

The SCOUT-O3 project

SCOUT-O3 is funded by the European Commission in cooperation with national funding agencies. There are 59 partner institutions from 19 countries. The project started in May 2004 and will last for five years. The EC contribution is 15 million Euros, the national funding is about the same order of magnitude.

The central aims of the project are to provide scientific knowledge for global assessments on ozone depletion and climate change for the Montreal and the Kyoto protocols. That includes predictions about the evolution of the coupled chemistry/climate system, with emphasis on ozone change in the lower stratosphere and the associated UV and climate impact by a large range of state of the art numerical chemistry climate models. To study several processes in more detail a wide range of numerical models of all kind of complexity is used. On one hand that leads to a better understanding of the processes involved in the upper mentioned issues but on the other hand it will improve the models and achieve more reliable results.

Overall there are five main scientific activities in SCOUT-O3 in which detailed studies of atmospheric processes will be made:

- Model studies of the evolution of ozone, climate and UV.
- Two Field campaigns which will be performed in the tropics (is there a UV campaign?).
- Measurements and modelling of extra-tropical ozone and water vapour
- Measurements and modelling of UV radiation. Future Predictions and risk assessments
- Laboratory measurements and studies of the chemistry and particles that are involved in particle formation, photochemistry and heterogeneous chemistry which takes place on particles.

The achieved improvements in knowledge as well as in the models will then be used to predict the evolution of the coupled chemistry climate system in a sixth activity.

A major aim of SCOUT-O3 is an improved understanding of the mechanisms by which air passes from the upper troposphere to the lower stratosphere as this processes are crucial for the understanding of composition of the stratosphere and cloud formation which contribute to the global change. To investigate these processes two tropical field campaigns will be performed. An airborne campaign will take place in Darwin in November and December 2005 as the first phase of the TWP-ICE project (an Australian and American project) and the UK NERC ACTIVE campaign. A balloon campaign will take place in Africa in cooperation with the AMMA project in August 2006. In order to interpret and understand the small scale feature in a global context satellite measurements (e.g. from ENVISAT and CALIPSO), meteorological analysis and other global fields will be used in conjunction with models from regional to global scales.

More information on SCOUT-O3 and related projects can be found on the web site of the European Ozone Research Coordinating Unit.