Three land data assimilation project scientist and engineer 24 to 42-month positions at CNRM (UNIVERSITE DE TOULOUSE, METEO-FRANCE, CNRS)

Applications are invited for three post-doctoral and engineer positions starting in July-October 2023, at Météo-France, in the Mesoscale Modelling Group of Centre National de Recherches Météorologiques (CNRM) in Toulouse, France (http://www.umr-cnrm.fr/) to work on the following subject:

Upgrading a global land data assimilation system for climate applications

(24-month to 42-month contracts)

CNRM develops the ISBA land surface model within SURFEX, an operational modeling platform able to simulate the terrestrial water and carbon fluxes. SURFEX can be coupled to a number of atmospheric and hydrological models, and includes a global land data assimilation system (LDAS-Monde) based on an Extended Kalman filter, able to assimilate satellite data to analyze soil moisture and vegetation biomass at spatial resolutions ranging from 1 to 25 km. Satellite-derived products (e.g. soil moisture, LAI, snow variables) are integrated into the ISBA land surface model.

The recruits will contribute to develop the assimilation of new satellite data by LDAS-Monde in order to enhance climate monitoring applications and surface initial conditions for seasonal forecasts. They will work as a team to improve the existing tool and develop new observation operators based on machine learning techniques. Solar-induced fluorescence observations, microwave brightness temperatures and backscattering coefficients will be assimilated. Land-cover change data will be used. Land surface temperature data will be used for verification.

The gross annual salary will vary from about 40000 € to 48000 €, depending on qualification.

Application should be done by email by sending a resume, a motivation letter, and the names, telephone and email address of two referees to:

jean-christophe.calvet@meteo.fr

The closing date for applications is **28 February 2023.**

The candidates should have knowledge of at least one of these topics: machine learning, data assimilation, land surface modelling, remote sensing. They should be familiar with programming data analysis in Python, with the Linux environment, and possibly with the FORTRAN programming language.

Funding source: European projects related to the evolution of Copernicus services.

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