

RESEARCH ON CLIMATE CHANGE AND ENVIRONMENTAL RISKS

EUROPEAN COMMISSION, DIRECTORATE-GENERAL FOR RESEARCH

INTRODUCTION

The newsletter gives information on current research issues on climate change, on natural hazards and on risks to health from the environment. Research on these issues is being funded by European Commission's Research Directorate-General, Environment Directorate. The target audience is researchers, public authorities, students and others who are committed to or interested in the areas covered by the newsletter. Please forward the newsletter to anyone you believe will have interest in receiving it. Contact point for registering or cancelling your registration for the newsletter is given at the bottom of the page.



Climate change

In focus

World Climate Conference 3 organised by WMO, Geneva, 31 August - 4 September 2009

The World Climate Conference (WCC-3) took place in Geneva, Switzerland, 31 August to 04 September 2009 organised and hosted by the World Meteorological Organisation (WMO) and the Swiss Government. WCC-3 was based on the legacy of two earlier WMO organized World Climate Conferences (1979 and 1990) which led, to or contributed to, key developments in global climate activities including the World Climate Research Programme (WCRP), the Intergovernmental Panel on Climate Change (IPCC), the Global Climate Observation System (GCOS) and the important support given to establishing the UNFCCC. WCC-3 agreed to develop a Global Framework for Climate (Information) Services to strengthen climate forecasting. The WCC-3 focus on climate information services builds on important progress in climate research and observations and intends to initiate further international efforts in this regards.

Key conclusion from the expert session is that present capabilities to provide effective climate services fall far short of meeting present, and future needs and benefits, particularly in developing countries and that the most urgent need is for much closer partnerships between the providers and users of climate services. Further research will need to provide: more accurate predictions; climate information at higher resolution scales (20km instead of 180km); increased knowledge on the physical mechanisms of climate change and variability and on the role of "feedback effects"; better understanding of the physical mechanisms for decadal predictions; a holistic multi-disciplinary approach integrating next to the earth system models/sciences; parameters determined by the human factor (socio-economic, political and cultural aspects); more high-performing computing capacities; improved climate

For your agenda

Fourth call for proposals launched 30 July 2009 – Deadline: 5 January 2010

In 2010, focus will be put on assessing the vulnerability of ecosystems and key economic sectors due to climate change and providing cost-effective adaptation and mitigation measures supporting the post-2012 initiatives. Special emphasis will be given to interactions between air composition and climate change, carbon uptake by the oceans under future climate, improving climate information at sub-regional/local scales and quantification of climate mitigation costs through economic and climate model integration. Emphasis will also be given to exploring further mitigation options to climate change in cooperation with key developing countries and emerging economies. Read the whole Work programme [here](#).

ACCENT Symposium on 'Air Pollution - Climate Interactions. Contribution to European Policy Development', Brussels, Belgium, 3-4 November 2009

The ACCENT Symposium aims at

observation activities. Based on the findings and recommendations from the expert segment of the conference the High-level segment participants agreed a high-level declaration to guide the further process for the development of the Global framework for climate services.

Further details on the overall conference and the high-level declaration can be found here: <http://www.wcc3.org>

Science meets policy

Scoping meeting of the Fifth Assessment Report of the IPCC, 13-17 July 2009, Venice, Italy

The scoping meeting is an intensive exercise with great significance in determining the output of the IPCC in 2014, and it is the first time that the EC is given a seat to participate in this type of meeting.

The five day meeting was organized around Plenary Sessions and a number of Break-out-Group sessions to discuss the outlines and structure of the respective three Working Group reports and the Synthesis Report. In addition, Special Task Groups were formed to address cross-cutting themes.

During the discussions, it became evident and was commonly agreed that the science of climate change is advancing rapidly and the authoritative assessments of the IPCC appear at intervals of several years. In the Scoping meeting we are asked to consider the pace at which new information is appearing and the procedures to ensure that the AR5 covers the complete range of possible features. This includes exploration of the carbon cycle, feedbacks and interactions with other cycles; ocean acidification; clouds, aerosols and black carbon; sea level rise and ice sheets; evolution and trends related to new technologies; costs of different stabilization levels; infrastructure investments when adaptation and mitigation policies are taken into account; regional climate change impacts and response strategies, and; predictability and projections.

Furthermore, it became evident during the discussions that the negotiations towards an agreement at COP 15 in Copenhagen this December are stimulating a great deal of interest in research on institutional mechanisms and processes by which actions are taken to meet the challenge of climate change. The AR5 will have the opportunity to address this subject in much greater detail than in previous assessments. Responding to suggestions from policymakers the AR5 will consider assessment of all activities contributing to climate change; human consequences of climate change and response strategies inc. gender, ethics, and equity aspects; historical responsibility; regional aspects of climate change (including impacts and response strategies); mitigation and adaptation strategies; natural variability of climate and anthropogenic impacts; treatment of risks and uncertainty; 2° target and based on this the need to assess vulnerability for different regions and costs of adaptation; IPCC to address what we mean by 2°target (obvious link with G8 conclusions), and; global thinking and progress towards Millennium Development Goals.

The IPCC Secretariat will circulate the suggested outline of the 5AR to all Parties and participating organisations for further comments. Further discussions and eventual adoption of the AR5 outline will take place during the 31st Session of the IPCC Panel in Bali later on this year.

contributing to the dialogue between science and policy and to provide the scientific basis to the policy making process in the fields of air quality and climate change. It will bring together leading scientists in the field from Europe and the rest of the world, representatives from the European Commission, EU Member States and International organisations. During the Symposium, the work accomplished in this field within relevant projects supported by the European Commission RTD Framework Program will be presented and debated. Click [here](#) for more information.

For further information on the ACCENT Network of Excellence: <http://www.accent-network.org/>

[United Nations Climate Change Conference \(COP15\), Copenhagen, Denmark, 7-18 December 2009](#)

The next United Nations Climate Change Conference (COP 15) will take place in Copenhagen in December. As for previous COP meetings, also in the case of COP 15 the Climate Change and Environmental Risks Unit of DG Research is planning to organize side events on topics related to the issues discussed at Copenhagen.

[Fifth Ministerial Conference on Environment and Health, Parma, Italy, 10-12 March 2010](#)

The Fifth Ministerial Conference on Environment and Health organized by WHO/Europe and hosted by Italy, is the next milestone in the European environment and health process, now in its twentieth year. Focused on protecting children's health in a changing environment, the Conference will drive Europe's agenda on emerging environmental health

Joint EU – Japan workshop on climate research 2009, 6-7 July 2009, Tokyo, Japan

The fifth EU-Japan workshop on climate research cooperation took place in Tokyo, Japan on 6-7 July 2009. The present international context, with the organisation of 3rd World Climate Conference (3WCC) and Copenhagen where both EC and Japanese partners are heavily involved, gave a special momentum to this workshop.

A Draft Declaration was agreed by the participants. Three lessons to be drawn:

- a) the clear wish for more close and formal cooperation on climate research, through specific actions (the instruments of twinning and IRSES were mentioned)
- b) the importance placed to the forthcoming S and T Science agreement to facilitate this cooperation, and
- c) the wish to organise, if possible as early as next year, a dedicated EU-Japan Symposium on Climate Modelling and Decadal Prediction (following the 3WCC).

UNFCCC research related negotiations in Bonn, Germany, 1-12 June 2009, Subsidiary Body on Scientific and Technological Advice 30th session (SBSTA 30)

The 30th Subsidiary Body on Scientific and Technological Advice had its sessions in Bonn, Germany, 1-12 June 2009. The meeting was a step in the negotiations on an international climate change deal to be clinched in Copenhagen in 2009 and was taking place together with the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, (AWG-LCA) Ad Hoc Working Group on Further Commitments under the Kyoto Protocol, (AWG-KP) Subsidiary Body on Implementation, 30th session (SBI 30). Read more here: <http://unfccc.int/meetings/sb30/items/4842.php>



Environment and health

EU project highlights

MICRODIS Project

Disaster losses are on the rise with grave consequences for the survival, dignity and livelihoods of individuals and communities. In the past two decades, more than 200 million people have been affected, on average, every year by extreme events such as floods, earthquakes and windstorms.

The goal of the FP6 MICRODIS project (Integrated Health Social and Economic Impacts of Extreme Events: Evidence, Methods and Tools) is to strengthen prevention, mitigation and preparedness strategies in order to reduce the impacts of extreme events on communities.

To achieve this goal, the project involves 16 partners from Asia and Europe,

challenges for the years to come. DG Research, and in particular the Directorate Environment, will participate in the event by sharing a Commission stand and organising a side event.

[More information](#)

Publications

[European Research Framework Programme – Research on Climate Change](#)

This publication gathers the abstracts of European research projects on climate change and related to climate change which have been completed recently or are ongoing under the sixth and seventh framework programmes for research. This document aims at providing a relevant overview of research activities on climate change funded by the European Community to participants to the third World Climate Conference held in Geneva in August 2009 and to the UNFCCC 15th Conference of the Parties meeting in Copenhagen in December 2009.

[Integrated assessment of the European and North Atlantic Carbon Balance](#)

Huge quantities of carbon are exchanged between the atmosphere, ocean and terrestrial ecosystems. Rising atmospheric concentrations of CO₂ and other greenhouse gases over the past 200 years have driven substantially global warming, which in turn could trigger the release to the atmosphere of additional carbon from the oceans and the terrestrial ecosystems, thus accelerating climate change. A recent publication by the European Commission provides a comprehensive assessment of

including research and grassroots institutions. The outputs include an evidence-base on impacts, field methodologies and tools for data compilation, impact models, and integrated vulnerability assessments. It will also strengthen standardized collection of data on extreme events and their impacts at local, regional and global levels.

The MICRODIS project is now in the third year of its existence and integrated impacts surveys have been completed in Indonesia, India, the Philippines, the United Kingdom and Vietnam. The data from this work will be analyzed and compared across all sites in order to have a better understanding on the impacts on communities within the social, health and economic spheres as well as the similarities and differences amongst and within countries. Further flood and earthquake impact studies are planned in Italy, France and China, along with plans for scientific publications, training, dissemination and awareness strategies to aid and inform the international disaster community as well as decision-makers.

For more information please visit the MICRODIS website at <http://www.microdis-eu.be/>

ENNAH coordination action

The ENNAH (European Network on Noise and Health) coordination action had its kick-off meeting on the 28-30 September 2009 in London. This pioneering project with 33 partners puts forward plans to establish a research network of experts on noise and health in Europe. This network will establish future research directions and policy needs in Europe. The network will focus on noise exposure assessment in health studies in order to build more complex analytical models of noise and health effects that take into account moderating factors including the joint effects of air pollution and noise.

The measurement of health outcomes relevant to noise research will be improved and the available methodologies for future research strengthened by extending analyses on existing research, taking advantage of the EU-funded RANCH and HYENA studies and relevant national studies. The results will be disseminated to the EU policy makers, national governments, fellow researchers, and other stakeholders.

ENRIECO Project

The ENRIECO project is a FP7 coordination action aiming to advance our knowledge on specific environment and health causal relationships in pregnancy and birth cohorts by further exploiting the wealth of data generated in the past and ongoing EU and national programmes. To this end, the project is bringing together over 30 pregnancy and birth cohorts with some environmental exposure link. Together, these cohorts encompass information on some 250 000 newborns, infants and children from across Europe.

As an initial task, the project will make an inventory of birth cohorts with environmental exposure component which will become available as a web-based database. The project further plans to evaluate the information on environmental exposure, health outcomes and exposure-response that is

the European and North Atlantic carbon balance based on results of two integrated research activities under the 6th Framework Programme for Research: CARBOEUROPE and CARBOOCEAN. The report highlights key scientific findings, their implication for policy making and future research needs, unfolding some of the complex and emerging scientific and policy issues associated with climate change and the carbon cycle.

Principles of multi-risk assessment: Interaction amongst natural and man-induced risks

Multi-risk evaluation is a relatively new field, until now developed only partially by experts with different backgrounds. The EC FP6 NARAS project initiated some consideration and reflexion on this topic. A joint analysis and quantification of all the anthropogenic and natural risks which can affect a territory (multi-risk approach) is a basic factor for development of a sustainable environment and land use planning as well as for competent emergency management before and during catastrophic events. This is the aim of this publication that will present ideas and concepts: report the principles and rationales that stand behind a procedure for multi-risk assessment; provide a description of the most advanced procedures generally adopted to estimate individually natural and anthropogenic risks representing major threats for Southern Europe; tackle directly the problem of multi-risk assessment applying innovative procedures and protocols to the case study of a town close to Naples (Casalnuovo).

Useful links

[European Commission](#),

available in participating cohorts and make recommendations for future data collection and analyses. Possibilities for using uniform procedures and pooled analysis of data will be investigated in a series of case studies dealing with occupational exposure of pregnant women, health outcomes of early exposures to persistent organic pollutants, and the link between indoor environmental exposures and development of allergy and asthma.

The project is coordinated by the [Centre for Research in Environmental Epidemiology \(CREAL\)](#), Spain. It started on 1 March 2009 and is scheduled to run for 2 years. [More info on the project](#)



Natural hazards

Science meets policy

Second Session Global Platform for Disaster Risk Reduction, 16-19 June 2009, Geneva, Switzerland

The second session of the Global Platform for Disaster Risk Reduction took place in a context of growing alarm about global climate change and increasing disaster risks. In the opening high-level panel of the Global Platform, political leaders, including heads of State and heads of Governments, highlighted in stark, unequivocal terms that reducing disaster risk is critical to managing the impacts of climate change and avoiding an erosion of social and economic welfare.

The Global Platform highlighted the importance of education and sharing knowledge, including indigenous and traditional knowledge, and ensuring easy and systematic access to best practice and tools and international standards, tailored to specific sectors, and to necessary cross-border data. The following areas are considered critical to future progress: Climate change; Reduced risk for all; Setting targets for disaster risk reduction, and; Financing disaster risk reduction. The movement to reduce disaster risks is accelerating worldwide. The Global Platform has a clear and simple message – that disaster risk can be readily reduced through practical action. Solutions exist and are being put into action in many countries.

More information on the meeting can be found at <http://www.preventionweb.net/globalplatform/2009/>

EU project highlights

FLOODsite: Integrated flood risk analysis and management methodologies

A large-scale Integrated Project on flood research, the FLOODsite project ('Integrated Flood Risk Analysis and Management Methodologies' - www.floodsite.net), has just come to an end. This project is certainly the most

[Directorate - General for Research - Environment Directorate.](#)

[Climate change page.](#)

[Environment and health page.](#)

[Natural hazards page.](#)

significant research initiative that has been carried out over the last five years at EU level in support of the Flood Directive 2008/60/EC.

Coordinated by HR Wallingford (UK) and involving 37 partners from 14 EU countries, the project was interdisciplinary integrating expertise from across the environmental and social sciences, as well as technology, spatial planning and management. The notion of 'integrated' flood risk management now goes towards a change of policy from one of flood defence to flood risks being managed but not eliminated. Robust methods of flood risk assessment and management and decision support systems have been developed, which have been largely tested in pilot sites. Regular contacts with the policy Working Group on Floods (WFD Common Implementation Strategy) have enabled to inform the policy community about progress on flood risk management. Over than 100 research reports are available for public upload on the project website.

Particular contributions to knowledge were achieved in:

- The assessment of the statistics of extremes and joint probability
- The process that determine the breaching of flood embankments
- The assessment of the reliability of complex flood defence systems
- The assessment of the risk to life during floods
- Quantitative Precipitation Estimation from radar imagery
- The design and evaluation of long-term strategies for flood risk management
- The influence and impact of uncertainty in flood risk management

Besides the above achievements, the project discussed barriers encountered in flood management, which were identified in terms of:

- Interdisciplinary communication
- Cooperation and interaction
- Complex problems and interactions
- External dependencies

The project partners have been active in presenting and publishing project advances to scientific, technical and professional communities; the Final plan for using and disseminating the knowledge identifies 650 publications at the end of the FLOODsite project: including 119 FLOODsite reports on the project science which will be made available on the project website.

Legal notice:

The information and views set out in this newsletter are those of the author(s) and do not reflect necessarily the official opinion of the European Communities. Neither the European Communities institutions and bodies nor any person acting on their behalf may be held responsible for the use which may be made on the information contained therein. This newsletter may be freely distributed.

See also http://europa.eu/geninfo/legal_notices_en.htm

Contact information:

EUROPEAN COMMISSION, Directorate-General for Research
Directorate I – Environment
Unit I.5 – Climate Change and Environmental Risks

For questions regarding the newsletter or registration / cancelling of registration please contact:
Edita.Kuzmova@ec.europa.eu or Lucia.Giannini@ec.europa.eu or phone: +32 (0)2 29 62718, 29 53675.
Reproduction is authorized provided the source is acknowledged.