

# ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	<b>ITRF96 to ITRF2005 [LINZ v1]</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	520	
<i>Information source</i>	<i>Title</i>	Transforming between ITRF and NZGD2000
	<i>Author</i>	Land Information New Zealand
	<i>Publisher</i>	Land Information New Zealand
	<i>Publication date</i>	2017-05-09
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	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.	
<i>Operation version</i>	LINZ v1	
<i>Scope</i>	Spatial referencing.	
<i>Operation accuracy</i>	0.001 m	
<i>Source CRS</i>	ITRF96 - XYZ	
<i>Target CRS</i>	ITRF2005 - XYZ	
<i>Operation method</i>	Time-Dependent Position Vector Transformation (geocentric Cartesian domain)	

## Extent

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

<i>Z-axis translation</i>	12.97 millimetre
<i>Y-axis translation</i>	-2.99 millimetre
<i>X-axis translation</i>	-6.8 millimetre

# ISO Geodetic Registry

<i>Item class</i>	OperationMethod
<i>Name</i>	<b>Time-Dependent Position Vector Transformation (geocentric Cartesian domain)</b>
<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>