

Postdoctoral Researcher – *Developing transferable ecological forecasting workflows*

100% of full-time position, 22 months initially (with possibility to extend the contract)

Project: PREDICT – Platform for REsilient Data Integration and Coordinated Forecasting Tools

Summary: Europe has made significant progress in open ecological observation and network science through research infrastructures (RIs) such as GBIF, ICOS, and eLTER. However, while data collection and retrospective analyses are now well established, the ability to anticipate ecological change remains limited. PREDICT addresses this challenge by developing an open, interoperable, and scalable cyberinfrastructure for ecological forecasting. The project integrates ecological data from diverse monitoring networks into modular forecasting workflows, openly accessible to researchers and decision-makers, to provide dynamic, near-term predictions of ecological states and processes under varying climate, land-use, and socio-economic scenarios.

Description of position

This position is ideal for anyone interested in predictive modelling that **bridges ecological knowledge and technological infrastructure**. The successful candidate will take on existing ecological forecasting applications across Europe (biodiversity changes, lake ecosystem health, carbon fluxes) and transform them into open-access interoperable workflows that can be used by a variety of users and allow to generate a wide range of comparable forecasts. The position involves a close collaboration with a European Research Infrastructure, LifeWatch ERIC (LWE), who will set up a modular virtual environment to run and evaluate forecasts, while the postdoc will integrate different case studies into this environment. The research will also involve the translation of the outputs into tools that can be used by stakeholders in decision-making processes.

Tasks:

- Integrate multiple open datasets, from eLTER, ICOS, bird monitoring, national parks, GBIF, herbariums, and European sites in the Global Lake Ecological Observatory Network (GLEON)
- Establish composable forecasting workflows using machine learning and other tools, in line with the current work of the partners, ensuring interoperability
- Apply workflows to new case studies
- Develop a “forecasting challenge” workshop, where a range of participants can apply forecasts across different case studies
- Synthesize results from workflow development and challenges into two open-access publications

Requirements:

- A PhD degree in quantitative ecology or related field
- Experience in modular computing, collaborative coding, version control (e.g., Git)

- Experience working in interdisciplinary (e.g., with computer scientists) and international settings
- Fluent in at least one scientific coding language (R, Python)
- Excellent organizational skills, pro-active and results-oriented, and the capacity to deliver on allocated tasks and respond in a timely manner to deadlines
- Excellent communication skills (both written and oral) in English

Desirable but non-mandatory skills and experiences:

- Skills in processing analyzing remote sensing data
- Good understanding of current applied ecology and conservation research
- Some knowledge of Spanish (written and oral)

Terms of employment

The selected candidate should hold a PhD title by mid December 2025 at the latest and be available to **take up the position by February 2026**. We offer a full-time (40h/week) employment contract for 22 months with the potential for extension. Duties will be carried out at [Doñana Biological Station](#), EBD-CSIC, in Sevilla (up to 100 - non-consecutive - days per year home office working within Spain is possible).

We offer

Very competitive salaries (ca. 45-50K€/year, depending on skill level). The net salary will also depend on the family situation.

A dynamic research environment (EBD-CSIC is among the best European institutions for ecological research and holds a research excellence award).

State-of-the art infrastructure (including access to cloud computing and supercomputers).

Family-friendly work environment (high flexibility for candidates with child-care responsibilities).

Context

This position is funded by a four-year Horizon Europe project (OSCARS) that will foster the uptake of Open Science in Europe by consolidating the achievements of world-class European RIs in the ESFRI roadmap and beyond into lasting interdisciplinary FAIR data services and working practices across scientific disciplines and communities. Our project is highlighted [here](#).

At EBD-CSIC, the postdoc will be part of the [DEMOCAS team](#) led by M. Paniw. The team is international, a nice mix of PhD students, postdocs, and technicians, and works on numerous ecological forecasting projects that provide ample room for collaborations.

Application process

Please send your CV and a brief motivation letter (or any queries concerning the application process) to maria.paniw@ebd.csic.es. In your CV, include the names of two senior scientists who could serve as possible references. **Deadline** for applications: **December 11, 2025**.