Position as “Experienced Researcher” for “Extreme weather events and their change in a changing climate” available at the Royal Dutch Meteorological Institute (KNMI), De Bilt, the Netherlands

Whom we look for

KNMI offers a position for a PostDoc who got his/her degree in Statistical Mathematics and now wants to apply his/her knowledge. A PhD student in the field of Statistical Mathematics who wants to apply (new) statistical methods as part of his/her thesis is also welcome. Of course, his/her PhD supervisor must agree. The duration of the appointment is one year.

Motivation

Society is not so much affected by the average atmospheric conditions (climate), but by extreme weather situations like storm, drought, or flooding. By definition, extreme events are rare events, and estimating their possible magnitude requires long time series. Instrumental observations cover the last 100 years at most, and often much less. Recently, KNMI and Utrecht University have conducted a project called ESSENCE, in which a state-of-the-art climate model has repeatedly been run over the period 1950-2100. 17 runs have been done, yielding about 1000 years of data for present-day conditions (present-day = last 30 years). This is one order of magnitude more than is available from measurements. At the same time, the model integrations also produced data for the future climate, enabling investigation of changes in extremes. Of particular interest is whether extremes will change in proportion to the change of the means, or whether their change will be larger or smaller. From these model data extremes and their possible change in a future climate will be investigated applying modern statistical techniques. A comparison of different techniques is optional.

Skills

The successful candidate will work predominantly with the wind speed data on the abovementioned questions. He/she should have a strong background in extreme-value theory and good computer skills (Linux, FORTRAN). Experience in handling large data sets is desirable, and basic knowledge of physics and the willingness to become acquainted with the principles of climatology are essential.

KNMI in general

KNMI is the national institute for weather, climate research and seismology. It disseminates weather information to the public at large, the government, aviation and the shipping industry in the interest of safety, the economy and a sustainable environment. To gain insight into long-term developments, KNMI conducts research on climate change.
Working group

The successful candidate will be placed in the section Global Climate of the Climate and Seismology research department. Global Climate develops and runs state-of-the-art climate models and analyzes their output. Areas of special interest are the role of the ocean in the climate system and the large-scale variability of the atmosphere as well as their possible change in a changing climate. The staff consists of about ten persons with a background in physics, meteorology or oceanography. Additionally, several PhD students and Postdocs are working in the group.

Seamocs

SEAMOCS (Applied stochastic models for ocean engineering, climate and safe transportation) is a Marie Curie Research Training Network (RTN) financed by the EU. The SEAMOCS initiative links meteorology and statistics with ocean and coastal engineering. The chosen candidate will have the opportunity to take part in courses and training programs offered by the SEAMOCS partners, and to take advantage of other SEAMOCS activities related to meteorology, statistics and marine safety. A close cooperation is planned with the Hydraulics Laboratory of the University of Leuven (Belgium), one of the SEAMOCS partners, who will use results from Essence as input to their assessment of the vulnerability of the Belgian coast.

Formal requirements

One of the aims of the Marie Curie program is to promote mobility. To be eligible, the candidate must not have the nationality of the host country (here The Netherlands), unless he/she has been living outside of the EU and the Associated Countries for at least four of the last five years, lived and/or worked in that country for more than 12 months during the last three years.

Additional information

For more information please contact: Andreas Sterl, tel: +31-30-2206766, sterl@knmi.nl
Start: as soon as possible.
Restrictions apply for citizens from outside the EU or the Associated States.
For information about KNMI, see http://www.knmi.nl
SEAMOCS website: http://www.maths.lth.se/seamocs/
Marie Curie opportunities website: http://cordis.europa.eu/mc-opportunities/