

On the remove-restore process for computing the generalized Bouguer anomaly

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In the computation of the generalized Bouguer anomaly, topographic masses are moved or removed by the terrain and Bouguer corrections, which results in changes of the geopotential field. From the viewpoints of computing the generalized Bouguer anomaly, the geopotential field should be conserved, or such changes of the geopotential field are desired to be as small as possible.

In the present study, the author presents the significance of the newly introduced concept of the specific datum levels of gravity reduction and demonstrates that the remove-restore process in the computation of the generalized Bouguer anomaly at the specific datum level can exactly realize such conservation of the geopotential field.