



## Division reports

### News brought to you by presidents of four of EGU's divisions

*In each edition of GeoQ, we ask four to six division presidents to contribute a report updating members with news from their division. Issue 1 gives voice to Oksana Tarasova of Atmospheric Sciences, Denis-Didier Rousseau of Climate: Past, Present and Future, G. Hilmar Gudmundsson of Cryospheric Sciences, and Michael Kühn of Energy, Resources and the Environment.*

#### Atmospheric Sciences

The Atmospheric Sciences (AS) Division is one of the largest EGU divisions. The research areas covered by it extend from the large-scale dynamical processes in the atmosphere (like cyclones and global atmospheric circulation) to the small scale of the condensation nuclei and chemical reaction kinetics studied in laboratory. This report highlights some of the key areas of research for Europe in atmospheric sciences.

Many research activities in Europe, in particular in the area of environment, are supported via financial tools provided by the European Commission. Research infrastructures play an increasingly important role in the atmospheric sciences, and serve to attract the best researchers from around the world and to build bridges between national and research communities and scientific disciplines. Several atmospheric research initiatives are included in the ESFRI (European Strategy Forum on Research Infrastructures) roadmap, including the ones on polar research and atmospheric composition observations from the ground and from on board the civil aircraft. These research infrastructures, together with a number of big research projects, address the current priorities in atmosphere-composition research in Europe.

The state and changes of the polar areas are currently the subject of intense scientific debate and investigations. Two research infrastructures studying these regions are included in the ESFRI roadmap, namely, AURORA BOREALIS (research icebreaker in the Arctic) and SIOS (establishing Arctic Earth Observing System in and around Svalbard). These infrastructures are currently in preparatory phase.

In the area of climate forcing agents, long-lived greenhouse gases (GHG) and aerosols remain the focus of atmospheric research as these are recognised as climate-active substances. Research infrastructures in this area are also present in the ESFRI roadmap. Examples include the Integrated Carbon Observation System (ICOS) for quantifying and understanding the greenhouse balance of the European continent and of adjacent regions. ICOS has already substantially contributed to the harmonisation of GHG observations in Europe.

Finally, in the chemical weather research area, an European programme to highlight is MACC (Monitoring Atmospheric Composition and Climate). This is the current preoperational atmospheric service of the European GMES (Global Monitoring for Environment and Security) programme. MACC combines state-of-the-art atmospheric modelling with Earth observation data to provide information services covering European Air Quality, Global Atmospheric Composition, Climate, and UV and Solar Energy.

*Oksana Tarasova  
AS Division President*

#### Climate: Past, Present & Future

The Climate Division (CL) restructured its programme by adding a new sub-programme, as required during the 2011 business meeting, covering past, present and future aspects of one topic. It is not, however, intended to have more sub-programmes as this would introduce more noise and confusion to the potential authors interested in climate studies. On the contrary, CL intends to increase its number of co-organised sessions, which is more attractive than simply co-listing sessions, and opens its programme to a wider audience.

Proposing new sessions also contributed to changing the programme, important in maintaining the Climate group as one of EGU's leading divisions. In doing so, CL has been very successful in increasing the number of abstracts submitted, a marked progression compare to its competitors from the Atmospheric Sciences and Hydrological Sciences, which continue to lead the Union.

The use of poster presentations using CL template, introduced at the 2011 General Assembly, will be encouraged in order to show the interest the Division and its conveners are placing on poster sessions and presentations. Therefore, the programme of 2012 should be once again very popular, and the attendance to CL sessions a great success, even if this year the Division is not organising Union sessions like in previous years (the idea of its master-class being now followed and used by other divisions).

The medal lectures will celebrate two very important scientists, but also two generations: Michael Mann for the Hans Oeschger medal and Wolfgang Berger for the Milutin Milankovic medal. The CL candidate for the Arne Richter Young scientist, Didier Roche, was not successful in being elected at the Union level. Nevertheless, CL was once more proactive in initiating the nomination of Michael Ghil to the Wegener medal in association with two other divisions, Non-linear Processes in Geophysics and Ocean Sciences.

During the inter-General Assembly year, the Division's organisation has been improved with the addition of two new officers: Martin Wild, for present climate, and Jules Hargreaves, for future climate, complementing Jan-Berend Stuuw who is covering past climate. With these additions, the three main themes of the Division are being monitored. Last but not the least, the CL journal, *Climate of the Past*, is doing well even with a decrease in its impact factor, remaining among the top ten of its category. The chief editorship evolved with the addition of Carlo Barbante, alongside new editors, in order to cover new fields brought by the authors.

*Denis-Didier Rousseau*  
CL Division President

## Cryospheric Sciences

The Cryospheric Sciences Division (CR) looks back at a very busy and successful year. The Division journal *The Cryosphere* got listed for the first time in ISI (Institute for Scientific Information) with an impact factor of 3.64. For a journal that was only launched about three years ago, to achieve such a high impact factor in such a short time is great news indeed. The journal has now firmly established itself as the leading journal in its field, and as one of the highest impact-factor journals available in the Earth sciences.

The number of submissions to sessions lead by CR to the EGU General Assembly increased by about 20% between 2010 and 2011, and this trend seems set to continue this year. The EGU Assembly is now one of the most, if not the most, important annual meeting in the cryospheric sciences.

The Division established the Louis Agassiz medal in 2005. The medal is reserved for individuals in recognition of their outstanding scientific contribution to the study of the cryosphere on Earth or elsewhere in the Solar System. This year's recipient of the medal is Ian Joughin at the Polar Science Center, Applied Physics Laboratory, University of Washington, US for outstanding contributions to the study of the dynamics and mass balance of polar ice sheets using differential SAR (synthetic aperture radar) interferometry and other techniques that he has helped to pioneer. The young scientist award is given to Gaël Durand at the Laboratoire de Glaciologie et de Géophysique de l'Environnement, Grenoble, France for his

contributions to the understanding of polar ice dynamics from the micro- to the macro-scale.

As a division president, I would like to thank all those who have worked so hard on behalf of EGU and the Division of Cryospheric Sciences to make this possible.

*G. Hilmar Gudmundsson*  
CR Division President

## Energy, Resources and the Environment

The Energy, Resources & the Environment (ERE) Division is concerned with one of humankind's greatest challenges: providing sustainably harvested, reliable, and adequate supplies of affordable energy and other resources. Overcoming this challenge is essential to ensure the world's economic prosperity, environmental quality, and political stability. The need for answers to these interconnected challenges of energy, resources and the environment is what drives our work. The ERE Division has been progressing steadily in recent years, even in the face of growing challenges, being now very well established. This highlights the extreme importance of the topics we cover.

As with other EGU divisions, ERE's cycle of planning and organising culminates with the General Assembly. With Vienna in sight in April, and the deadline for abstract submission having passed, our main activities of the last months were to motivate the community to contribute to the programme. Our basis has been the skeleton programme we provided with the aim to ensure that all relevant subjects within the ambit of the ERE Division are well represented. The increase of the number of proposed sessions can be taken as indicator that the number of contributions and participants within ERE at the annual EGU meeting will grow again in 2012.

Steps in the near future are consolidation of the Division and engagement of young scientists – the next generation – to solve future problems in energy, resources and the environment.

*Michael Kühn*  
ERE Division President

## The Open Access Journals of the European Geosciences Union

