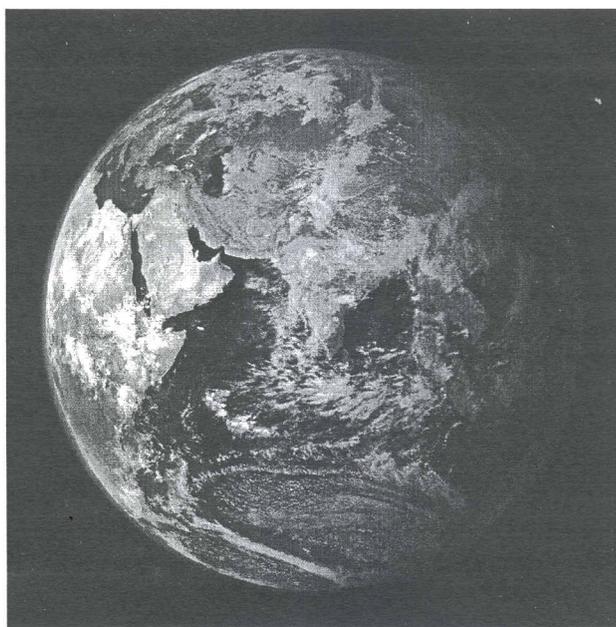

IOP | Institute of Physics
Environmental Physics Group

NEWSLETTER

October 2008



This image will be the cover of the new IoP Environmental Physics Group Flyer.
Credit: NASA (<http://visibleearth.nasa.gov/>)

<http://institute-of-physics.org/activity/groups/subject/env/index.html>

migration and mating determines the height in the atmosphere insects fly, and at what time of day the insects are active. Secondly, Dr David McGloin's talk 'Trapping aerosols with light' covered how to trap micromatter, but not with direct contact with the particle. Typically lasers can 'catch' particles as they experience a change in momentum. His research has implications on many subject groups such as the biological sciences where small forces are measured, and the handling and analysing of aerosols in a controlled manner.

After a tea break, two of the more experienced members of the Group discussed their work. Dr Steve Hoon of Manchester Metropolitan University aims to understand the behaviour of desert sand, and the biological crust that forms on desert dunes. In desert conditions, this can be challenging. Unlike Mace Head's first lab of a derelict cottage, Steve's lab is only a tent. However, unlike the remoteness of Mace Head, Steve has occasional visitors, including snakes and lions! Finally, Dr Donald Swift-Hook presented his ideas on renewable energy. Donald explained and gave examples of renewable energies. He questioned why renewables are needed, both presently and in the future, and covered topics such as resource scarcity, reserve security, costs, locality and climate change.

This year sadly, the essay winners were unable to present their work, so a brief AGM followed the presentations. The members meeting was followed by Professor Richard Wakeford's evening lecture on 50 years of investigations of the Windscale nuclear reactor accident. Overall, the 5th Members' Meeting was a very enjoyable event.

Sally Brown

Providing REgional Climates for Impact Studies (PRECIS) Workshop (Reading, 11th-15th August 2008)

This is a short report describing my participation in the PRECIS Training Workshop jointly organised by the UK Met Office, Hadley Centre for Climate Prediction and Research, and the UNDP National Communication Support Programme (NCSP).

The Department of Physics at the University of Malta is coordinating a project to prepare the Second Communication of Malta to the United Nations Framework Convention on Climate Change (UNFCCC). To support the research required in this project, the Department of Physics has the intention to build capacity in regional climate modelling and very recently we have acquired the model PRECIS (Providing REgional Climates for Impact Studies) from the Met Office, Hadley

Centre, UK, in order to fulfill our scientific obligations in the abovementioned ongoing activities.

The Workshop was held in the Department of Meteorology, University of Reading and apart from a series of technical presentations, followed by question and answer sessions; it was packed with hands-on practical sessions on the many aspects of running PRECIS and analysing output data.

The aim of the workshop was to ensure that participants acquire the necessary scientific and technical knowledge to run PRECIS. It emphasised the limitations and uncertainties associated with regional climate models in order to assist users to make the best possible experimental designs and best use of their outputs. In bringing together participants from several countries, the workshop also served as a vehicle for cooperation between the participants and their respective institutions, especially those involved in vulnerability and adaptation assessments.

The participants were asked to deliver a short presentation on their intended use of the PRECIS model. I explained that, from the point of view of the personnel working on the second national communication, the primary task is an improved climate impact assessment, followed by detailed vulnerability analysis and the compilation and analysis of national adaptation strategies and measures. This requires the generation of high resolution climate scenarios focusing on the central Mediterranean. Acquisition and use of the PRECIS model by the project personnel based in the Physics Department is expected to lead to the generation of climate scenarios based on more than one emission scenario. This will give scope for a more thorough analysis of adaptation measures.

In the medium and long term, the capability of in-house climate scenario generation will make it possible for the University of Malta to encourage postgraduate students to tackle research into climate change issues. It is hoped that the initial input received through participation in the PRECIS workshop will serve as seed for future developments, where the primary task would be to address gaps in knowledge associated with climate change issues in the Mediterranean region.

Noel Aquilina (University of Malta) was supported to attend this workshop by the IoP Research Student Conference Fund.