VACANCY NOTICE – 2025-JRC.E.1-IPR-FGIV-001884

Scientific Project Officer – Hydrologic model developer for flood and drought early warning systems

Type of contract	Member of the European Commission's contract staff, Function Group IV (article 3b of the Conditions of Employment of Other Servants)
Duration of contract	36 months (renewable up to maximum 6 years)
Area	Flood forecasting and modelling
Place of employment	Ispra (IT)
Indicative basic salary	4.319,72 - 6.256,88 € (applicable as of 1st of July 2024) For more detailed information please consult: Working Conditions

WE ARE

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society.

The current vacancy is in the Disaster Risk Management Unit of the Directorate for Space, Security and Migration which provides scientific and technical support to EU policies addressing global security and crisis management.

Amongst other tasks, the Unit is responsible for the Copernicus Emergency Management Service which includes the flood and drought early warning and monitoring component with its European and Global Flood Awareness Systems (EFAS and GloFAS) as well as the European and Global Drought Observatories (EDO and GDO). Common to all those systems is the usage of the hydrological model LISFLOOD to predict floods, low flow events or other hydrologic variables. LISFLOOD (https://ec-jrc.github.io/lisflood/) is an open-source, spatially distributed rainfall-runoff model which was developed at the JRC and is used across the JRC to support not only hydrological forecasting but also other water related policies, for example by assessing the impacts of climate change on water resources or flood risk.

We are looking for a hydrologic model developer that helps us in further improving LISFLOOD in particular for the flood forecasting in EFAS and GloFAS as well as for assessing flood and drought risk under a changing climate.

We offer:
An exciting job opportunity in Italy to contribute to the flood research team's efforts in strengthening the EU's disaster risk management capabilities. The selected candidate will be part of a multi-disciplinary and multi-cultural team working closely with different policy services from the EC as well as with major international actors in the field of flood forecasting and modelling. The post is in a family-friendly working environment with ample opportunities for collaboration. The Disaster Risk Management Unit highly values inclusivity, transparency, trust, collaboration and a healthy work-life balance.

Please see also Working at the Commission – conditions and environment (europa.eu)

WE PROPOSE

The jobholder will mainly have the following tasks:

- Advance large-scale hydrological modelling with the open-source model LISFLOOD through improving process representation or integrating deep learning methods into the modelling chain

- Assess whether the integration of additional data (e.g. from earth observation or other relevant sources) through the usage of data assimilation or deep learning methods can improve the hydrological simulations

- Contribute to maintenance, documentation and support of the open-source LISFLOOD github repository including associated tools such as LISVAP, calibration tool, etc.

- Collaborate and coordinate the development of LISFLOOD with other teams inside the JRC as well as external entities such as ECMWF and other European research institutions

- Contribute to networks and partnerships related to flood risk management such as the JRC's Disaster Risk Management Knowledge Center

- Communicate scientific results in line with the EC/JRC rules.

- Contribute to the scientific output through peer reviewed publications as well as to science for policy briefs

WE LOOK FOR

The ideal candidate has the following **essential** requirements:

- A University degree (M.Sc. or comparable) in a relevant scientific area (atmospheric/geo/hydrologic /natural sciences, environmental engineering) together with a minimum of 3 years of research experience or a Ph.D. in the relevant scientific area;

- Advanced experience in developing hydrological and/or earth-system models;

- Good programming skills, in particular Python;

- Basic experience in machine learning methods, in particular deep learning;

- The candidate should have a proven track record of peer reviewed scientific publications;

- Good communication skills (verbal and written) in English (B2);

- Good interpersonal skills with demonstrated ability to work in a team and be willing to learn and adapt to new tasks;

- Ability to work to deadlines and pay attention to detail even under time pressure;

Any of the following skills are an **advantage**:

- Experience in Geographic Information Systems including the handling and analysing large-scale spatially distributed datasets;

- Experience in statistical analysis in particular time-series analysis.

HOW TO APPLY

If you are **already on a valid CAST FG IV reserve list**, or you **have already applied to one of the calls below**, you can directly submit your application at JRC Recruitment Portal.

If not, before applying to this position, **you must register** for one of the two following databases:

- the Call for Expressions of Interest | EU Careers (europa.eu) (CAST Permanent FGIV), which is used by a wide range of organisations (institutions, bodies, offices and agencies of the European Union), or

- the specialised call for researchers (JRC Call COM/1/2015/GFIV – Research), which is mainly used by the JRC.

Note that each of the calls above has **different minimum eligibility requirements and different selection tests**.

The JRC cultivates a workplace based on respect for other people and the environment, and embraces non-discriminatory practices and equality of opportunity. In case of equal merit, preference will be given to the gender in minority.