



Post-doctoral position on tropical cyclone and climate change at Laboratoire de l'Atmosphère et des Cyclones, Saint-Denis, La Réunion, France

Keywords: climate change, tropical cyclones, numerical modeling

A postdoctoral position in climate science (tropical cyclones and climate change) is available at Laboratoire de l'Atmosphère et des Cyclones (LACy), a joint research unit of Reunion University, CNRS and Météo-France, located in Reunion Island (Indian Ocean). The appointment is for 18 months and should start by early 2018. The position will remain opened until fulfilled.

Context and objectives

LACy coordinates the research proposal ReNovRisk-Cyclones (INTERREG-V Indian Ocean), successfully selected for funding by the European Commission in September 2017. ReNovRisk-Cyclones is the international component of the research program ReNovRisk, which aims at analyzing the impact of hazards associated with tropical cyclones on the socio-economic development of Réunion island and other countries of the South-West Indian Ocean (SWIO) basin. ReNovRisk-Cyclones focuses more particularly on the meteorological and oceanographic impacts of tropical cyclones in both current and future climates. With this regards, it aims to improve knowledge and forecasting of tropical cyclones and to better anticipate their effects on inhabited islands of the basin and East coast of Africa, from the present time until year 2150.

The current postdoctoral position focuses on the impact of climate change on cyclonic activity at the scale of the SWIO basin. To investigate this issue, we will rely on high-resolution (0.1°) global climate simulations performed with the French climate model ARPEGE-CLIMAT to assess the impact of climate change on the frequency, the distribution and, to a lesser extent, the intensity of future tropical cyclones, according to the main IPCC evolution scenarios. This will allow determining if predicted changes in storm activity represent an additional threat to coastal areas and islands of the SWIO basin at various time horizons.

The successful candidate will develop the tools allowing to exploit the high resolution climate simulations and will analyze output data to fulfill the objective of the project. He might also contribute to the realization of higher resolution runs conducted from limited area climate models such as ALADIN-climat and AROME-climat to analyze the cyclone response to climate change in terms of structural development and behavior. The methodology developed in the frame of this project will be deployed to specific areas of the basin chosen together with the partners of the ReNovRisk program (Seychelles, Mozambique, Madagascar). This work will be conducted in collaboration between LACy's Tropical Cyclone Research group and the Climate Research units of Météo-France in Reunion and Toulouse.

Candidate profile

The candidate should have a PhD in meteorology or climate, together with strong experience in numerical modeling. Good English level and demonstrated autonomy, communication and writing skills are also required. Research experience in tropical meteorology, tropical cyclones and/or climate modeling would be considered as important additional skills. Application from candidate holding a Master's Degree in climate modeling might also be exceptionally considered for this position.

Important information

Location: The successful applicant will work at Laboratoire de l'Atmosphère et des Cyclones (UMR 8105) located in Saint-Denis de La Réunion (Indian Ocean) with expected short-terms stays in Toulouse to exchange with CNRM researchers.

Duration: 18 months with possibility of short extension

Salary will be provided according to Reunion University salary rates. The net monthly salary shall amount from 1800 to 2300€, commensurate with experience (including social services and health insurance).

Application

Interested candidates should submit their applications, no later than 30 November, 2017, by email together to: Dr. Olivier Bousquet (olivier.bousquet@meteo.fr) and Dr. Fabrice Chauvin (fabrice.chauvin@meteo.fr).

The application must include a statement of research interests, a CV and the names and contacts of at least two references. Applications will be examined at the beginning December. Selected candidates will be interviewed by mid-December, making it possible to start on February or March 2018.