

# ISO Geodetic Registry

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| <i>Item class</i>  | OperationMethod  |
| <i>Name</i>        | <b>Geographic3D to Gravity Related Height (EGM84)</b>  |
| <i>Item status</i> | VALID  |
| <i>Identifier</i>  | 76   |
| <i>Data source</i> | ISO Geodetic Registry  |
| <i>Remarks</i>     | <p>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 bi-linear interpolation of the EGM84 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 orthometric height (H) is then computed from the ellipsoid height (h) in the source Geographic 3D CRS using: <math>H = h - N</math> Applies to EGM84 models. For later models see Geographic3D to GravityRelatedHeight (EGM96) and Geographic3D to GravityRelatedHeight (EGM2008).</p> |

## Operation parameters

*Geoid (height correction) model file*