



## CALL FOR APPLICATIONS

### 18-MONTH POSTDOCTORAL FELLOWSHIP AT METEO-FRANCE (TOULOUSE, FRANCE)



Applications are invited for a **18-month (12-month + 6-month)** position starting as soon as **September 2018**, to work at the Météo-France Climate Services Department, DCSC (Direction de la Climatologie et des Services Climatiques) in collaboration with the Climate research group of the CNRM (Centre National de Recherches Météorologiques) on the following topic: “Downscaling of seasonal forecast as input of snowpack models for winter tourism climate services over the Alpine region”

The deadline for applications is **1<sup>st</sup> June 2018**

#### Scope

The post-doctoral fellowship is funded by the European Union through the H2020 PROSNOW project (Full title : “Provision of a prediction system allowing for management and optimization of snow in Alpine ski resorts”), coordinated by Météo-France.

The PROSNOW project ambitions to build a demonstrator of a meteorological and climate prediction system from one week to several months ahead applied to snow management, specifically tailored to the needs of the ski industry using a codesign approach. This novel climate service holds significant potential to increase the resilience of socio-economic mountain stakeholders and supports their real-time climate change adaptation potential. PROSNOW will apply state-of-the-art knowledge relevant to the predictability of atmospheric and snow conditions, then develop products well beyond state-of-the art operational tools. Improved anticipation capabilities at all time scales, spanning from “weather forecast” (up to 5 days typically) to “climate prediction” at the seasonal scale (up to several months), will be achieved through a seamless integration of weather and seasonal prediction products, together with snowpack models, in-situ and remotely-sensed observations and cutting-edge statistical tools in support of the decision making process. The project proposes an Alpinewide system (France, Switzerland, Germany, Austria and Italy). It will associate research institutions for weather forecasts, climate predictions at the seasonal scale and snowpack modeling, a group of providers proposing high tech solutions for snow monitoring and management, and a relevant ensemble of eight representative resorts in the Alps. The added value of such services for ski resorts will be investigated and documented, making it possible to initiate a commercial exploitation of the service at the end of the project.

#### Work description

The successful candidate will contribute to the provision of downscaled and bias-adjusted seasonal forecast data to the snowpack models involved in the project (CEN in France, WSL-SLF in Switzerland, Univ. Innsbruck and BOKU in Austria, Alpsolut in Italy ...). The seasonal forecast will initially be based on the Météo-France system 6 model then seasonal forecast ensembles from the Copernicus Climate Change Service (C3S) Seasonal Forecast.

The work includes:

- collation of the observational dataset and computation of climatology
- updating of quantile mapping softwares (R language) for downscaling and bias correction of different parameters (temperature and precipitation, and any other parameters requested by snowpack models) produced by global seasonal forecast models over Alpine area
- adaptation and assessment of a new method, named ADAMONT, developed originally for downscaling and bias correction of climate change projections and currently tested in the frame of another seasonal forecast project (ERA4CS/MEDSCOPE). This work implies collaboration with the research team in charge of Medscope.
- assessment of the new method and comparison of the skill with a classical quantile mapping approach
- production and provision of downscaled seasonal forecast datasets for the snowpack modelers and user support
- contribution to the evaluation of the added value of the seasonal predictions with respect to the climatology
- writing of project reports/papers and communication of the results in internal project meetings and/or international conferences

### **Required qualifications**

1. A PhD in climate sciences, meteorology or related fields.
2. Demonstrated skill/proficiency in processing (Linux, Fortran, R) and visualization software (e.g. NCL, Python, ...).
3. Proven ability to effectively communicate scientific results in project meetings, international conferences and peer-reviewed publications.

Experience in statistics, climate forecasting and/or climate services will be distinct advantages.

Fluency both in French and English (spoken, written) is necessary.

### **Practical information**

The successful applicant will be contracted by Météo-France and will work in the DCSC department, based in the "Météopole" site in Toulouse, France. The opened position will start in September 2018, for 12 months, extendable to another 6 months. Net salary (before income tax) is commensurate to qualifications and experience, and ranges from 2600 to 3300 euros per month.

For full consideration, an application letter including a detailed statement of the candidates' research interest for the position, alongside a full curriculum vitae (research experience, publications, conferences, programming skills and languages) as well as contact details for two referees (names, e-mail and phone) should be sent by e-mail by 1<sup>st</sup> June 2018 to:

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For more details about this call, feel free to contact:

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