ISO Geodetic Registry

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

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

Geoid (height correction) model file	nzgeoid09.sid

ISO Geodetic Registry

Item class	OperationMethod
Name	**Geographic3D to Gravity Related Height (NZgeoid)**
Item status	VALID
Identifier	92
Data source	ISO Geodetic Registry
Remarks	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: $H = h - N$ where $h =$ the height above the ellipsoid in the source geographic 3D CRS.

Operation parameters

Geoid (height correction) model file