.11984 milliarc-second
<i>Scale difference</i>	-1.08901 parts per billion
<i>Rate of change of X-axis translation</i>	-0.79 millimetre per year
<i>Rate of change of Y-axis translation</i>	0.6 millimetre per year
<i>Rate of change of Z-axis translation</i>	1.44 millimetre per year
<i>Rate of change of X-axis rotation</i>	0.01347 milliarc-second per year
<i>Rate of change of Y-axis rotation</i>	-0.01514 milliarc-second per year

<i>Rate of change of Z-axis rotation</i>	-0.01973 milliarc-second per year
<i>Rate of change of scale difference</i>	0.07201 parts per billion per year
<i>Time reference</i>	2000.0 year

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<i>Item class</i>	OperationMethod
<i>Name</i>	Time-Dependent Position Vector Transformation (geocentric Cartesian domain)
<i>Item status</i>	VALID
<i>Identifier</i>	82
<i>Alias</i>	Time-Dependent 7-Parameter Transformation
<i>Alias</i>	14-Parameter Transformation
<i>Alias</i>	Time-Dependent Position Vector Transformation
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	Note the analogy with the rotation for the Time-dependent Coordinate Frame Transformation but beware of the differences! The Position Vector Transformation convention is used by IAG.
<i>Formula</i>	Geomatics Guidance Note No 7, part 2: Coordinate Conversions and Transformations including Formulas

Operation parameters

<i>X-axis translation</i>
<i>Y-axis translation</i>
<i>Z-axis translation</i>
<i>X-axis rotation</i>
<i>Y-axis rotation</i>
<i>Z-axis rotation</i>
<i>Scale difference</i>
<i>Rate of change of X-axis translation</i>
<i>Rate of change of Y-axis translation</i>
<i>Rate of change of Z-axis translation</i>
<i>Rate of change of X-axis rotation</i>
<i>Rate of change of Y-axis rotation</i>
<i>Rate of change of Z-axis rotation</i>
<i>Rate of change of scale difference</i>
<i>Time reference</i>