ISO Geodetic Registry

Item class	Transformation	
Name	**ITRF96 to ITRF2005 [LINZ v1]**	
Item status	VALID	
Identifier	520	
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 ITRF2005. 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 ITRF2005 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	ITRF2005 - XYZ	
Operation method	Time-Dependent Position Vector Transformation (geocentric Cartesian domain)	

Extent

Description	**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.**	
Geographic Bounding Box	*West-bound longitude*	160.0
	North-bound latitude	-25.0
	East-bound longitude	-170.0
	South-bound latitude	-60.0

Operation parameter values

Time reference	2000.0 year
Rate of change of scale difference	0.10201 parts per billion per year
Rate of change of Z-axis rotation	-0.01973 milliarc-second per year
Rate of change of Y-axis rotation	-0.01514 milliarc-second per year
Rate of change of X-axis rotation	0.01347 milliarc-second per year
Rate of change of Z-axis translation	1.34 millimetre per year
Rate of change of Y-axis translation	0.6 millimetre per year
Rate of change of X-axis translation	-0.49 millimetre per year
Scale difference	-0.46901 parts per billion
Z-axis rotation	-0.11984 milliarc-second
Y-axis rotation	-0.26897 milliarc-second
X-axis rotation	0.16508 milliarc-second

Z-axis translation	12.97 millimetre
Y-axis translation	-2.99 millimetre
X-axis translation	-6.8 millimetre

ISO Geodetic Registry

Item class	OperationMethod
Name	**Time-Dependent Position Vector Transformation (geocentric Cartesian domain)**
Item status	VALID
Identifier	82
Alias	Time-Dependent 7-Parameter Transformation
Alias	14-Parameter Transformation
Alias	Time-Dependent Position Vector Transformation
Data source	ISO Geodetic Registry
Remarks	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.
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