



Impact of a high density GPS network on the operational forecast

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The Zenith Total Delay (GPS ZTD) from the Global Positioning System provides information about the water vapour in atmosphere. Therefore, its assimilation is expected to improve the weather forecast, providing the right amount of moisture and reducing the model spinup.

In the last year, an high density GPS network has been installed on the Basilicata region (south of Italy) by the Italian Space Agency in the framework of a national project named MAGIC2. MAGIC2 is the Italian follow on of the EC project MAGIC. Daily operational data assimilation experiments are performed since December 2003. Results show that the assimilation of GPS ZTD improves the forecast especially during the transition from winter to spring even using a model resolution of 9km.