



AN INTRODUCTION TO THE  
INTERNATIONAL COUNCIL FOR SCIENCE



**ICSU**

International Council for Science



STRENGTHENING  
INTERNATIONAL SCIENCE  
FOR THE BENEFIT  
OF SOCIETY.

# INTRODUCTION

The International Council for Science (ICSU) is a global non-governmental scientific organisation with a membership of national scientific bodies (122 members, representing 142 countries) and International Scientific Unions (31 members). Its membership is a unique combination of national multidisciplinary and international disciplinary organisations.

The Council mobilises knowledge and resources of the international scientific community to strengthen international science for the benefit of society. Its strategy focuses on three main themes: International Research Collaboration; Science for Policy; and Universality of Science. The long-term vision is for a world where excellence in science is effectively translated into policy-making and socioeconomic development. In such a world, universal and equitable access to 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.

The Council's global headquarters is in Paris, France, with three Regional Offices – in Africa, Latin America and the Caribbean, and Asia and the Pacific. These Offices work to engage the scientific academies, scientists and stakeholders in these regions in the Council's activities, to facilitate the engagement of communities from the developing and less-developed countries. The International Council for Science also runs events to mobilize the scientific community around topical issues, or on capacity building, in the Middle East and North Africa, Europe and North America.

# INTERNATIONAL RESEARCH COLLABORATION

To facilitate international collaboration in research, the Council convenes groups of scientists and stakeholders to agree strategic research agendas in areas of societal need. These groups then, working with large networks of scientists, plan and implement the required research. The Council-sponsored programmes operate where there is a clear benefit to be derived from an international approach. Many of the Council's programmes have operated in the area of environmental change. From this very strong foundation, they are expanding into new fields. Areas of focus include sustainability (Future Earth), disaster risk reduction (Integrated Research on Disaster Risk, IRDR) and urban health and wellbeing (Health and Wellbeing in the Changing Urban Environment). The Council often works with co-sponsor partners who help their communities engage in research programmes. For example, Future Earth is co-sponsored with the members of the Science and Technology Alliance for Global Sustainability, IRDR is co-sponsored with the International Social Science Council and the UN International Strategy for Disaster Reduction, and the Urban Health programme is co-sponsored with the InterAcademy Medical Panel and United Nations University.

**FUTURE EARTH** is the Council's flagship research platform on global environmental change and sustainability. With a distributed international secretariat across five countries, Future Earth seeks to provide the knowledge needed to face the challenges of global environmental change and to support transformations towards sustainability via the efforts of tens of thousands of scientists. It seeks to be a platform for international engagement to ensure that knowledge is gen-



erated in partnership with society and users of science. It is open to scientists of all disciplines, natural and social, as well as engineering, the humanities and law.

Launched in 2012 at the Rio+20 Earth Summit, Future Earth is sponsored by the International Council for Science together with the International Social Science Council (ISSC), the Belmont Forum/IGFA, the Sustainable Development Solutions Network (SDSN) and several UN bodies. Research undertaken under Future Earth will provide the scientific basis for major international assessments and conventions, including the Sustainable Development Goals (SDGs), the Intergovernmental Panel on Climate Change (IPCC), and the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES).

[www.futureearth.org](http://www.futureearth.org)



**URBAN HEALTH AND WELLBEING: A SYSTEMS APPROACH** was launched in 2011. Co-sponsored by the InterAcademy Medical Panel (IAMP) and the United Nations University (UNU), this programme takes an interdisciplinary and systems approach to understanding the complex dynamics behind urbanization processes and how they affect people's health and lives in cities worldwide. It seeks to provide new knowledge for urban policymakers to address real-life challenges. The international programme office is hosted by the Institute of Urban Environment in Xiamen, China.

**INTEGRATED RESEARCH ON DISASTER RISK (IRDR)** was established in 2008, with ISSC and the United Nations Office for Disaster Risk Reduction (UNISDR) joining shortly afterwards as co-sponsors. It is a transdisciplinary and cross-sectoral research programme on disaster risk reduction and resilience building. IRDR brings together the combined talents of the natural, socio-economic, health and engineering sciences from around the world. The programme focuses on hazards related to geophysical, oceanographic, climate and weather events. IRDR's four major projects are: Forensic Investigations of Dis-

asters (FORIN); Risk Interpretation and Action (RIA); Assessment of Integrated Research on Disaster Risk (AIRDR); and Disaster Loss Data (DATA). The international programme office is hosted by the Centre for Earth Observation and Digital Earth in Beijing, China. IRDR has endorsed a number of International Centres of Excellence, including in Taipei, the US, New Zealand, Colombia, South Africa, the UK, Canada and Germany. These centres have generated tremendous community mobilization at the national level, engaging new generations of researchers into this research field.

[www.irdrinternational.org](http://www.irdrinternational.org)



**SCIENCE INTERNATIONAL** is an annual meeting bringing together the leadership of four major international scientific organizations, the International Council for Science (ICSU), the InterAcademy Partnership (IAP), The World Academy of Sciences (TWAS) and ISSC, to provide thought leadership in the policy for science arena.

The inaugural edition of Science International in December 2015 tackles “Open Data for a Big Data World,”

identifying and critiquing the opportunities and challenges of the data revolution as one of today's predominant issues of global science policy.

Science International partners will promote discussion and adoption of principles of open and big data across their respective members and by other representative bodies of science at national, regional and international levels.



**THE VILLA VIGONI EARLY CAREER SCIENTISTS NETWORKING CONFERENCES** on integrated science in collaboration with the German Research Foundation (DFG) and ISSC are held every year at Villa Vigoni, the German-Italian Centre for European Excellence in Menaggio, Italy. Over the series of three conferences, close to 90 early career researchers from across disciplines and from a range of global backgrounds have attended week-long intensive discussions, brainstorming, and networking on a range of topics from “Food Futures,” “Green Economy,” and “The Role of Science in the Sustainable

Development Goals.” The Council has helped nominate conference participants as experts for global environmental change consultations at the international level such as IPBES and UNEP GEO6. Watch the video from the 2015 conference: <http://bit.ly/villavigoni2015>

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## SCIENCE FOR POLICY

The Council has a formal role representing the scientific community at key UN conferences relating to sustainable development. It contributed expert knowledge to the process aimed at establishing a set of global Sustainable Development Goals (SDGs) via expert policy briefs, a report on the SDG targets, side events and statements, as well as at the UN High-Level Political Forum (HLPF) and in the Global Sustainable Development Report that supports the Forum’s deliberations. The Council promotes the involvement of its programmes in the implementation and monitoring of the SDGs, mobilising existing research and initiating new research to address knowledge gaps. The Council was also actively involved as co-organizer of the Major Group for Science and Technology during the lead-up to the Sendai Third World Conference on Disaster Risk Reduction in 2015. It will support the implementation of the Sendai Framework for Disaster Risk Reduction and is co-organizer of the UNISDR Science and Technology Conference on this subject in 2016. The Council is working with the United Nations Environment Programme (UNEP), UNESCO, and other stakeholders to ensure the success of the science-policy platform for biodiversity and ecosystem services—IPBES—which will play a role similar to that of the IPCC in climate change. The Council was a co-convenor, along with Sir Peter Gluckman,

the Chief Science Advisor to the Prime Minister of New Zealand, of the world's first Science Advice to Governments conference in New Zealand in 2014. The Council is a partner of the International Network for Government Science Advice (INGSA) which was born at the meeting.

In 2015, the Council was a co-organizer of the main climate science conference ahead of the COP21 talks in Paris which brought together 2,000 scientists and non-scientific stakeholders.

**REVIEW OF TARGETS FOR THE SUSTAINABLE DEVELOPMENT GOALS: THE SCIENCE PERSPECTIVE** was the first independent, scientific review of the targets under the 17 proposed Sustainable Development Goals (developed in collaboration with ISSC). The assessment of the targets represents the work of over 40 leading researchers covering a range of fields across the natural and social sciences. It found that while the SDGs are a major improvement over the Millennium Development Goals (MDGs), many of the draft targets were not measurable enough or not based on the latest scientific evidence. It also warned of a siloed approach to development, where



successes in one goal risk trade-offs in others. The report received substantial coverage in international media, including in Science, the Financial Times, Fox News, New Scientist and SciDevNet. You can download the report at <http://bit.ly/SDGsReport>

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## UNIVERSALITY OF SCIENCE

One of the Council's most important policy committees is the Committee on Freedom and Responsibility in the conduct of Science (CFRS). It serves as the guardian of the Council's Principle of Universality of Science. Adherence to this principle is a condition of membership in the Council. CFRS seeks to raise international awareness for the freedom and responsibility aspects related to the conduct of science and it also considers cases of individual scientists whose right to free movement, to freely associate and to communicate is infringed. CFRS is frequently called upon by members to intervene in cases concerning individual scientists in their country. It also co-organises workshops with the National Members of the Council – for example on the relationship between science assessment and research integrity.

Recently, issues relating to visas for scientists to attend international scientific meetings have particularly come to the fore, with serious concerns expressed by the Council to national authorities worldwide. Looking forward, improving access to research data, particularly for integrated research, is a key topic. This is especially true for two of the Council's data-related bodies, CODATA and the World Data System. To this end, these bodies are increasing their collaboration, for example by co-sponsoring conferences on data sharing and integration for global sustainability.



## CODATA AND THE WORLD DATA SYSTEM (WDS)

Research data are essential to all scientific endeavours. The emerging cultures of data sharing and publication, open access to, and reuse of data are the positive signs of an evolving research environment. Nevertheless, several cultural and technological challenges are still preventing the research community from realizing the full benefits of these tendencies.

The Committee on Data for Science and Technology (CODATA) and the World Data System (WDS), interdisciplinary committees of the International Council for Science (ICSU), are together advancing this agenda by actively promoting effective data policies and good data management practices in the research community, to produce better science, which ultimately benefits society.

[www.codata.org](http://www.codata.org)

[www.icsu-wds.org](http://www.icsu-wds.org)

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