ISO Geodetic Registry

Item class	Transformation	
Name	**NAD83(CSRS) v4 to CGVD28 [v1]**	
Item status	VALID	
Identifier	968	
Information source	*Title*	Referencing and Time Tagging Heights in Canada
	Author	M. Veronneau
	Publisher	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	Publication date	2018
	Series/Journal name	Internal Report
Information source	*Title*	Geoid Models
	Author	Canadian Geodetic Survey
	Publisher	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	Revision date	2021-12-07
	Other citation details	Website. https://webapp.geod.nrcan.gc.ca/geod/data-donnees/geoid.php?locale=en (accessed 2022-01-21).
Information source	*Title*	GPS-H
	Author	Canadian Geodetic Survey
	Publisher	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	Revision date	2021-03-15
	Other citation details	Website: https://webapp.geod.nrcan.gc.ca/geod/tools-outils/gpsh.php
Information source	*Title*	Height Transformation version 2.0 (HTv2.0), Epochs 2002.0 and 2010.0
	Author	M. Veronneau
	Publisher	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	Publication date	2019
	Series/Journal name	Internal Report
Information source	*Title*	The GPS Height Transformation (v2.0): An Ellipsoidal-CGVD28 Height Transformation for Use With GPS in Canada
	Author	M. Veronneau, A. Mainville, M. Craymer
	Publisher	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	Publication date	2001
	Series/Journal name	Internal Report
Data source	ISO Geodetic Registry	
Remarks	Grid transformation from NAD83(CSRS) v4 ellipsoidal heights at epoch 2002.0 to CGVD28 normal orthometric heights. Derived from the NAD83(CSRS) v3 to CGVD28 transformation by applying the NAD83(CSRS) v7 velocity model to incorporate the propagation of heights from epoch 1997.0 to 2002.0. Bi-linear interpolation of the grid file will give results agreeing to within 1cm 99.97% of the time.	
Operation version	v1	
Scope	Spatial referencing.	
Operation accuracy	0.05 m	
Source CRS	NAD83(CSRS) v4 - LatLonEHt	
Target CRS	CGVD28 - NOHt	
Operation method	Geographic3D to Gravity Related Height (Canada)	

Extent

Description	**Canada - onshore and offshore - Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland and Labrador, Northwest Territories, Nova Scotia, Nunavut, Ontario, Prince Edward Island, Quebec, Saskatchewan, Yukon.**	
Geographic Bounding Box	*West-bound longitude*	-141.01
	North-bound latitude	90.0
	East-bound longitude	-47.74
	South-bound latitude	40.04

Operation parameter values

Geoid (height correction) model file	HT2_2002v70.byn

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Item class	OperationMethod
Name	**Geographic3D to Gravity Related Height (Canada)**
Item status	VALID
Identifier	89
Data source	ISO Geodetic Registry
Remarks	For consistency with earlier geoid models in Canada, reference software for CGG2013 and CGG2013a uses bi-quadratic interpolation over nine grid nodes. The bi-linear interpolation is sufficient for most uses as the newer models have a higher spatial resolution. See information source for file format documentation.
Formula	The GPS Height Transformation (v2.0): An Ellipsoidal-CGVD28 Height Transformation for Use With GPS in Canada

Operation parameters

Geoid (height correction) model file