



CSIC
Spanish Council of Research



Postdoctoral Researcher in Detection & Attribution of Extremes Spanish National Research Council

Application closing date: 31 October 2021 or until filled

Start date: Late 2021 or as soon as possible thereafter

Topic: Detection & Attribution of Extreme Events

Advisors: David Barriopedro and Ricardo García-Herrera

Institution: Geosciences Institute (IGEO), National Research Council – Complutense University of Madrid (CSIC–UCM). Madrid, Spain

Duration: Up to three years

Call

The Spanish National Research Council (Consejo Superior de Investigaciones Científicas, CSIC) and Complutense University of Madrid (UCM) are seeking to appoint a researcher with experience in the statistical analysis of climate data. She/he will join the research team [STREAM](#) and contribute to the EU-funded H2020 project CLINT.

In this project CSIC is collaborating with other 14 European partners to develop novel attribution methodologies of extreme weather events and identify external climate drivers through the use of machine learning techniques. We invite applications from scientists with research experience in detection/attribution of extreme events to climate change. Applications from researchers with background in data science are also welcome.

Project background

This position is funded by the Horizon 2020 project CLINT (Climate Intelligence), which aims to develop an Artificial Intelligence framework composed of Machine Learning techniques and algorithms to process big climate datasets for improving the detection, causation and attribution of extreme events in Climate Science.

The researcher will play a leading role in the CLINT consortium. She/he will conduct research to attribute both single events and observed trends to human-made climate change as well as to estimate future changes. Classical techniques will be expanded with machine-learning methods to infer associations between large-scale circulation patterns and extremes, perform attribution exercises, improve the detection of observed trends and construct best and worst case scenarios of future changes.

Candidate's profile

1. Applicants must have (or be close to completion of) a PhD degree in a relevant discipline, with preferred background in atmospheric physics or climate sciences.
2. Good scientific programming skills and experience with shell scripting, UNIX/Linux operating systems, and data analysis languages (python, R, etc.)
2. Demonstrable experience in statistics, including time series analysis, extreme value statistics, and/or extreme event attribution with observational and climate model output data.
4. Ability to work independently and as a team member of an interdisciplinary project, achieving objectives within given deadlines and attending conferences and meetings.
5. Good English skills (both writing and speaking) and experience in publication of research in peer-reviewed journals.

Other desired skills

- Ability to fully develop novel methods for attribution of extreme events and to apply different techniques for model evaluation, bias correction and quantification of uncertainties in attribution.
- Some previous experience in machine learning methods applied to environmental problems.

Job description

- The position is full-time, initially for one year and extended up to three years, subject to performance. Additional extensions can be negotiated depending on funding availability.
- The position is expected to be available from September-October 2021 but the starting date is flexible and can be negotiated.
- Salary is based on experience according to the CSIC salary scale and includes benefits (healthcare, social security, etc.). The maximum gross salary is ~53,000 €/year (before taxes).
- The successful applicant will be based in Madrid, Spain, under the supervision of Dr. David Barriopedro and Dr. Ricardo García-Herrera.

How to apply

Applicants should send an email to David Barriopedro (dbarriop@ucm.es), with the title "CLINT Postdoc position". The deadline for applications is 31 October 2021 but is open until the position is filled. Applications should include a single PDF file with your name, including:

1. A comprehensive CV, including publication list.
2. A brief statement of motivation, research experience, qualifications and how these meet the selection criteria.
3. The names and contact information of two senior researchers who can provide recommendation letters.

Informal enquiries can also be made to David Barriopedro (dbarriop@ucm.es).



The Institution

CSIC (Spanish National Research Council) is the largest public research institution in Spain and the third one in Europe. It plays a key role in scientific and technological policy in Spain by carrying out research in all fields of knowledge. CSIC produces ~20% of the national scientific output and within H2020, is listed the 1st organization in Spain and the 4th in Europe.

The successful candidate will join the Geosciences Institute (IGEO, Madrid), a Joint Research Center of CSIC and UCM. IGEO gathers employees and resources from both institutions within the same infrastructure and carries out cutting-edge multi-disciplinary research in different topics related to climate. Within IGEO, the researcher will join the [STREAM](#) research group, which has a long-standing experience in the fields of extreme events and atmospheric dynamics, including some recent developments in artificial intelligence. The group participates in number of international activities, it has established a dense network of collaborations and has coauthored more than 100 peer-reviewed publications in the last five years. This offers the successful applicant a dynamic and interactive environment for achieving a successful research career.