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## **Full-resolution STRM topographic data and regional geoid computation**

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Detailed topographic data need to be integrated into regional geoid computation where other data sources involve irregularly distributed point free air anomalies and a global gravity model giving longer wavelength free air anomalies. Free air anomalies from the global gravity model must be subtracted from local gravity data to eliminate long-wavelength effects while the gravity effect of detailed local topography needs to be removed from the resulting residual gravity anomalies to improve the reliability of their interpolation and gridding. This paper discusses how to account for the long wavelength topographic information implicit in global free air anomalies while computing topographic effects with the full resolution from STRM data that provide essentially ellipsoidal heights on a 1 or 3 arc-sec grid of latitude and longitude. It combines a direct spherical transform of STRM data with the ‘hedgehog’ algorithm for local effects.