Vacancy Notice

Research Fellowship on meteorological exploitation of satellite-derived wind data for regional model initialization

EUMETSAT is Europe's meteorological satellite agency. Its role is to establish and operate meteorological satellites to monitor the weather and climate from space - 24 hours a day, 365 days a year. This information is supplied to the National Meteorological Services of the organisation's Member States in Europe, as well as other users worldwide.

EUMETSAT also operates several Copernicus missions on behalf of the European Union and provide data services to the Copernicus marine and atmospheric services and their users.

As an intergovernmental European Organisation, EUMETSAT has 30 Member States (Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.)

EUMETSAT is now inviting applications from suitably qualified scientists from its Member States for a Research Fellowship.

POST:	Research Fellowship
LOCATION:	Institute of Marine Sciences (ICM-CSIC) Pg. Maritim de la Barceloneta 37-49 08003 Barcelona Spain The Research Fellow will join the Satellite Winds group of the Physical and Technological Oceanography department at ICM-CSIC (Barcelona, Spain). Moreover, a close collaboration is foreseen with international scientists in the field, in particular from the meteorological centres of Spain (AEMET), The Netherlands (KNMI), and Portugal (IPMA).
DURATION:	The fellowship is offered for one year, with possibility of extension for up to two additional years.
AREA OF RESEARCH:	Enhanced satellite-derived wind data from scatterometers, Doppler Wind Lidars and improved-resolution imagers and spectrometers

is becoming more abundant in terms of area, time and upper atmosphere coverage. An open question is if these different measurements are consistent and suitable for simultaneous data assimilation in NWP. Hence, the exploitation of these data at high resolution for regional model initialization purposes remains a challenge. At such small scales, the fast weather evolution is driven by wind rather than by temperature and pressure and therefore such exploitation may be particularly beneficial.

The research fellow would focus on a comprehensive characterization of the spatial scales and measurement errors for the different operational space-borne wind products currently available for regional models. In addition, the fellow would thoroughly investigate and improve the 4-D (including time) consistency between the different horizontal and/or vertical satellite wind products under study. Such products include OSI SAF scatterometer-derived sea-surface wind fields, NWC SAF Atmospheric Motion Vectors (AMVs), the upcoming ADM-Aeolus and/or IASI wind profiles.

Densely sampled aircraft wind profiles (Mode-S) will be used to verify and characterize the satellite products. In addition, data assimilation experiments of the consistent datasets into the Harmonie-AROME regional model will be carried out in two different regions, i.e., the Netherlands and the Iberian Peninsula regional configurations.

In summary, the proposed fellowship activities will be mainly dedicated to scientific research and technical implementation in the following areas:

- Develop a matchup database of the different satellite and aircraft wind data, together with global and regional NWP model output, and in situ wind data;
- Perform multiple triple collocations analyses to characterize the spatial scales and measurement errors of the different wind datasets;
- Analyse and improve the spatial and temporal consistency of the overall 4-D wind fields for improved regional NWP initialization.

She or he will work alongside ICM scientists, taking active part in research and development activities to improve the interpretation and assimilation of satellite wind information. The experience at ICM and associated centres on satellite wind retrieval, validation and data assimilation will be exploited by the fellow.

QUALIFICATIONS / SKILLS: The Fellow should have a university degree in Physics, Mathematics, Meteorology, Remote Sensing, or equivalent, and

relevant research experience at a PhD, or similar, level.. Experience in satellite data analysis and/or data assimilation is desirable, particularly when related to satellite wind data.

Good computing skills are essential, with the job requiring the ability to (a) understand and develop existing processing systems, which are mainly written in Fortran-90, C/C++, and Unix scripts, (b) effectively exploit HPC system capabilities, and (c) make statistical analyses and scientific graphs using tools like IDL, Python or equivalent.

Good interpersonal and team working skills are also required, along with strengths in scientific analysis, synthesis and presentation.

Candidates must be able to work effectively in English, both verbally and written.

GRADE & REMUNERATION: The successful candidate will be recruited at the Spanish Public system scale based on the number of years of experience.

CLOSING DATE: January 13th, 2019.

Applications in English or French should be sent via our online form (attaching curriculum vitae and covering letter quoting Reference VN(18)77) at

www.eumetsat.int

Please note that only nationals of EUMETSAT Member States and Cooperating States may apply and that applications will not be returned.