



## **Feasibility Accuracy Evaluation of Geoidal Heights in National Control Points of South Korea**

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Determination of precise geoidal heights is very important to understand the Earth's gravity field. Several high-degree geopotential models are derived from by using satellite tracking data such as Gravity Recovery and Climate Experiment (GRACE) and Gravity field and steady-state Ocean Circulation Explorer (GOCE), satellite altimeter data, and terrestrial and airborne gravity data. The Korean National Geoid (KNGeoid) models by National Geographic Information Institute (NGII) were developed by using the latest earth gravity model which is a combination of gravity from satellites and land gravity data. This study evaluates the accuracy of KNGeoid model in comparison with GNSS/Leveling geoidal height of unified control points (UCPs) installed by NGII in South Korea since 2008. In addition, geoidal heights derived from the latest high-degree earth gravity models such as GECO, EIGEN-6C4, and EGM2008 are compared with GNSS/Leveling geoid heights of UCPs to determine suitable geopotential model in South Korea.

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