

# ISO Geodetic Registry

<i>Item class</i>	Transformation	
<i>Name</i>	<b>NAD83(CSRS) v4 to CGVD28 [v1]</b>	
<i>Item status</i>	VALID	
<i>Identifier</i>	968	
<i>Information source</i>	<i>Title</i>	Referencing and Time Tagging Heights in Canada
	<i>Author</i>	M. Veronneau
	<i>Publisher</i>	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	<i>Publication date</i>	2018
	<i>Series/Journal name</i>	Internal Report
<i>Information source</i>	<i>Title</i>	Geoid Models
	<i>Author</i>	Canadian Geodetic Survey
	<i>Publisher</i>	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	<i>Revision date</i>	2021-12-07
	<i>Other citation details</i>	Website: <a href="https://webapp.geod.nrcan.gc.ca/geod/data-donnees/geoid.php?locale=en">https://webapp.geod.nrcan.gc.ca/geod/data-donnees/geoid.php?locale=en</a> (accessed 2022-01-21).
<i>Information source</i>	<i>Title</i>	GPS-H
	<i>Author</i>	Canadian Geodetic Survey
	<i>Publisher</i>	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	<i>Revision date</i>	2021-03-15
	<i>Other citation details</i>	Website: <a href="https://webapp.geod.nrcan.gc.ca/geod/tools-outils/gpsh.php">https://webapp.geod.nrcan.gc.ca/geod/tools-outils/gpsh.php</a>
<i>Information source</i>	<i>Title</i>	Height Transformation version 2.0 (HTv2.0), Epochs 2002.0 and 2010.0
	<i>Author</i>	M. Veronneau
	<i>Publisher</i>	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	<i>Publication date</i>	2019
	<i>Series/Journal name</i>	Internal Report
<i>Information source</i>	<i>Title</i>	The GPS Height Transformation (v2.0): An Ellipsoidal-CGVD28 Height Transformation for Use With GPS in Canada
	<i>Author</i>	M. Veronneau, A. Mainville, M. Craymer
	<i>Publisher</i>	Geodetic Survey Division, Natural Resources Canada, Government of Canada
	<i>Publication date</i>	2001
	<i>Series/Journal name</i>	Internal Report
<i>Data source</i>	ISO Geodetic Registry	
<i>Remarks</i>	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.	
<i>Operation version</i>	v1	
<i>Scope</i>	Spatial referencing.	
<i>Operation accuracy</i>	0.05 m	
<i>Source CRS</i>	NAD83(CSRS) v4 - LatLonEHt	
<i>Target CRS</i>	CGVD28 - NOHt	
<i>Operation method</i>	Geographic3D to Gravity Related Height (Canada)	

## Extent

<i>Description</i>	<b>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.</b>		
<i>Geographic Bounding Box</i>	<i>West-bound longitude</i>	-141.01	
	<i>North-bound latitude</i>	90.0	
	<i>East-bound longitude</i>	-47.74	
	<i>South-bound latitude</i>	40.04	

## Operation parameter values

<i>Geoid (height correction) model file</i>	HT2_2002v70.byn
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<i>Item class</i>	OperationMethod
<i>Name</i>	<b>Geographic3D to Gravity Related Height (Canada)</b>
<i>Item status</i>	VALID
<i>Identifier</i>	89
<i>Data source</i>	ISO Geodetic Registry
<i>Remarks</i>	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.
<i>Formula</i>	The GPS Height Transformation (v2.0): An Ellipsoidal-CGVD28 Height Transformation for Use With GPS in Canada

## Operation parameters

*Geoid (height correction) model file*