Meteorologisk institutt

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Senter for utvikling av varslingstjenesten

Jobbnorge-ID: 145446
Søknadsfrist: Avsluttet
Nettside:
Omfang:
Varighet:

2-year research position with the possibility for extension in coupling numerical prediction systems for the Arctic

The Norwegian Meteorological Institute (MET Norway) opens a 2-year research position for the development of an operational coupled Arctic regional weather forecast system. The position is affiliated to the Development Center for Weather Forecasting, a department at MET Norway. The vacant position is related to the Norwegian project «Nansen Legacy[1] " The work will take place in an international context and the successful candidate will play an important role in developing the coupling between the numerical atmosphere, ocean-ice, and wave forecasting systems at MET Norway.

Located in Bergen, Oslo and Tromsø, the Development Centre for Weather Forecasting has more than 40 researchers and development meteorologists. The Centre has end-to-end responsibility for MET Norway's novel NWP value chain for operational automated weather prediction. The Centre performs research and development on numerical weather prediction (NWP); is responsible for development and operations of the NWP value chain (from observations to users); develops internal services; contributes to the development of MET Norway's other value chains, as well as its open data and software policy; is responsible for the development of MET Norway's external Application Programming Interface (api.met.no); is responsible for the development of the world-leading weather service Yr.no; and develop and provide data, products and services (including frontend and human to human) in co-production with and for other public sector bodies.

Generally, the work is organized in projects, often multidisciplinary involving meteorologists, IT and communication experts, and carried out in collaboration with national and international partners and is largely funded externally. The latter ensures that project results have high quality and relevance, and are competitive.

Both the project and position are at the heart of MET Norway's goal to develop world leading capacity for the delivery of reliable and accurate Arctic weather forecasts and warnings for the benefit of maritime operations, business and society.

Areas of work
The main area of work will be to establish and implement a coupling framework for MET Norway's Arctic atmosphere, wave, ocean and sea-ice numerical prediction systems. The work is funded by the Nansen Legacy work package "The future Barents Sea", where improving the representation of physical processes in Arctic prediction systems is a fundamental aim. It will include modelling studies in combination with observations taken as part of the Nansen Legacy field work and other international initiatives. The main focus will be on physical processes in the coupled atmosphere, ocean, waves and sea ice system with the ultimate goal to improve the predictability of Arctic extreme weather, waves and sea-ice edge. The convection-permitting atmospheric model (Harmonie-AROME, a part of the joint ALADIN-HIRLAM system) will be coupled to the spectral wave model (WAM) and sea-ice - ocean model system (METROMS). The coupling development will be based on the OASIS-MCT coupler.

The successful candidate will collaborate with development teams and projects working on the different forecast system components, with national partners from the Nansen Legacy project and international collaborators.

The working language at MET Norway is Norwegian. For all applicants fluency in written and spoken English is required, and for foreign applicants a willingness to learn Norwegian.

The candidate should

- Take a leading role in the development of a coupled atmosphere - wave - ocean-ice prediction system for the European Arctic, based on the existing forecast systems at MET Norway
- Interact and align with the development within the HIRLAM project (hirlam.org) and other related projects
- Develop the OASIS-MCT coupling interface between the numerical prediction systems
- Develop and evaluate efficient and scalable coupling strategies for operational weather prediction
- Contribute to the evaluation and analysis of the physical interactive processes in between the model systems
- Enable and accelerate transitions of research to operations (R2O) for the benefit of improved Arctic forecast capabilities
- Together with the operational group at MET Norway, configure the pre- and operational run setup and monitoring of the coupled model system on the High Performance Computer (HPC), including scheduling, error handling and data archiving, possibly porting to new HPC infrastructure.
- Contribute to scientific publications
- Attend collaborative national and international meetings

Qualifications

- Master or PhD degree in meteorology, atmospheric or oceanographic sciences, geophysics, computational physics, applied mathematics or equivalent
- Experience and proven knowledge in scientific programming within the Linux environment are required

- Experience in optimisation and scalability of atmosphere, wave or ocean models on HPC
- Experience in use and development of model couplers
- Experience and interest in polar meteorology, oceanography and/or climate is an advantage
- Solution and result oriented
- Good interpersonal skills and ability to work independently
- Experience from project work
- Good communication skills

Working conditions

- good working environment
- professional challenges in a modern, technological environment
- salary as scientist on the governmental salary scales dependent on qualifications and experience
- 6 month probationary period
- Membership of the Government Pension Fund

It is a human relations objective that the staff should reflect the population composition of Norway in general, both with regard to gender and cultural diversity.

Further information can be obtained from Director of Development Center for Weather Forecasting Dr. Jørn Kristiansen (+47 46420054; jornk@met.no).

Deadline for application: 19.12.17

1http://site.uit.no/nansenlegacy/

Tilleggsinformasjon

Arbeidssted: