Evaluating the Impact of the Geopotential Height Profile Data Assimilation Deriving from the AIRS/AQUA Sensor by the CPTEC's RPSAS Assimilation Model

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Due to improve the weather forecast through the geopotential height profiles data assimilation, this paper aims to present a case study occurred in the south of Brazil considering a period of the winter season (in the Southern Hemisphere), when strong raining events were occurred. This season were characterized by the incursion of several frontal systems which caused low temperatures, several strong raining and storms. The assimilation system used to data assimilation were the CPTEC's Data Assimilation System, the RPSAS – Regional Physical-Statistical Assimilation System, based on the DAO's Assimilation System (PSAS). In this process, the geopotencial height profile were assimilated during the period and some of the results show that the 1-3 days forecast are improved for some variables like temperature and precipitable water for the analysis.