ISO Geodetic Registry

Item class Transformation

NGVD29 - NOHt to NAVD88 - OHt [v2]

Item statusVALIDIdentifier541

Information source

Information source Title National Vertical Control Network - Proposed

Action

Author US Government

Publisher Office of Federal Register, NARA

Publication date 1973-05-16 Edition date 1973-05-16

Series/Journal name Federal Register Notice

Issue identification Volume 38, No. 94, Document 73-9694

Page 12840.0

Other citation details Proposed use of NGVD 29 to replace SLD 29

Title Affirmation of Vertical Datum for Surveying and

Mapping Activities

Author US Government

Publisher Office of Federal Register, NARA

Publication date 1993-06-24 Edition date 1993-06-24

Series/Journal name Federal Register Notice

Issue identification Volume 58, No. 120, Document: 93-14922,

Docket No. 930650-3150

Other citation details Mandates use of NAVD 88

Information source Title Notice to Adopt a Standard Model for

Mathematical Vertical Datum Transformations

Author US Government

Publisher Office of Federal Register, NARA

Publication date 2007-07-11 Edition date 2007-07-11

Series/Journal name Federal Register Notice

Issue identification Volume 72, No. 132, Document: 07-3377

Page 37732.0

Other citation details Mandates use of VERTCON for official

transformations between datums

Information source Title National Vertical Control Network - Notice of Final

Action

Author US Government

Publisher Office of Federal Register, NARA

Publication date 1976-05-14 Edition date 1976-05-17

Series/Journal name Federal Register Notice

Issue identification Volume 41, No. 96, Document 76-14245

Page 20202.0

Other citation details Formally adopted usage of NGVD 29 as datum

name

Information source Title Annual Report of the Director, United States

Coast and Geodetic Survey to the Secretary of Commerce for the Fiscal Year Ended June 30,

1930

Author US Government

Publisher Government Printing Office

Publication date 1930-06-30 Edition date 1930-06-30 Page 33.0 Other citation details NGVD29 Information source Title Results of the General Adjustment of the North

American Vertical Datum of 1988

Author D.B. Zilkoski, J.H. Richards, G.M. Young
Publisher American Cobgress on Surveying and Mapping

Publication date 1992-03-01 Edition date 1992-03-01

Series/Journal name Surveying and Land Information Systems

Issue identification Volume 52, No. 3

Page 133-149

Other citation details One of many NAVD 88 publiations. Nothing

definitive was every written, but this is most cited

Information source Title VERTCON User Manual

Author National Geodetic Survey

Publisher National Oceanic and Atmospheric Administration

(NOAA), National Geodetic Survey (NGS)

Publication date 2003-09-29 Edition date 2003-09-29

Other citation details NGS Online Readme File; Provides grids and

usage of VERTCON for transformations between

NGVD 29 and NAVD 88

Data source ISO Geodetic Registry
Remarks Grid Transformation

Operation version v2

Scope Spatial referencing

Operation accuracy 0.15 m

Source CRS NGVD29 - NOHt
Target CRS NAVD88 - OHt
Operation method VERTCON

Extent

Description	United States (USA) - onshore - central CONUS				
	(Arkansas, Illinois, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, Texas,				
				Wisconsin).	
				Geographic Bounding Box	West-bound longitude
	North-bound latitude	50.0			
East-bound longitude	-84.0				
	South-bound latitude	24.0			

Operation parameter values

rieight difference file vertconc.34	Height difference file	vertconc.94	
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ISO Geodetic Registry

Item class OperationMethod

Name **VERTCON**

Item status **VALID** Identifier 84

Alias Grid transformation using VERTCON 2.1

Data source ISO Geodetic Registry

Remarks The relationship between NGVD29 height and NAVD88 height vertical

coordinate reference systems for the coterminous US is available through three gridded data files of offsets (sometimes called height differences). The vertical offset at a point is first interpolated within the grid of values using bi-linear interpolation. The interpolated offset is then applied as an offset: • If a NAVD88 height is desired when a NGVD29 height is given, add the interpolated offset to the NGVD29 height. • If a NGVD29 height is desired when a NAVD88 height is given, subtract the interpolated offset from the NAVD88 height. Most horizontal positions of the bench marks used to generate the VERTCON grids were scaled from USGS topographic maps. The estimated uncertainty of the scaled positions, 6 arc-seconds, is greater than the differences between NAD27 and NAD83 coordinates. Therefore the latitude and longitude used for interpolation of the grids can be referenced to either NAD27 or to NAD83(1986) or to any of the

NAD83(NSRS) realisations (HARN, NSRS2007 or 2011).

Operation parameters

Height difference file