

# ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	<b>NZGD2000 to NZVD2009 - NOHt [LINZ]</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	681	
<i>Alias</i>	NZGeoid2009	
<i>Information source</i>	<i>Title</i>	Standard for New Zealand Vertical Datum 2009
	<i>Author</i>	Office of the Surveyor General
	<i>Publisher</i>	Land Information New Zealand
	<i>Publication date</i>	2009-09-14
	<i>Edition date</i>	
	<i>Issue identification</i>	LINZS25004
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	Grid transformation using quasigeoid model New Zealand Quasigeoid 2009 (NZGeoid2009).	
<i>Operation version</i>	LINZ	
<i>Scope</i>	Spatial referencing.	
<i>Operation accuracy</i>	0.06 m	
<i>Source CRS</i>	NZGD2000 - LatLonEHt	
<i>Target CRS</i>	NZVD2009 - NOHt	
<i>Operation method</i>	Geographic3D to Gravity Related Height (NZgeoid)	

## 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>Geoid (height correction) model file</i>	nzgeoid09.sid
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# ISO Geodetic Registry

<i>Item class</i>	OperationMethod
<i>Name</i>	<b>Geographic3D to Gravity Related Height (NZgeoid)</b>
<i>Item status</i>	VALID
<i>Identifier</i>	92
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	<p>This transformation involves the application of a geoid-ellipsoid separation value interpolated from a quasi-geoid model. The model provides separation values at the nodes on a regular grid of latitude and longitude intersection points. The geodetic latitude and longitude used to interpolate within the grid are not affected by this transformation. The grid is referenced to a specific geographic CRS (the source CRS) and interpolation must be made in this system. Calculation of the separation is achieved through a bi-linear interpolation of the grid, using the latitude and longitude of the point. This step provides the geoid-ellipsoid separation (N) above the ellipsoid of the source Geographic 3D CRS. The normal orthometric height (H) in the target vertical CRS is then determined from: <math>H = h - N</math> where <math>h</math> = the height above the ellipsoid in the source geographic 3D CRS.</p>

## Operation parameters

*Geoid (height correction) model file*