

## JOB DESCRIPTION TEMPLATE

(Euraxess labels)

**TITLE (include department or project):** Postdoctoral position in climate and ecosystems modelling (Climate and Health Group, TipESM EU project)

**LOCATION** : Campus Mar

**REPORTS TO** : Xavier Rodó, ICREA Research Professor

**SEND APPLICATIONS TO:** Esther.brinquis@isglobal.org; job@isglobal.org

**PUBLISH ON (optional):** ResearchGate, Euraxess, findaPhD, Nature, Mathjobs, Indeed.com, more....

**Postdoctoral position in climate and ecosystems modelling (Climate and Health Group, TipESM EU project)**

### **Description:**

The Barcelona Institute for Global Health (ISGlobal) is a cutting-edge institute addressing global public health challenges through research, translation into policy and education. ISGlobal has a broad portfolio in communicable and non-communicable diseases including environmental and climate determinants, and applies a multidisciplinary scientific approach ranging from the molecular to the population level. Research is organized in five programs: Climate, Air Pollution, Nature and Urban Health; Environment and Health over the Lifecourse; Global Viral and Bacterial Infections; Malaria and Neglected Parasitic Diseases and Maternal Child and Reproductive Health. ISGlobal is accredited with the Severo Ochoa distinction, a seal of excellence of the Spanish Science Ministry.

### **What We Are Looking for:**

The Climate and Health Group (led by ICREA Professor Xavier Rodó) is looking for a post-doctoral researcher interested in working on dynamic vegetation models and land surface modelling coupled to simulations of the Earth's climate obtained by climate change models. The position is available for a fixed-term period of 24 months with the possibility of extensions pending on the evaluation of results.

**Project Code:** TipESM Horizon Europe Grant Agreement Number 101137673.

SBO CODE PI5530

About the postdoctoral position:

A better understanding of how tropical ecosystems and complex vegetation responds to rapid and drastic changes in the climate system is urgently required in order to meet climate, biodiversity conservation and sustainability goals, in particular the Paris Agreement of Climate Convention. Similarly, the functioning of such ecosystem models coupled to climate forcing requires a harmonised approach to integrate such data into computational models, the outcomes of which can then be used for critical decision making.

This recruitment targets the following specific directions:

The effects of Earth's tipping points on the fate and collapse of tropical forests.

Plant ecophysiological responses and feedback to droughts and temperature extremes.

Vegetation demographic shifts in tropical regions under climate change (e.g. the Amazon and the African rainforests).

Ecosystem's resilience and recovery.

Vegetation model coupling to Earth system models simulations of different climate regime shifts.

**Field research: (please, highlight the fields that define the position)**

Biological sciences

Computer science

Environmental science

Geosciences

Mathematics

**Is the job funded through a EU Research Framework Programme?** (please, highlight the relevant field)\*

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This position is funded by TipESM, a project funded by the European Union. TipESM is funded by the European Union, Horizon Europe Funding Programme for research and innovation under GA Nr. 101137673.

**TAGS (GENERAL KEYWORDS):**

#PlanetaryHealth, ecosystem models, climate change, Amazon, Tipping points

**TRAINING AND EXPERIENCE /QUALIFICATIONS:**

We are seeking a highly motivated individual with a degree (PhD) in mathematics, physics, engineering, computer science, meteorology, theoretical ecology or vegetation science. A broad interest in natural sciences and more specifically in quantitative terrestrial ecology is essential. We are looking for candidates motivated by science with the ability to run simulations and eventually help develop code and to integrate scientific knowledge into numerical schemes.

### **KEY RESPONSIBILITIES<sup>1</sup>:**

The post-doctoral researcher will primarily work with the global land surface model LPJ-GUESS, with GFDL-ESM4.1 and other CMIP6 models to study the response of the Amazon and central Africa rainforests to different climate conditions, particularly tipping points in the Earth system. The work will also feed other work being developed with models aimed at studying pathogen spillover dynamics.

This job description reflects the present requirements of the **post but may evolve** at any time in the future as duties and responsibilities change and/or develop providing there is appropriate consultation with the post-holder.

This job description is not a definitive or exhaustive list of responsibilities but identifies the key responsibilities and tasks of the post holder. The specific objectives of the post holder will be subject to review as part of the **individual professional assessment process** .

### **SKILLS<sup>2</sup>**

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<sup>1</sup> **To adapt the post to a Hybrid model: Outcome-focused descriptions.** These articulate the outcomes expected from a role—not the specific tasks or duties the employee would be required to perform. This approach gives employees flexibility to determine the best way to achieve those results.

<sup>2</sup> **We recommend skills-focused descriptions.** These outline the skills and capabilities an employee should bring to the position (or aim to develop). With this approach, the emphasis shifts from required tasks to required talents—and how those talents could be applied in the role.

**Team-based descriptions.** Instead of focusing on the individual role, these descriptions emphasize the collective responsibilities, objectives, and deliverables of the team, who collectively decides how each member will contribute.

In general, the candidate we are seeking is expected to have the following skills and qualifications:

Basic knowledge in climatology and ecology

Very good programming skills (e.g., Python, R, Matlab, C/C++, Fortran in the Linux environment) and experience in big data analytics are required.

Cutting-edge expertise in modeling and statistical analyses;

Proven abilities to publish at a high international level;

Good oral and written communication skills in spoken and written English;

Rigor, autonomy and abilities to work in a team environment.

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The post holder will adhere to ISGlobal principles contained in **People management policy, including Equity, diversity and health safety**. The post holder will respect, and accountable to ensure ISGlobal policies and procedures .

**LANGUAGE LEVEL:** Proficient in English, at least C1 level

**CONDITIONS:**

Duration: 2 years

Starting date: March 1, 2024

Contract: (part or full time) Full-time

Salary Range: Salary is commensurate with spanish standards and offered at the ISGlobal Postdoctoral level A or B depending on the qualifications. You will have up to 30 days of annual leave + 15 days « Reduction of Working Time ». You can benefit of Hybrid System of telecommuting (weekly presence requested).

**HOW TO APPLY:**

Applicants must fill in the request form and include the following code reference position:  
**Postdoctoral\_TipESM\_Mar24. The application should include:**

+A personal letter (max 3 pages) where the applicant describes her/himself in relation to the above-described requirements, a motivation to why the applicant is interested in the position and a short description of the candidate's research interests.

+CV with academic qualifications and publication list.

+Copy of doctoral degree certificate and other relevant degree certificates.

+Contact information to three reference persons.

+Other relevant documents.

### **SELECTION PROCESS:**

The receipt of applications will be open until **the position is filled**

Only the applications submitted through the request form will be considered.

Only shortlisted candidates will be contacted.

The interviews could be placed during the reception candidatures period.

Diverse candidatures are encouraged, that includes: gender, race, ethnicity, religion, age, sexual orientation, physical abilities, and political views.

The selection process is designed in two phases for shortlisted candidates:

1- Interview phase of a technical nature, with the team that requires the incorporation. To assess the person's skills and CV.

2 - Meeting with HR with the finalist(s) to finish assessing the profile and discuss contractual and institutional issues.

If needed any technical test could be pass. A Psychological Competency Evaluation Test will be required for the structural or transversal positions.

In accordance with the OTM-R principles, a gender-balanced recruitment panel is formed for every vacancy at the beginning of the process. After reviewing the content of the applications, the panel will start the interviews, with at least one technical and one administrative interview. A profile questionnaire as well as a technical exercise may be required during the process.

*In ISGlobal we are committed to maintaining and developing a work environment in which the values and principles of our organization are respected and equal opportunities between women and men be promoted in each of the areas in which we operate, not tolerating discrimination based on criteria such as age, gender, marital status, race, ethnicity, functional diversity, political leanings, religion, sexual orientation, gender identity or gender expression.*

*ISGlobal supports the initiative [#ScienceforUkraine](#). Therefore, to sustain Ukraine's presence in the European Research Area and international scholarly community, candidates from Ukraine on all levels of scholarly career are welcome: students, PhD candidates, early career researchers and senior scholars.*

*We confirm our commitment towards the value of the diversity of our staff and student population and seek to promote peace, equity, diversity and inclusion as essential elements in contribution to improving health worldwide.*