

CALL FOR APPLICATION
20-MONTH CONTRACT FOR AN ENGINEER
(Meteo-France, Toulouse, France)

Applications are invited for a **20-month engineer position starting in September 2022**, in the climate research group (GMGEC/MOSCA) of the Centre National de Recherches Météorologiques at Météo-France, Toulouse, France to work on "Very high resolution climate modeling and data management". The deadline for application is May 19, 2022.

Title: Engineer in very high resolution modeling and data management of the European climate (M/F)

State-of-the-art Regional climate Model (RCMs) currently run at spatial resolutions between 50 and 12 km such as in the CORDEX initiative. At that resolution, the dynamical core of the models is still often hydrostatic and the deep convection is parametrized. Such models are commonly used to study past variability of climate phenomena, future regional climate change or to provide climate information for impact studies or operational climate services.

In the Make Our Planet Great Again KM-IMPACTS project, a new generation of RCMs, called Convection-Permitting RCMs (CPRCM) running at about 2 km resolution, with non-hydrostatic dynamical core and explicit deep convection representation are used over large portions of Europe. Decadal-long climate simulations with the CPRCM AROME have been analyzed in hindcast mode to identify added value. The second part of the project focuses on the analysis of climate change projections at different resolutions produced by different global climate models, regional climate models and convection permitting RCMs. The results of the analyses will be presented in different conferences and hopefully will lead to the publication of scientific papers.

The work proposed includes to (1) prepare climate output according to the CORDEX standards, (2) upload data to the ESGF portal, (3) implement an automatic input/output server (XIOS) connected to the climate model AROME to produce climate data with the CORDEX standards format, (4) adapt a tool (CLIMAF) to evaluate automatically AROME climate simulations (5) perform climate sensitivity simulations with the new version of the AROME CPRCM, and (6) download climate simulations from different portals (ESGF, CORDEX, FPS-Convection) and perform multi-model scientific analyses including producing graphs and tables following advice from senior scientists (7) participate to the writing of scientific papers. The selected candidate will also be responsible for assisting CNRS/CNRM researchers and PhD students working on the project.

Desirable qualifications:

- 1) Engineer diploma (BAC+5) or MSc. or Ph.D. degree in atmospheric, oceanic or climate sciences obtained before the starting date of the contract.
- 2) Experience in the field of European climate study, regional climate modeling and/or convection-permitting models will be appreciated, but is not mandatory.
- 3) Demonstrated programming skills in a Linux environment (e.g. shell scripts, R, NCL, python or equivalent), in Fortran and experience in high performance computing.

- 4) Good knowledge of climate models, NETCDF format and computing environment and platforms of CNRM will be appreciated, but is not mandatory.
- 5) Good communication skills in English. Practice of the French language would be convenient, but is not mandatory.

The Centre National de Recherches Météorologiques (CNRM, <http://www.umr-cnrm.fr/>) is a joint Météo-France and Centre National de la Recherche Scientifique (CNRS) scientific lab located in Toulouse, one of the most liveable and vibrant cities in France. It is one of the leading climate science research institutes in Europe. It provides a highly international and interdisciplinary environment for conducting scientific research as well as access to great scientific facilities.

The successful fellow will work in the regional climate modeling research team, a 11-member team (<https://www.umr-cnrm.fr/spip.php?article1035>, led by Samuel Somot (<https://www.umr-cnrm.fr/spip.php?article437>), including PhD students, postdocs, junior and senior researchers as well as research engineers.

Salary:

Depending on qualification and experience, the gross salary will be between 2462 and 3004 euros per month

General information:

The successful applicant will be contracted by CNRS and will be based at the “Centre National de Recherches Météorologiques (CNRM)” (Météo-France, Toulouse, France, <http://www.umr-cnrm.fr/>). The selected candidate will start as soon as possible from September 2022 until May 2024 for a 20-month duration contract.

For full consideration, applicants are asked to submit:

- a detailed statement of their motivations and research interests in relation to the KM-IMPACTS project and working objectives described above
- a curriculum vitae including research experience, publications and conferences, computing skills and language knowledge
- the names, phone number and email address of at least 2 referees.

To apply, please follow the indications on this webpage:

<https://emploi.cnrs.fr/Offres/CDD/UMR3589-SAMSOM-006/Default.aspx?lang=EN>

For more details about this call, please contact:

Samuel Somot or Philippe Lucas-Picher
Météo-France, CNRM/GMGEC/MOSCA
42 avenue G. Coriolis,
31057 Toulouse cedex 1

France

Tel. : +33 (0)5 61 07 93 62

Email : samuel.somot@meteo.fr and philippe.lucas-picher@meteo.fr

