ISO Geodetic Registry

Item class Transformation

Name WGS 84 (G1674) to WGS 84 EGM96 - OHt [1]

Item statusVALIDIdentifier608

Information source Title The Development of the Joint NASA GSFC and

the NIMA Geopotential Model EGM96

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Trimmer, N. K. Pavlis, D. S. Chinn, C. M. Cox, S. M. Klosko, S. B. Luthcke, M. H. Torrence, Y. M. Wang, R. G. Williamson, E. C. Pavlis, R. H. Rapp,

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Publisher National Aeronautics and Space Administration

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Edition date

Series/Journal name Technical Paper

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Information source Title NGA/NASA EGM96,N=M=360 Earth Gravitational

Model

Author NGA Office of Geomatics

Publisher National Geospatial-Intelligence Agency

Revision date 2014-10-24

Edition date

Data source ISO Geodetic Registry

Remarks Transformation from WGS 84 (G1674) ellipsoidal heights to EGM96

orthometric heights using the EGM 96 geoid grid.

Operation version 1.0

Scope Spatial referencing

Operation accuracy 1.0 m

Source CRS WGS 84 (G1674) - LatLonEHt

Target CRS WGS 84 EGM96 - OHt

Operation method Geographic3D to Gravity Related Height (EGM96)

Extent

Description	World.	
Geographic Bounding Box	West-bound longitude	-180.0
	North-bound latitude	90.0
	East-bound longitude	180.0
	South-bound latitude	-90.0

Operation parameter values

Geoid (height correction) model file	WW15MGH.GRD	

ISO Geodetic Registry

Item class OperationMethod

Name Geographic3D to Gravity Related Height

(EGM96)

Item status VALID
Identifier 70

Data source ISO Geodetic Registry

Remarks This transformation involves the application of a geoid-ellipsoid

separation value interpolated from a 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 spline interpolation developed for the EGM96 grids, 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 orthometeric height (H) is then computed from the ellipsoid height (h) in the source Geographic 3D CRS using: H = h - N Applies to EGM96 model. For earlier model see Geographic3D to GravityRelatedHeight (EGM84) and for later model see Geographic3D to GravityRelatedHeight (EGM2008).

Operation parameters

Geoid (height correction) model file