Annual Report 2009

Strengthening international science
for the benefit of society

ICSU
International Council for Science

ICSU's vision

The long-term ICSU strategic vision is for a world where science is used for the benefit of all, excellence in science is valued and scientific knowledge is effectively linked to policy making. In such a world, universal and equitable access to high quality scientific data and information is a reality and all countries have the scientific capacity to use these and to contribute to generating the new knowledge that is necessary to establish their own development pathways in a sustainable manner. ICSU has a major role to play in leading the global science community, implementing new scientific initiatives and engaging with policy-makers and other sectors of society to help realize this vision (Strategic Plan 2006-2011).

ICSU: Strengthening International Science

The International Council for Science (ICSU) is a non-governmental organization with a global membership of national scientific bodies (119 members, representing 139 countries)* and international scientific unions (30 members). ICSU mobilizes knowledge and resources of the international scientific community to strengthen international science for the benefit of society. Activities focus on three areas:

International Research Collaboration

ICSU works with strategic partners to plan and coordinate international research programmes that address major issues of relevance to both science and society. To this end, a number of Interdisciplinary Bodies have been created, addressing various themes, including: global environmental change; hazards and disasters; ecosystem change; oceans; polar research; space research; and solar-terrestrial physics.

Science for Policy

ICSU works at the intersection of science and policy, to ensure that science is integrated into international policy development and that relevant policies take into account both scientific knowledge and the needs of science. ICSU promotes dialogue and shared understanding between the scientific community, policy makers and society more broadly.

Universality of Science

The Principle of the Universality of Science embodies freedom of movement, association, expression and communication for scientists as well as equitable access to data, information and research materials. Important responsibilities for scientists are inherent in these freedoms. The Committee on Freedom and Responsibility in the Conduct of Science (CFRS) serves as the guardian of the Principle, adherence to which is a condition of membership to ICSU.

* Membership as of 31 December 2009

Message from the Executive Director

2009 has been an exciting year for ICSU—it marks the beginning of the second half of implementing our strategic plan, 2006–2011. Working towards our goals is an exciting undertaking and, in 2009, we moved forward and are closer to attaining several important goals. Planning for the next strategic plan, 2012–2017, is now underway, with the process involving wide consultation, several reviews and a foresight analysis.

We live in a rapidly changing world and ICSU needs to be able to respond; to deal with pressing issues and to seize new opportunities. In light of this, a fast decision making mechanism has been established, allowing ICSU to respond more promptly when an issue or opportunity arises. This mechanism has already proven useful with the decision to take on the Belmont project, at the request of funders of international global change research. This opportunity will strengthen ICSU's links with the funding agencies and will enable us to work more closely with them on environmental research strategy and implementation. The Belmont project will analyze the international research capability to respond to the Belmont Challenge of delivering knowledge to support human action and adaptation to regional environmental change.

Every day at ICSU I marvel at, and am humbled by, the talents and contributions of the people I work with. ICSU's achievements would not be possible without the commitment and enthusiasm of the ICSU community, including our Members and partners, the Regional Offices and the secretariat staff. In 2009, the secretariat was strengthened by the addition of Clare Thirlway and we also welcomed Andrew Yang, seconded from the Academy of Sciences located in Taipei on behalf of our President-Elect, Yuan Tseh Lee. This arrangement has been mutually beneficial and we look forward to more secondments from our Members over the coming years.

Dear colleagues, thank you for your continued support and dedication to achieving ICSU goals.

Deliang Chen
Executive Director

Message from the President

Science has an important role to play in addressing some of the most pressing challenges facing society—ecosystem change and human well-being, hazards and disasters, climate change, and human health. International scientific cooperation is a critical element in addressing these challenges. ICSU fosters such cooperation by planning, initiating and nurturing programmes on behalf of our Members—often in partnership with other organizations—harnessing the skills of many thousands of scientists across disciplinary and international boundaries to respond to urgent global issues. The International Polar Year 2007–2008 (IPY) is one such programme.

In February 2009, I had the pleasure of addressing the IPY community during a celebration at the World Meteorological Organization in Geneva. During my speech, I made three key points: First, ICSU's Members are immensely proud of the success of IPY and appreciative of the efforts of all who contributed. Second, ICSU, primarily through its constituent bodies and programmes, will remain engaged in polar science in the long-term and will work to ensure a lasting IPY legacy. And finally, using the IPY as an example, it is an opportune time to drive home a core ICSU principle that data, scientists and knowledge should freely flow across borders.

The surge of activity and attention during IPY invigorated a new generation of researchers and brought global attention to the poles. Many new partnerships have been forged and many lessons have been learnt. Society cannot afford to let this momentum lapse and the next couple of years are particularly critical to ensuring the IPY legacy. For its part, ICSU will continue to be engaged in at least three aspects of international polar research: research coordination, observations and data management. We will also continue to build and maintain partnerships, and engage early-career researchers.

The International Polar Year is a shining example of ICSU's role in planning and implementing international science programmes and fostering the ongoing collaborative effort needed to strengthen international science for the benefit of society.

Catherine Bréchignac
President

Strategic Planning

Strategic Planning

Foresight: International Science in 20 years

Science Education: Reviewing ICSU's Role

Global Sustainability Research: A Decade of Grand Challenges

Strategic Planning

ICSU is currently implementing the second half of its first ever strategic plan, 2006–2011—the product of a major consultation and planning process. This new strategic approach responded to the recommendation of the 1996 Schmidt review that the organization needed to become strategic in addressing key international interdisciplinary issues that are important for science and society. In 2009, ICSU began the process to develop the second strategic plan, 2012–2017, keeping in mind the message from Members at the 2008 General Assembly that the mission and vision were still framed correctly and the second plan should be an evolution of the first.

The new plan will integrate information from external sources and from ICSU activities such as: the reviews of the Regional Offices; the sustainability research visioning process; the foresight scenario analysis; and the strategic review of ICSU's role in science education (all of which are covered elsewhere in this report).

ICSU's Committee on Scientific Planning and Review is overseeing the development of the new plan, which will be ready in 2011 for approval by the Executive Board and the 30th ICSU General Assembly.

Foresight: International Science in 20 Years

ICSU is conducting a new foresight analysis, exploring the potential development of international science over the next 20 years. The foresight is a key component in the development and implementation of the second Strategic Plan, 2012–2017. Drawing heavily on consultations with ICSU Members, it explores the potential development of international science over the next 20 years in a changing economic, social, political and environmental context. It will test our role and mission and guide long-term strategic choices aimed at building ICSU's value in strengthening international science for the benefit of society. The foresight is also aimed at helping ICSU Members develop their own strategic activities.

This is ICSU's second foresight and complements the 2002–2004 foresight that fed into the first strategic plan, 2006–2011, and yielded a series of priority areas that remain relevant today—although not all areas could practically be explored during the six-year implementation timeframe.

The current foresight exercise is scenario-based and will provide a 'long view' to complement the nearer-term view provided by other inputs to the strategic planning process. The inputs from an initial consultation (launched in October 2009) on key drivers of international science over the next 20 years will be distilled in order to frame a small number of scenarios that will explore potential futures of international science, and test Members' expectations and understanding of ICSU's future role. A broad consultation on the draft scenarios is planned for October 2010.

http://foresight.icsu.org

Science Education: Reviewing ICSU's Role

ICSU is undertaking a strategic review of its role in science education—a topic of great interest to Members, Interdisciplinary Bodies and Regional Offices. The review will assess ICSU's past and present science education activities, place these into an international context, and make recommendations on the future role, if any, for ICSU in the field. A key issue will be to identify whether there is any added-value that ICSU, at the global level, can bring to the various science education activities of Members, Interdisciplinary Bodies and Regional Offices; identifying gaps, overlaps and synergies and possibly proposing new responsibilities for individual bodies.

Global Sustainability Research: A Decade of Grand Challenges

ICSU, in cooperation with the International Social Science Council (ISSC), is spearheading a three-step consultative visioning process to determine: What are the Grand Challenges in global sustainability research over the next decade?

The first step involved an online consultation with ICSU's National Members, Scientific Unions, Interdisciplinary Bodies and partners, as well as the wider scientific community, to determine: What is the most important research question in Earth system research that needs answering in the next decade, and why? More than 300 research questions and contributions were received from more than 1000 people from 85 countries.

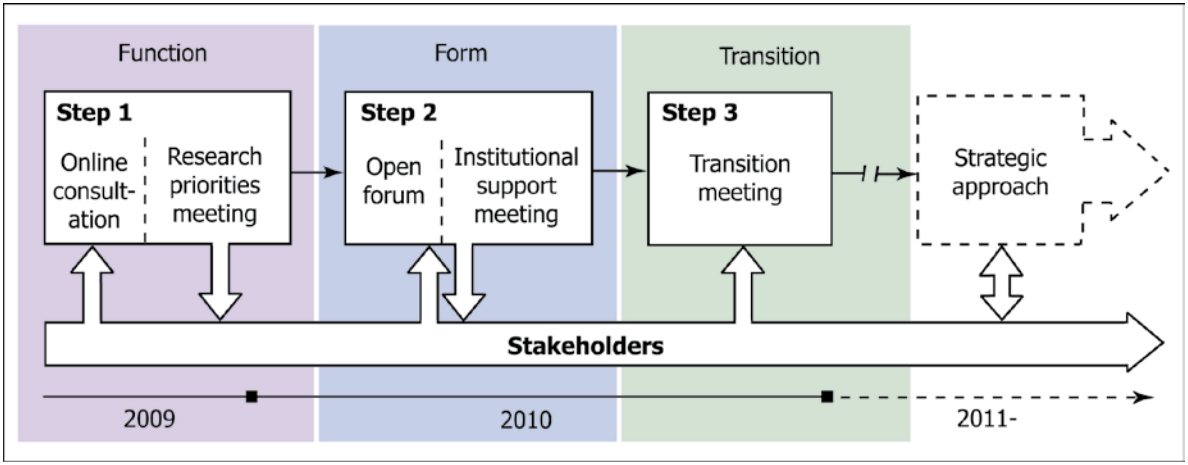
The online consultation formed the background for a workshop—involving senior researchers, early-career scientists, science-policy experts and funders—to prioritize the research questions according to scientific importance, relevance to decision-makers, broad support, global coordination and leverage. The result is the draft document 'Grand Challenges in Global Sustainability Research: A Systems Approach to Research Priorities for the Decade'.

ICSU, with the ISSC, is proposing a focused global initiative addressing 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 five Grand Challenges encompass:

- Reducing the uncertainty associated with global and regional forecasts
- Further developing observation systems
- Anticipating, avoiding and coping with dangerous global environmental change
- Determining what institutional arrangements are needed
- Developing innovative responses to achieve global sustainability

A public consultation on the proposed Grand Challenges began at the end of 2009. The second step in the visioning process, determining institutional frameworks needed to support the research strategy, will begin in mid-2010.

www.icsu-visioning.org



International Research Collaboration

Hazards and Disasters

International Polar Year 2007–2008

Urban Health and Wellbeing

Ecosystem Change and Society

Renewable Energies

Grants Programme

Supporting Interdisciplinary Science

Building on Disciplinary Strengths

Hazards and Disasters

Integrated Research on Disaster Risk (IRDR) is a major new 10-year international research programme that aims to provide answers to the growing global problem of disasters and how countries can reduce the root causes of disaster risk. In a break from past approaches, it will combine diverse expertise and perspectives into one coordinated global effort, drawing on the natural, socio-economic, health and engineering sciences. The programme is sponsored by ICSU, along with the International Social Science Council (ISSC) and the United Nations International Strategy for Disaster Reduction (UN ISDR).

The Scientific Committee for IRDR has been established and began working on priority activities for the planning and implementation of the programme's first three years. One priority has been to develop forensic investigations on selected disaster events; to learn from good practices and from cases where opportunities have been lost—often with devastating results. The first IRDR workshop, which will be held in early-2010, will seek to develop a template for such investigations.

The International Programme Office for IRDR will be established in Beijing—the first time an international office of this type has been hosted in Asia. The office will be located at the Headquarters of the Center for Earth Observation and Digital Earth (CEODE) of the Chinese Academy of Sciences and funded by the China Association for Science and Technology (CAST). The generous offer from CAST was accepted following an international call among ICSU National Members.

The office will not only support the work of the Scientific Committee in monitoring and guiding the programme's development; it will also play a major role in organizing the capacity building and outreach activities that will be important for the success of the programme.

International Polar Year 2007–2008

The International Polar Year 2007-2008 (IPY) was an innovative, multidisciplinary programme that mobilized thousands of scientists, educators and the public from over 60 countries, to study and highlight urgent issues in the polar regions. In February, the end of the IPY observance period was celebrated at a major event in Geneva, which attracted worldwide media attention. The event provided an opportunity for the ICSU and World Meteorological Organization (WMO) Joint Committee (which oversaw the IPY) to launch its *State of Polar Research* report, and for the ICSU President and WMO Secretary-General to thank the polar community for its enthusiastic engagement throughout the IPY.

The work of many IPY projects continues, with the results feeding into a major international science conference taking place in Oslo in 2010. Thanks to a number of national contributions, the International Programme Office has been extended until mid-2010, ensuring a smooth transition into the IPY legacy phase. Securing a healthy future for the education, communication, early career scientist and data networks will be a priority during this transition.

Urban Health and Wellbeing

The planning for a potential programme on urban health and wellbeing moved into a new and critical phase of engagement with urban policy makers. The planning, which is a joint exercise between ICSU and the International Institute for Applied Systems Analysis (IIASA), focuses on the use of systems analysis to analyze the complexity of urban factors that influence human health and wellbeing. For example, the relationship between energy, transport, pollution, exercise, climate change and health is currently poorly-defined and has important implications for urban design and public health strategies.

The overall aim of the proposed programme is to provide urban decision makers with the scientific knowledge that they need to improve health and wellbeing. To help define these needs, the Planning Group met with local government representatives and academic advisors in a deprived urban area close to Paris (France) in May and similar meetings took place in Beijing and Guangzhou (China) in December.

Ecosystem Change and Society

The Programme on Ecosystem Change and Society (PECS) is a new 10-year research programme that will examine the relationship between governance, ecosystem services and human wellbeing, at global and local scales. This new research endeavour integrates social and natural sciences and aims to provide the understanding needed for wise stewardship of landscapes and seascapes, and to allow for adaptation to a changing environment.

PECS is jointly sponsored by ICSU and the United Nations Educational, Scientific and Cultural Organization (UNESCO) and will complement the existing global environmental change programmes and the Earth System Science Partnership. PECS will also provide scientific knowledge to the proposed Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES, see page 18).

The Scientific Committee for PECS met in June and will meet again in early-2010 to maintain the momentum for developing this new interdisciplinary programme. One of the challenges will be to ensure a balance between the global, regional and local scales of the programme, within the context of the Millennium Ecosystem Assessment framework.

Renewable Energies

The International Science Panel on Renewable Energies (ISPRE) started in 2007 as a joint initiative between ICSU and the International Council of Academies of Engineering and Technological Sciences (CAETS). In December, two reports were published—on biomass, and photovoltaic and wind energy—as part of ISPRE's goal to provide analysis and strategic guidance for renewable energy research and development worldwide. The reports emphasize the discrepancy between the small number of, mainly, developed countries in which significant research activity is taking place and the majority of countries in the developing world in which there is little research investment—there is an urgent need to redress this discrepancy.

The international renewable energy landscape is evolving rapidly, most notably with the establishment of the new International Renewable Energy Agency. Also a Global Energy Assessment, in which ICSU is participating, is currently underway and will have major implications for science and policy when it is published in 2010. In the light of these developments, it has been decided that ISPRE should be disbanded and ICSU must now reconsider what its unique contribution to this field might be.

Grants Programme

The ICSU Grants Programme provides seed funding to new interdisciplinary projects that are relevant to both science and society. It is a competitive, peer-reviewed programme for ICSU's Scientific Unions and Interdisciplinary Bodies, in collaboration with other ICSU bodies. In 2009, priority was given to innovative proposals that:

- promote the involvement of young scientists, women scientists, and scientists from developing countries;
- address the strategic priorities of ICSU and its Regional Offices; and/or
- forge new partnerships between organizations that do not routinely collaborate.

A total of 280,000€ was available in 2009, with a maximum award of 30,000€ per project. The Committee on Scientific Planning and Review awarded funding to five projects (see table); four are in collaboration with the Regional Offices, while the fifth addresses some of the data and information legacy issues arising from the International Polar Year (see p. 25).

Applicants (lead applicants in bold)	ICSU Regional Office	Project title
CODATA, IASC, IPY, IUGG, Netherlands*, SCAR, WDS		The Polar Information Commons (PIC): Establishing the Framework for Long-term Stewardship of Polar Data and Information
IUBMB, IMU, IUNS, IUPAC, IUPHAR, IUPS	Africa	Scientific Bonds: International Mentoring
IUTOX, IUPHAR	Africa	Building Capacity in Health Risk Assessment in African Countries
IUBS, USA*	Africa, and Latin America and the Caribbean	Integrating Science and Traditional Knowledge on Natural and Human-induced Disasters brought on by Climate Change
IUPHAR, IUPS, IUTOX	Africa	Building the Africa Infrastructure for Translational and Alternative Complementary Medicine: Integrative and Organ System Science

* refers to the ICSU National Member in that country

Supporting Interdisciplinary Science

The Interdisciplinary Bodies of ICSU bring together different scientific disciplines to address scientific issues of international relevance that are of interest to all or many ICSU Members. Three of these bodies held their major scientific conferences during 2009.

Problems of the Environment

The General Assembly of the Scientific Committee on Problems of the Environment (SCOPE) focused on global and regional projects related to: the nitrogen cycle; the impact of biofuel production on ecosystems and society; 'Third Pole' environment changes; management of soil fertility and ecosystems. Partnerships with UN agencies and other inter- and non-governmental organizations have been reinforced. And, as SCOPE leaves the ICSU aegis in late 2010, it has broadened the membership base, strengthened the publications portfolio and initiated an environmental awards programme.

www.icsu-scope.org

Human Dimensions of Global Climate Change

In 2009, the International Human Dimensions Programme on Global Environmental Change (IHDP) showcased its rich scientific portfolio, based on a vibrant research community. At the 7th IHDP Open Meeting on 'Social Challenges of Global Change' about 1000 participants defined the cutting-edge of human dimensions research. This cutting-edge research, coupled with capacity development and science-policy interactions were integral parts of the conference and represent the three pillars of IHDP's work. The Earth System Governance project has been launched, and both the Industrial Transformation, and Global Environmental Change and Human Security projects started their synthesis activities.

www.ihdp.unu.edu

Biodiversity

DIVERSITAS, an international programme of biodiversity science, held a very successful Open Science Conference 'Biodiversity and Society: Understanding connections, Adapting to change', with 700 scientists and policy makers taking part. The Group on Earth Observations Biodiversity Observation Network (GEO BON) is moving forward thanks to close cooperation with DIVERSITAS. Some 100 organizations are collaborating to make their biodiversity data, information and forecasts more readily accessible to policy makers, managers, experts and other users. DIVERSITAS continued mobilizing the scientific community around plans for an Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

www.diversitas-international.org

Building on Disciplinary Strengths

The 30 international Scientific Union Members provide the disciplinary foundation for ICSU's activities. They play a central role in bringing together scientists from all parts of the world to consider the issues of particular interest to individual disciplines. This section provides brief reports from Unions that held their major scientific conferences or General Assemblies in 2009.

Astronomy

In 2009, the International Astronomical Union (IAU) led the International Year of Astronomy (IYA2009), one of the largest global science education and public outreach events in history. The IYA2009, with the theme 'The universe, yours to discover', reached tens of millions of people, and involved 148 countries and more than 70 transnational organizations.
www.iau.org

Biological Sciences

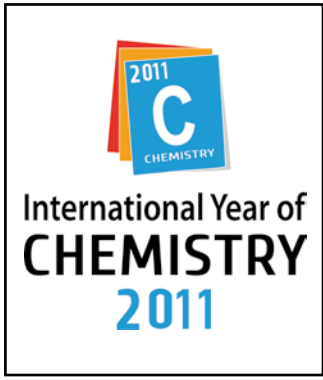
The International Union of Biological Sciences (IUBS) promotes biological sciences, and coordinates international and interdisciplinary cooperation. 2009 marked 200 years since the birth of Charles Darwin and to celebrate, a series of nine symposia investigating the impact of his work on current scientific knowledge were held around the world. Topics ranged from biological education and human evolution, to marine genomics and biodiversity.
www.iubs.org

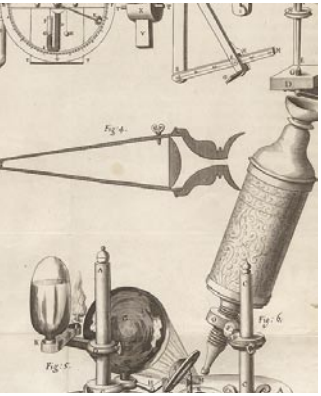
Biochemistry and Molecular Biology

The 21st Congress of the International Union of Biochemistry and Molecular Biology (IUBMB) 'Biomolecules for Quality of Life' was held in Shanghai, China. Young scientists and education featured prominently throughout 2009 and included: a Young Scientists Program during the Congress; 15 Wood-Whelan Fellowships awarded to young biochemists; and Advanced Schools established in India, Brazil and China.
www.iubmb.org

Chemistry

The International Union of Pure and Applied Chemistry (IUPAC) continued preparations for the celebration of the International Year of Chemistry in 2011. Priority for the discovery of the element of atomic number 112 was assigned. The IUPAC Congress and General Assembly were held in Glasgow, UK, and six new National Adhering Organizations were admitted to the Union in 2009.
www.iupac.org





History and Philosophy of Science

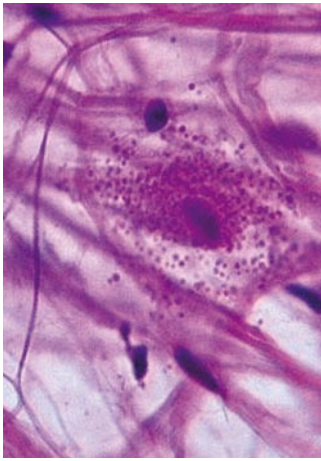
The International Union of History and Philosophy of Science (IUHPS) held the XXIII International Congress for the History of Science and Technology, the major international event for this field. The event was themed 'Ideas and Instruments in Social Context' and involved 1500 participants, 96 symposia —organized by specialists of all fields —as well as events and special exhibitions.
www.dhstweb.org

Materials Research

The International Union of Materials Research Societies (IUMRS) held the International Conference on Advanced Materials in Rio de Janeiro. 28 interdisciplinary symposia presented exciting and fundamental advances in nanoscience/technology, biomaterials, sensors, medical applications, energy/ environment, electronic materials, structural materials and education. Plenary topics included graphene, cell research and spin-tronics. The conference was hosted by the Materials Research Society of Brazil (SPBMat).
www.iumrshq.org

Physiological Sciences

The highly successful 36th International Congress of Physiological Sciences drew more than 4000 scientists to Kyoto in July, including many young physiologists. The General Assembly of the International Union of Physiological Sciences (IUPS) approved the recommendations made by the Long Range Planning Committee to guide the union into the future, and the journal *Physiology* continues to go from strength to strength.
www.iups.org



Science for Policy

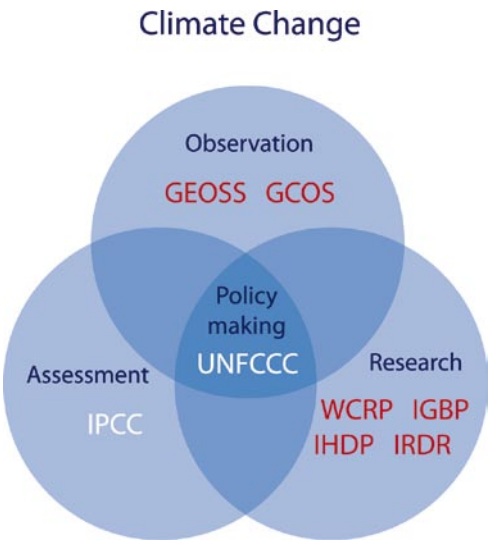
Overview

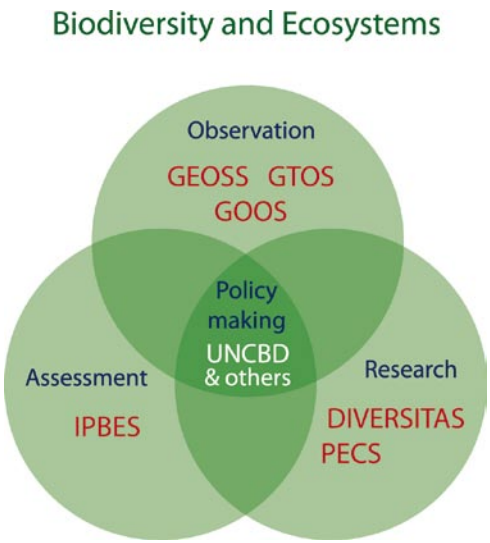
ICSU works at the intersection of science and policy, to ensure that science is integrated into international policy development, and that relevant policies take into account both scientific knowledge and the needs of science.

In order to provide a sound basis for effective policy development, there is a need for strong links between interdisciplinary research, global observations, scientific assessments and policy-making—as illustrated below by the critical issues of climate change, and biodiversity and ecosystems. ICSU plays an important role in fostering these links by:

- planning, promoting and coordinating international research programmes;
- sponsoring global observing systems;
- supporting international assessments of scientific knowledge; and
- serving as the voice of the international science community in policy fora.

ICSU has established valuable partnerships with organisations working in the science-policy arena, particularly the United Nations through the UN Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO) and the UN Environment Programme (UNEP). ICSU also has observer status with the UN Framework Convention on Climate Change (UNFCCC) and is a co-organizer of the Scientific and Technological Community Major Group of the UN Commission on Sustainable Development (CSD).





Initiatives sponsored by ICSU are indicated in red. GEOSS—Global Earth Observation System of Systems; IPBES—Intergovernmental Platform on Biodiversity and Ecosystem Services; IPCC —Intergovernmental Panel on Climate Change; UNCBD—United Nations Convention on Biological Diversity. For all other acronyms, see the list of ICSU Interdisciplinary Bodies (page 34).

Biodiversity and Ecosystem Services

ICSU continues to work with the United Nations Environment Programme (UNEP) and other stakeholders to develop an Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES). The proposed science-policy platform will play a role similar to that of the IPCC in climate change, and would be independent from the existing international convention bodies. ICSU's new Programme on Ecosystem Change and Society (PECS) and DIVERSITAS will provide scientific knowledge to the platform.

The second ad hoc intergovernmental and multi-stakeholder meeting was held in Nairobi, Kenya in October. ICSU, DIVERSITAS and the International Union for Conservation of Nature presented 'Needs, Functions and Form' for the proposed IPBES—a summary of perspectives from the scientific community and broader civil society. The input, and the subsequent intervention by ICSU at the meeting, highlighted the increasing concern over the continuing deterioration of biodiversity and ecosystems and their ability to support the needs of people.

World Science Forum

The fourth World Science Forum, organized by the Hungarian Academy of Sciences in partnership with ICSU, UNESCO and the European Union, took place in Budapest in early November. The forum brought together scientists, funders and policy-makers from across the world to discuss 'Knowledge and the future'. The G77 science ministers met immediately prior to the forum and discussed the role of states in scientific research, focusing on structure and funding.

Climate Change

Climate change attracted an enormous amount of interest from the media and general public in the lead-up to, and during, the UN Climate Change Conference in Copenhagen in December. The conference included the 15th session of the Conference of the Parties (COP-15), the highest decision-making body of the UN Framework Convention on Climate Change (UNFCCC). Governments engaged at the highest political level, resulting in the Copenhagen Accord, which acknowledges climate change as one of the greatest challenges of our time and that deep cuts in global emissions are required to hold the increase in global temperatures to below 2°C.

ICSU was represented at the conference 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 2500 participants from 150 countries attended the World Climate Conference–3 (WCC-3) in Geneva. 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 major outcome of the conference was the decision to establish a Global Framework for Climate Services that will strengthen the provision of climate predictions and information worldwide. Essential elements of the Framework were identified, including: strengthening the Global Climate Observing System (GCOS) and WCRP; free and open exchange of data; and strong input by DIVERSITAS, IGBP, IHDP and other globally focused research initiatives. ICSU, GCOS and the global environmental change programmes will be involved in the WMO-led process of planning and developing the framework.

Sustainable Development

The UN Commission on Sustainable Development (CSD) is a ministerial forum established by the UN General Assembly to ensure effective follow-up of the Conference on Environment and Development, the 'Earth Summit', and is responsible for monitoring the implementation of Agenda 21 (adopted at the Earth Summit in 1992) and the Johannesburg Plan of Implementation (adopted at the World Summit on Sustainable Development in 2002).

In May, the 17th session of CSD agreed on policy recommendations aimed at accelerating implementation of sustainability goals relating to agriculture, rural development, land, drought, desertification, and Africa. ICSU and the World Federation of Engineering Organizations (WFEO), as co-organizers of the Scientific and Technological Community Major Group, recommended priorities for action, including: developing partnerships, addressing knowledge gaps and capacity building.

ICSU also organized a delegation of scientists to participate in the official ministerial meetings and co-organized two well-attended side events: 'Farming First: Enhancing Sustainable Development through Agriculture' and a presentation of the newly launched international research programme Climate Change, Agriculture and Food Security.

In December, the UN General Assembly decided to organize a UN Conference on Sustainable Development to be held in Rio de Janeiro in 2012—20 years after the city hosted the Earth Summit. The UN has invited ICSU and WFEO to co-organize the input from the Scientific and Technological Community in the intergovernmental preparatory committee, which will meet for the first time in May 2010.

Global Earth Observations

In 2009, ICSU continued to support the Group on Earth Observations (GEO), as a member of the Science and Technology Committee and as a participant at the sixth GEO Plenary session, which took place in Washington, DC, in November. The aim of ICSU's involvement in GEO—the body set up to develop and implement the Global Earth Observing System of Systems (GEOSS)—is to strengthen the role of science in the 'system of systems' and ensure that scientific research benefits from it.

Several ICSU Interdisciplinary Bodies also continued their active involvement in GEO, including:

- the three global observing systems—climate (GCOS), oceans (GOOS) and terrestrial (GTOS)—as components of GEOSS;
- DIVERSITAS, through the development of the GEO Biodiversity Observation Network (GEO BON, see page 13); and
- the Committee on Data for Science and Technology (CODATA), which continued to provide scientific and technical support for the development of the GEO Data Sharing Principles, calling for free and open exchange of data. The implementation guidelines for the Data Sharing Principles were accepted at the Plenary session and an action plan will be developed further for submission to GEO-VII in 2010.

The achievements of the Integrated Global Observing Strategy (IGOS), an ICSU Interdisciplinary Body that was transitioned into GEO, were highlighted during a one-day symposium following the Plenary session.

Universality of Science

Freedom and Responsibility

Data and Information

Global Science, Regional Perspectives

Sanctions against scientists prevent progress

Concerns about national security are leading to the implementation of restrictive policies and procedures for visitor entry visas in many parts of the world. Whilst the origin of these restrictions is understandable, their effect is that bona fide scientists of certain nationalities, or disciplines, are prohibited from entering certain countries. The proliferation of such policies and procedures is a threat to the universality of science.

During the year, visa problems for scientists were apparent in a number of countries and regions. This included: problems for Iranian physicists and mathematicians entering a number of European countries; Palestinian scientists and students entering or transiting via Israel; and, Russian, Pakistani, Chinese and Cuban scientists entering the USA (although on a more positive note, the overall situation for scientists entering the USA has improved). In October correspondence from the chair of CFRS drawing attention to this worrying overall situation was published in *Nature* (vol. 461, p723).

Workshops on Freedom and Responsibility issues

Following consultation with National Members, a number of international workshops exploring issues related to scientific freedoms and responsibilities are now being planned with CFRS. Workshop themes include:

- Science in contemporary wars
- Science and the media
- Private sector-academia interactions
- Science and policy advice
- Science, anti-science and religion

The Committee on Freedom and Responsibility

The Committee on Freedom and Responsibility in the Conduct of Science (CFRS) was established in 2006 and is the most recent in a series of policy committees that has been entrusted with safeguarding and promoting the Universality of Science (ICSU Statute 5). This committee plays an important role in resolving visa problems for individual scientists and ensuring that scientists can freely associate and communicate. What distinguishes CFRS from its predecessors is its focus not only on the freedoms of scientists but also on responsibilities. The committee is made up of 15 leading scientists from different disciplines and countries and the meeting reports, which cover a large range of issues, are available on the ICSU website. A generous offer from the Swiss Academy of Sciences to provide additional administrative support to the committee was approved during the year

ICSU World Data System

The ICSU World Data System (WDS) has been created and will build on the 50-year legacy of ICSU's World Data Centre (WDC) system and Federation of Astronomical and Geophysical Data-Analysis Services (FAGS). More than 100 data centres, services and activities, including many WDCs and FAGS, have expressed interest in becoming part of the new system.

The aim is to transition from existing stand-alone centres and individual services to a common, globally interoperable, distributed data system that incorporates emerging technologies and new scientific data activities. The new system will build on the potential offered by advanced interconnections between data management components for disciplinary and multidisciplinary scientific data applications.

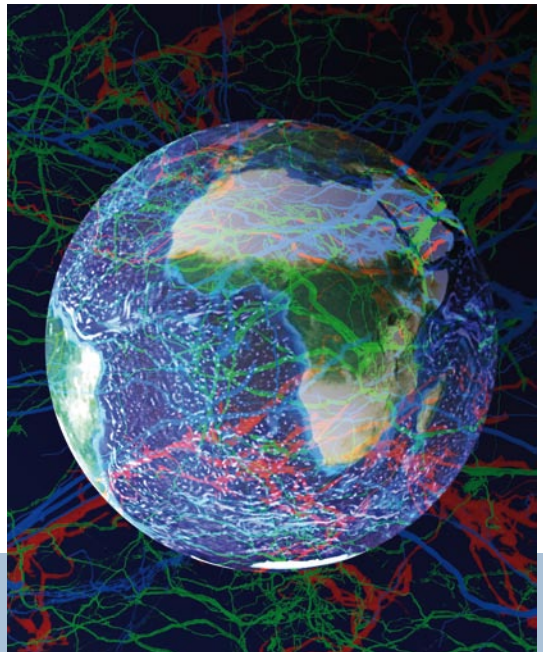
The goals of WDS are to:

- Enable universal and equitable access to scientific data, data services, products and information
- Ensure long-term data stewardship
- Foster compliance to agreed-upon data standards and conventions
- Provide mechanisms for ease of and improved access to data
- Ensure provision of quality-assured data, data products and information

Applications for WDS are already being investigated, including an online portal using the existing WDC portal as a proof of concept. The new system will have a broader disciplinary and geographic base than previous ICSU data bodies and will strive to become a worldwide 'community of excellence'. To this end, WDS will work closely with other ICSU data bodies, including the Committee on Data for Science and Technology (CODATA) and the new Strategic Coordinating Committee for Information and Data (SCCID).

The Scientific Committee for the World Data System met for the first time in October. It considered the White Paper *Lessons Learned and Recommendations* produced by the WDS Transition Team. Several priorities were identified including: establishing a constitution; defining the mission statement; and developing the WDS data policy, the 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 (see 'Polar Data Challenges').

www.icsu-wds.org



Coordinating ICSU's data and information activities

The Strategic Coordinating Committee for Information and Data (SCCID) has been established to provide broad expertise and advice to ICSU in the area of scientific data and information and to ensure coordination among ICSU's data and information activities. SCCID will act as an interface between scientists and data and information professionals who can provide advice and possible solutions for ICSU's programmes (new and existing) and other international initiatives. The committee met for the first time in October, with discussions focused on developing a work plan for the next three years.

Polar Data Challenges

The International Polar Year 2007–2008 exposed data management issues that reach well beyond polar data, including:

- slow adherence to the IPY data policy (though it is now growing) to which all projects signed up; and
- the ICSU World Data Centres, for the most part, not playing a strong role in IPY—providing motivation for building a new World Data System.

Some of the IPY data challenges will be addressed by the Polar Information Commons (PIC), a newly developing complementary initiative. PIC will be a shared virtual resource—an open, community-based, repository for vital scientific data and information. The intent is to enable rapid data access, while establishing a process for the long-term stewardship of critical polar data and information.

www.polarcommons.org

Global Science, Regional Perspectives

One of the major challenges ICSU faces, as an international organization, is effectively integrating global and regional activities. The challenge is two-fold: ensuring that regional perspectives and priorities are incorporated within ICSU's global scientific activities, and engaging scientists from developing countries in ICSU initiatives.

The transitioning countries of Eastern and South-Eastern Europe face special challenges as their scientists strive to contribute to global science following major socio-political changes that began in the 1990s. In 2009, ICSU welcomed three new Members from the region—helping their scientific communities play an active role in ICSU and on the broader international stage.

Priority areas of research for Africa, Asia and the Pacific, and Latin America and the Caribbean have been identified following extensive consultation in the regions. Working with the ICSU Regional Offices, the challenge now is to build these priorities into ICSU's global activities, particularly the new programmes on disaster risk (IRDR) and ecosystem change (PECS).

In 2009, the Executive Board agreed that a regular forum is needed to address the ongoing challenges. (This followed the decision at the General Assembly in 2008 to put the Policy Committee on Developing Countries into abeyance.) The first meeting, which included ICSU Officers, Regional Committee chairs and the Regional Office directors, took place in Budapest prior to the World Science forum in early November—a positive step towards strategic coordination and a useful avenue for exchanging information.

Regional Priorities

Africa	Asia and the Pacific	Latin America and the Caribbean
• Sustainable energy • Natural and human-induced hazards and disasters • Health and human well-being • Global environmental change (including climate change and adaptation)	• Sustainable energy • Hazards and disasters o Earthquakes, floods and landslides o Special vulnerability of islands • Ecosystem approach	• Sustainable energy • Natural disasters • Mathematics education • Biodiversity

The Regional Offices

ICSU has three Regional Offices —Africa (established in 2005), Asia and the Pacific (2006), and Latin America and the Caribbean (2007). Under the guidance of regional scientific committees, the offices promote the further development and strengthening of science in the context of regional priorities, and bring the science of developing countries closer to ICSU.

As part of the agreement with the host institutions, ICSU is conducting mid-term reviews of the Regional Offices. The reviews are both reflective and forward looking and should provide ICSU and the host institutions with recommendations on the future of the offices. The three reviews will be completed by the end of 2010 and will feed into a strategic analysis of ICSU's role in science and technology in developing countries.

Highlights from the regions	
Throughout 2009	Mid-term reviews of the three ICSU Regional Offices are underway (Africa completed in September).
	Three new Members from Eastern Europe—Albania, Srpska and Slovenia.
February	'Cities at Risk: Developing Adaptive Capacity for Climate Change in Asia's Coastal Megacities' workshop in Bangkok, which received funding from the ICSU Grants Programme with support from the Regional Office for Asia and the Pacific (ROAP).
	International workshop organized by the Regional Office for Africa to develop project proposals for the Science Plan on Global Environmental Change (including Climate Change Adaptation) in sub-Saharan Africa.
March	Second Regional Consultation for Latin America and the Caribbean, in Mexico, and the UNESCO First Regional Forum 'Science, Technology and Innovation Policies in Latin America and the Caribbean, Towards a New Social Contract for Science'.
April	Multi-stakeholder workshop on biodiversity and human wellbeing as part of a DIVERSITAS project, supported by the Regional Office for Latin America and the Caribbean (ROLAC) and funded by the ICSU Grants Programme.
	'Women for Science' symposium in Mexico, with the support of the InterAcademy Panel and CONACYT Mexico and co-sponsored by ROLAC.
May	'Spring School on Fluid Mechanics and Geophysics of Environmental Hazards' in Singapore, which received funding from the ICSU Grants Programme and was promoted jointly by two of ICSU's Scientific Unions —IUTAM and IUGG—and ROAP.
June	Publication of the Science Plan on Sustainable Energy for Asia and the Pacific.
October	Third Regional Consultation for Asia and the Pacific, in Malaysia.

Administration & Governance

Financial Summary

Statement of income and expenditure

International Council for Science (ICSU) for the period
1 January 2009 to 31 December 2009

Income	Euros
Membership dues	
Members	2 051 325
Scientific Unions	159 942
Scientific Associates	11 000
Provision Arrears	- 62 253
NSF support for WCRP	175 900
Grants from NSF	674 248
UNESCO Framework Agreement	133 482
France	500 000
Spain for IPY	30 000
Other income	29 515
Cancellation other provision	442 181
Investment income	82 963
Total income	**4 228 302**

Expenditure	Euros
Policy committees	432 317
Joint initiatives	676 696
ICSU Regional Offices	233 401
Grant Programme	135 300
New initiatives	462 998
Governance meetings	360 195
Policy & administrative support	1 163 838
Contingency/Provision	46 417
Other expenses	
Investment charges & losses*	331 788
Total expenditure	**3 842 950**
Net (income less expenditure)	**385 353**

* Including provision for unrealized losses on portfolio for a total amount of 18 000 €

Balance Sheet

International Council for Science (ICSU) for the period
1 January 2009 to 31 December 2009

Assets	Euros
Bank & cash balances	1 090 888
Marketable securities	1 424 962
NSF & UNESCO grant	638 846
Others assets	180 951
Fixed assets	177 538
Total assets	**3 513 185**

Liabilities	Euros
NSF & UNESCO funds allocated	616 304
Sundry creditors & accruals	571 624
Provision/Retirement	476 027
Total liabilities	**1 663 955**

Reserves	Euros
Mandatory reserve	1 500 000
General fund/Retained earnings	- 36 123
Total reserves	**1 463 877**
Net Result	**385 353**

ICSU's principal source of 'core' income is dues from Members and a subvention from the host country France. The other major sources of income are grants from various organizations and foundations. The General Assembly approves draft budgets for the next triennium upon proposals received from the Executive Board, which is charged with finalizing the annual budgets. After consideration by the Committee on Finance and the Executive Board, the audited annual accounts are sent to all Members for approval. The ICSU Regional Offices are mainly supported by their host countries, with some funding from ICSU and other sources.

Executive Board

Officers

Catherine Bréchignac
President

Goverdhan Mehta
Past-President

Yuan Tseh Lee
President-Elect

Kari Raivio
Vice-President for Scientific Planning and Review

Reiko Kuroda
Vice-President for External Relations

Maurice Tchuente
Secretary-General

Hans Rudolf Ott
Treasurer

Ordinary Members

From Union Members

Bryan Henry
IUPAC

Dov Jaron
IUPESM

Bruce Overmier
IUPsyS

Uri Shamir
IUGG

From National Members

Fu Congbin
China: CAST

Maurizio Iaccarino
Italy

Sergio Pastrana
Cuba

Abdul Hamid Zakri
Malaysia

Secretariat

Executive	Deliang Chen Executive Director (from 1 Feb 2009)*
	Carthage Smith Deputy Executive Director
	Tish Bahmani Fard Assistant Executive Director
Environment and Sustainable Development	Gisbert Glaser Senior Advisor
	Leah Goldfarb Science Officer
	Howard Moore Senior Advisor
	Rohini Rao Administrative Officer
Scientific Planning and Special Projects	Maureen Brennan Administrative Officer
	Paul Cutler Science Officer
	Patricia Ocampo-Thomason Science Officer and Regional Offices Liaison
Communication and Information Technology	Jacinta Legg Science Communications Officer
	Mustapha Mokrane Science and Information Technology Officer
Administrative Staff	Frederica Kostadinoff Administrative Officer and Gardienne
	Eric Leparmentier General Services
	Natacha de Marchi Accountant
	Clare Thirlway Personal Assistant to the Executive Director (from 1 Apr 2009)
Regional Office for Africa	Sospeter Muhongo Director (until Feb 2010)
	Andrew Achuo Enow Programme Specialist in Biological Sciences
	Bongani Mahlalela Liaison Officer
	Daniel Nyanganyura Programme Specialist in Physical Sciences
	Kathy Potgieter Personal Assistant: Office of Regional Director
Regional Office for Asia and the Pacific	Mohd Nordin Hasan Director
	Nor Zaneedarwaty Norman Science Officer
	Mohd Hizamddin Jaafar Administrative Officer
Regional Office for Latin America and the Caribbean	Alice Abreu Director
	Isabella Fontanela Intern (Jan–July 2009)
	Sybelle de Jongh Professional Officer (to Sept 2009)
	Patrick de Melo Intern
	Karina Ribeiro Teixeira Intern (Nov 2008–Mar 2009)
	Sergio Gil Santos da Silva Intern (Apr 2007–Apr 2009)
	Eliane Sobral Administrative Officer
	Alicia Vargas Intern

*replacing Thomas Rosswall who retired 31 Jan 2009

National Members

ICSU has 119 National Members covering 139 countries (as of 31 Dec 2009). These Members provide input, from a national, multidisciplinary perspective, on priority areas for future ICSU activities. They also play an important role in facilitating links with national governments and science agencies. The majority of ICSU National Members are scientific academies, although some are national funding agencies or other nationally representative science bodies.

Albania	Academy of Sciences
Argentina	National Scientific and Technological Research Council
Armenia	National Academy of Sciences of the Republic of Armenia
Australia	Australian Academy of Science
Austria	Die Osterreichische Akademie der Wissenschaften
Azerbaijan**	Azerbaijan National Academy of Sciences
Bangladesh	Bangladesh Academy of Sciences
Belarus**	National Academy of Sciences
Belgium	The Royal Academies for Science and the Arts of Belgium
Bolivia**	Academia Nacional de Ciencias de Bolivia
Botswana	Ministry of Communications, Science and Technology
Brazil	Academia Brasileira de Ciências
Bulgaria	Bulgarian Academy of Sciences
Burkina Faso	Centre National de la Recherche Scientifique et Technologique
Cameroon	Cameroon Academy of Sciences
Canada	National Research Council of Canada
Caribbean[*1]	Caribbean Academy of Sciences
Chile	Academia Chilena de Ciencias
China: CAST	China Association for Science and Technology
China: Taipei	The Academy of Sciences located in Taipei
Colombia	Academia Colombiana de Ciencias Exactas, Fisicas y Naturales
Costa Rica**	Academia Nacional de Ciencias
Côte d'Ivoire	Académie des Sciences, des Arts, des Cultures d'Afrique et des Diasporas Africaines
Croatia	Croatian Academy of Sciences and Arts
Cuba	Academia de Ciencias de Cuba
Czech Republic	Academy of Sciences of the Czech Republic
Denmark	The Royal Danish Academy of Sciences and Letters
Dominican Republic	Academy of Sciences of the Dominican Republic
Egypt	Academy of Scientific Research and Technology
Estonia	Estonian Academy of Sciences
Ethiopia	Ethiopian Science and Technology Agency
Finland	Delegation of the Finnish Academies of Science and Letters
France	Académie des Sciences
Georgia*	Georgian Academy of Sciences
Germany	Deutsche Forschungsgemeinschaft
Ghana**	Ghana Academy of Arts and Sciences
Greece	Academy of Athens
Guatemala*	Academia de Ciencias Médicas Fisicas y Naturales de Guatemala
Hungary	Hungarian Academy of Sciences
India	Indian National Science Academy
Indonesia	Indonesian Institute of Sciences
Iran	University of Tehran
Iraq	Ministry of Science and Technology
Ireland	Royal Irish Academy
Israel	Israel Academy of Sciences and Humanities
Italy	Consiglio Nazionale delle Ricerche
Jamaica	Scientific Research Council
Japan	Science Council of Japan
Jordan*	Royal Scientific Society
Kazakhstan*	National Academy of Sciences of the Republic of Kazakhstan
Kenya	Kenya National Academy of Sciences
Korea, DPR**	State Academy of Sciences
Korea, Republic of	National Academy of Sciences of the Republic of Korea
Lao PDR	Lao National Science Council
Latvia	Latvian Academy of Sciences
Lebanon	National Council for Scientific Research
Lesotho	Department of Science and Technology
Lithuania	Lithuanian Academy of Sciences
Luxembourg	Fonds National de la Recherche

Macedonia, Rep of.	Macedonian Academy of Sciences and Arts
Madagascar*	Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
Malawi	National Research Council of Malawi
Malaysia	Academy of Sciences Malaysia
Mauritius	Mauritius Research Council
Mexico	Academia Mexicana de Ciencias
Moldova**	Academy of Sciences of Moldova
Monaco	Centre Scientifique de Monaco
Mongolia	Mongolian Academy of Sciences
Montenegro	Montenegrin Academy of Sciences and Arts
Morocco	Centre National de la Recherche Scientifique et Technique
Mozambique	Scientific Research Association of Mozambique
Namibia	Ministry of Education
Nepal	Royal Nepal Academy of Science and Technology
Netherlands	Royal Netherlands Academy of Arts and Sciences
New Zealand	The Royal Society of New Zealand
Nigeria	Nigerian Academy of Science
Norway	Norwegian Academy of Sciences and Letters
Pakistan	Pakistan Association for the Advancement of Science
Panama	Universidad de Panama
Peru	Academia Nacional de Ciencias
Philippines	National Research Council
Poland	Polish Academy of Sciences
Portugal	Academia das Ciencias de Lisboa
Romania	Academia Româna
Russia	Russian Academy of Sciences
Rwanda**	Kigali Institute of Science Technology and Management
Saudi Arabia	King Abdulaziz City for Science and Technology
Senegal	Association des Chercheurs Sénégalais
Serbia	Serbian Academy of Sciences and Arts
Seychelles	Seychelles Centre for Marine Research and Technology
Singapore	Singapore National Academy of Science
Slovak Republic	Slovak Academy of Sciences
Slovenia*	Slovenian Academy of Sciences and Arts
South Africa	National Research Foundation
South Pacific[2]	University of the South Pacific
Spain	Ministerio de Ciencia y Innovacion
Sri Lanka	National Science Foundation
Srpska	Academy of Sciences and Arts of the Republic of Srpska
Sudan**	National Centre for Research
Swaziland	National Research Council
Sweden	Royal Swedish Academy of Sciences
Switzerland	Swiss Academy of Sciences
Tajikistan**	Academy of Sciences of the Republic of Tajikistan
Tanzania	Tanzania Commission for Science and Technology
Thailand	National Research Council of Thailand
Togo	Chancellerie des Universités du Togo
Tunisia*	Université Tunis El Manar
Turkey	The Scientific and Technical Research Council of Turkey
Uganda	Uganda National Council for Science and Technology
Ukraine	National Academy of Sciences
United Kingdom	Royal Society
United States	National Academy of Sciences
Uruguay**	Comisión Consejo Nacional de Innovacion Ciencia y Tecnologia
Uzbekistan**	Uzbekistan Academy of Sciences
Vatican City State**	Pontificia Academia Scientiarum
Venezuela**	Fondo Nacional de Ciencia, Tecnología e Innovación
Viet Nam**	Vietnam Union of Science and Technology Associations
Zambia	Zambia Academy of Sciences
Zimbabwe	Research Council of Zimbabwe

*National Associates
**National Observers

[1]Covering the following: Antigua and Barbuda, Bahamas, Barbados, Dominica, Grenada, Guyana, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

[2] Covering the following: Cook Islands, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Samoa.

Scientific Unions

The 30 international Scientific Union Members provide the disciplinary backbone of ICSU. They play a central role in bringing together scientists from all parts of the world to consider the issues of particular interest to individual disciplines.

International Astronomical Union (IAU)
International Brain Research Organization (IBRO)
International Geographical Union (IGU)
International Mathematical Union (IMU)
International Union for Quaternary Research (INQUA)
International Society for Photogrammetry and Remote Sensing (ISPRS)
International Union of Anthropological and Ethnological Sciences (IUAES)
International Union of Biochemistry and Molecular Biology (IUBMB)
International Union of Biological Sciences (IUBS)
International Union of Crystallography (IUCr)
International Union of Food Science and Technology (IUFoST)
International Union of Forest Research Organizations (IUFRO)
International Union of Geodesy and Geophysics (IUGG)
International Union of Geological Sciences (IUGS)
International Union of History and Philosophy of Science (IUHPS)
International Union of Immunological Societies (IUIS)
International Union of Materials Research Societies (IUMRS)
International Union of Microbiological Societies (IUMS)
International Union of Nutritional Sciences (IUNS)
International Union for Pure and Applied Biophysics (IUPAB)
International Union of Pure and Applied Chemistry (IUPAC)
International Union of Pure and Applied Physics (IUPAP)
International Union for Physical and Engineering Sciences in Medicine (IUPESM)
International Union of Basic and Clinical Pharmacology (IUPHAR)
International Union of Physiological Sciences (IUPS)
International Union of Psychological Science (IUPsyS)
International Union of Soil Sciences (IUSS)
International Union of Theoretical and Applied Mechanics (IUTAM)
International Union of Toxicology (IUTOX)
Union Radio Scientifique Internationale (URSI)

Interdisciplinary Bodies

The Interdisciplinary Bodies of ICSU bring together different scientific disciplines to address scientific issues of international relevance that are of interest to ICSU Members. Some of these bodies are co-sponsored with other organizations.

Assessment Bodies

Scientific Committee on Problems of the Environment (SCOPE)

Thematic Bodies

Committee on Space Research (COSPAR)
International Polar Year (IPY)
Integrated Research on Disaster Risk (IRDR)
Programme on Ecosystem Change and Society (PECS)
Scientific Committee on Antarctic Research (SCAR)
Scientific Committee on Oceanic Research (SCOR)
Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

Global Environmental Change Programmes

DIVERSITAS: An International Programme of Biodiversity Science
International Geosphere-Biosphere Programme (IGBP)
International Human Dimensions Programme on Global Environmental Change (IHDP)
World Climate Research Programme (WCRP)

Monitoring/Observation Bodies

Global Climate Observing System (GCOS)
Global Ocean Observing System (GOOS)
Global Terrestrial Observing System (GTOS)

Data and Information Bodies

Committee on Data for Science and Technology (CODATA)
International Network for the Availability of Scientific Publications (INASP)
Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)
World Data System (WDS)

Scientific Associates

Academy of Sciences for the Developing World (TWAS)

Academia de Ciencias de America Latina (ACAL)

Engineering Committee on Oceanic Resources (ECOR)

Federation of Asian Scientific Academies and Societies (FASAS)

International Arctic Science Committee (IASC)

International Association of Hydraulic Engineering and Research (IAHR)

International Cartographic Association (ICA)

International Commission for Acoustics (ICA)

International Commission for Optics (ICO)

International Council for Laboratory Animal Science (ICLAS)

International Council for Scientific and Technical Information (ICSTI)

International Federation for Information Processing (IFIP)

International Federation of Library Associations and Institutions (IFLA)

International Federation of Societies for Microscopy (IFSM)

International Federation of Surveyors (FIG)

International Foundation for Science (IFS)

International Institute for Applied Systems Analysis (IIASA)

International Union for Vacuum Science, Technique and Applications (IUVSTA)

International Water Association (IWA)

Pacific Science Association (PSA)

Society for Social Studies of Science (4S)

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The Principle of Universality of Science (ICSU Statute 5)

The Principle of the Universality of Science is fundamental to scientific progress. This Principle embodies freedom of movement, association, expression and communication for scientists as well as equitable access to data, information and research materials. In pursuing its objectives in respect of the rights and responsibilities of scientists, the International Council for Science (ICSU) actively upholds this principle, and, in so doing, opposes any discrimination on the basis of such factors as ethnic origin, religion, citizenship, language, political stance, gender, sex or age. ICSU shall not accept disruption of its own activities by statements or actions that intentionally or otherwise prevent the application of this principle.

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