



## **A climatology of soil moisture, heat and carbon fluxes for Europe from regional and land-surface models.**

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In order to assess the present water, carbon, and energy exchange between land surface and atmosphere, we use the process-based land biosphere model ORCHIDEE.

Our model version is forced by the outputs of two different limited area models (RegCM3 and WRF), for the Europe-Mediterranean domain with a spatial resolution of 30 kilometers. ORCHIDEE is run in off-line for the period 1997 to 2007.

A climatology of temperatures, surface hydrology variables, fluxes of heat and carbon, is created. A comparison is carried out between the climatologies issued from the forcing of the different regional models, and a validation is performed versus observational data.

The observational datasets used for validation originate from the CRU (Climatic Research Unit, University of East Anglia) ECA (European Climate Assessment) and from the CARBOEUROPE network, including, a large number of sites across Europe.