

CALL FOR APPLICATION
34-MONTH RESEARCH FELLOWSHIP ON VERY HIGH RESOLUTION
MODELLING OF THE EUROPEAN CLIMATE AT CNRM
(Meteo-France, Toulouse, France)

Applications are invited for a 34-month research position starting from February 2019, in the climate research group of the CNRM at Météo-France, Toulouse, France to work on "Very high resolution modelling of the European climate". The deadline for application is November 30th, 2018.

Framework:

The National Centre for Meteorological Research (CNRM, <http://www.umr-cnrm.fr/>) is a joint Météo-France and CNRS 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 modelling team, a 10-member team, 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.

The advertised position is funded by the European HORIZON 2020 project EUCP (EUropean Climate Projection system, <https://www.eucp-project.eu/>) which involves many leading European research institutes in climate sciences. The final goal of this project is to provide consistent and authoritative climate projections over Europe, combining initialised near-term and long-term projections, general circulation models and regional climate models. A wide range of methods will be used to quantify / constrain uncertainty, and investigate changes of specific events or indicators.

Work objectives:

State-of-the-art RCMs currently run at a spatial resolution 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 a model 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.

Within the EUCP project, the CNRM and the other European partners involved in the WP3 are developing, running, evaluating, intercomparing and using a new generation of RCMs, called Convection-Permitting RCMs (CPRCM) at resolution of about 2 km, with non-hydrostatic core, explicit deep convection representation and covering large portions of Europe. Decadal-long simulations for various CPRCMs and in various running modes (evaluation, historical, scenario, pseudo-global warming) will be available for scientific studies.

The work proposed includes to (1) participate to the EUCP runs using the CPRCM developed at CNRM and called AROME (2) evaluate and perform sensitivity studies with the model, (3) conduct mono-model or multi-model studies using CPRCMs for phenomena relevant to improve the knowledge of the European climate variability, climate phenomena and climate change, (4) contribute to the deliverables and reports related to the project and (5) contribute to the international programme CORDEX Flagship Pilot Study on convection

(<https://www.hymex.org/cordexfps-convection/wiki/doku.php>). The successful fellow will have a large degree of freedom concerning the scientific axes of her/his research.

Desirable qualifications:

- 1) A Ph.D. 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 modelling 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 an experience in high performance computing.
- 4) Excellent written and oral communication skills in English. Practice of the French language would be convenient but is not mandatory.

Practical 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 opened position will start as soon as possible from February 2019 for a 34-month duration. Depending on qualification and experience, the **gross salary** will be between **2500 and 4100 euros per month**.

For full consideration, applicants are asked to submit:

- *a detailed statement of their motivations and research interests in relation to the EUCP modelling tools and objectives described above*
- *a curriculum vitae including research experience, publications and conferences, computing skills and language practices*
- *the names, telephone and email address of at least 2 referees.*

Applications should be sent by email before 30th November 2018 to:

samuel.somot@meteo.fr

For more details about this call, please contact:

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