



Post-doctoral fellowship at CNRM (UMR 3589 – METEO-FRANCE, CNRS)

Applications are invited for one post-doctoral research fellowship starting at the beginning of 2023, at Météo-France, in the Mesoscale Modelling Group of Centre National de Recherches Météorologiques (CNRM) in Toulouse, France (<http://www.umer-cnrm.fr/>) to work on the following subject:

Building and evaluating new forward operators in a global land data assimilation system

(renewable 12-month contract)

CNRM develops the ISBA land surface model within SURFEX, an operational modeling platform able to simulate the terrestrial water and carbon fluxes. SURFEX is 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 analyze soil moisture and vegetation biomass at spatial resolutions ranging from 1 to 25 km.

LDAS-Monde is operational at a global scale and satellite-derived products (soil moisture, LAI) are integrated into the ISBA land surface model. The analyses produced by LDAS-Monde account for the synergies of the various upstream products.

The post-doctorate fellow will contribute to develop the assimilation of new satellite data

by LDAS-Monde. She(He) will contribute to the development of new observation operators based on machine learning techniques. The assimilation of solar-induced fluorescence observations will be evaluated together with the assimilation of microwave brightness temperatures and backscattering coefficients.

The gross annual salary will vary from about 39000 € to 46000 €, 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 October 2022.

The candidates should have knowledge on machine learning, data assimilation, and possibly land surface modelling and/or remote sensing of continental surfaces. They should be familiar with programming data analysis in Python, with the Linux environment, and with the FORTRAN programming language.

Funding source: Météo-France.
