



## ICSU Insight

Newsletter, December 2009, vol 7, n°2

### SUMMARY

#### [Grand Challenges in Global Sustainability Research](#)

- [Strategic Planning](#)
- [Planning and Coordinating Research](#)
- [Science for Policy](#)
- [Universality of Science](#)
- [ICSU Governance and Policies](#)
- [ICSU National and Union Members](#)
- [Partners](#)
- [Secretariat](#)

#### **Grand Challenges in Global Sustainability Research**

What are the challenges in Global Sustainability Research for the next decade? ICSU and its partners are inviting organizations and individuals for their input via an online consultation beginning 21 December. Grand Challenges in Sustainability Research is a focused global initiative centred on five grand challenges that must be addressed over the next decade if society is to manage the global environmental change that is now underway and cope with the change that we cannot manage.

The proposed initiative is a result of the first step of the [Earth system visioning process](#), which began with an online consultation that yielded more than 300 research priorities and contributions from more than 1000 people from 85 countries.

The consultation process is now at a crucial stage and, once again, we seek the opinions of the global community. We would like your reflections on the proposed Grand Challenges, on what current research efforts can be woven into the challenges, and on what international research coordination is needed to get the job done. The draft document and online consultation are available at [www.icsu-visioning.org](http://www.icsu-visioning.org), from 21 December 2009 to 21 February 2010.

## Strategic Planning

### Second Strategic Plan

At its meeting in September, the Committee for Scientific Planning and Review (CSPR) agreed on a timetable and process for developing the [second ICSU Strategic Plan](#), 2012–2017. This process was subsequently debated and agreed by the Executive Board. The process includes a number of structured consultations with the ICSU community over the next 18 months. The ongoing visioning exercise for Earth system science and a new Foresight analysis are critical elements of the overall strategic planning.

### Foresight Analysis

As part of the development of ICSU's second strategic plan, CSPR is conducting a [foresight analysis](#), based on scenarios that explore potential future developments in international science. To help define the scenarios, ICSU has launched a broad consultation asking: What will be the key drivers that influence international science over the next 20 years? To learn more or to contribute your ideas, visit the [consultation website](#). The consultation is open until 25 January 2010.

### Earth System Visioning Process

[Earth system visioning](#) is a three-step process spearheaded by ICSU in cooperation with the International Social Science Council (ISSC). The first step involved an online consultation that asked: What is the most important research question in Earth system research that needs answering in the next decade? Why? The proposed research priorities formed the background for a workshop held in September involving senior researchers, early-career scientists, science-policy experts and funders. The workshop resulted in the draft document 'Grand Challenges in Global Sustainability: A Systems Approach to Research Priorities for the Decade' that is going out to the global community through an [online consultation](#) (21 December 2009–21 February 2010). The goal is to produce a widely shared vision of the scientific priorities for global sustainability research in the coming decade. The second step in the visioning process will begin on 22 June 2010, with an open forum in Paris to discuss the institutional structures that will facilitate the new Earth system research strategy.

### Science Education Review

A [Review Panel](#) for the strategic review of ICSU's role in science education has been established. Science education is a topic of great interest to ICSU Members, as demonstrated by the particularly large number of nominations received for the panel. Roberta Johnson (Colorado, USA) will chair the panel, which will hold its first meeting in Paris, 25–26 January 2010. The panel will assess the past and present science education activities of ICSU and its members, place these into an international context, and make recommendations on the future role, if any, for ICSU in the field.

 [top of page](#)

## Planning and Coordinating Research

### Hazards and Disasters

China will host the office of the new international programme, [Integrated Research on Disaster Risk](#) (IRDR). The International Programme Office for IRDR will be established in Beijing at the Headquarters of the Center for Earth Observation and Digital Earth (CEODE)—the first time an international office of this type has been hosted in Asia. The ICSU Executive Board accepted the offer from the China Association for Science and Technology (CAST), following an international call for offers and subsequent site visit. The decision has been endorsed by the other IRDR co-sponsors—the International Social Science Council (ISSC) and the United Nations International Strategy for Disaster Reduction (UN ISDR). The office will be jointly funded by CAST and the Chinese Academy of Sciences (CAS).

Following the decision to host the programme office in China, the IRDR sponsors are now inviting applications for the position of Executive Director of the programme. The closing date for applications is **14 January 2010**. The [vacancy announcement](#) and applications details are

available on the ICSU website.

At its second meeting, the [Scientific Committee of IRDR](#) agreed to set up working groups for the planning and implementation of the programme's first three years. Early 2010 will see the first group in action, as it develops a template for the case study approach being adopted by IRDR.

## Ecosystem Change and Human Well-being

The Scientific Committee for the [Programme on Ecosystem Change and Society](#) (PECS) met for the first time in June and will meet again in January to maintain the momentum for developing this new interdisciplinary programme. PECS will add to the capacity of the existing global environmental change programmes to provide scientific knowledge for the proposed Intergovernmental Platform on Biodiversity and Ecosystem Services (see [IPBES item](#)).

## International Polar Year

Preparations continue for a major [international conference](#) in Oslo, 8–12 July 2010, to highlight and build upon the science and educational activities that have emerged through IPY. A call for abstracts is currently open, with a due date of 20 January. Many ICSU Members and Interdisciplinary Bodies are coordinating their contributions to ensuring a successful IPY legacy. The ICSU grants programme funded an application, led by CODATA, to develop a [Polar Information Commons](#). The newly developing [ICSU World Data System](#) is also learning lessons from the IPY data experience and examining long-term solutions to the data stewardship challenge. With the generous support of several nations, the International Programme Office for IPY has been extended until at least mid-2010 in recognition of the continued need for coordination.

The IPY Education and Outreach Committee continues to raise public awareness about polar issues. The first [International Polar Week](#) took place in October. The week, themed 'What Happens at the Poles Affects Us All', was an opportunity to explore the many changes in the polar regions and how they affect us around the world. The second International Polar Week will take place in March 2010. The Committee is also developing a polar resources book, which is a response to requests from educators and scientists wishing to raise awareness about the importance of polar science during a time of rapid planet-wide climate change.

## Urban Health and Well-being

The fifth meeting of the [Urban Health and Well-being Planning Group](#) took place in Beijing in November. This was generously hosted by the Chinese Association for Science and Technology and the Chinese Academy of Sciences, and included valuable discussions with leading local researchers. It was followed by a visit to the rapidly developing city of Sanshui and participation in an International Conference on Environment Development and Longevity, which was attended by urban policy makers from across China.

## Renewable Energies

The International Science Panel on Renewable Energy (ISPRES) was a joint initiative between ICSU and the International Council of Academies of Engineering and Technological Sciences (CAETS). The Panel has finalised two reports on biomass, and photovoltaics and wind energy. The reports provide a global assessment of the status of research in each field and identify future priorities and will be available in January.

## Global Observations

A [Progress Report](#) on the implementation of the Global Climate Observing System (GCOS) is now available. The report provides an assessment of progress since 2004 in maintaining, strengthening, and facilitating global observations of the climate system for the purposes of the United Nations Framework Convention on Climate Change (UNFCCC). At the 17th meeting of the GCOS Steering Committee, which was held in October at UNESCO in Paris, the committee discussed the GCOS contribution to the Global Earth Observing System of Systems (GEOSS) and the way forward following the decisions made at the WCC-3 (see [WCC-3 item](#)). The committee expressed support for the GCOS cooperation with the UNFCCC and the IPCC, and noted the relevance of the Earth system research visioning process as it relates to GCOS and the global environmental observing systems in general.

The [implementation guidelines](#) for the Data Sharing Principles of GEOSS were accepted at the 6th [Group on Earth Observations](#) (GEO) Plenary Session, which took place in Washington DC in November. The Data Sharing Principles, where development was led by ICSU's Committee on Data for Science and Technology (CODATA), call for free and open exchange of data as a foundation of GEOSS. The action plan will be developed further for submission to GEO-VII. Following the plenary, a one-day GEO symposium was held, highlighting the achievements of the Integrated Global Observing Strategy (IGOS) and its incorporation into GEO. The ICSU Executive Director gave a keynote presentation on 'The importance of science in GEO'.

The [GEO Biodiversity Observation Network](#) (GEO BON) is moving forward thanks to close cooperation with DIVERSITAS. Some 100 governmental and non-governmental organizations are collaborating through GEO BON to make their biodiversity data, information and forecasts more readily accessible to policy makers, managers, experts and other users.

The GEO Science and Technology Committee, of which ICSU is a member, has initiated a GEO Work Plan review process and supported proposals for strengthening ties between GEO Tasks and the scientific community.

 [top of page](#)

## Science for Policy

### UN Climate Change Conference (COP-15)

The [15th United Nations Climate Change Conference](#) (COP-15), held in Copenhagen this month, has been at the centre of international discussions on human-induced climate change, and has attracted an enormous amount of interest from the media and general public. ICSU was represented by several Interdisciplinary Bodies, including the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP) and the World Climate Research Programme (WCRP). IGBP and IHDP organized a side event 'Science, Society, and Adaptation', and an exhibition booth. IGBP also launched the [Climate Change Index](#) which brings together key indicators of global change into a single figure.

### World Climate Conference-3

More than 2,500 participants from 150 countries attended the [World Climate Conference-3](#) (WCC-3), which took place in Geneva, 29 August-4 September. The Conference was organized by the World Meteorological Organization and co-sponsored by ICSU and other relevant UN organizations, as well as several governments and other nongovernmental organizations.

The High-Level Segment of the conference decided to establish the Global Framework for Climate Services to strengthen the provision of climate predictions and information worldwide. The Expert Segment focused on how to design the Global Framework and identified several essential elements, including strengthening the Global Climate Observing System (GCOS) and the World Climate Research Programme (WCRP). It also requires strong input by the International Geosphere-Biosphere Programme (IGBP), DIVERSITAS, the International Human Dimensions Programme (IHDP), and other globally focussed research initiatives.

ICSU President, Catherine Bréchnac, and the Executive Director, Deliang Chen, expressed ICSU's support for the development of the Global Framework during their [speeches](#) at the opening of the High-Level Segment and Expert Segment respectively. ICSU, GCOS and the global environment change programmes will be involved in the WMO-led process of planning and developing the framework over the next 16 months.

### World Conference on Science

The [4th World Science Forum](#), organised by the Hungarian Academy of Sciences in partnership with ICSU, UNESCO and the European Union, took place in Budapest in early November. The theme was knowledge and the future and it included a retrospective session on developments over the past decade since the first World Conference on Science, as well as consideration of future prospects. The ICSU vice-President and President made plenary

presentations in these sessions. There was also a major focus on global environmental change—to which ICSU also made contributions. A [video archive](#) of the conference is available online.

## UNESCO General Conference

The [35th General Conference of UNESCO](#) took place in October and was notable for the election of a new Director General, Irina Bokova from Bulgaria. UNESCO is a key strategic partner for ICSU and co-sponsors several activities. In an [intervention](#) to the plenary ministerial session, ICSU's President emphasised the importance of this partnership and her enthusiasm for working with the new UNESCO leadership to strengthen international science.

## Biodiversity and Ecosystem Services

The 2nd ad hoc intergovernmental and multi-stakeholder meeting on developing an [Intergovernmental Platform on Biodiversity and Ecosystem Services](#) (IPBES) was held in Nairobi, Kenya in October. ICSU, DIVERSITAS and the International Union for Conservation of nature (IUCN) presented '[Needs, Functions and Form](#)' for the proposed IPBES. This was a summary of perspectives from the scientific community and broader civil society which were received via an online consultation. The input, and the subsequent intervention by ICSU at the multi-stakeholder meeting, highlighted the increasing concern over the continuing deterioration of biodiversity and ecosystems and their ability to support the needs of people.

 [top of page](#)

## Universality of Science

### Coordinating Global and Regional Activities

The first meeting of ICSU Officers, Regional Committee chairs and the Regional Office directors, took place in Budapest prior to the World Science forum in early November. This provided a forum for exchange of information and coordination of activities and planning, with an emphasis on the integration of global and regional initiatives. It was agreed that the meeting was a very good first step towards strategic coordination; The next meeting will take place in late 2010. The following day, all attendees were invited to a meeting of G77 science ministers, organized by UNESCO and the Academy of Sciences for the Developing World (TWAS), which focussed on science and innovation systems and policy.

### Reviews of the Regional Offices

The Mid-Term Review of the Regional Office for Africa is available in the [Member Zone](#) of the ICSU website. The membership of the [Review Panel](#) for the Regional Office for Latin America and the Caribbean has been agreed by CSPR.

### Regional Office for Africa

The Regional Office for Africa (ROA) continues to work towards implementing the [Science Plans](#) for the four regional priorities—sustainable energy, natural and human-induced hazards and disasters, health and human well-being, and global environmental change (including climate change and adaptation). Sustainable energy projects will be implemented in collaboration with the [NEPAD](#) programme of the African Union, and the geo-hazards projects, from the hazards and disasters science plan, will be implemented in line with the UN-proclaimed International Year of Planet Earth (IYPE).

The Regional Office has provided support to local associations bidding to host conferences, by ICSU Scientific Unions, in Africa. The International Union of Toxicology (IUTOX) held the 7th Congress of Toxicology in Developing Countries in South Africa with support from ROA, which included the Regional Office Director serving on the International Advisory Panel. ROA is also assisting ICSU's Committee on Data for Science and Technology as it prepares for [CODATA2010](#), which will be held in South Africa in October.

The Regional Office participated in the 20th General Meeting–11th General Conference of the Academy of Sciences for the Developing World (TWAS), held in Durbin, South Africa in October. A series of symposia examined the state of science and technology in South Africa and the impact of the global financial crisis on investments in science in the developing world. The conference provided an opportunity to strengthen links with the Academy of Sciences of

South Africa (ASSAF) who were joint organisers of the event.

More news is available on the [ROA website](#).

## Regional Office for Asia and the Pacific

The Regional Office for Asia and the Pacific (ROAP) continues to move forward with the regional priorities—sustainable energy, hazards and disasters, and ecosystem change and society. The priority areas were central to discussions at the eighth meeting of the [Regional Committee](#) for Asia and the Pacific, held in Japan in November, and the 3rd Regional Consultation, held in Malaysia in October. Recommendations for implementing the Science Plans for each priority area have been identified as well as how to best dovetail with ICSU's new programmes, Integrated Research on Disaster Risk (IRDR) and the Programme on Ecosystem Change and Society (PECS).

The Regional Consultation was launched by the Deputy Minister of Science, Technology and Innovation Malaysia, Y. B. Tuan Haji Fadillah Hj Yusof and hosted by the Centre for Global Sustainability Studies of the Universiti Sains Malaysia. The [Chair's summary](#) of the Regional Consultation is available on the ROAP website.

More news is available on the [ROAP website](#).

## Regional Office for Latin America and the Caribbean

The [7th meeting](#) of the Regional Committee for Latin America and the Caribbean took place in Panama in September. Several alternatives are being pursued to implement the Science Plans of the four regional priorities—sustainable energy, natural disasters, mathematics education and biodiversity. The Regional Committee agreed to network with the Organization of American States (OAS) and the InterAmerican Development Bank (IADB) as part of the implementation process. A formal agreement between ICSU and OAS is being negotiated.

The Regional Office for Latin America and the Caribbean (ROLAC) participated in the 3rd ICSU Regional Consultation for Asia and Pacific, contributing to the dialogue between the three ICSU Regional Offices. Two new members have been appointed to the [Regional Committee](#) for Latin America and the Caribbean: Patricio Felmer from Chile and Arturo J. Martinez from Argentina. Three other members were re-appointed for a second term of office.

More news is available on the [ROLAC website](#).

## Freedom and Responsibility

The Executive Board has accepted a generous offer from the Swiss Academy of Sciences to provide secretarial support to the Committee on Freedom and Responsibility in the Conduct of Science (CFRS). Several ICSU National Members have also agreed to partner with the committee in organising workshops on key topics relating to freedom and responsibility. Topics for 2010 include science and war, private sector-academia interactions, and science and the media.

## National Security and visa issues

Following a letter to ICSU Members in August, [correspondence](#) from the Chairman of CFRS has recently been published in *Nature* (vol 461, p723, 8 Oct 2009). This highlights the problems that national security regulations are creating for the free association of scientists. Examples include Iranian scientists wishing to enter Europe and Palestinian students wishing to study in Israel.

## Information and Data

The [Strategic Coordinating Committee for Information and Data](#) (SCCID) held its first meeting in October, in Paris. The committee concentrated on translating its Terms of Reference into a work plan for the period leading up to the next ICSU General Assembly (Rome, 2012).

## World Data System

The Scientific Committee for the [World Data System](#) (WDS-SC) met for the first time in October, just prior to the SCCID committee. The committee considered the *Lessons Learned*

*and Recommendations* from the ICSU ad-hoc World Data System Transition Team. The committee identified several priorities including establishing the constitution and bylaws; defining the Mission Statement; and agreeing on the data policy, system architecture and criteria for WDS membership. The committee also discussed the potential role for WDS in addressing the data legacy challenges of the International Polar Year (IPY).

## Availability of Scientific Publications

The [International network for the Availability of Scientific Publications](#) (INASP), an Interdisciplinary Body of ICSU, held a workshop in Oxford in November on developing productive partnerships for promoting global research access, readership and authorship. This was followed by a meeting of the Trustees, at which John Wood (Imperial College, London) was appointed as Chairman in succession to Robert Campbell (Wiley Blackwell, Oxford).

 [top of page](#)

## ICSU Governance and Policies

### Scientific Planning and Review

[Decisions](#) from the 18th Meeting of the Committee on Scientific Planning and Review (CSPR) are now available.

### 101st Meeting of the Executive Board

[Decisions](#) from the 101st Meeting of the Executive Board are now available. The Board agreed on the Terms of Reference and proposed membership of an *Ad hoc* Group on Weighted Voting.

 [top of page](#)

## ICSU National and Union Members

### ICSU Welcomes New Members

ICSU is pleased to welcome the Academy of Sciences and Arts of the Republic of Srpska as a National Member and the Slovenian Academy of Sciences and Arts as a National Scientific Associate. ICSU's membership now comprises 119 National Members (representing 139 countries) and 30 Scientific Unions.

An application from the International Union of Speleology (UIS) for admission as an International Scientific Associate is being considered. The Executive Board has agreed to admit the UIS if sufficient support is received from the ICSU Members.

### Unions Meeting

Representatives of the ICSU Scientific Unions will meet, with the Executive Board, in Paris at the Institut Pasteur, 7–8 April 2010, immediately prior to the 102nd Executive Board meeting. The agenda is currently being developed with the general theme 'strengthening the role of Unions in ICSU activities'.

 [top of page](#)

## Partners

### Funding Agencies: The Belmont Challenge

Representatives from funding agencies in the US, UK, Japan, Germany, France, Canada, and Australia discussed current and future international funding strategies at a workshop on Global Challenges for Environmental Research Funders, held in October in Belmont, Maryland, USA. At the workshop, participants, including the ICSU Executive Director, agreed on the need for an improved forum for dialogue between research funding agencies and the scientific community, and for a coordinated process for early-phase engagement on global change research strategies and priorities. The funding bodies agreed on a strategic focus for future funding that

aims to deliver knowledge to support human action and adaptation to regional environmental change—the 'Belmont Challenge'. ICSU has been invited to conduct an analysis of the capability of international research to meet the challenge, with a focus on solvability of problems, infrastructure and personnel needed. The US National Science Foundation (NSF) has kindly agreed to fund the project.

## Funding Agencies for Global Change Research

Participants at the Annual Meeting of the [International Group of Funding Agencies for Global Change Research](#) (IGFA), in Paris in October, agreed that more integrated science is needed in the future. The Earth System Visioning process formed part of the discussions, which also included the proposed new IGFA structure of a small Executive Committee with members coming from funding agencies and ICSU.

## Engineering and Technological Sciences

Representatives from the [International Council of Academies of Engineering and Technological Sciences](#) (CAETS) visited ICSU in October. Five potential areas of collaboration between the two organizations were identified: science and policy and working with the UN; disasters and risk; thematic workshops; foresight and future scanning; and communication and information exchange.

 [top of page](#)

## ICSU Secretariat

### Website upgrade

The ICSU website, [www.icsu.org](http://www.icsu.org), is being upgraded and is scheduled for completion in mid-2010. The upgrade will give the website a fresh look and rebuild the technical structure to enable the incorporation of new technologies.

### New ICSU Brochure


A [new ICSU brochure](#) is available. The double-sided A4 document provides an overview of ICSU's activities under the key areas of: International Research Collaboration; Science for Policy; and Universality of Science. If you would like a high resolution version for printing, please contact Jacinta at the ICSU Secretariat: [jacinta.legg@icsu.org](mailto:jacinta.legg@icsu.org)

### Staff Changes

[Clare Thirlway](#), Personal Assistant to the Executive Director, will return from maternity leave on 4 January 2010.

The Secretariat would like to thank Andrew Yang for his time and energy during his three month secondment at ICSU. He has been an important team member, providing invaluable support for the Earth System Visioning process.

Contact : [Jacinta Legg](#)

If you wish to subscribe or unsubscribe from ICSU's electronic newsletter click here 

Strengthening international science for the benefit of society