

## **POSTDOC POSITION AVAILABLE**

Study of heatwave and drought episodes in Europe.

1 year contract, extendable to 2 years.

Funded on a grant from the french National Research Agency.

starting date: june 2007 or soon thereafter

Salary: around 1650 E/month (NET OF ALL TAXES, and including health insurance)

LOCATION: LMD (Laboratoire deMÉTÉorologie Dynamique) AND/OR  
LSCE (Laboratoire de Sciences du Climat et de l'Environnement)  
Paris, France.

## **REQUIREMENTS**

The successful candidate will have a PhD in meteorology/oceanography or climate sciences, and a good background in atmospheric/climate dynamics. Experience of use and/or development of mesoscale numerical atmospheric models is mandatory. The candidate will also have an aptitude for multidisciplinary work in contact with scientists of different disciplines. A knowledge of bio-geo-chemical cycles or of land surface domain physics and ecology will be a plus.

## **SUBJECT**

The work will be conducted in the framework of a multidisciplinary project, approaching heatwaves and droughts as a combination of several factors: dynamics, physics, interactions between the biosphere and the atmosphere. The project has the following objectives:

- 1) to better understand the typical space-time structures of the atmospheric circulation of summer in Europe, their characteristics and their causes. Particular focus will be on the link between weather regimes, tropical forcing and forcing by soil moisture. with an accent on the phenomena of heat waves,
- 2) to analyze the predictabilily of heat waves, to improve knowledge so that general circulation models better represent and forecast these phenomena, and to develop statistical methods of forecast.
- 3) to evaluate the impact of heatwaves on the vegetal ecosystems and on the carbon cycle.
- 4) to develop knowledge in order to be able to put forth hypotheses on their modifications (in frequency, in intensity, in structure) within the framework of the global warming of the planet.

In the first year the development of a coupled mesoscale model will be the priority. This will include an advanced surface hydrology and vegetation scheme (ORCHIDEE) and a state of the art atmospheric model (MM5/WRF).

In the following year the research will develop in different directions, according to the results obtained and the postdoc's inclinations: the analysis of heat-waves dynamics in Climate Change conditions; the effect of heat-wave on the ecosystem and on the carbon cycle and the feedback of land use on the local climate; forecast techniques.

## **CONTACTS:**

1) Fabio D'Andrea  
Laboratoire de Meteorologie Dynamique  
Ecole Normale Supérieure  
24 Rue Lhomond  
75231 Paris Cedex 05 - France  
email: dandrea@lmd.ens.fr

2) Pascal Yiou  
Laboratoire des Sciences du Climat et de l'Environnement  
CEA Saclay, l'Orme des Merisiers  
91191 Gif-sur-Yvette Cedex - France  
e-mail : pascal.yiou@cea.fr