

English version

Land data assimilation post-doctoral fellowship at CNRM (F/M)

SUBMIT YOUR APPLICATION BY CLICKING HERE

All applications must be submitted using this link to be considered

⇒ Information about the job position

Direction/Recruiting service

DESR/CNRM/GMME/VEGEO

Location of the position (postal address)

Toulouse

Project concerned

France 2030 PEPR Risk programme - IRICLIM

Information related to the project

The IRICLIM (Integrated Research Insight into Climate Risks) project, which will run from 2026 to 2029, is a research project coordinated by Météo-France as part of the Risks Programme (PEPR IRIMA). Its overall objective is to improve the data, tools and services needed to anticipate these changes and limit their impacts on regions and populations. IRICLIM will focus in particular on understanding and managing risks linked to weather conditions and climate change in mainland France and Corsica. IRICLIM is developing a new mapping method, based on a collaborative and multidisciplinary approach, to incorporate the impacts of global warming. This project brings together key stakeholders whose aim is to improve the assessment of climate-related disasters. Innovative methods will be developed to

- (1) refine risk mapping by integrating multi-source data (satellite, geological, meteorological, climatic) and machine learning/artificial intelligence techniques,
- (2) improve methods for anticipating flash floods, wildfires and hydrotechnical droughts by reducing uncertainties and refining spatial and temporal scales,
- (3) assess the vulnerabilities of two regions by cross-referencing physical data with socio-economic factors, to enable more targeted risk management (lowlands: Centre-Val de Loire region / mountains: Isère department).

Type of position (research engineer, researcher, PhD student,...)

Researcher

Requested contract starting date

No later than 1 January 2027

Duration of the contract

12 months

Application deadline

17 septembre 2026

Email contacts for any further information

jean-christophe.calvet@meteo.fr

Salary range

4 111,15 euros brut mensuel

⇒ **Detailed information about the position**

Direction/service description

The work carried out by the CNRM's VEGEO (Vegetation, Water and Geophysics) team focuses on four complementary areas:

- (1) Modelling and remote sensing of wildfire danger and monitoring of fire emissions;
- (2) Data assimilation to improve representation of the soil-plant system in the hydrological cycle and the impact of climate warming;
- (3) Enhancing observation of land surfaces and data usage;
- (4) Enhancing observation of atmospheric aerosols and data usage.

Job description

CNRM has developed the ISBA land surface model within SURFEX, an operational modelling platform capable of simulating terrestrial water and carbon fluxes. ISBA can be coupled with various atmospheric and hydrological models, and it incorporates a global land data assimilation system (LDAS-Monde). LDAS-Monde uses an extended Kalman filter to assimilate satellite data and analyse soil moisture and vegetation biomass at spatial resolutions ranging from 1 to 25 km. Initially, the postdoctoral fellow will implement LDAS over mainland France and Corsica, utilising atmospheric forcing from the AROME numerical weather prediction (NWP) model. Relevant land surface predictors of drought, such as soil moisture at various depths, will then be used to inform decision-support services relating to climate risks. The results will be published in open literature. The postdoctoral fellow will also contribute to the management of cross-cutting activities to implement a multi-risk approach that relies on interdisciplinarity.

Profile description

Candidates should be familiar with at least two of the following topics: deep learning, data assimilation, land surface modelling and remote sensing. They should also have experience of programming data analysis in Python and working in the Linux environment.

⇒ Information related to applicants

Required level of education/ Diploma

A levels / BTEC National diploma ☐

Two-year degree ☐

Bachelor's degree ☐

Master's degree ☐

PhD ☒

Required level of experience

Beginner ☐

Advanced ☒

Expert ☐

Required level in french

Not required ☐

Introductory ☐

Intermediate ☐

Middle ☐

Advanced ☐

Autonomous ☐

Fluent ☒

⇒ **Teleworking friendly**

YES ☒ NO ☐

If the answer is yes, how many days per week ?

0, 1 or 2

⇒ **Management**

YES ☒ NO ☐