36-month postdoctoral position on climate services at University of Bordeaux

A Postdoctoral fellowship is available at University of Bordeaux to work within the research network named “Tackling Global Change”.

This fellowship aims to (i) develop climate services using decadal climate predictability systems and (ii) carry out future impact studies based on the various expertise present in the network.

Climate services can be defined as “a decision aid derived from climate information that assists individuals and organizations in society to make improved decision-making” (World Meteorological Organisation, 2013). In the context of on-going climate change, a number of sectors are being impacted and decadal-scale predictions are increasingly needed to estimate the potential near-term risks that decision-makers and various stakeholders should account for. While projections of climate are usually integrated until 2100, adaptation and mitigation require the best climate information on a shorter time horizon. Climate projections usually start from a climate state that does not correspond to observed one. These projections are therefore missing a source of predictability, related to the knowledge of the state of the ocean notably, which constitute the memory of the climate system. Decadal climate prediction recently allowed us to fill this gap and account for the real time observed oceanic state. There are now a number of existing decadal prediction systems, who share their products at the international scale. However, the way to use those predictions for key applications and end-users still needs to be explored.

Your main task will be to use decadal-scale climate prediction systems to help improve impact models developed by teams of the research network. While the exact applications will be open to discussion, there are already a few clear targets that concern the field of viticulture (in collaboration with ISVV), forest ecology (in collaboration with ISPA and BIOGECO) and hydrology and coastal dynamics (both with EPOC). This activity will first necessitate evaluating available decadal climate predictions from different modeling centers, and adapt them to each impact model. This will mean for instance using statistical debiaising and downscaling techniques to bring climatic information at the correct spatial and temporal scale and towards observed climatology. This downscaled climate data will then be applied to develop impact models for different sectors, in collaboration with partner laboratories and stakeholders. You will also be expected to help organize and animate scientific discussions within the network, as part of its action 1 entitled “Modelling and anticipating global change”.

You will be mainly located on the University campus where EPOC and BIOGECO units are located, working especially with the IPSL-EPOC decadal prediction team as well as the other involved teams in terrestrial hydrology (Promess) and coastal dynamics (Methys). Some stays or regular meetings with other identified collaborative laboratories of the RRI Tackling within the length of the postdoctoral work will also be encouraged. Interactions at the national scale, notably with IPSL in Paris and INRAE Avignon will be also encouraged, as well as at the international scale (e.g. Barcelona Supercomputing Center).

Given the breadth of potential applications, we are searching for a multi-disciplinary profile, requiring a very open minded approach. Since a lot of the activities are related to physics (of climate, coastal areas and hydrology, physiology of plants), we expect a PhD in environmental sciences with an interest in physics. Some knowledge of biology is also expected. The position is offered for 18 months, renewable once. Payment will be in accordance with French public service salaries (between 2500 and 3000 euros per month before taxes, depending on experience). The ideal starting date would be Fall 2022.

The postdoctoral fellowship will be primarily supervised by Didier Swingedouw and Jérôme Ogée, co-leaders of Action 1 of "Tackling Global Change", but also by the larger network of this Action.

Applications will be accepted by email only, until **1st of September 2022**. They should comprise: a CV with scientific experience, a letter of motivation with an availability date, and some referee name(s). Applications and queries should be sent to the following e-mail addresses:

- Didier Swingedouw (didier.swingedouw@u-bordeaux.fr)
- Jérôme Ogée (jerome.ogee@inrae.fr)