Celebrating 75 years: 1931-2006

Annual Report 2006

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 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.

ICSU Strategic Plan, 2006-2011

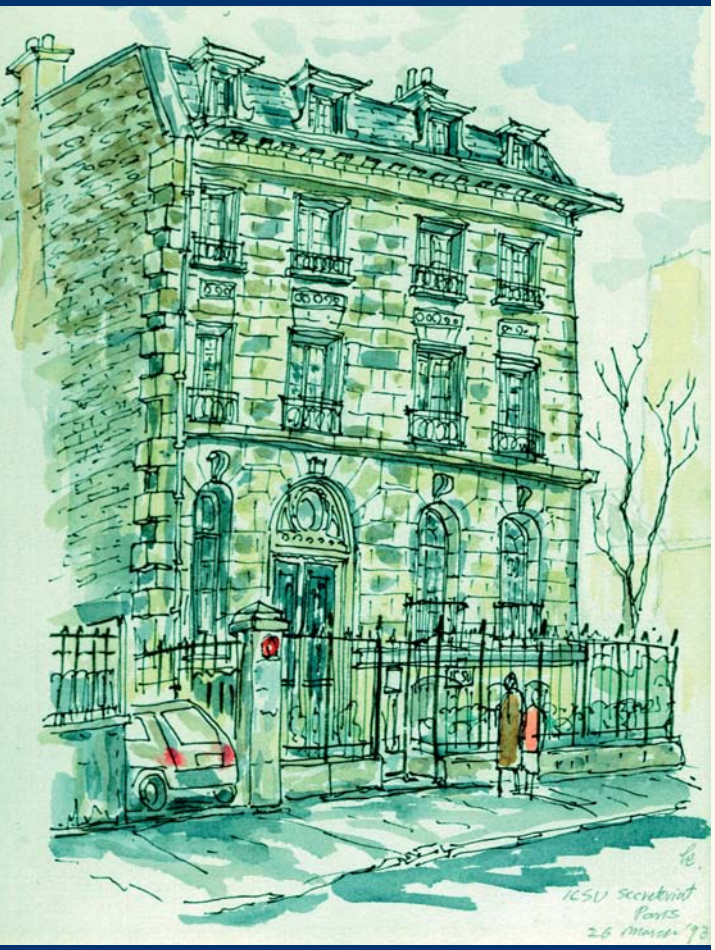
Evening Reception for 75th Anniversary, Paris Town Hall, 4th July. From left to right : Goverdhan Mehta, President of ICSU; Marcio Barbosa, UNESCO Deputy Director-General; Michel Jarraud, WMO Secretary-General; Danièle Auffray, Deputy to the Mayor of Paris for Science.

Celebrating 75 years: 1931-2006

2006 was the 75th anniversary of the creation of ICSU and a number of activities took place throughout the year to mark this occasion. Some of these are described in this annual report. The opportunity has also been taken to add a historical perspective to some of the other activities included in this year's report.

Hôtel de Noailles, Paris: home of ICSU's international Secretariat, 1972 – 2007

About ICSU



Founded in 1931, the International Council for Science (ICSU) is a non-governmental organization representing a global membership that includes both national scientific bodies (112 members) and international scientific unions (29 members). ICSU's extensive membership network constitutes an international forum for scientific research and policy development. In broader terms, because of its representative and diverse membership, the Council is increasingly called upon to speak on behalf of the global scientific community and to act as an advisor in matters ranging from scientific conduct to the environment.

Mission Statement

In order to strengthen international science for the benefit of society, ICSU mobilizes the knowledge and resources of the international science community to:

Identify and address major issues of importance to science and society

Facilitate interaction amongst scientists across all disciplines and from all countries

Promote the participation of all scientists - regardless of race, citizenship, language, political stance, or gender - in the international scientific endeavour

Provide independent, authoritative advice to stimulate constructive dialogue between the scientific community and governments, civil society, and the private sector.

Message from the Executive Director

Implementing the Strategic Plan

In 2005, the General Assembly approved the ICSU Strategic Plan 2006-2011. Thus, 2006 has been the first year in which we have started to implement our vision and mission through specific actions. Such developments must be both strategic and tactical, since one component in the success of the Strategic Plan will be the timeliness with which various activities are implemented. There must be an acceptance by the international science community that the proposals outlined in the Plan are areas in which exciting new scientific insights can be developed. At the same time, since the ICSU vision is to "strengthen international science for the benefit of society", there must also be a perceived need by society that the new initiatives address in a timely fashion.

In order to ensure that the Strategic Plan is properly implemented, the Executive Board has approved a plan for its implementation that sets priorities and ensures that the developments are on track. It is essential that all the hard work that went into the inclusive consultation process resulting in the approved Plan does not result in a dead document that gathers dust on bookshelves.

Strengthening Social Sciences

The General Assembly passed a resolution requesting the Executive Board to explore how ICSU could secure "the interaction and added value of the social sciences in ICSU's scientific work". The Committee on Scientific Planning and Review (CSPR) has been mandated to explore different ways to strengthen social sciences and the Executive Board will report back to the General Assembly.
In November, the Earth System Science Partnership (ESSP) of the four global change research programmes sponsored by ICSU arranged an Open Science Conference. I had the pleasure of chairing two sessions to discuss how to bridge the gap between the global change research programmes and the development community. This can only be done by building on expertise in both natural and social sciences.

Millennium Ecosystem Assessment

Governments around the world are involved in debates on how to achieve the eight Millennium Development Goals, including Ensuring Environmental Sustainability. Within this goal, one focus is to integrate the principles of sustainable development into country policies and programmes and to reverse loss of environmental resources.
The Millennium Ecosystem Assessment (MA), published in 2005, provides necessary scientific insight for informed decision making. The scientific community must be able to address the interdependent ecological and social systems so vital for sustainable development. The MA conceptual framework is an important component in this. We must encourage the international scientific community to further develop this scientific challenge building on the best available natural and social science research. ICSU has taken the lead in identifying a science agenda based on the experiences from the MA.

New Scientific Horizons

This year we started the planning for possible new programmes on Natural and Human-induced Environmental Hazards and Disasters, and Human Health. We also approved the establishment of the International Science Panel on Renewable Energies (ISPRE). The challenge of these efforts is to clearly articulate why ICSU should get involved and what the added benefit is in an increasingly competitive, and sometimes, duplicative environment. I am sure that the process will by scientifically exciting and consultative and that the response from the Executive Board will be thoughtful and visionary.

We have concluded a very successful year that has demonstrated the ability of ICSU to move from words to action. I am convinced that we will clearly be able to demonstrate to the General Assembly in 2008 that we have come a long way in implementing the ICSU Strategic Plan. This year represented the first important steps in that direction.

Thomas Rosswall, *Executive Director*

"Strategy without tactics is the slowest route to victory Tactic without strategy is the noise before defeat."

Sun Tzu (6th Century B.C)

Message from the President

Looking back on 2006, I myself attracted a good deal of attention for reasons that I would much rather have avoided but that also illustrate the critical importance of ICSU and the values that it represents for international Science. In February, I was initially denied a visa to enter the USA for a scientific meeting. This was soon picked up by the World-wide media; it being particularly newsworthy because it immediately preceded a planned visit by the US President to India to discuss an agreement on technology exchange. One of the unexpected side-effects of this publicity was that I was inundated with emails from fellow-scientists and students, who had similarly been refused visas for the USA and many other countries. Many of these were recent cases but some cited examples of discrimination going back many years. It also became apparent that for very many of these people, as for myself, the refusal of a visa is not a simple one-off event that can be readily forgotten. It touches on individual dignity and pride and many scientists informed me that they no longer go to certain countries because of the belittling processes that are required in order to obtain a visa.

The Principle of Universality

The International Council for Science was created in 1931, essentially to promote scientific exchange and interaction across national borders and between scientific disciplines, i.e. to help build a truly international science community. This was not just an idealistic aim but based in a very practical realisation that science is inherently a global enterprise and that scientific knowledge should be shared for the benefit of all. However, it was also understood that effective exchange and collaboration across borders requires shared understanding and acceptance of the rights of scientists to circulate, associate and pursue their science. These rights are embodied in statute 5, the Principle of the Universality of Science.

This Principle has provided the basis for free scientific exchange over the past 75 years. During the 'cold war' period it enabled scientists from East and West to meet together in international meetings and today it continues to help scientists attend meetings in countries from which they would normally be excluded in their role as common citizens. ICSU itself, via successive committees on free circulation and freedom in the conduct of science, has intervened on hundreds of individual cases to ensure the granting of travel visas for scientists.

Freedom and Responsibilities

The world has changed dramatically over the past 75 years.
The international science community is much larger and science has a higher profile across the globe; it is progressing at an ever-accelerating pace; its relationships with society are increasingly complex and often politically charged. The potential for the misuse of science is broader and, arguably, greater and more dangerous than at any time in the past.
Whilst the freedoms of scientists as embodied in statute 5 continue to underpin the practice of science, the responsibilities inherent in these freedoms now need to be clearly articulated, debated and accepted by both scientists themselves and by society more broadly.

A new ICSU policy Committee on Freedom and Responsibility in the conduct of Science met for the first time in 2006. This committee has a critical role to play in continuing to defend the rights of scientists, whilst promoting informed discussion and debate regarding responsibilities. It is not an easy task but one which needs to be grasped with some urgency if we really hope to continue to strengthen international science for the benefit of society.

Goverdhan Mehta, *President*

75 years of ICSU - key milestones

2006 was a very significant year in the lifetime of ICSU. It marked both the 75th anniversary of the creation of ICSU and the first year in the implementation of the Strategic Plan, 2006-2011.

Planning and Coordinating Research

Building on its broad international and interdisciplinary membership, ICSU has been responsible for a number of major research initiatives, including:

- International Geophysical year (1957-1958)
- International Biological Programme (1964-1974)
- Four international global environmental change programmes (1980-)
- International Polar Year (2007-2008)

Science for Policy

Over the past two decades, in particular, ICSU has taken on a major role in representing the science community in key international policy fora:

- ASCEND 21 and the Rio Earth Summit (1991,1992)
- World Summit on Sustainable Development (WSSD, 2002)
- World Summit on the Information Society (WSIS, 2003,05)
- Commission on Sustainable Development (1997-)

Universality of Science

A founding principle of ICSU is that the practice of science should be equitable and without discrimination. Over time, several important initiatives and structures have been implemented to ensure this principle:

- Access to scientific data and information (1957-)
- Freedom in the Conduct of Science (1963-)
- Freedom and Responsibility in Science (2006-)
- Science and Technology in Developing Countries (1966-2002)
- Regional Offices (2005-)

As new challenges have arisen and priorities have changed, ICSU has proven itself to be responsive, flexible and adaptable. These are essential qualities that will be preserved into the future within the framework of a clear strategy for strengthening international science for the benefit of society.

ICSU 75 - Symposium

The link between scientists and governments, between scientific knowledge and policy development, was apparent in all the presentations on biodiversity, sustainable development, research and Africa, and language and communication.

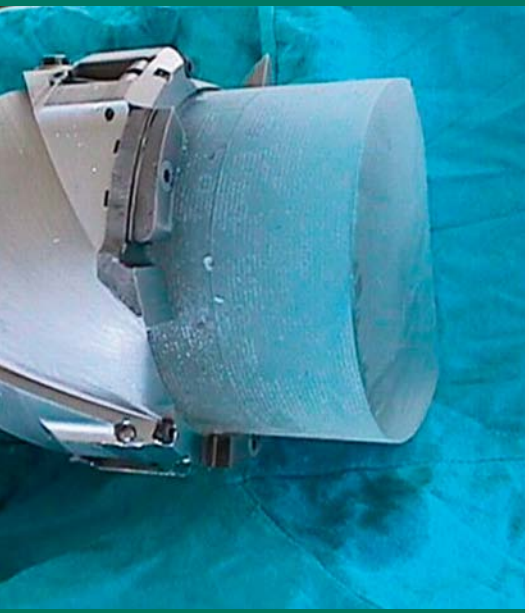
In recognition of the past 75 years of achievement, many ICSU Members arranged dedicated events or included sessions or presentations on ICSU during the various activities that they organised during the course of 2006.

A major highlight of the anniversary celebrations took place on 4 July, when the French Academy of Sciences hosted a Scientific Symposium, followed by a reception at the Paris Town Hall. The symposium opened with addresses by Edourd Brézin, the president of the the Academy, Goverdhan Mehta, president of ICSU and Francois Goulard, France's Deputy Minister for Higher Education and Research. The link between scientists and governments, between scientific knowledge and policy development, was apparent in all the subsequent presentations on biodiversity, sustainable development, research and Africa, and language and communication. It was further emphasised in the closing speech from Gilles de Robien, Minister for Education, Higher Education and Research, who made particular reference to the crucial role of ICSU's programmes in providing input to the Intergovernmental Panel on Climate Change. The Ministry also confirmed its continuing strong support to ICSU, including the promise of an additional contribution of 500k euros per annum over the next decade. This is a signal of the importance that the Ministry of the host country attaches to ICSU's work and marks the successful culmination of negotiations in which the Academy played an essential role.

The subsequent evening reception in the fabulous setting of Paris Town Hall provided an opportunity for the many scientists who had attended the Symposium to meet with the Executive Board and with members of the various science organisations and diplomatic corps that are based in Paris. This included representatives from a number of ICSU Member organisations and Interdisciplinary Bodies. Despite, or perhaps because of, the heat (4th July was one of the hottest days of the year in Paris), good conversation, food and drink were a catalyst for an evening that was well worthy of the occasion.

Planning & coordinating research

A key part of ICSU's role in strengthening science for the benefit of society is the planning and coordination of research. This is particularly focussed on major challenges that require collaboration between scientists in different disciplines and in different parts of the world.



International Polar Year 2007-2008

The International Polar Year, which was planned by ICSU and is co-sponsored by the World Meteorological Organization (WMO), will begin in earnest in March 2007. It is one of the most ambitious coordinated international science programmes ever attempted. It will include research and observations in both the Arctic and Antarctic and explore the links between these regions and the rest of the globe. Polar science is crucial to understanding our planet and our impact on it. The poles are also exceptional archives of what the Earth was like in the past and offer a unique vantage point for many terrestrial and cosmic phenomena.

During 2006 over 200 projects, involving over 60 countries, were endorsed by the ICSU-WMO Joint Committee that is overseeing the implementation of IPY. These include major research projects that extend across the whole range of physical, biological and social sciences. They also include school activities, media events, exhibitions, books, films, art, and presenting of research in real time through blogs, podcasts and geobrowsers.

Fifty years ago ICSU and WMO were instrumental in organising the International Geophysical Year, which marked a paradigm shift in international collaboration. The scientific accomplishments of IGY were numerous and included the discovery of the Van Allen Radiation Belts encircling the Earth, the first estimates of Antarctica's ice mass and confirmation of the theory of continental drift. It also directly stimulated at least one major geopolitical advance, the Antarctic Treaty System. The legacy of IPY, 2007-2008, is expected to include a similar impact both on science and society.

For more information, including latest news and details on individual projects, see www.ip.org.

ICSU
International Council for Science

World Meteorological Organization
Weather • Climate • Water

INTERNATIONAL POLAR YEAR 2007-2008

Environmental Hazards

The 28th General Assembly in 2005 endorsed the recommendation of a special Scoping Group that a new research programme on Natural and Human-induced Environmental Hazards be developed, it being understood that any new initiative should build on ongoing efforts in the geosciences and expand the scope to involve also the biological and social sciences. A high-level, international Planning Group was accordingly created and met for the first time in Paris in June; work on the main objectives and outline of the programme was carried out throughout the second half of the year.

The Planning Group has resolved that the proposed research programme should cover all hazards related to hydrometeorological and geophysical trigger events, and related events such as wildfires and locust swarms. The effects of human activities on creating or enhancing disasters such as floods and landslides would be included. However, to better focus the programme, areas of technical and industrial hazards, as well as warfare and associated activities, would not be included; nevertheless, it was recognized that there is much to be learnt from research in those areas and that the programme would seek to take advantage of this knowledge and insight.

During the forthcoming months, the further development of the programme proposal will involve extensive consultation among international and national organizations carrying out, or planning, research activities in the field of natural hazards – and especially those within the ICSU community of Scientific Unions, National Members and Interdisciplinary Bodies – in order to ensure that the new initiative will build upon, complement and provide cohesion to, those activities.

The overall aim is to provide a long-term, integrated research programme that can make a major contribution towards reducing disaster risk worldwide, and help attain the objectives of the United Nations' Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters.

Human Health

Human Health is a new strategic priority for ICSU. There is a growing recognition that human health is inextricably linked to the health of the planet and environmental change. Similarly it is difficult to envisage an integrated scientific approach to sustainable development that does not incorporate human health considerations. Many ICSU Members, including a large number of Unions, have interests and activities focusing on human health. The challenge is to build on these strengths and identify what uniquely ICSU might contribute.

Since 2002, a number of Scientific Unions and Interdisciplinary Bodies have been developing an initiative on Science for Health and Wellbeing that incorporates the very diverse interests of these various organisations. In parallel to this, the Earth Systems Science Partnership has been developing an ambitious new project on Global Environmental Change and Health, which was launched at an Open Science meeting in Beijing in November. The Regional Office for Africa has also identified human health as one of its priority areas.

In order to liaise with the interested Members of the ICSU community and identify any potential actions for ICSU, an *ad hoc* Scoping Group of international experts was established and convened its first meeting in June. After discussions with the various initiatives a potential common theme was identified – "A Systems Analysis Approach to Health and Wellbeing in the Changing Urban Environment". It was recognised that, from the policy-maker perspective, there is an urgent need for good scientific evidence that addresses the complex matrix of issues that influence human health and wellbeing in our cities. ICSU may be uniquely positioned to work with its Members in developing an interdisciplinary programme that would help provide some of this much needed evidence.

Planning & coordinating research

ESSP Conference Co-Chairs, Qin Dahe and Gordon McBean

ESSP conference Opening Ceremony

Earth System Science in Focus

More than 800 scientists gathered in Beijing for a Conference on Global Environmental Changes - Regional Challenges in November. The meeting was organized by the Earth System Science Partnership (ESSP) of the four ICSU global environmental change programmes (DIVERSITAS, IGBP, IHDP, WCRP) to address our understanding of the complex Earth system.

The ESSP is a partnership for the integrated study of the Earth System, the ways that it is changing, and the implications for global and regional sustainability. The four programmes launched ESSP in 2001 realizing that global environmental changes are both accelerating and moving the Earth system into a state with no analogue in previous history. The programmes have defined the Earth System as the unified set of physical, chemical, biological and social components, processes and interactions that together determine the state and dynamics of Planet Earth.

Earth System Science is the study of the Earth System, with an emphasis on observing, understanding and predicting global environmental changes involving interactions between land, atmosphere, water, ice, biosphere, societies, technologies and economies.

The central activities of the ESSP are Joint Projects on issues of global sustainability, designed to address the global environmental change aspects of four critical issues for human well-being: energy and the carbon cycle, food security, water resources, and human health. The ESSP is also developing a small set of Integrated Regional Studies designed to contribute sound scientific understanding in support of sustainable development at the local level. The first study is in Monsoon Asia. The Joint Projects all have a strong suite of capacity building and networking elements to their activities. This is specifically developed by the SysTem for Analysis, Research and Training (START).

The four-day Conference focused on how regions can cope with the consequences of natural and human-driven changes to the Earth's environment, what future changes they can expect, and what the nature of those changes and their impact on human livelihood will be. Conference sessions underscored how regional sustainability challenges can best be met by the integrated, global approach followed by ESSP programmes. This approach bridges the gaps across disciplines in natural and social science and has dramatically improved our understanding of the complex Earth system and its interaction with human society

The Conference concluded that "in this era of human activities modifying the planet on a global scale, we are concerned for the continuing adverse affects on the global environment and the resulting serious threats to sustainable development of human society". During the Conference it was also decided to request ICSU to appoint the Chair and three additional members to a new Scientific Committee for ESSP to provide a strengthened mechanism to guide its continued strategic development.

The ICSU Committee on Scientific Planning and Review has begun the process for reviewing the performance and future plans of ESSP and its parent global environmental change programmes. This will involve the establishment of several expert review committees in 2007 and include consultation with the ICSU membership and broader scientific community.

Supporting interdisciplinary science

In partnership with UNESCO, ICSU provides seed-funding for interdisciplinary projects with an international scope.

PACKMEDS – Dynamics of semi-enclosed marine systems

SCOPE/IUGG, SCOR and IOC

A large part of the human populations living in coastal zones that border on semi-enclosed seas depend on resources from these adjacent seas. At the same time, semi-enclosed marine systems are heavily impacted by a whole range of human activities. There have been significant scientific advances in understanding how humans modify the complex dynamics and biogeochemical cycling at work in semi-enclosed marine systems. It is now timely to synthesise and review this knowledge in an integrated manner, identify the major gaps in our understanding, and highlight the most urgent priorities for further research and for more sound management of adjacent coastal zones.

The PACKMEDS project focuses on the dynamics of semi-enclosed marine ecosystems, especially the integrated effects of changes in sediment and nutrient inputs from land, in the context of ocean physics and biogeochemistry. The project was launched in March 2006 and should be completed in early 2008 with the publication of a scientific book targeted to the environmental science community and a UNESCO-SCOPE policy brief.

40 international experts from a wide range of disciplines will participate in a week-long workshop in Delemnhorst, Germany in April 2007 . Background papers have been prepared that synthesise and review current understanding in key areas: Physical processes; Land-Water Linkages; and Marine Ecosystem Responses. Four cross-cutting themes: Climate change/Variability; Threshold responses to perturbations; Managing semi-enclosed marine systems to protect and enhance ecosystem services; and Integrating tools, have been selected in order to address the need of research planners, policy makers and practitioners.

Earth System Vulnerabilities: the permafrost-carbon-climate system

IGBP, WCRP

Over the next 100 years it is expected that there will be increased carbon emissions from thawing permafrost. Potentially, this could have a positive feedback effect that would accelerate global warming. It is important to analyse the extent to which this positive feedback is likely to occur and identify the key processes and thresholds to inform effective mitigation strategies.

A meeting bringing together ~20 international experts was held in Santa Barbara, USA, in December. This was the first international meeting convened specifically to collect, synthesise and assess the possible impacts of carbon in permafrost on climate change. One of the main products will be a new and comprehensive database on the stock and distribution of carbon in permafrost, which will provide for an estimate of the total global stock. The publication of the database and estimates of possible impact should enable carbon-climate models to better represent carbon-permafrost feedbacks. The workshop itself has also catalysed the development of new international and regional groups to continue work in this previously neglected area. The key workshop findings are being prepared for publication in the peer-review journals and are also being fed into projects that are being carried out as part of the International Polar Year.
This new knowledge will also be used to inform and refine various analyses that underpin the work of the Intergovernmental Panel on Climate Change (IPCC) in relation to carbon-climate feedbacks.

Science for Health and Wellbeing

IUBS, 17 Unions, DIVERSITAS and SCOPE

Many ICSU Member organisations are active in various aspect of research on human health and wellbeing. This grant was awarded to enable these organisations to come together and identify their common interests and potential areas where they might successfully combine their efforts.

An eight member Executive Committee and 21-member Steering Committee were established to provide a planning/activity framework for the initiative. The Executive Committee met in August, together with representatives from a separate ICSU Scoping Group to exchange ideas on a potential common activity. It was agreed that an integrative focus on urbanization and health and wellbeing should be adopted by the initiative. This would incorporate diverse expertise on such areas as water supply and safety, nutrition, stresses related to urbanisation etc. The eventual aim is to develop a synthetic, cross-disciplinary, innovative approach to problem-solving derived from a basic science perspective to application and potential policy.

A symposium is being planned for the end of 2007 at which various Institutions and scientific experts will be brought together to consider the development of a new programme – "A Systems Analysis Approach to Health and Wellbeing in the Changing Urban Environment" (see also Human Health, p7 of this annual report).

Supporting interdisciplinary science

By definition, 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. Initially established by the General Assembly, these bodies are designed to become self-sustaining in terms of day to day operations and financing. They may also involve other sponsors than ICSU. Their roles and structures vary depending on the area of science and the related needs of the international science community but they usually combine operational/research and policy/advisory functions. Many of these Interdisciplinary Bodies hold their own major international scientific conferences and meetings and some of the highlights of these activities in 2006 are given in the following pages

Scientific Committee on Oceanic Research (SCOR)

SCOR was established in 1957 to further international scientific interaction in all branches of oceanic research.

SCOR held its biennial General Meeting in Concepción, Chile in October. This included reports on the progress of 13 ongoing working groups and approval for two new ones: Deep Ocean Exchanges with the Shelf, and Automatic Plankton Visual Identification. These two groups will meet for the first time in mid-2007. Meeting participants also heard reports from the five large-scale ocean research projects that SCOR sponsors, projects affiliated with SCOR, and other committees and panels. The Surface Ocean – Lower Atmosphere Study, Integrated Marine Biogeochemistry and Ecosystem Research project, and Global Ocean Ecosystem Dynamics projects will all hold open science meetings in 2007.

The GEOTRACES project will hold meetings in 2007 to plan research cruises in the Atlantic, Pacific, and Indian oceans to measure the concentrations and distributions of trace elements and isotopes. SCOR, the Intergovernmental Oceanographic Commission, and the International Geosphere-Biosphere Programme are planning the second Symposium on The Ocean in a High-CO_2 World, to be held in late 2008.

The General Meeting approved a SCOR Committee on Capacity Building to consolidate and build upon existing SCOR capacity-building activities and to foster partnerships with other organizations involved in capacity building.

Committee on Space Research (COSPAR)

COSPAR was established in 1958 to promote international collaboration in scientific research in space.

In 2004 and 2005 COSPAR conducted a wide-ranging reflection-on-the-future exercise. Many recommendations, strategic as well as structural, came out of this exercise, and several are at the origin of new initiatives undertaken by the Committee in 2006. The COSPAR Scientific Advisory Committee, composed of twenty-two eminent space scientists from around the world, met for the first time in March. The objective of the advisory committee is to advise COSPAR how best to pursue its mission to assist the international space science community, keeping in mind that COSPAR's authority resides in its scientific expertise and not its finances. Among the initial committee recommendations, accepted by the COSPAR Council at its biennial meeting in Beijing in July is a major initiative to raise the space science profile in relevant activities of organizations such as the International Standards Organization (ISO), the Group on Earth Observations (GEO), and various space agencies. COSPAR activities in this regard are meant to ensure that adopted standards and actions are based on a broad international, scientifically sound consensus. Another new initiative with potential to have great impact is the proposal to create a COSPAR Panel to advise on the coordination of the numerous upcoming lunar exploration missions planned by many space-faring nations. The aim is to create a body recognized by relevant space agencies as the source for the best independent scientific advice on how to execute lunar exploration programs.

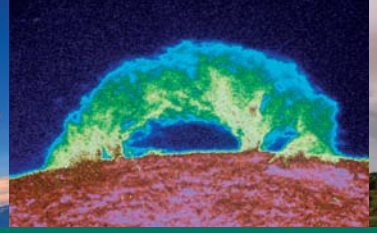
The Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)

SCOSTEP was originally established in 1966 to promote international programmes in solar terrestrial physics, with particular attention to the data management requirements of such programmes

In 2006, SCOSTEP organized and cosponsored a total of 8 scientific meetings and workshops, amongst them was the 11th Quadrennial Solar Terrestrial Physics Symposium held in Rio de Janeiro in March. The conference was attended by 135 participants from 26 countries, representing the major regions of the World. Scientific sessions, which included the presentation of more than 170 scientific papers, were organized in accordance to the Climate And Weather of the Sun-Earth System (CAWSES) science themes.

CAWSES is a major program sponsored by SCOSTEP, and its main goal is to significantly enhance our understanding of the space environment and its impacts on life and society. The CAWSES program is entering the penultimate year of its original 5-year plan (2004-2008). During the past 3 years, it has grown to truly become an international program. It has established regional offices in Brazil, France, Germany, India, Japan, and Taiwan, and actively involves scientists from 19 countries. It holds regular scientific workshops as well as special sessions in conjunction with other national and international conferences.






Scientific Committee on Problems of the Environment (SCOPE)

SCOPE was established in 1969 to carry out rigorous scientific assessments on various environmental issues.

The SCOPE Executive Committee held its mid-term 'open' meeting in October in Rome, with observers from national and international Members and partner agencies. Discussion focussed on ways :

- to better meet new demands from society regarding environment and sustainability issues, especially in the developing world and, in particular,
- to provide scientifically authoritative and policy-relevant advice to support decision making, and
- to engage stakeholders in the definition of priorities and identification of solutions.

SCOPE is now developing a strategic and implementation plan:

- to position itself as a broker of science-based information on environmental issues,
- to restructure and refocus its scientific programme,
- to enhance the role of institutional members and extend their geographic and disciplinary range,
- to define new ways to interact with other scientific and stakeholder organisations as well as with governmental and intergovernmental agencies, i.a. using new information technologies and participatory processes,
- to reinforce its networks in Asia and Latin America and develop a network in Africa in liaison with ICSU regional offices.

Priority areas for SCOPE activities in 2007-2009 include: environmental implications of bio-fuels development; health aspects of nitrogen cycle acceleration; contributions of ecological science to sustainability; management of semi-arid zones; and outreach initiatives jointly with various United Nations structures (UNESCO, UNEP and FAO).

Scientific Committee on Antarctic Research (SCAR)

SCAR was established, following the International Geophysical Year, in 1958, to promote collaboration amongst scientists involved in Antarctic research. It also has an important role in providing scientific advice to the Antarctic Treaty System.

SCAR's XXIXth meeting and 2nd Open Science Conference was held in Hobart in July and attracted 850 participants from 32 countries. SCAR is playing a key role in the International Polar Year (IPY 2007-2008). Scientific highlights presented and discussed at the Conference, and which will be investigated further during IPY, include:

- consensus that the Antarctic plateau is the best place on Earth for surface-based astronomy;
- the deep Southern Ocean warmed by 0.2ºC, with further warming masked by aerosols including volcanic dust;
- models suggest that by 2100 sea-ice cover will decrease by 25%; central Antarctica will warm by 4ºC; and precipitation will increase near the coast;
- field evidence favours a much thinner ice sheet in the Lambert-Amery glacier region, than models show for the last glacial maximum 20,000 years ago;
- drilling rock below the Ross Sea ice shelf shows that the shelf has come and gone repeatedly in response to climate change;
- a biogeographical 'divide' between the biota of the Antarctic Peninsula and that of East Antarctica suggests that the biota is not 'recent';
- a sub-glacial hydrologic system links sub-glacial lakes beneath the polar plateau.

In its policy-advisory role, SCAR provided scientific input during the year to the Antarctic Treaty Consultative Meeting (Edinburgh, June), the Commission for the Conservation of Antarctic Marine Living Resources meeting (Hobart, October), and the Advisory Committee to the Agreement on Albatrosses and Petrels (Brasilia, June).

Committee on Data for Science and Technology (CODATA)

CODATA was established in 1966 in response to the need for an international interdisciplinary forum to discuss cross-cutting issues regarding scientific data and to promote good data stewardship practices.

The 20th International CODATA conference, "Scientific Data and Knowledge within the Information Society" took place in Beijing in October 2006. It was the largest conference in CODATA's 40 year history, attracting over 600 participants from more than 30 countries.

The Conference reflected the full richness of global data-related activities in science and technology. It included four outstanding keynote lectures presented by: Professor XU Guanhua, President of the Ministry of Science and Technology, China; Professor Jane Lubchenco, Past President of ICSU; Dr. Tony Hey, Vice President for Technical Computing, Microsoft; and Professor LIU Depei, President, Chinese Academy of Medical Sciences.

Immediately following the Conference, CODATA held its 25th General Assembly. A major part of the meeting focused on the CODATA Strategic Plan 2007-2012 which will be publicly available in the first half of 2007. Future activities pertaining to the new Global Information Commons for Science Initiative (GICSI) were also discussed.

Building on disciplinary strengths

The 29 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. Unions organise regular scientific conferences, which attract thousands of scientists, and establish commissions and working groups to address topical issues. Many Unions have their own capacity building programmes, focussing on developing countries, and make special efforts to involve young scientists.
During the 75th anniversary year, ICSU Officers or members of the Secretariat were invited to make presentations at a number of Union Congresses or General Assemblies.

Astronomy

The International Astronomical Union (IAU) has been a member of ICSU from the outset. It has over 9000 individual members in more than 90 countries.

The 26th General Assembly of the IAU was held in Prague in August with over 2400 participants. It was attended by the ICSU Executive Director, Thomas Rosswall. The scientific program covered the whole range of modern astronomy, astrophysics, and cosmology. Dedicated sessions looked at the astronomical facilities which will be required in the future, and at new directions in data management and distribution. A popular new special session was "Hot Topics", which presented the most important results from the specialist symposia to a wider audience including the news-media.

The topic which attracted most interest from astronomers, media, and public alike, was the "Definition of a Planet in the Solar System" resolution to the General Assembly. Contemporary observations are changing the understanding of planetary systems, and it is important that the nomenclature reflects current understanding. This applies, in particular, to the designation "planets". The word "planet" originally described "wanderers" that were known only as moving lights in the sky. Recent discoveries required the creation of a new and more precise definition.

The General Assembly resolved that planets and other bodies, except satellites, in our Solar System should be placed into three distinct categories: 1) Planets; 2) Dwarf planets; and, 3) Small Solar System Bodies. Each of these categories has its own criteria, which were confirmed by the Assembly. By way of further explanation, it noted that the eight "planets" are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune, and that "other objects" currently include most of the Solar System asteroids, most Trans-Neptunian Objects, comets, and other small bodies.

The definitions then had to be applied to Pluto (which is where the controversy came in). The IAU resolved that Pluto is a "dwarf planet" by the agreed criteria and is recognized as the prototype of a new category of Trans-Neptunian Objects. The media seized on this to declare that Pluto had been 'demoted' from its historical status as a planet. However, the new definitions and the classification of Pluto are now widely accepted.

Biochemistry and Molecular Biology

The International Union of Biochemistry and Molecular Biology was created in 1955 and has 67 national adhering members. It works closely with regional networks including the Federation of Asian and Oceanian Biochemists and Molecular Biologists, with whom it co-organised its 20th congress in Kyoto, Japan in June.

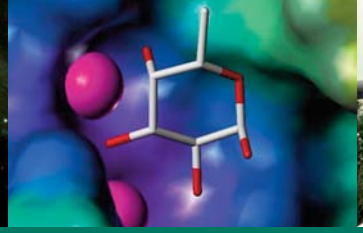
The theme for this congress was "Life : Molecular Integration and Biological Diversity" and it attracted over 9000 participants from 71 countries. Amongst these was the ICSU vice-President, Hernan Chaimovich. The congress included 11 plenary lectures, 89 symposia, and over 4000 posters. On the basis of scientific merit, but taking into account the difficulties encountered in developing countries, 98 young scientists (Ph.D. students and post-doctoral researchers) were given a fellowship to participate in Kyoto: i) in a two-day Young Scientist Program with poster presentations, and for the 6 best posters an oral presentation, and ii) in the main Congress. Presentation of the latest results of cutting edge research and fruitful interactions were the mainstay of both the Young Scientist Program and the Congress.

Food Science and Technology

The International Union of Food Science and Technology (IUFoST) is one of the younger Members of ICSU having joined in 1996. It has more than 60 adhering bodies.

The 13th IUFoST World Congress, held in Nantes, France, in September brought together over 1100 food scientists and technologists from 75 countries for 5 days of scientific discussions and debate. The Congress continued the tradition of showcasing the best of international food science and technology in plenaries, symposia, roundtable and poster sessions. A particular feature of these activities was the strong interface between academia and the private sector. Nobel Prize Winner Dr Jean Marie Lehn opened the congress and the IUFoST Distinguished Lecture was given by Catherine Bertini, 2003 World Food Prize recipient and former Executive Director of the United Nations's World Food Programme. Each day, two plenary lectures by distinguished scientists were given and, in a new innovation, seven young scientists were selected to present their research findings after each plenary address.

The IUFoST General Assembly took place at the conclusion of the congress and included a presentation by ICSU Deputy Director, Carthage Smith.



Mathematics

The International Mathematical Union (IMU) was one of the original Union Members of ICSU and represents the discipline in some 65 countries.

In 2006, even for those only remotely interested in science, it was unavoidable not to hit somewhere on a "Perelman story". Newspapers, journals, TV and radio stations reported about Grigori Perelman's proof of the Poincarè conjecture, called the 'breakthrough of the year' by the magazine Science. The excitement over this culminated at IMU's International Congress of Mathematicians held in Madrid in August, where the international specialists carefully reviewed Perelman's contribution and concluded the proof was complete. At its quadriennial Congresses the IMU awards its major prizes. The Fields Medal, the prize with highest reputation, was awarded to Andrei Okounkov, Grigori Perelman, Terence Tao, and Wendelin Werner and presented to the awardees by His Majesty the King of Spain, Juan Carlos I de Borbón. The fact that Perelman declined to accept the Fields Medal, the first person to do so in the 70 years of the prize history, contributed to the media frenzy.

The congress attracted 3600 participants from 110 countries. Through a sequence of almost 200 invited talks, for which the speakers were carefully selected, the congress gave a full panorama of recent research achievements of mathematicians from all over the world and in all areas of pure and applied mathematics. IMU utilized the meeting to highlight its substantial activities concerning the fostering of mathematics in developing countries, mathematical instruction, the history of mathematics, and electronic information, communication and publishing. These activities were discussed and reinforced at IMU's General Assembly, held in Santiago de Compostela immediately prior to the Congress and attended by about 200 international delegates and observers, including the ICSU Treasurer, Sir Roger Elliott.

Pharmacology

The International Union of Basic and Clinical Pharmacology (IUPHAR) became a Member of ICSU in 1972. It brings together 55 national pharmacology societies and regional pharmacology associations.

The 15th World Congress of Pharmacology was held in Beijing, China in July. The congress was attended by nearly 3000 scientists from around the world, including the ICSU Board member from the host country, Fu Congbin. The Program consisted of 23 plenary lectures and symposia with 264 invited international speakers. Program topics covered the range from molecular through clinical pharmacology and from the pharmacology of traditional medicines to gene- and cell-based therapies for disease. Many of the topics are ones of critical interest to scientists worldwide but that are not traditionally covered (e.g. malaria therapy, traditional medicine, chronopharmacology). Several sessions focused on regulatory issues, as well as on education and teaching.

The IUPHAR General Assembly was held concurrently with the World Congress and ratified its earlier electronic vote to change the name of the union to the International Union of Basic and Clinical Pharmacology, although the acronym will remain unchanged.

Soil Science

The International Union of Soil Sciences (IUSS) became an ICSU Member in 1993. The Union brings together over 80 National and Regional Societies and has individual members in around 60 additional countries.

IUSS held its World Congress of Soil Science in Philadelphia, USA in July. The theme of the Congress was 'Frontiers of Soil Science" and it was attended by over 2500 soil scientists from across the globe.

The opening session of the Congress featured a keynote address by Jeffrey Sachs on the role of soil science and soil scientists in fighting poverty. This stimulating opening address provided a back-drop for much of the subsequent discussion during both the formal and informal parts of the meeting. The congress involved a wide range of symposia and workshops with both single discipline and cross disciplinary themes and featured a very full poster programme. To support the posters a number of poster theatres were established which enabled authors to make very brief presentations. There were a series of mid-conference excursions on both soil and non-soil themes.

The Congress gala dinner provided an opportunity to present and honour the newly elected honorary members of the Society. During the dinner the first recipients of the IUSS Medals were also honoured: Professor Victor Targulian (Russia) for the Dokuchaiev Medal and Professor Ratan Lal (USA) for the Liebig Medal.

The closing session involved the traditional summaries of ongoing activities but also included the presentation of a new song for soil science, details of which may be found at www.iuss.org.

Science for policy

Working to ensure that scientific knowledge is effectively linked to policy-making is central to ICSU's mission.

Drylands and Desertification

2006 was proclaimed by the United Nations as the International Year of Deserts and Desertification. As a component of this year, UNESCO was the lead organization for an International Scientific Conference, The Future of Drylands, which took place in Tunis in June. As one of several co-sponsors, ICSU was represented on both the scientific and organising committees.

The science input for the policy work of the UN Convention to Combat Desertification is rather weak, despite the existence a UNCCD Committee on Science and Technology. The conference provided an excellent platform to consider how the scientific input to Convention can be strengthened. The meeting was well attended, both by scientists from all parts of the world, and by a good number of development experts and policy makers. These various stakeholders adopted a "Tunis Declaration on research priorities to promote sustainable development in drylands".

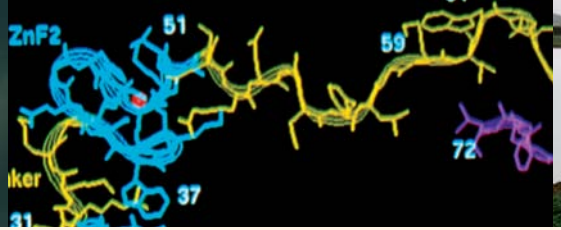
ICSU will follow-up recommendations resulting from the Tunis Conference in different ways: First, it will continue its support for strengthening scientific expert advice to the UNCCD. Second, the ICSU Regional Committee for Africa will promote drylands research in Africa. This will also benefit the Convention, which has a strong focus on Africa. Thirdly, drylands will feature in the Milleniuim Assessment follow-up activities being jointly developed by ICSU and UNESCO. Last but not least, the Global Change Research Programmes are being encouraged to develop a more substantive focus on drylands research.

Sustainable Energy

A central challenge of sustainable development is to provide clean, affordable technologies that can meet the world's soaring energy demands. The ICSU community has expressed a clear desire to play a more active role in helping to meet this challenge.

One major effort in this direction has been to establish an International Science Panel on Renewable Energies (ISPRE), as initially proposed at the 2004 International Conference for Renewable Energies (in Bonn, Germany). The goal of ISPRE is to provide an international, interdisciplinary source of objective information and strategic guidance for renewable energy research and development efforts worldwide.

In 2006, an *ad hoc* Planning Group completed a proposal for ISPRE, and the ICSU Executive Board approved establishment of ISPRE as a new ICSU Interdisciplinary Body. In addition, the Renewable Energy Policy Network for the 21st century (REN21), and the International Council of Academies of Engineering and Technological Sciences (CAETS) agreed to participate as co-sponsors of this effort. The ISPRE Panel was formally established in late 2006, and will begin its work in early 2007.



Commission on Sustainable Development (CSD)

The 14th session of CSD (1-12 May 2006) focused on the topics of energy, air pollution/atmosphere, climate change, and industrial development. This session reviewed progress in meeting sustainable development goals in these four areas.

ICSU and the World Federation of Engineering Organizations served as co-organizers of the Scientific and Technological Community, one of nine non-governmental 'Major Groups' that participate in the work of the CSD. (The other Major Groups are: Women, Children and Youth, Indigenous People, Farmers, NGOs, Local Authorities, Workers and Trade Unions, and Business and Industry).

In preparation for CSD-14, ICSU submitted on behalf of the S&T community a Discussion Paper (developed with significant input from the ICSU membership) highlighting key challenges and barriers. At the CSD meeting itself, ICSU organized a delegation of scientists and engineers to participate in the official sessions, hosted a well-attended side event focused on climate change science, and organized a meeting of all CSD Major Groups, aimed at sharing perspectives about critical gaps in scientific knowledge and technical capabilities related to energy R&D.

Life Sciences and Biosecurity

Scientific knowledge has the potential for harm as well as good, depending on the choices that are made as to how it is used and what technologies are developed. The dual-use dilemma is very familiar to the physics community, who have long had to reconcile the potential benefits of nuclear power versus the destructive potential of nuclear weapons. Nuclear technologies are now very tightly regulated and controlled. In many areas of life sciences, the potential for misuse of scientific knowledge and new technologies is pervasive and comprehensive regulations and controls are difficult to conceive. What can the life science community do to ensure that today's discoveries do not turn into tomorrow's nightmares?

In 2005 ICSU co-sponsored an international meeting on Life Sciences and Biosecurity at Lake Como in Italy. As part of the follow-up up to this, the Council joined with the UK Royal Society and the Inter-Academy Panel, to organise a workshop in London in September focussing on Scientific and Technological Developments relevant to the Biological and Toxin Weapons Convention (BTWC). The workshop brought together 84 leading international scientific and policy experts from 23 countries, to provide independent authoritative advice to the BTWC State Parties on new developments relevant to the Sixth Review conference that took place in Geneva in November.

A statement from the workshop was delivered in Geneva. This declared the willingness of the scientific community to work with governments to ensure global prohibition of biological and toxin weapons. It also recognised the importance of carefully constructed regulations and need for strengthened health surveillance systems. A key message was that restrictions on the flow of scientific information are highly unlikely to prevent, and might even promote, misuse.

Universality of Science

A founding principle of ICSU is that the practice of science should be equitable and without discrimination.

FREEDOM AND RESPONSIBILITIES

Visa problems

A founding principle of ICSU is that the practice of science should be equitable and without discrimination. This principle came to the fore in February, when the ICSU President, Goverdhan Mehta, was initially refused a visa to attend a scientific meeting in the USA. Because of concerns over national security, the USA and many other countries, have introduced strict visa controls and procedures that are targeted at certain nationalities.

Since its inception, ICSU has always defended the rights of scientists from any country to attend scientific meetings. The Standing Committee on the Free Circulation of Scientists and its successor the Standing Committee on Freedom in the Conduct of Science, have intervened on behalf of hundreds of individual scientists to ensure that they were issued with travel visas for international meetings. This has invariably been achieved in close communication with the relevant National Members and, indeed, in the case of Professor Mehta, the US National Academy of Sciences cooperated very closely to ensure that the initial visa refusal was reconsidered.

Busy start for a new committee

A notable landmark in 2006 was the first meeting of the new Committee on Freedom and Responsibility in the conduct of Science (CFRS). This committee has a broader remit than its erstwhile predecessors (see above) in that it is explicitly being asked to consider responsibility, whilst continuing the ICSU tradition of defending scientific freedom. Its first decision was to consult the ICSU Membership as to their concerns and experiences, which will inform its future workplan. It was also agreed that the committee meetings and subsequent reports should be designed to maximise outreach. The principle of the universality of science – ICSU Statute 5 – and its importance and relevance in the 21st century need to be more widely publicised both within and beyond the scientific community. In this context, the importance of developing ICSU policy regarding the responsibility of science and scientists was recognised; this will be a major challenge for the future.

The committee was also called upon to take urgent action regarding two very disturbing issues relating to the freedom of scientists. In November, a letter was published in Nature (Vol. 444, p. 442) in the name of the chairman, Professor Bengt Gustafsson, calling on the international scientific community and international organisations to demonstrate solidarity with persecuted scientists in Iraq. In December, an urgent statement was issued calling on all ICSU Members to intervene, wherever possible, to ensure the release of six Libyan health workers who had been sentenced to death following the dismissal of scientific evidence. Both these cases clearly illustrate that science and politics are often inextricably linked, raising serious issues with respect to both rights and responsibilities.


Data and Information

The ICSU vision describes a world in which "universal and equitable access to high quality scientific data and information is a reality and all countries have the scientific capacity to use these". 50 years ago, at the time of the International Geophysical year, ICSU established a number of structures to ensure long-term stewardship of data and data products for the scientific community. Principle amongst these were the World Data Centre system and the Federation of Astronomical and Geophysical data analysis Services. These structures continue to serve an important role but also need some re-structuring to better meet the needs of science and society in the 21st century. They have a potentially critical role to play in relation to the International Polar Year and the Global Earth Observations System of Systems (GEOSS). The first steps in this process of modernisation took place in 2006 with a renewal in the membership of the scientific panels that currently oversee these structures. Over the next 2 years, these panels will work with a new *ad hoc* strategic committee to develop the future plans for ICSU's data and information structures.

The new *ad hoc* strategic committee will also consider the role of the Committee on Data for Science and Technology (CODATA). This interdisciplinary body launched a major new initiative in 2006 to promote open access to scientific data - the Global Information Commons for Science Initiative. It is also established a new task force on data policy and management for the International Polar Year and began a collaboration with GEOSS on data sharing principles.

Data and information are increasingly considered as commodities which can be owned, bought and sold, with ownership being controlled by copyright and intellectual property rights (IPR). IPR policies are developed and harmonised at the international level, in bodies such as the World Intellectual Property Organisation. Science is not well represented in these fora and hence ICSU is exploring the possibility of establishing an International Observatory on Science and Intellectual Property at Inter-Governmental Organizations. This would both monitor IPR developments and also provide a mechanism to intervene on appropriate issues. A preliminary plan for such an Observatory was published in August.

"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."

Statute 5

Expanding regional activities

Regional Office for Africa

On the approval of the ICSU Regional Committee for Africa, the Regional Office established Scoping Groups to prepare science plans on its four priority areas: 1) Sustainable Energy, 2) Health and Human Well-being, 3) Natural and Human-induced Hazards and Disasters, 4) Global Change.

The Scoping Groups began their assignments in April with much enthusiasm and determination. The first drafts of the science plans were presented to the Regional Committee for consideration during its fourth meeting in July in Nairobi, Kenya. In the light of the inputs from the committee some changes and improvements were made to the draft documents.

In September, the Regional Office organised the second African Regional Consultative Forum, where the Scoping Groups presented the draft science plans for review by their scientific peers. The Forum was attended by over one hundred African scientists from many disciplines. It also set the stage for engaging discussions with the African diaspora to explore mechanisms for promoting their involvement in implementing ICSU objectives in Africa. The Regional Office is now organising two follow-up meetings, one in Mauritius on Sustainable Energy (June 2007) and the second one in Uganda on Natural and Human-induced Hazards and Disasters (July 2007). These meetings will be used as fora for preparing fundable long-term and large-scale projects for Africa. It is also through these meetings that the nuclei of the networks of African experts will be established for the implementation of the projects from these two priority areas. Similar activities for the other two priority areas are also being planned.

The Office took part in organising the African Union's conference of scientists and policymakers in Alexandria, Egypt in July, and the conference of African Ministers of Science and Technology in Cairo, Egypt in November. These meetings were an important part of the preparations for the 8th Summit of African Heads of State and Government in Addis Ababa, Ethiopia in January 2007, which has a specific focus on science. The Regional Office is working with intergovernmental partners to make a prominent contribution to this unique event.

With regards to networking and partnerships, the Office managed to forge good links with key intergovernmental and non-governmental organisations at the regional level. These include UNESCO, the Academy of Sciences for the Developing World and the Network of African Science Academies as well as the African Union (AU) and UN-Economic Commission for Africa (UNECA) and numerous national and international organizations dealing with the development of science and technology in Africa. As a result of these outreach activities several national science bodies have expressed a strong interest in becoming full Members of ICSU.

Europe

The fourth in a series of annual meetings of National European Members was hosted by the ICSU Secretariat in Paris in October. This was attended by representatives from 13 countries, as well as the European Commission, European Science Foundation and All European Academies (ALLEA). The main focus of discussion was the coordination of European research efforts and, in this context how best to develop a European voice within ICSU. It was agreed that it would be premature to develop any permanent structure specifically dedicated to ICSU at the European level but that the informal annual gatherings were an excellent forum for information exchange and discussion of common interests.

Regional Office for Asia and the Pacific

The Regional Office for Asia and the Pacific was established in June with the appointment of Mohd. Nordin Hasan FASc as Director. The Office is located in the buildings of the Academy of Sciences Malaysia. It was formally inaugurated by the Deputy Prime Minister of Malaysia the Honourable Najib Tun Abdul Razak in September in a ceremony attended by more than 300 distinguished guests that included the Minister of Science, Technology and Innovation Malaysia, the President of ICSU and the Nobel Laureate Professor Lee Yuan Tseh. Many ICSU Members and Interdisciplinary Bodies were also represented together with key partner organisations.

In conjunction with the inauguration, a Regional Conference on Natural and Human Induced Environmental Hazards and Disasters was organised by the Regional Office. The Conference was well attended by the global community of scientists working on hazards and disasters. A post-conference meeting of Conference speakers proposed a future role for the Regional Office in linking and, where appropriate, integrating ICSU-related hazards and disasters programmes at the regional level.

The second meeting of the Regional Committee for Asia and the Pacific was also held at the same time. This included a joint meeting with the ICSU Policy Committee on Developing Countries. The Regional Committee decided *inter alia* to establish three strategic planning groups: natural and human-induced environmental hazards and disasters; energy sustainability; and ecosystem approaches in water, food and health research. These were considered priority areas for regional activities to be coordinated by the Regional Office and groups of scientific experts from the region are now being established to plan these activities.

There is considerable interest in Polar Research in the Asia and Pacific region and Malaysia itself has made a strong commitment to the International Polar Year. The Regional Office was represented at the ICSU Scientific Committee on Antarctic Research (SCAR) XXIX Open Science Conference and the SCAR Delegates Meeting in Hobart in July. Other outreach activities have included co-organising and participating in meetings as far apart as Prague (nature management) and Bangkok (Thailand Research Expo).

Regional Office for Latin America and the Caribbean

In 2006, substantive steps were taken in the process of establishing the ICSU Regional Office for Latin America and the Caribbean. In May, the Executive Board accepted the offer from Brazil to host the Regional Office at the Brazilian Academy of Sciences in Rio de Janeiro, for a three year period with basic funding from the Ministry of Science and Technology of Brazil.

The ICSU Regional Committee for Latin America and the Caribbean, chaired by Professor José Antonio de la Peña from Mexico, held its first meeting in Panama in October in conjunction with the First ICSU Regional Consultation for Latin America and the Caribbean.

The Regional Consultation brought together representatives of many ICSU National Members and International Scientific Unions. The meeting was opened by Julio Escobar, Secretary of Science, Technology and Innovation of Panama. The Regional Consultation offered excellent opportunities to discuss future collaboration with the UNESCO Regional Office for Science in Latin America and the Caribbean. As a result of these meetings, four initial priority areas have been identified: (i) Sustainable Energy, (ii) Biodiversity, (iii) Hazards and Natural Disasters, and (vi) Education in Mathematics.

The post of Director was advertised widely prompting a number of strong applications. At the end of the year, Professor Alice Abreu was appointed Director of the Regional Office for Latin America and the Caribbean. A formal inaugural ceremony will be held in April 2007.

ICSU welcomes new Members

NATIONAL SCIENTIFIC MEMBERS

In 2006, eleven new full National Scientific Members were admitted bringing the total of National Members to 111. That eight of these new Members come from Africa reflects the important drive to increase membership in the region which has been carried out by the Regional Office for Africa. National Scientific Members of ICSU are scientific academies or research councils, or organizations effectively representing the range of scientific activities in a definite territory, when no appropriate Academy or Research Council exists. They must be listed under a name that will avoid any misunderstanding about the territory represented, have been in existence in some form for at least 4 years and they must agree to abide by ICSU's Statutes, in particular Statute 5 on Universality.

Applications are examined by the Executive Board and applicants may be admitted by the General Assembly or by the Executive Board in between sessions of the Assembly.

The Bangladesh Academy of Sciences (a National Associate of ICSU since 1986) was established in 1973 with the objective of advancing science and technology for the development of the country. It is at the apex of all Scientific Societies in the country and is administered as an NGO by Fellows elected from among the most distinguished scientists, with financial support from the government. Its activities include: a) promotion and recognition of high calibre research carried out by scientists and facilitation of their mutual contacts; b) strengthening of R&D for economic development; c) advising the government on science policy and planning; and d) international cooperation in science and technology; e) evaluation of scientific projects and personal. The Academy acts as the scientific think-tank of the government.

The Ministry of Communications, Science and Technology of Botswana acts as the conduit through which the scientists of Botswana participate in global activities and international scientific programmes. It thus helps the country to benefit from the wealth of knowledge and experience gained from other scientists worldwide.

The Cameroon Academy of Sciences (a National Associate of ICSU since 1999) was created in 1990. The goal of the Academy is to promote the progress of science and technology for the economic, social, and cultural development of Cameroon. Specific objectives include: promoting research and technological training at the highest level; contributing to the defence of science and the franchise of scientists; advising national and international policy-makers on issues related to science and technology in the service of humanity; developing scientific and technological relations with the productive sectors of the national economy; and promoting scientific and technological cooperation on a non-governmental basis.

The Ethiopian Science and Technology Agency (ESTA) is a governmental institution originally established in December 1975. It was reformed in 1994 and 1995. The Agency is accountable to the Ministry of Capacity Building of Ethiopia (MoCB). It has as its objectives to see the living standard of the people improved though the application of science and technology for sustainable social and economic development; to build capacity for the efficient, effective and sustainable national S&T system through guidance, coordination and support to national S&T activities that will enhance the socio-economic development of the country; and to enhance science and technology and initiate, organize and encourage research and development activities that enable the realization of the country's socio-economic development objectives.

The National Research Council of Malawi was created in 1974 as the principal advisory organ of the Government of Malawi on all matters relating to scientific research and technological development. The Council is responsible for the formulation of the national science and technology policy and charts national direction and priorities in scientific and technological development in relation to the economic and social policies of the Government. It fosters scientific activity in all its aspects and in its widest possible scope and maintains a vigorous drive towards self-reliance in national scientific and technological capability. It aims to help cultivate among Malawians an appreciation of the value of science and technology as an integral part of the development strategy of the country and also to promote and sustain national support for the application of science and technology in the developmental process as well as the management of the environment;

The Montenegrin Academy of Sciences and Arts (MASA), founded in 1973, is the supreme institution in the field of sciences and arts in the Republic of Montenegro. MASA strives for freedom of scientific and artistic creativity; organizes, initiates and implements scientific research, by itself or in cooperation with other scientific institutions; organizes scientific meetings, symposia, scientific speakers' platforms, scientific debates, consultations and exhibitions; issues publications in the field of science and arts and maintains collaboration with academies and scientific institutions in other countries.

The Scientific Research Association of Mozambique (AICIMO), founded in 1995 and a National Associate of ICSU since 1999, is an independent, non-governmental and multidisciplinary scientific organization whose plans and objectives are oriented towards the creation of solid scientific bases for the development of science, the country and the region. Its objectives are: to encourage scientific research; and to foster scientific research as a response to technical, socio-economical, political and cultural needs. AICIMO has established close relations and cooperation with different national and international scientific research institutions to exchange ideas, experience and development of joint scientific research projects.

The Kigali Institute of Science and Technology (KIST), Rwanda aims to promote research and disseminate the results through teaching, seminars, conferences, publications, etc. It provides consultancy services to the Government of Rwanda, industry, the private sector and the community at large. It has gained wide recognition at the local, regional and international levels for its programme of developing and disseminating appropriate technologies especially for rural and peri-urban communities and small and medium enterprises.

The Serbian Academy of Sciences and Arts is the most eminent scientific and art institution in Serbia. It was founded by in 1886 as the Serbian Royal Academy. The SRA was the successor to the Serbian Learned Society with which it merged in 1892 and accepted its members as its own either regular or honorary members, its tasks and its place in scientific and cultural life. The same occurred several decades earlier when the Serbian Learned Society took over the place and functions of the Society of Serbian Letters, the first learned society in the Serbian Principality. Today, the Academy directs a number of scientific research projects which are realized in cooperation with Yugoslav scientific institutions and through international cooperation.

The Association of Senegalese Researchers (ASR) (a National Associate of ICSU since 1993) was constituted in 1982 in Dakar, where it has its headquarters. This non-governmental association has no political affiliation and is non-profit-making. It has the following scientific objectives: the elaboration of research programmes and multidisciplinary research in compliance with national priorities; the setting up of scientific and cultural animation throughout Senegal by various activities such as conferences, roundtables, seminars, etc.; participation in national and international scientific and cultural activities; and, scientific and cultural cooperation with public and private institutions.

The Zambia Academy of Sciences was set up to facilitate, coordinate and undertake the publication and dissemination of scientific and technological achievements in Zambia; to promote and inspire outstanding achievements in the different fields of Zambian science and grant recognition for excellence; to engage in the planning, convening and coordination of science education in Zambia, involving both the public and the private sectors; and to establish reciprocal arrangements and enter into agreements with organizations with similar objectives at sub-regional, regional and global levels, in order to promote the exchange of information;

A NEW INTERNATIONAL SCIENTIFIC ASSOCIATE:

The International Commission for Acoustics (ICA)

The International Commission for Acoustics (ICA) was admitted in 2006, making a total of 19 Scientific Associates.

ICA was founded in 1951 and was a commission of the International Union for Pure and Applied Physics (IUPAP). ICA became an affiliated commission of IUPAP in 1996. The purpose of ICA, is to promote international development and collaboration in all fields of acoustics including research, development, education, and standardisation.

Executive Board

Officers

Goverdhan Mehta	*President*
Jane Lubchenco	*Past President (until March 2006)*
Catherine Bréchignac	*President-Elect*
Khotso Mokhele	*Vice-President for Scientific Planning and Review*
Hernan Chaimovich	*Vice-President for External Relations*
Ana María Cetto	*Secretary General*
Roger Elliott	*Treasurer*

Ordinary Members

From Union Members:

Giovanni Berlucchi	*IBRO*
Michel Denis	*IUPsyS*
Bryan Henry	*IUPAC*
Uri Shamir	*IUGG*

From National Members:

Cynthia Beall	*USA*
Fu Congbin	*China*
Francis Gudyanga	*Zimbabwe*
Sergio Pastrana	*Cuba*

Secretariat

Executive

Thomas Rosswall	*Executive Director*
Carthage Smith	*Deputy Executive Director*
Tish Bahmani Fard	*Assistant Executive Director*

Environment and Sustainable Development

Leah Goldfarb	*Science Officer*
Gisbert Glaser	*Senior Advisor*
Rohini Rao	*Administrative Officer*
Howard Moore	*Senior Advisor*

Scientific Planning and Special Projects

Laurie Geller	*Science Officer*
Maureen Brennan	*Administrative Officer*

Communication and Information Technology (IT)

Mustapha Mokrane	*IT Officer/Webmaster*
Belle Dumé	*Communication Officer (Sept.-Nov., 2006)*

Administrative Staff

Eric Leparmentier	*General Services*
Natacha de Marchi	*Accountant*
Frederica Kostadinoff	*Administrative Officer*
Elisabeth Merle	*Administrative Officer*

Regional Office: Africa (Pretoria)

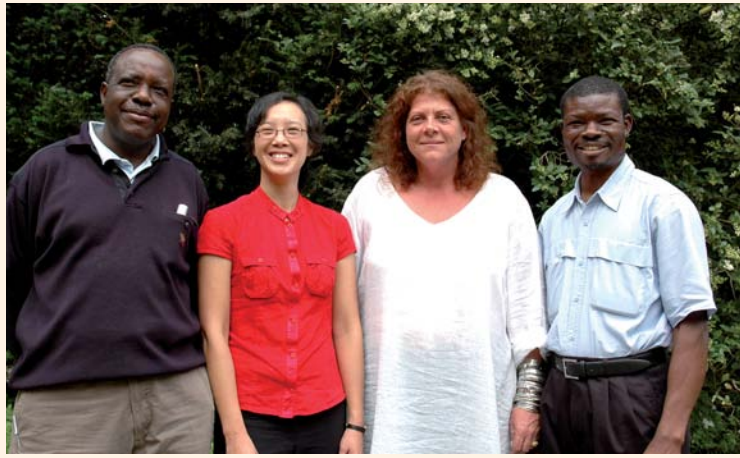
Sospeter Muhongo	*Director*
Masela Pillay	*Professional Officer*
Andrew Achuo Enow	*Programme Specialist in Biological Sciences*
Janine Chantson	*Programme Specialist: Physical, Mathematical and Engineering Sciences*
Kathy Potgieter	*Office of the Regional Director*
Lineo Mosia*	*Communication Officer*

Regional Office: Asia and the Pacific (Kuala Lumpur)

Mohd Nordin Hasan	*Director*
Mohd Hizamddin Jaafar	*Administrative Officer*

Regional Office: Latin America and the Caribbean (Rio de Janeiro)

Alice Abreu	*Director*



** Lineo Mosia, sadly deceased January, 2007*

ICSU's new head office

As of 1 September, 2007, the ICSU Secretariat will be relocated in newly refurbished accommodation that is closer to the centre of Paris. Whilst the postal address will change (see reverse back cover), telephone and email addresses will continue as previously.

Financial Summary

Statement of income and expenditure

International Council for Science (ICSU)
for the period 1 January 2006 to 31 December 2006

	Euros
Income	
Membership dues	
National Members	1 566 308
Scientific Unions	126 402
Scientific Associates	10 588
Cancellation Provision Arrears	37 071
Membership dues for WCRP	220 489
Grants from	
UNESCO	114 792
US NAS	28 216
NSF	526 755
France & China for ICSU GA	99 740
Other income	48 181
Cancellation of provisions	3725
Investment income	106 473
Total income	**2 789 000**
Expenditure	
Policy committees	320 053
Joint initiatives	440 010
Grant programme	79 524
New initiatives	121 500
Governance meetings	337 948
Policy & administrative support	1 075 921
Contingency/Provision	56 130
Other expenses	90 266
Investment charges	10 841
Total expenditure	**2 839 467**
Excess of expenditure over income	**-50 467**

Balance sheet

International Council for Science (ICSU)
for the period 1 January 2006 to 31 December 2006

	Euros
Assets	
Bank & cash balances	1 070 363
Marketable securities	1 605 057
UNESCO subvention	11 917
Sundry debtors & prepayments	321 718
Fixed assets	12 414
Total assets	**3 021 469**
Liabilities	
Interdisciplinary Bodies	55 425
Sundry creditors & accruals	415 386
Provision	626 029
General fund	475 096
Mandatory reserve	1 500 000
Total liabilities	**3 071 936**
Net Result	**-50 467**

ICSU's principal source of "core" income is Member dues. The other major sources of income are grants from various organizations and Foundations.

The General Assembly approves draft budgetary outlines for each ensuing triennium upon proposals received from the Executive Board, which is charged with finalizing the annual budgets. After consideration by the Committee on Finance and Executive Board, the audited annual accounts are sent to all Members for approval.

Annual dues are paid in accordance with Statute 43: "Each Member of ICSU shall pay annual dues within a scale determined by the General Assembly. Each Scientific Union and National Scientific Member of ICSU may choose its own category for payment of dues. Each International and Regional Scientific Associate shall pay annual dues determined by the General Assembly. National Associates pay no dues."

ICSU Members

Scientific Unions

International Astronomical Union (IAU)
International Brain Research Organization (IBRO)
International Geographical Union (IGU)
International Mathematical Union (IMU)
International Society for Photogrammetry and Remote Sensing (ISPRS)
International Union for Physical and Engineering Sciences in Medicine (IUPESM)
International Union for Pure and Applied Biophysics (IUPAB)
International Union for Quaternary Research (INQUA)
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 the History and Philosophy of Science (IUHPS)
International Union of Materials Research Societies (IUMRS
International Union of Microbiological Societies (IUMS)
International Union of Nutritional Sciences (IUNS)
International Union of Pharmacology (IUPHAR)
International Union of Physiological Sciences (IUPS)
International Union of Psychological Sciences (IUPsyS)
International Union of Pure and Applied Chemistry (IUPAC)
International Union of Pure and Applied Physics (IUPAP)
International Union of Soil Sciences (IUSS)
International Union of Theoretical and Applied Mechanics (IUTAM)
International Union of Toxicology (IUTOX)
Union Radio Scientifique International (URSI)

ICSU relies on its Union Members to provide scientific expertise and input, from an international, disciplinary perspective, on scientific priority areas for future ICSU activities. They play a crucial role as representatives of the wide scientific community.

Interdisciplinary Bodies

ASSESSMENT BODIES

Scientific Committee on Problems of the Environment (SCOPE)
International Science Panel on Renewable Energy (ISPRE)

THEMATIC BODIES

Committee on Space Research (COSPAR)
International Polar Year (IPY)
Scientific Committee on Antarctic Research (SCAR)
Scientific Committee on Oceanic Research (SCOR)
Scientific Committee on Solar-Terrestrial Physics (SCOSTEP)
ICSU-TWAS-UNESCO-UNU/IAS Visiting Scientist Programme

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)
Integrated Global Observing System (IGOS)

DATA AND INFORMATION BODIES

Committee on Data for Science and Technology (CODATA)
Federation of Astronomical and Geophysical Data Analysis Services (FAGS)
International Network for the Availability of Scientific Publications (INASP)
Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)
Panel on World Data Centres (WDC)

ICSU Interdisciplinary Bodies focus on specific areas of international research. Their roles usually combine both operational and policy/advisory functions. Several are jointly sponsored by ICSU and other international organizations.

ICSU Members

National Members

Argentina
Armenia
Australia
Austria
Azerbaijan**
Bangladesh
Belarus**
Belgium
Bolivia
Botswana
Brazil
Bulgaria
Burkina Faso*
Cameroon
Canada
Caribbean*
Chile
China: CAST
China: Taipei
Colombia
Costa Rica**
Côte d'Ivoire*
Croatia
Cuba
Czech Republic
Denmark
Egypt
Estonia
Ethiopia
Finland
France
Georgia*
Germany
Ghana
Greece
Guatemala*
Hungary
India
Indonesia
Iran
Iraq
Ireland
Israel
Italy
Jamaica
Japan
Jordan*
Kazakhstan*
Kenya
Korea (DPR) **
Korea, Rep. of
Latvia
Lebanon
Lesotho
Lithuania
Luxembourg
Macedonia
Madagascar*
Malawi
Malaysia
Mauritius
Mexico
Moldova**
Monaco
Mongolia
Montenegro
Morocco
Mozambique
Nepal
Netherlands
New Zealand
Nigeria
Norway
Pakistan
Panama
Peru
Philippines
Poland
Portugal
Romania
Russia
Rwanda
Saudi Arabia
Senegal
Serbia
Seychelles
Singapore
Slovak Republic
South Africa
Spain
Sri Lanka
Sudan
Swaziland
Sweden
Switzerland
Tajikistan**
Tanzania
Thailand
Togo
Tunisia*
Turkey
Uganda*
Ukraine
United Kingdom
USA
Uruguay**
Uzbekistan
Vatican City State
Venezuela**
Vietnam**
Zambia
Zimbabwe

**Associates*

***Observers*

ICSU's National 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. The list includes full Members, Scientific Associates and Observers**.*

Scientific Associates

Academy of Sciences for the Developing World (TWAS)
Academia de Ciencias de America Latina (ACAL)
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)

Either international or regional scientific organizations, ICSU's Scientific Associates bring their own particular perspectives to relevant ICSU discussions and activities. For example, the Academy of Sciences for the Developing World (TWAS) is a key partner in defining ICSU's strategy for developing countries.

PHOTO CREDITS: CMA (page 8) • CNRS, p6 Laurent Augustin (ice sample); p7 François Blasco (mangroves), Florence Goutail (air pollution); p9 René Galzin (coral); p11 Claude Carré (jellyfish), Antoine Gonin (radiotelescopes), Jean-Marie Malherbe (solar flare), Laurence Medard (core samples), Richard Lamoureux (laboratory); p13, INSU-CFHT (galaxy), Christophe Lebedinsky (physics model), Laurence Medard (plant cuttings), Emmanuel Perrin (vacuum experiment), Sophie Schmitt (cancer laboratory), Nicolas Cegelerba (humus); p14 Alain Devez (desert); p15 B.P. Roques (protein model); Gabriel Olalde (solar energy) • Getty p14 (windmill); p15 (smokestack); p17 (visa; DNA) • IRD p15 Alain Rival (agriculture)

ICSU
International Council for Science

as of 1 September 2007, ICSU's new address will be:

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