



Understanding the coupling between vegetation and atmosphere over the Mediterranean

- * 18 months, starting as soon as possible with a possible extension to longer-term
- * The deadline for applications is: July 2008
- * This post-doctoral position is funded on a grant from the CIRCE European project.
- * LOCATION:

LMD (Laboratoire de Meteorologie Dynamique) and LSCE (Laboratoire des Sciences du Climat et de l'Environnement) Palaiseau and Gif cities, Respectively 3km apart, both cities being located south-west of Paris.

* REQUIREMENTS

This profile requires a PhD in meteorology or in land surface studies, either a good background in atmospheric dynamics or in surface processes and vegetation-atmosphere interactions. Experience of use and development of mesoscale numerical atmospheric and chemistry-transport models, or of land surface, and ecosystem, models.

* SUBJECT

Quantifying how the vegetation influences regional rainfall in seasonally dry Mediterranean environments is a key scientific and societal issue. It has huge implications for designing better strategies for water conservation and understanding how Climate Change and land cover changes in the future will impact the patterns and seasonal intensity of rain. The research will be conducted in the framework of the CIRCE European project. The main goal is to quantify feedbacks between vegetation and atmosphere at the regional scale and over the Mediterranean region. A new advanced regional coupled model will be developed and applied, enabling the simulation of 1) vegetation, carbon cycle and surface hydrology, 2) regional mesoscale meteorology, and 3) regional production and transport of pollutants, and their interactions. All the component of this model are already in place, with the MM5-CHIMERE model developed at LMD and used operationally for ozone pollution forecasts and the land ecosystem ORCHIDEE model developed at the LSCE and applied for regional and global studies. The support of an engineer will be provided to help with technical issues in the coupled model development.

- o Step 1 = develop the coupled atmosphere-vegetation regional model

- o Step 2 = apply the coupled model in multi-year simulations, with special focus given to the effects of droughts in modifying remotely the rainfall patterns both in distance and in time

Please send curriculum vitae to:

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