

Efforts Toward A 10' Geoid for South America

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ABSTRACT

A great effort has been carried out in the last two years by the Sub-Commission for the Geoid in South America (SCGSA) to improve the gravity data coverage as well as the digital terrain model (DTM). Several countries have re-organized and validated their gravity data. GPS observations have been carried out on geometric levelling, in particular due to the facilities provided by SIRGAS project. In Brazil and Argentina a quite considerable amount of topographic maps have been digitised. This has been done mainly with the cooperation of the Geophysical Exploration Technology (GETECH) - University of Leeds, but also with the contribution of other organizations. The joint NASA/NIMA EGM96 geopotential model offers a new confidence on the long wavelength components of the geoid and, at some instance, on the short wavelength too. The very recent Sandwell satellite gravity model (version 7.2) derived from the most updated observations including TOPEX-POSEIDON is an important contribution in the ocean areas. All these improvements encouraged an attempt for a 10' geoid model for South America to be presented.