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Results of the first seven years of the Brazilian Geodetic Tide Gauge Network

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The Brazilian Geodetic Tide Gauge Network (RMPG) was designed with the main objective to contribute to the improvement of the Brazilian height system (e.g. the abstract in the session G11). Its five stations are equipped with two independent sea level observation systems, besides CGPS receivers and auxiliary met-sensors in some of them. Imbituba and Macaé primmary sensors were installed mid-2001, while Salvador is working since December 2002, Santana since June 2005 and Fortaleza since September 2007. Several levelings were performed to connect the reference points of the sensors to the benchmarks and the CGPS antennae – except for Macae, the only station without CGPS control. The geodetic control procedures also include the so-called van de Casteele test, run at least yearly in each station to independently check the stability and interconnection of its sensors. Preliminary analysis of mean sea level in Imbituba and Macaé from 2002 to 2006 have shown an approximate 1,5mm/yr MSL elevation in Imbituba and a much larger rate for Macaé. However, there are some evidences of a strong subsidence in Macaé site, including results of episodic GPS campaigns over its benchmarks. The results of an integrated analysis of all sea level and geodetic control observations are presented and discussed.