EUROPEAN ALLIANCE[1] OF GLOBAL ENVIRONMENTAL CHANGE

NATONAL COMMTTEES AND THE BRAZIL REGONAL OFFICE

IGBP has a **regional office** in Brazil and **70 national committees** across Africa, the Americas, Asia Pacific, Europe and the Middle Last. Last year, the IGBP national committees organised workshops, published research articles and engaged core projects.

The regional office through the support of the Brazilian National Institute for Space Research (INPE) prints and mails the *Global Change* magazine to more than 2,500 universities and research institutes in developing countries. It also translates policy briefings on oceans and global environmental change developed by IGBP, and ensures their wide distribution.

In 2010, the regional office helped support the participation of 18 developing country researchers in the first workshop of the IGBP second synthesis topic on the needs of the least developed countries, held in Maputo, Mozambique, in September.

Following up on the November 2009 workshop on impacts, adaptation and vulnerability, the regional office and the Earth System Science Center at INPE led the writing of a report and a scientific paper: Impacts, adaptation and vulnerability to global environmental change: challenges and pathways for an action-oriented research agenda for middle- and low-income countries. *Current Opinion in Environmental Sustainability* 2: 364–374 (2010).

Zev Levin, previous chair of **Israel's National Committee**, was part of a team of researchers that studied ice nucleation caused by ash spewed from the Icelandic volcano that caused travel chaos in Europe in 2010. The effectiveness of volcanic ash particles as ice nuclei is not clear, and previous work had led to contradictory

[1] The European Alliance is an association of members of the national committees of IGBP IHDP, WCRP and DIVERSITAS.

results Levin's group found that ash particles are indeed effective as nuclei for ice formation. In other words, a large-scale natural cloud seeding event might have taken place. This work has been submitted for publication.

Members of the **Irish National Committee** continue to be involved actively in research undertaken by IGBP's core projects, in particular LOICZ, SOLAS and IGAC. National activities conducted under the auspices of these projects include coastal climate adaptation and marine aerosol production. A SOLAS-sponsored COST Action (735) workshop was hosted by the National University of Ireland (Galway) in 2010. A resulting meeting report was published in the *Bulletin of the American Meteorological Society.*

By virtue of its large scientific community and a vigorous research programme, **India** is an important component of the IGBP network. Shreyas Managave and colleagues were able to identify a clear seasonal cycle for intra-annual variations in the oxygen isotopic composition of annual growth rings of three teak trees from central India. The isotopic variations were found to be related to changes in relative humidity. Breaks in monsoon conditions, usually associated with droughts, could hence be identified. Such sampling could be used to reconstruct the northeast monsoon rainfall over southern India.

Past break monsoon conditions detectable by high resolution intra-annual $\delta^{18}O$ analysis of teak rings. *Geophysical Research Letters* 37: LO5702, doi: 10.1029/2009GL041172 (2010).

The **German National Committee** has been promoting interdisciplinary and integrative research approaches in global change science for many years. To promote scientific research on the opportunities and risks of climate engineering (geoengineering) and continue the interdisciplinary dialogue initiated in 2009, the committee held a round table discussion in March 2010. The meeting helped to identify knowledge gaps and develop urgent research questions from the perspective of natural and social scientists. Scientists from a wide range of disciplines, including: law, marine biogeochemistry and chemistry participated in the discussions, in addition to representatives of several Germany agencies.

Germany hosts several project offices of the global environmental change programmes (IHDP, LOICZ, ESG, GWSP and SOLAS). In 2010, the presidents of DFG (the German Research Foundation), ICSU and ISSC signed a Memorandum of Understanding with a view to promoting a closer institutional cooperation between the natural and social sciences at an international level.

In November 2010, the **Portuguese and Spanish National Committees** jointly organised the 2nd Iberian IGBP seminar in Lisbon. The seminar entitled „Global Change in the Iberian Peninsula: An Integrated Approach" was chaired by Nelson Lourenço and Aida Rios, and reflected the commitment of both committees to the

promotion and dissemination of scientific studies about global change in the Iberian Peninsula. The seminar aimed to explore the role of human activities in global change, the environmental outcomes of this change and how social systems respond to it. It was attended by more than 70 researchers who presented around 40 oral presentations and posters. Keynote speakers included Carlos Nobre (Chair of the IGBP Scientific Committee), Wolfram Mauser (University of Munich), Mohammed-Said Karrouk (Chair of IGBP's Moroccan National Committee), Carole Crumley (University of North Carolina and Research Director of IHOPE) and Fátima Abrantes (PAGES scientific steering committee). More information about the workshop can be found here:

www.igbp-portugal.org

The **Romanian National Committee** on global environmental change hosted the 4th Meeting of the European Alliance of Global Change Research Committees in September 2010. The meeting was attended by over 20 representatives of the European Alliance national committees, members and potential members. A scientific excursion with focus on environmental issues in the Carpathian Mountains was organised during the second part of the meeting. The excursion followed a profile through the main topographic features of Romania, highlighting environmental changes associated with urbanisation and land degradation.

In October 2010, a new board of the **European Alliance** was elected during a meeting held in Bucharest. The new chair is Nelson Lourenço from the Portuguese IGBP national committee. John Ingram (United Kingdom), Dan Wilhelmsson (Sweden) and Wolfgang Lucht (Germany) were chosen as vice-chairs. This new board will continue the work done by Wolfram Mauser, who has successfully guided the European Alliance through its formation period. The European Alliance will host a national committees'day at the 2012 Planet Under Pressure conference. This will be an opportunity to discuss how to bridge to the broad community of stakeholders in the context of a development agenda, and the value of regional networks of national committees for delivering global sustainability research.

In 2010, the **US National Research Council** released six major reports on different aspects of climate change. The reports point to a strong body of scientific evidence showing that climate change is occurring, is caused largely by human activities, and poses significant risks for a broad range of human and natural systems. Limiting the magnitude of future climate change will require a major departure from business as usual in how the world uses and produces energy. In the meantime, plans for adaptation should consider a range of possible future climate conditions and associated impacts, some well outside the realm of past experience. Comprehensive, robust and credible information systems are needed to plan and evaluate effective responses to climate change.

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