

COMPARISON AND ANALYSIS OF CLIMATOLOGY IN THE MADEIRA RIVER USING ALTIMETRY DATA AND PRECIPITATION DATA

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The Madeira River is considered as one of the main tributaries of the Amazon River. According to Freitas *et al.*, (2011) the hydrological regime is characterized by a full wave multimodal, slow rise and rapid recession, as the drought occurring, preferably, during the months of September to November and the full stretching during the months from February to June. These data were generated through using satellite altimetry data from ENVISAT. The altimetry allows the measurement of water in continental river system through an altimeter from the same geodesic reference, validating and comparing data obtained *in situ*. We used the tool *Virtual Altimetry Station* – VALS (VALS, 2011) to calculate the measure altimetry which allows you to generate time series and analyze the hydrological regime of the River. This study set out to use such elevation data and compare with MERGE rainfall data for the period 2002-2010 years in the Madeira River, in which, it was possible to observe a lag between maximum quota and maximum amount of rainfall in virtual stations. MERGE rainfall data is a new technique to combine TRMM (Tropical Rainfall Measuring Mission) satellite precipitation estimates with surface observations (Surface Synoptic Observations-SYNOP data) over the South American continent (Vila *et al.*, 2009).