Session: C4 Poster: TH182B

CLIVAR-SPAIN contributions: Seasonal cycle at the surface of the Iberian Peninsula as represented by a mesoscale meteorological Reanalysis (IPRA) using WRFDA.

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The period 1990-2000 has been simulated by means of the WRF model over a domain covering the Iberian Peninsula with a 15kmx15km horizontal resolution and output files stored every 3 hours for the period 1990-2000.The WRF model run was nested inside the ERA40 Reanalysis data. Two integrations with the WRF model have been carried out. In one of the integrations (NO_DA), the WRF mesoscale model has only been fed with reanalysis information through the boundaries of the domain. In the second integration (IPRA), 3DVAR assimilation of surface observations, air reports and vertical soundings has been carried out at a 12 hours interval by means of WRFDA. The observations assimilated into the mesoscale integrations are the ones tagged as error-free in the analysis feedback files from ERA40. Results shown in this poster explore the differences found between the two simulations regarding surface temperature, wind, moisture or precipitation at the different seasons of the year. The most remarkable difference found between both simulations implies that assimilation of observations leads to a clearly improved representation of surface temperature over land areas, correcting the biases observed on the model outputs over the area in previous studies. Authors thank ECMWF for allowing access to data archived at the MARS server through special project SPESIPRA and the authors of the WRFDA modeling and assimilation system.