Open position within IPSL : Convection permitting modelling of the European/Mediterranean region

Date of publication: 1 Septembre 2018

Expected starting date: January 2019

Location: IPSL, Ecole Polytechnique, Université Paris-Saclay

Supervision team: Sophie Bastin, Jan Polcher and the IPSL regional climate modelling group.

Position offer: PostDoc within the **EU**ropean **C**limate **P**rediction system (EUCP) H2020 project.

Context: With the EUCP project we aim to demonstrate with the IPSL regional climate model (RegIPSL) the value of convection permitting regional models to study high impact weather event in a future climate.

Description of work:

The contribution of IPSL will be to configure RegIPSL at convection permitting resolutions over Western Europe and study in particular hydrological extremes. Our regional system, which couples WRF and ORCHIDEE through OASIS is particularly well suited to study droughts and floods. But running this system at resolutions higher than 10km will be a numerical and computational challenge which will have to be addressed. A suitable initialisation procedure for the land surfaces also needs to be developed to reproduce these high impact weather systems which have strong interactions with land surfaces and in particular the longer memory of the soil moisture reservoirs.

The ability of the RegIPSL system to reproduce extreme floods or droughts will be tested on cases which occurred in the last 30 years before applying it to a changed climate. The methodology chosen by the EUCP to study extreme events in a warmer climate will be applied in order to contribute to the multi-model ensemble which will be constructed within the project.

Diploma and competences: The candidate needs an university degree equivalent to a Master's degree or a PhD. The candidate should have a very good knowledge in computer science (unix/linux, python, shell programming, Fortran programming) and in particular in parallel and High Performance Computing environment. The candidate needs to demonstrate a high degree of scientific rigour. He/she should be able to work in English language and in a collaborative environment. Knowledge in climate system modelling, netcdf data handling would be significant advantages. Knowledge of the French language is an asset.

Supervision team: He/she will collaborate with the different IPSL modelling teams and in particular with Sophie Bastin and Jan Polcher as well as other users of RegIPSL and ORCHIDEE.

Duration and salary: The engineer will be recruited as “Ingénieur de recherche” at a grade depending on his/her diploma. The contract will be initially for 12 months with a salary that depends on diploma and experience. This includes social services and health insurance. Depending on the competences of the job holder, an extension may be possible for 6 or 12 months.

Contact for applications: Applications should include a CV, a statement of interest and the names of at least one reference including their e-mail addresses and telephone numbers. Applications should be submitted by e-mail to ….