



ATMACS – Atmospheric Attraction Computation Service basing on operational Weather Models

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In the analysis of gravimetric time series the atmospheric correction is usually done by using the local air pressure record. Although up to 90-95 % of the atmospheric signal can be reduced in this way, modern superconducting gravimeters require an even better atmospheric correction if small signals are to be identified. The 3-dimensional modelling of atmospheric mass attraction based on operational weather models has shown to improve the correction.

Atmacs is a service to provide time series of atmospheric vertical mass attraction computed on the basis of weather models of the German Weather Service (DWD), the regional model COSMO-EU and the global model GME. The attraction time series having a temporal resolution of 6 hours are updated daily. A simple loading model based on a Green's functions approach is also provided. Recently 13 European stations of the Global Geodynamics Project (GGP) are included in the automated computation routine. The integration of non-European stations is in preparation.

Furthermore, for an arbitrary station located within the limits of the regional model, attraction time series for a limited time interval can be computed on request. This option is designed for absolute gravity measurements which are usually carried out within a limited time interval.

The service is open to the public under <http://atmacs.bkg.bund.de>