

Research Fellow in Global Tropical Storm Tracking



Department of Space and Climate Physics, University College London, UK

1. Background to TSR and to the Global Tropical Storm Tracker

Founded in 2000, Tropical Storm Risk (TSR) offers a leading resource for forecasting the risk from tropical storms worldwide. The venture provides innovative forecast products to increase risk awareness and to help decision making within the (re)insurance industry, other business sectors, government and society. The TSR consortium is co-sponsored by Benfield, the leading independent reinsurance intermediary, Royal & Sun Alliance, the global insurance group, and Crawford & Company, a global claims management solutions company. The TSR scientific grouping brings together climate physicists, meteorologists, statisticians and programmers based at the UCL (University College London) Benfield Hazard Research Centre.

The TSR Tropical Storm Tracker is a free to use internet application developed to allow insurers, reinsurers and risk managers to increase their awareness of tropical storm activities and to enhance their ability to forecast more accurately the risk and loss from tropical storms around the world. The Storm Tracker provides real-time forecasts out to five days lead for all active tropical cyclone systems worldwide. Forecasts are updated every 6-12 hours and provide the best available information on storm position (past, current and forecast), strength, track and track uncertainty, all with various levels of zoom.

The TSR Tropical Storm Tracker also provides a real-time feed of emergency alerts to Reuters AlertNet (www.alertnet.org), the global humanitarian news portal. These alerts give the predicted landfall time, landfall position and landfall strength, together with warnings of potential property damage and flooding, for each tropical storm threatening landfall in the world.

For further information on TSR and the TSR Tropical Storm Tracker please visit www.tropicalstormrism.com.

2. Objectives and Work Programme for 2004/5

The Research Fellow's brief for the coming year will include:

- a) Daily monitoring of the Storm Tracker and the Reuters AlertNet feed
- b) Creating an automatic storm alert e-mail system (subscription based and territory dependent).
- c) Introduction of storm forecast strike probabilities out to 5 days lead for major cities.
- d) Building an archive of historical tropical storms, windfields and losses.
- e) Improving the tracker display on Mac and Unix systems
- f) Improving the geographical display of country/city names.
- g) Improving the Reuters AlertNet feed.

3. Project Funding and Duration

The Research Fellow's starting salary will be in the range $\pounds 22,954$ to $\pounds 26,168$ per annum depending on whether superannuation is taken as salary. There may be opportunities to enhance

this through short-term commissioned work for industry and/or from project royalties. TSR's sponsorship has been renewed five times and currently extends through to June 2006.

4. <u>Person Specification</u>

Candidates should have sound experience of Java, HTML (including Cascading Style Sheets) and UNIX, be competent in probabilistic data analysis, and hold a First or Upper Second class degree in a relevant computational, mathematical or physical subject. Knowledge of meteorology, forecasting and skill assessment would be an advantage but is not essential. Applicants should be hard working, reliable, and possess an eye for detail. The work programme is technical and demanding, requiring commitment, computational rigour, and dedication.

Citizens of European Economic Area countries are welcome to apply (see http://www.ucl.ac.uk/hr/docs/wpguide.php for valid countries). Applicants from other countries are also welcome but would need to possess a UK work permit. Since an early appointment is preferred, having to apply for a work permit may count against the success of such applications.

Owing to the location of the Department, it would be an advantage to have a clean driving licence and to own a car.

5. <u>The Group and the Department</u>

The post will be based in UCL's Climate Physics Group at Holmbury St Mary, near Guildford, in Surrey. The successful applicant will join an internationally competitive group researching the seasonal prediction and tracking of weather and extreme weather (see http://forecast.mssl.ucl.ac.uk and http://tropicalstormrisk.com for details of the forecasts we undertake for industry). Excellent computer facilities, climate data and climate models are available to support the group's work.



The Department of Space and Climate Physics of University College London is based at Holmbury St Mary in the Surrey countryside about 30 miles southwest from the centre of London. The Department (pictured above) houses around 130 researchers, PhD students and support staff, in a large mansion house with splended views towards the South Downs. There are five main research groups: Astrophysics, Climate Physics, Detector Physics, Solar Physics, and Space Plasma Physics. Further information about the Department may be obtained from the Departmental web http://www.mssl.ucl.ac.uk.

6. <u>Career Prospects</u>

Your career prospects on completing the Research Fellowship will be very good. Opportunities available to you will include:

- a) Pursuing employment as a Java programmer within a University research group, in industry or in government.
- b) Working for the British, European or other climate/weather services.
- c) Working in Research and Development.

7. Dr Mark Saunders

Mark Saunders will supervise the project. Mark is the Lead Scientist and Project Manager for the Tropical Storm Risk (TSR) forecasting venture. He is also a Senior Lecturer in the Department of Space and Climate Physics at University College London (UCL) and Principal Climate Physicist at the Benfield Hazard Research Centre at UCL.

Mark leads a research group specialising in the prediction of climate extremes. These include Atlantic and US hurricanes, Northwest Pacific typhoons, Australian cyclones, El Niño and La Niña, the North Atlantic Oscillation, Atlantic and European winter storms, and European temperature and rainfall. He undertakes regular commissioned research for the reinsurance and risk management industries, and is a frequent speaker at their conferences and workshops. Dr Saunders holds a BSc (First) in Geophysical Sciences from Southampton University, a PhD in Space Physics from Imperial College, London, and has published more than 150 scientific research papers and articles.

