

STRENGTHENING INTERNATIONAL SCIENCE
FOR THE BENEFIT OF SOCIETY

ANNUAL REPORT



INTERNATIONAL
COUNCIL
FOR SCIENCE

2017

The long-term vision of the International Council for Science (ICSU) is for a world where excellence in science is effectively translated into policymaking and socio-economic 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 International Council for Science is a non-governmental organization with a global membership of national scientific bodies (122 members, representing 142 countries) and international scientific unions (31 members). ICSU mobilizes the knowledge and resources of the international scientific community to strengthen international science for the benefit of society.

MESSAGE FROM THE PRESIDENT AND THE EXECUTIVE DIRECTOR

In October 2017, the members of the International Council for Science (ICSU) and the International Social Science Council (ISSC) took the momentous decision that the two councils should merge to become the International Science Council. We now face the challenge of making this decision a landmark in the organization and functioning of international science. At its founding General Assembly in July 2018, the new organization will assert the international scientific community's commitment to working across disciplinary boundaries in generating and applying the integrated knowledge that is urgently needed to address the complex, inter-related problems of the modern world for the benefit of all societies.

The mission of the International Science Council is to be the global voice for science. It will convene the intellectual resources of its unique membership of national members around the globe, and unions and associations of scientists across all the science disciplines, to advance all the sciences, in all parts of the world, as a global public good. As President and Executive Director of ICSU we are privileged to be a part of this process, and we would like to thank the members of the ICSU-ISSC Strategy Working Group and Transition Task Force for guiding the merger process, and all our members for their support and commitment to this historic development.

It is appropriate, in ICSU's last Annual Report, to look back with pride at our impressive history. Some of the milestones in that history and the powerful and creative ways in which our community has responded to major challenges for both science and society and the inspiring individuals that have led those efforts are acknowledged on pages 04/05 and 34 respectively. This legacy is the bedrock on which the International Science Council will be built. We will continue to draw on our key partnerships and major international initiatives established during previous decades to provide the foundations for advancing a global science agenda underpinned by rigour, relevance and responsibility. Our initiatives such as the co-sponsored

international scientific programmes on climate change (WCRP), disaster risk (IRDR), urban health and wellbeing (UHW) and sustainable development (Future Earth) continue to deliver the knowledge that underpins international policy processes like the Paris Agreement, the Sendai Framework for Disaster Risk Reduction and the Sustainable Development Goals. Our committees and networks work with dedication to coordinate international efforts, including data for science and technology and the provision of scientific advice to inform policy at all levels of government.

Notwithstanding the intense preparation for the October 2017 merger decision, ICSU has continued to deliver excellence and impact in its core areas of work. It is worth drawing attention to some of the highlights.

ICSU published another landmark report in 2017 to help guide the implementation phase of the UN's Sustainable Development Goals (SDGs) with the best available science. The new report, "A Guide to SDG Interactions: From Science to Implementation", applies a quantitative scale to determine the extent to which SDGs reinforce or conflict with each other. It offers a planning framework to help countries implement and achieve the 17 goals and the 169 targets that sit underneath them. The report has been widely disseminated and praised by both scientific and policy communities as a unique and important contribution to understanding and managing the integrated, indivisible nature of the SDGs.

In 2017 the Leading Integrated Research for Agenda 2030 in Africa (LIRA2030) programme, which ICSU manages in collaboration with ISSC and NASAC, announced its first set of project awards. The programme supports early-career scientists to undertake collaborative, transdisciplinary research, and the nine projects selected in 2017 all seek to generate solutions-oriented knowledge on major challenges facing African cities. It is exciting to see a new community of engaged young researchers emerging from the programme and LIRA2030 is working with



them to further develop research leadership in and for Africa. ICSU also continued to support the disaster risk reduction processes resulting from the 2015 World Conference on Disaster Risk Reduction (WCDRR). As co-organizers of the UN Science and Technology Major Group, ICSU was represented at the 5th Regional Platform for Disaster Risk Reduction in the Americas and in the Global Platform on Disaster Risk Reduction. The Science Committee of the Integrated Research on Disaster Risk Reduction (IRDR) programme promoted interactions between the scientific community, policy makers and society towards achieving the 2020-30 targets of the Sendai Framework. In November 2017, together with UNISDR, IRDR and the Science Council of Japan, ICSU organized and led the Global Forum on Science and Technology for Disaster Resilience 2017, resulting in the Tokyo Statement 2017 - science and technology action for a disaster-resilient world.

We would like to express our sincere thanks to all the outstanding scientists who have over the years served on our boards and advisory committees, been the leaders of our unions and members of national committees, and who have selflessly dedicated their valuable time to the success of the organization.

We will carry their legacy forward and build upon it for the future. We would like to thank our Members for their support of the merger process and their valuable input into the design of the new Council. Finally, we would like to express our gratitude to all of our Secretariat staff, who have worked hard to support the merger process and on implementing our yearly programme of work.

Gordon McBean, President

Heide Hackmann, Executive Director

HISTORY HIGHLIGHTS OF ICSU

● **1899**

9 October. **Foundation of the International Association of Academies**, Wiesbaden, Germany. World War I effectively ends this first attempt at grouping the world's academies together.

● **1919-31**

International Research Council — inaugural meeting in Brussels, preparations for foundation of ICSU to include Scientific Unions as Members.

● **1931**

ICSU founded in Brussels as successor of the IRC. Unions now full members.

● **1947**

Formal relations established with UNESCO

● **1957**

Scientific Committee on Oceanic Research (SCOR) established

● **1957-58**

International Geophysical Year, also the 3rd International Polar Year

● **1958**

Committee on Space Research (COSPAR) and Scientific Committee on Antarctic Research (SCAR) created

● **1960**

Launch of the **Scientific Committee on Frequency Allocations for Radio Astronomy and Space Science (IUCAF)**

● **1962-7**

Years of the Quiet Sun — A follow-up effort to IGY, which had been organized during a solar maximum, this programme aimed to undertake research during a solar minimum

● **1964-74**

International Biological Programme – inspired by the IGY, this was a decadal effort to coordinate large-scale ecological and environmental studies.

● **1966**

Committee On Science & Technology in Developing Countries (COSTED) created (the precursor of the Regional Offices), **Committee on Data (CODATA) established**, **Scientific Committee on Solar-Terrestrial Physics (SCOSTEP) established**

● **1967**

Global Atmospheric Research Programme (GARP) (precursor of the World Climate Research Programme (WCRP)) founded (with the World Meteorological Organization (WMO))

● **1980**

WCRP succeeds GARP

● **1985**

The ICSU "Ringberg Conference" explores the future of science and ICSU's role in it. It calls for a broadening of the disciplines involved in ICSU's activities, specifically naming social scientists, engineers and medical scientists.

● **1985**

Villach meeting: The joint UNEP/WMO/ICSU conference "**International Assessment of the Role of Carbon Dioxide and of other Greenhouse Gases in Climate Variations and Associated Impacts**" is remembered as a turning point in creating global awareness of climate change.

● **1987**

Launch of the International Geosphere-Biosphere Programme (IGBP).

1991

Launch of the **Global Ocean Observing System (GOOS)** (with UNESCO IOC, WMO, UNEP)

1992

INASP created as the International Network for the Availability of Scientific Publications (with UNESCO, The World Academy of Sciences for the advancement of science in developing countries (TWAS) and the American Association for the Advancement of Science (AAAS))

1992

Global Climate Observing System (GCOS) launched (with WMO, UNESCO IOC, UNEP)

1996

International Human Dimensions Programme (IHDP) created – co-sponsored by ICSU-ISSC, based on ISSC's HDP created in 1990. ICSU becomes a co-sponsor of DIVERSITAS.

1996

Global Terrestrial Observing System (GTOS) created (with WMO, UNESCO, UNEP, FAO)

2002-07

Regional Offices established in Africa, Asia & Pacific, Latin America & Caribbean

2007-08

Fourth International Polar Year

2008

Launch of Integrated Research on Disaster Risk (IRDR, with ISSC and UNISDR) and of the **World Data System (WDS)**

2011

Launch of Health and Wellbeing in the Changing Urban Environment (with the UN University (UNU) and the InterAcademy Panel (IAP))

2012

Launch of Future Earth as a merger of IGBP, IHDP and DIVERSITAS

2014

Launch of the International Network on Government Science Advice (INGSA)

2015

Launch of the "Science International" partnership with ISSC, IAP and TWAS

2017

Members vote overwhelmingly for a merger of ICSU and ISSC

2018

ICSU and ISSC merge to become the International Science Council (ISC)



STRATEGIC PLANNING

STRATEGY DEVELOPMENT

At the joint meeting of ICSU and ISSC in Taipei in October 2017, the members of the two Councils approved the high-level strategy of the new organization, the International Science Council. This strategy was the fruit of an intense period of development, exploration, consultation and drafting that lasted from the beginning of the year right through to the Taipei meetings.

The development process started with a high-level meeting of scientists and experts in Paris in January 2017 to discuss the future strategic orientation of a proposed new organization. The workshop, which kicked off with a lively discussion on opportunities and challenges facing the new body, was followed by a meeting of the Strategy Working Group. In the wake of these meetings, several rounds of feedback from members and the Council's executive bodies gave rise to a final document that would be discussed and approved at the General Assemblies of the two Councils in Taipei.

The strategy emphasizes that the importance of scientific understanding to society has never been greater, as humanity grapples with the challenges of living sustainably and equitably on planet Earth. It stakes out a space for the Council to defend the inherent value and values of all science at a time when it has become harder for the scientific voice to be heard. It will strengthen international, interdisciplinary collaboration and support scientists to contribute solutions to complex and pressing matters of global public concern. It will advise decision makers and practitioners on the use of science in achieving ambitious agendas such as the Sustainable Development Goals (SDGs) adopted by world leaders in 2015. And it will encourage open public engagement with science.

The vision of the new Council, as stated in the High-Level Strategy, is to advance science as a global public good. Scientific



knowledge, data and expertise must be universally accessible and their benefits universally shared. The practice of science must be inclusive and equitable, also in opportunities for scientific education and capacity development.

According to its mission statement, the new Council will act as the global voice of science. That voice will:

- Speak for the value of all science and the need for evidence-informed understanding and decision-making;
- Stimulate and support international scientific research and scholarship on major issues of global concern;
- Articulate scientific knowledge on such issues in the public domain;
- Promote the continued and equal advancement of scientific rigour, creativity and relevance in all parts of the world; and
- Defend the free and responsible practice of science.



TAIPEI MEETINGS

On 25-26 October, members of the International Council for Science (ICSU) and the International Social Science Council (ISSC) gathered for a Joint Meeting to vote on the proposed merger of the two organizations. Over the two days of intense discussions, members wrangled over, and debated, a number of contentious issues, notably on membership categories and voting procedures. At the end of the second day, members voted overwhelmingly (ICSU 97.6%, ISSC 90%) to merge and form the International Science Council in 2018.

The new organization will provide a strong foundation for advancing science across the disciplinary spectrum and in all parts of the world, and promoting its vital role in shaping humanity's future on planet Earth. The new organization will be called the International Science Council (ISC). It brings together the current members of ISSC and ICSU, including 40 international scientific unions and associations, and more than 140 national and regional organizations such as academies and research councils.

The International Science Council will be launched at a founding General Assembly to be held in Paris, France in July 2018. It will provide leadership in catalysing, incubating and coordinating international action on issues of major public concern.

The vote on 26 October paved the way for the start of the legal implementation phase which will involve the finalization of a merger treaty that establishes the name of the new body, its Statutes and its Rules of Procedure. Members of both Councils are expected to endorse this treaty in an electronic vote scheduled to take place in the first half of 2018, and a new, merged Secretariat will be put into place at ICSU's current headquarters in Paris.

MERGER TIMELINE

2015	Exchange of letters between the ISSC and ICSU Presidents on the future relationship between the two Councils
NOVEMBER 2015	Agreement reached on Terms of Reference for an ICSU-ISSC Working Group to explore closer institutional alignment, and possible amalgamation, between the two Councils.
JANUARY 2016	First meeting of the joint ICSU-ISSC Working Group
APRIL 2016	Executive bodies of ISSC and ICSU follow the Working Group's recommendation for the two Councils to merge, and recommend this course to the Council's members
JUNE 2016	Joint meeting of the ISSC and ICSU Executives
OCTOBER 2016	Joint ICSU/ISSC General Assembly decides in principle to pursue a merger
NOVEMBER 2016	Call for nominations for the Strategy Working Group and the Transition Task Force





DECEMBER 2016 Strategy Working Group and Transition Task Force appointed by the Executives of ICSU and ISSC

FEBRUARY 2017 Strategy Working Group and Transition Task Force meet

END FEBRUARY 2017 Draft strategy submitted to Executives

END MARCH 2017 Draft strategy submitted to ISSC and ICSU members

BY 15 MAY 2017 Members submit feedback on draft strategy

30-31 MAY 2017 Strategy Working Group meeting

JUNE 2017 Final strategy submitted to Executives of ISSC and ICSU

28-29 JUNE 2017 Joint meeting of the ICSU and ISSC Executives

JULY 2017 Final strategy and final outputs of the Transition Task Force submitted to members

23-26 OCTOBER 2017 32nd ICSU General Assembly and extraordinary ISSC General Assembly approve strategy and transition plans

3-5 JULY 2018 First General Assembly of the International Science Council (ISC)



Scenes from the ICSU General Assembly and the joint ICSU/ISSC meeting in Taipei



FORUM OF FUNDERS

While governments, through national research funding agencies, are still the main funders of public research, science philanthropy, private science foundations, and development aid agencies are playing an increasingly important role in complementing public funding. Both groups share a common interest in supporting science for the effective implementation of Agenda 2030. To facilitate strategic exchange and synergistic collaboration across different funding communities, in 2017, as part of the LIRA programme, ICSU has collaborated with Future Earth in facilitating discussions amongst a core group of representatives of these funding communities about the possible establishment of a regular Global Forum of Funders. Its purpose would be to promote strategic exchange and synergistic collaboration across different funding communities around a common interest in supporting science for the effective implementation of Agenda 2030.

Two meetings between representatives of funding agencies were facilitated by ICSU in 2017. The first one was held on 12 May 2017 at the United Nations Headquarters in New York and the second on 10 November 2017 in Sao Paulo, in conjunction with the Belmont Forum plenary. The key goals of these discussions

were to define the ambition for the strategic partnership and to discuss plans for an initial Global Forum of Funders. All participants agreed that efforts to build a global partnership among funding agencies should be pursued, as such a partnership could contribute to building a global movement for science for society. It would send a strong message to the world on the importance of defending the value of science and emphasizing the critical role it plays in generating the knowledge required for tackling global societal challenges. The new partnership would provide a space for sharing information and insight as well as helping to understand how different types of funders work. Furthermore, the opportunity of this partnership is to demonstrate that global collaboration is possible and can be of great impact, despite national, legal and financial constraints. The partnership could also help remove barriers to organizing research at a global level.

Partners agreed to hold a first Global Forum of Funders in 2019, with planning taking place in 2018.



INTERNATIONAL RESEARCH COLLABORATION



FUTURE EARTH

The ICSU President co-chaired the Governing Council of Future Earth in 2017 and oversaw a number of key developments in the governance arrangements of the initiative.

In June, Amy Luers was appointed Executive Director, and took up her role in September. Luers has over 20 years of experience working on sustainability at the intersection of science, technology and policy. She joined Future Earth from the Skoll Global Threats Fund, where she had directed the climate and water programmes.

In December, Future Earth announced plans to establish an Advisory Committee, chaired by Leena Srivastava and Johan Rockström. This committee replaces the Science and Engagement Committees that were active from 2014-2017 and will provide guidance around Future Earth research and engagement activities as the initiative enters the next phase in its evolution. Its membership will be drawn in part from members of the original Science and Engagement Committees and from additional selections based on nominations from the Governing Council.

ICSU has supported Future Earth through strategic interaction and engagement with the Knowledge-Action Networks (KANs) that the programme is forming.

For example, at the first-ever UN Ocean Conference in New York City, Future Earth launched the Ocean KAN, which issued a call for solution-driven research on the health of the world's seas.

Future Earth, on behalf of the Scientific and Technological Community Major Group and the International Council for Sci-

ence (ICSU), delivered a statement at the United Nations General Assembly, indicating how the research community can help the world to meet targets for a sustainable ocean. The statement emphasized that saving the ocean means understanding the “web of complex interactions” among a range of sustainability goals. In August, Future Earth brought together Global Research Projects, KANs and stakeholders at the International Conference on Sustainability Science (ICSS).

Participants in a workshop in Japan scoped the first steps for a new Knowledge-Action Network focusing on reducing risks from the impacts of climate change. This Risks KAN seeks to bring together diverse expertise and professional and local knowledge to reduce disaster risks on climate-related hazards – such as from floods, storms and dangerous heat waves. The network will focus particularly on the severe risks from multiple hazards, compound events and cascading impacts and on anticipating the disaster risks that emerge as environmental and climate change accelerate.

On 2-4 December 2017, the Institute of Urban Environment of the Chinese Academy of Sciences and ICSU through its Urban Health and Wellbeing Programme, organized the “Future Earth Health Knowledge-Action Network Workshop” in the city of Xiamen, China. Around 30 health experts, including those from ICSU's LIRA programme, city representatives and key actors of the urban health agenda, discussed the knowledge and actions needed for making cities healthier and more sustainable.

INTEGRATED RESEARCH ON DISASTER RISK (IRDR)

The year 2017 saw a large number of extreme weather events and disasters that served to confirm the trend of mounting disaster and climate risks. In this context, IRDR is intensifying its efforts in fostering integrated research, bridging science and policy, and building capacity to understand and mitigate disaster risk.

IRDR partnered with CODATA and Tonkin+Taylor to release a white paper on disaster loss data critical for accurate risk assessment and evidence-based disaster risk management policies. The white paper describes a standard framework and protocols for loss data collection systems. The IRDR data working group is also working towards strengthening data availability and the analysis of data to feed into the monitoring of the Sendai Framework targets. IRDR has played an important role in facilitating international collaboration in data management and data sharing. One example includes the timely provision of satellite data to help with damage and loss estimation in the wake of the 7.8-magnitude earthquake in Kaikoura, New Zealand in November 2016. IRDR and CODATA received a letter of thanks from the New Zealand government for their contribution.

ICSU worked with IRDR to publish a set of five policy briefs for the UNISDR Global Platform (22-26 May, Cancún), a biennial intergovernmental meeting where countries discuss the imple-

mentation of the Sendai Framework for Disaster Risk Reduction. The briefs covered the following topics: Science and technology capacities for implementing the Sendai Framework, disaster loss data, the understanding of the root causes of disasters, urban issues and DRR, and the coherence between Sendai, the Paris Agreement and the SDGs. ICSU and IRDR contributed to several sessions, notably on the role of science and technology in meeting the 2020 Sendai target to increase the number of countries with national and local disaster risk reduction strategies.

With the appointment of Qunli Han as Executive Director in September 2017, IRDR is looking to mobilize its network (and in particular its growing number of International Centres of Excellence) to strengthen integrated science on disaster risk and support a stronger science policy interface at national, regional and global levels. The ICSU President Gordon McBean and IRDR Chair Shuaib Lwasa both wrote on the need for integrated and transdisciplinary science to support evidence-based risk reduction strategies in Elsevier's 2017 Global Outlook on Disaster Science.

In response to an expression of interest from the Future Earth community to develop a new activity on disaster risk, ICSU brought together Future Earth, IRDR and the World Climate Research Programme (WCRP) to explore the feasibility of developing a KAN focusing on the intersection of hazards and disasters, weather and climate extremes, sustainability and Earth system sciences as a jointly-led initiative. An initial scoping meeting took place in Tokyo in November and the three programmes hope to launch the KAN in 2018.





Young people cruise the streets of Ho Chi Minh City (formerly Saigon) in Vietnam

URBAN HEALTH AND WELLBEING (UHWB)

In 2017 the programme on Urban Health and Wellbeing focused its activities on networking, capacity building, outreach, co-organizing science conferences and aiming at demonstrating how a systems approach can be applied and implemented.

Together with Lausanne University a MOOC (Massive Open Online Course) proposal 'A Systems Approach to Urban Health and Wellbeing' was developed. This is designed to introduce participants to a transdisciplinary systems approach for understanding, modelling and solving the interconnected problems and opportunities of urban health and wellbeing in the context of planetary health. The course will be delivered as a self-paced online, open course hosted on UN Environment's SDG Campus platform. The intended audience includes urban planners, health development professionals and government officials. The course will focus on methods for tackling complexities – of human ecology, health and behaviour – and provide frameworks that synthesize the ecosystems approach with approaches to human well-being and urban health. A systems approach to urban health in action has been demonstrated and applied through collaboration with Resilience Brokers and the Beirut-Arab University (BAU), which culminated in two workshops aimed at defining priorities for urban health in the city of Beirut and applying a systems tool to identify the interconnectedness of 'urban green and walkability' in Beirut and entry points for action.

The International Conference for Urban Health 2017 in Coimbra, Portugal was co-organized by the UHWB programme, with about twenty contributions from members, partners and sponsors, either in the form of papers, panel discussions, poster presentations or keynote speeches.

The UHWB programme also increased efforts to link its work with that of the Health, Urban and Risk Knowledge-Action Networks (KANs) of the Future Earth programme. The Urban Health KAN meeting organized in Xiamen provided a regional base to engage with the priority themes identified by the Future Earth Health KAN, particularly in the urban context. The San Salvadorian Urban Health Model was presented by Manuel Limonta, Director of the ICSU Regional Office for Latin America and the Caribbean, as a successful example for implementing a systems approach.

GRANTS PROGRAMME

Following a recommendation from ICSU's 2014 External Review, the Council relaunched its grants programme in 2016 to foster collaborative science among scientific Unions and to encourage high-level international initiatives led by Unions.

The new grants programme is intended to foster membership engagement by addressing long-standing priorities for ICSU members in developing science education, outreach and public engagement activities, and to mobilize resources for international scientific collaboration. The Grants Programme is competitive and peer-reviewed. Proposals must be led jointly by

at least two ICSU Scientific Unions, and are required to focus on innovative, international and multidisciplinary work that supports ICSU's strategic priorities. Three grants of up to 300,000 € each (100,000 per annum for up to three years) were made available for the 2016-2019 period.

Applications representing collaboration across a total of 58 institutions were received and reviewed by ICSU's Committee on Scientific Planning and Review (CSPR). A final decision to award was made in early 2017 and the following three consortia were selected:

IMU/IUPAC: A Global Approach to the Gender Gap in Mathematical and Natural Sciences: How to Measure It, How to Reduce It?

Mathematical and natural sciences have long and honourable traditions of participation by highly creative women contributors. However, the percentages of women scientists remain shockingly low and there is a significant gender gap at all levels between women and men. Barriers to achievement by women persist, especially in developing countries. The project will produce sound data to support the choices of interventions that ICSU and member unions can feasibly undertake. It will provide evidence for informed decisions, including trends – since the situation for women continues to change around the world, with some negative developments – and will provide easy access to materials proven to be useful in encouraging girls and young women to study and work in these fields. Regional information about careers, jobs and salaries will be provided. A joint global survey is planned to reach 45,000 respondents in more than 130 countries using at least 10 languages, while the joint study on publication patterns will analyse comprehensive metadata sources corresponding to publications of more than 500,000 scientists since 1970. Contrasts and common ground across regions and cultures, less developed and highly developed countries, men and women, mathematical and natural sciences, will be identified.

IUBS-INQUA: Trans-disciplinary Research Oriented Pedagogy for Improving Climate Studies and Understanding (TROP-ICSU)

Understanding the dynamics of Earth's ecosystem and identifying measures to sustain it for the future requires immediate action involving multidisciplinary approaches. Research efforts to identify key factors that affect the biodiversity and ecosystem functions and services need to be scaled up substantially and rapidly, requiring a whole new generation of multidisciplinary scientists/policy makers/administrators, whose education

should begin now. Educating forthcoming generations about the causes and effects of global climate change is also imperative as implementing solutions depends on an informed public. In this context, we need to develop education and science communication modules such that every future citizen can be better equipped to identify appropriate solutions for sustainable and equitable development.

This project aims to identify, through a consultative mechanism, the most relevant curricula and efficient pedagogical tools, and outreach and citizen science programmes to study the impact of climate change on biodiversity and ecosystem functions and services and human health and diseases; and ways to address these problems in the coming years.

The uniqueness of this proposal lies in its focus on those education and citizen-science modules that are locally rooted yet globally relevant. The sponsors of the project envisage developing on-line learning materials such as lectures (videos embedded with animations), interactive exhibitions/museums, mobile apps, etc.

IUPAP-IUCR: Utilisation of Light Source and Crystallographic Sciences to Facilitate the Enhancement of Knowledge and Improve the Economic and Social Conditions in Targeted Regions of the World

This project will enhance advanced light source (AdLS) and crystallographic sciences in three global regions (Africa, the Middle East, Mexico and the Caribbean) by developing regional plans to grow and enhance understanding of light source techniques and crystallography in these regions.

The project aims to accomplish the following: **1** develop a Strategic Plan for each region to grow and enhance its AdLS and crystallography user communities; **2** establish a Colloquium Programme for each region to recruit new AdLS and crystallography users; **3** publish an Information Brochure that describes AdLSs, crystallography, and the many fields that they impact; **4** facilitate researchers' visits to AdLS and crystallography facilities; and **5** convene a meeting at UNESCO Headquarters to present the regions' Strategic Plans and define the charge for more detailed Business Plans that include feasibility studies of constructing AdLSs in regions where they do not yet exist. By enhancing AdLS and crystallographic sciences, the regions' people will benefit from research that will tackle such devastating viruses as Zika, Ebola and HIV. Furthermore, the regions contain important archeological and paleontological treasures to be explored by the beams from AdLSs.



SCIENCE FOR POLICY

A GUIDE TO SDG INTERACTIONS: FROM SCIENCE TO IMPLEMENTATION

ICSU published a flagship report in May 2017 entitled: “A Guide to SDG Interactions: from Science to Implementation” as a follow up to its 2015 report reviewing SDG targets. The report is aimed at focusing attention from both the scientific and policy communities on the need to better understand how the SDGs fit together, in order to achieve sustainable and long-lasting development outcomes. It is essentially a tool to structure a much-needed conversation between science and policy on how the SDGs can mutually support or may detract from one another, and the key role that integrated science and coherent policy-making have to play in the implementation of the SDGs, at both global and national levels.

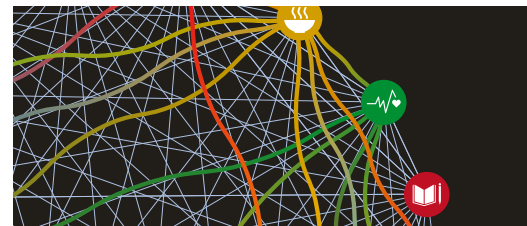
The report presents a framework that is built around a seven-point scale that characterizes the range of positive and negative interactions that can occur across goals and targets, from one goal counteracting for or even cancelling another to one creating the conditions for or even being indispensable to the achievement of another. While rating the goals on a scale gives useful insight into understanding interactions, it is important to note that the extent to which goals and targets support or conflict with one another will depend on the local context and a range of other dimensions such as geography, governance arrangements, technology, and change over time. The report includes detailed analysis of four SDGs and their interactions with other goals: SDG2: Zero Hunger, SDG3: Good Health and Well-being, SDG7: Affordable and Clean Energy, and SDG14: Life below Water.

The report is authored by 22 scientists from eight research institutions: the Institute for Advanced Sustainability Studies (IASS), the Kiel-based Future Ocean cluster, the International Food Policy Research Institute (IFPRI), the French National Research Institute for Sustainable Development (IRD), the International Institute for Applied Systems Analysis (IIASA), Monash University, the New Zealand Centre for Sustainable Cities, and the Stockholm Environment Institute (SEI). The report was reviewed by around 50 scientists from the ICSU network prior to publication.

The report was praised as a major contribution to the SDGs for countries to better understand the policy implications of the SDGs. It was presented in numerous fora throughout the year,

including the STI Forum (15-16 May), the UN Ocean conference (5-9 June) and the High Level Political Forum (10-19 July). It has also been positively received by the scientific community as an analytical tool for bringing about interdisciplinary conversations across the SDGs domain and inspiring further research at both conceptual and empirical levels. The United Nations has also used the framework as a reference to collect scientific evidence on SDG interactions for the 2019 Global Sustainable Development Report.

The report has received extensive media coverage, including on the World Economic Forum blog, United Nations website, T20 Blog feeding into the G20 summit, Project Syndicate, IISD – SDG Knowledge Hub, and has been referenced by many institutions, including the OECD.



A GUIDE TO
SDG INTERACTIONS:
FROM SCIENCE
TO IMPLEMENTATION



Above: Cover of the new report.

Right: An illustration of the key interactions between SDG14: Life below Water and other Goals.

→ Download the new report at:
<http://bitly.com/sdg-interactions-guide>





STI FORUM

The Second Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals (STI Forum) was held in New York on 15-16 May 2017. The meeting was co-chaired by Macharia Kamau, the Permanent Representative of Kenya to the United Nations, and Vaughan Turekian, the Science and Technology Adviser to the US Secretary of State of the United States of America. The theme of the 2017 Forum was “Science, Technology and Innovation for a Changing World”. It focused on six of the SDGs: 1, 2, 3, 5, 9 and 14. The STI Forum is an element of the UN’s Technology Facilitation Mechanism and aims to promote networking and matchmaking between the policy-makers and the roughly 400 scientists, innovators, entrepreneurs and civil society representatives participating in the meeting.

ICSU played a prominent role in representing science at the forum, highlighting its work at the science-policy interface and its new initiatives, notably in the areas of funding research for the SDGs and open data for sustainable development.

ICSU Executive Director Heide Hackmann participated in the Forum as the co-chair of the 10-Member Group representing civil society, the private sector and the scientific community and supporting the UN in the preparations of the STI Forum.

She moderated a session on “Lessons learned in improving the impact of STI on the SDGs”, which included a discussion about efficient science advisory systems for the SDGs, featuring Peter Gluckman, Chair of the International Network for Government Science Advice (INGSA). In another session that discussed the means of implementation of the Technology Facilitation Mechanism, Heide Hackmann introduced ICSU’s new initiative to bring together the different science funding communities in support of research funding for the SDGs.

HABITAT III FOLLOW-UP

At the UN’s Habitat III summit in October 2016, ICSU played a key role in convening the scientific community and providing a platform for its engagement around the urban future. With its co-sponsored programmes, it advocated for a strong role for science in the New Urban Agenda, the outcome document of the conference, which aims in turn to support the implementation of Sustainable Development Goal 11 on cities.

In 2016, ICSU had joined the Research & Academia group of the General Assembly of Partners (GAP, the stakeholder platform for engagement across the New Urban Agenda). In 2017, ICSU worked with the group to institutionalize the GAP – providing input on its internal governance structures and making sure there is a role for the scientific community in the preparation of the 2018 World Urban Forum.

Since Habitat III, the scientific community has continued to further support the global urban agenda. The need for systematic, practical and evidence-based guidance for national, regional and local public and private decision-makers about sustainable urban development has grown dramatically in the wake of several important global agreements that emphasize the importance of cities and urbanization.

In 2017, ICSU continued to support science as a partner for the urban future. To advance the development of more integrated and policy-engaged research on cities, ICSU is represented on an Expert Panel on the urban science-policy interface for global sustainability – spearheaded by Nature Sustainability and the City Leadership Lab at University College London. The Panel aims to review the interface between urban science (broadly construed across STEM, social science and humanities) and policy. It will assess the viability of forging a more cohesive body of urban expertise in relation to the challenges of Agenda 2030 and SDG 11.

ICSU's Urban Health and Wellbeing Programme co-sponsored and co-organized the 14th International Conference on Urban Health, held in Coimbra, Portugal. With close to 4000 participants, the conference focused on improving the health of people living in cities worldwide and implementation of the New Urban Agenda. ICSU also supported the participation of LIRA grantees.

ICSU AND CLIMATE CHANGE

On 10 November 2017, ICSU, together with the World Climate Research Programme (WCRP), co-organized a science event during COP23 in Bonn on climate change and habitability limits. The discussion was moderated by Martin Visbeck, member of both WCRP Joint Scientific Committee (JSC) and ICSU's Committee on Scientific Planning and Review (CSPR).

Speakers presented the latest scientific insight into the impact of climate change on the human and natural environment. They gave examples where climate change impacts push some of our planet's regions to the limits of habitability. A discussion

took place on socio-economic implications of climate extremes and associated risks to human health, terrestrial ecosystems, transport infrastructures and ocean acidification, among others.

Participants concluded that despite recent advances, there remains further work to be done for science, in particular to enable the evaluation of impacts of different scenarios, which can inform climate-related decisions in the larger context of sustainable development. Speakers emphasized the relevance of continuous and systematic observations on the status of the climate, as well as free, open data and information sharing from these observing networks.

During 2017, the Intergovernmental Panel on Climate Change (IPCC) issued calls for authors to contribute to special reports on the “Ocean and Cryosphere in a Changing Climate” and “Climate Change and Land”, as well as for the IPCC Sixth Assessment Report. ICSU invited its membership to nominate representatives to be part of these processes. As a result, several representatives from the ICSU scientific community were selected to participate.



Martin Visbeck at the ICSU/WCRP side event during COP23



UNIVERSALITY OF SCIENCE



"Truth for Giulio" - A silent vigil in Cambridge for Giulio Regeni

FREEDOM AND RESPONSIBILITY (CFRS)

The Committee on Freedom and Responsibility in the conduct of Science, CFRS, is ICSU's custodian of the Principle of Universality of Science, which supports scientists' freedom of movement, association, expression and communication, and promotes equitable and non-discriminatory access to science.

In 2017, the committee was concerned with a wide variety of generic issues including boycotts, censorship, disruptions to academic lessons on university grounds, and travel bans as well as prosecutions of individual scientists whose human rights are violated as a result of their carrying out their research activities. The committee paid special attention to the responsibilities for individuals and institutions around conducting fieldwork in risky settings.

THE FUTURE OF THE UNIVERSALITY OF SCIENCE

The committee held a session at the 2017 World Science Forum in Jordan on "The Future of the Universality of Science". The aims of this session were: to raise awareness of the Principle; to discuss key issues in Freedom and Responsibility; to highlight

key priorities for the future; and to endorse the message of the Principle in the declaration on the last day of the forum. The session was well attended and highlighted the ongoing relevance of the Principle of Universality of Science in the world today. The Principle was endorsed as part of the forum's 2017 Declaration.

RESPONSIBILITY FOR FIELDWORK RESEARCHERS

PhD student Giulio Regeni was killed in Egypt whilst he was carrying out fieldwork as part of his studies at the University of Cambridge. This incident prompted CFRS to write an advisory note on the importance of institutional and individual support for appropriate training for scientists doing fieldwork in risky situations. The advisory note "Responsibilities for Preventing, Avoiding, and Mitigating Harm to Researchers Undertaking Fieldwork in Risky Settings" was published in September 2017.

INDIVIDUAL CASES

The Committee considers cases in which violation of the Principle of Universality of Science is the main issue. In 2017, the committee considered 14 cases where the rights and freedom of individual scientists to conduct their work may have been restricted.

With a State of Emergency remaining in place in Turkey, travel restrictions have been imposed on thousands of higher education personnel, for example through the invalidation of

passports. CFRS has worked closely with global human rights and related networks in monitoring developments in the research and scholarly communities of Turkey.

The committee has also been following a group of scientists from the Bahá'í faith who were arrested in Iran in 2008 for their positions in the community and given 20-year prison sentences. These sentences have subsequently been reduced to 10 years. This year two of the scientists, Mahvash Sabet and Fariba Kamalabadi, have been released after completing their sentences. Two others among the Bahá'í community leaders arrested in 2008 are still in prison.

WORKING WITH THE REGIONS

REGIONAL OFFICE FOR ASIA AND THE PACIFIC

Among the highlights of 2017 was the renewal of ICSU's agreement with the Malaysian government for a further five years, meaning that the Regional Office for Asia and the Pacific (ICSU ROAP) will continue to be hosted by the Academy of Sciences Malaysia until 2021.

Professor Emerita Mazlan Othman was appointed as the new Director, an outstanding scientist with an impressive track record. Othman has a history of working in the advancement of science and has a distinguished career which includes Director of the United Nations Office for Outer Space Affairs from 2010 to 2014, and founding Director-General of ANGKASA, the Malaysian National Space Agency, from 2002 to 2007. She took up the ICSU ROAP Director's role in September 2017.

The Regional Committee for Asia Pacific, which provides scientific advice and support, held two meetings. During one of those meetings, in Hong Kong, committee members had the opportunity to engage with the Regional Committee of the Digital Belt and Road Programme led by the Chinese Academy of Sciences.

An ongoing theme of work is natural hazards and disaster risk. During 2017, the Integrated Research on Disaster Risk International Centre of Excellence Taipei (IRDR ICOE-Taipei), organized two Advanced Institutes (AIs). The purpose of such institutes is to provide early to mid-career practitioners, researchers and policy makers in the region with enhanced understanding, skills and practical knowledge in disaster risk reduction. Following each AI, participants were invited to submit a multi-country, multi-disciplinary research project

for seed grants funded by IRDR ICOE-Taipei. In addition, ROAP's Steering Group on Natural Hazards and Disaster Risks (SGNHDR) continues to actively promote the scientific study of natural hazards and risk in the region through members' participation and contribution at key international events, as well as side meetings with national research institutes and organizations.

On Urban Health and Wellbeing, ICSU ROAP's Science Planning Group on Epigenetics produced an interdisciplinary science plan on the consequences of rapid urbanization and its effects on epigenetics. The Group also organized seminars with local universities in Cambodia and Sri Lanka as part of efforts to promote the awareness and the importance of epigenetics in understanding urban health.

This year the INGSA Asia Chapter was established, to be based in the ROAP office. This follows the first INGSA capacity building workshop in the region. ROAP will continue to support INGSA's objective to enhance the global science-policy interface and improve the use of evidence-based policy formulation at both national and transnational levels through workshops and fora.



Director of the ICSU Regional Office
for Asia and the Pacific

A global approach to the gender gap in the natural sciences and mathematics: How to measure it, and how to reduce it? workshop in El Salvador

REGIONAL OFFICE FOR LATIN AMERICA AND THE CARIBBEAN

The Regional Office for Latin America and the Caribbean (ICSU ROLAC) took part in a wide range of meetings and activities as part of its mandate to represent the International Council for Science in the region. In 2017, it organized and attended a number of workshops and activities related to the main areas of work in the region, such as open data, disaster risk reduction, urban health, science advice and mathematics. Examples of these were the Fifth Regional Platform for Disaster Risk Reduction in the Americas in Canada and an INGA Science Advice Workshop in Jamaica.

Another area of focus for the office is outreach. Among the outreach-related activities of 2017 where regional office staff took part were a Science, Technology and Innovation Workshop in Trinidad and Tobago, a workshop on Project Management and Scientific Collaboration in El Salvador, the TWAS-TYAN Young Scientists Conference (Brazil), a meeting of Ministers of



Science and Technology of the OAS in Colombia, the XI Belmont Forum Plenary Week (Brazil) and the TWAS General Assembly Meeting in Italy.

REGIONAL OFFICE FOR AFRICA

An important focus for the Regional Office for Africa (ICSU ROA) in 2017 was its work towards the finalization of its updated Science Plans. The African Science Plans Steering Committee (ASPSC) held its 3rd Meeting in Maputo, Mozambique to discuss implementation issues and the roll-out of projects which will flow from the plans.

ICSU ROA also continued to support the activities of the INGA-African Chapter, which was very active in 2017. Members of the INGA-Africa Steering Committee participated in a workshop organized by INGA, FRC Quebec, and the Academy of Science and Letters of Senegal in Dakar, Senegal to scope potential Francophone members for the committee.

Above: 22nd Regional Committee Meeting in El Salvador
Below: At the LIRA 2030 TD training



The Steering Committee convened a training event for the 2016/17 Fellows cohort of the African Science Leadership Programme (ASLP) of the University of Pretoria, as well as a strategy retreat in Kampala, Uganda to provide inputs to the revised Terms of Reference of INGSA Regional Chapters and draw up a plan of activities and deliverables for the period until December 2018. The Committee also organized a capacity-building workshop during the 13th Annual Meeting of African Science Academies in Abuja, Nigeria for Academies of Science in Africa and LIRA 2030 grantees.

The 18th and 19th meetings of the ICSU Regional Committee for Africa (RCA) were held in Lusaka, Zambia and Durban, South Africa in March and September 2018 respectively. These meetings were each followed by a one-day science seminar.

A Proposal Writing Workshop was held in December 2017, in Johannesburg, South Africa, attended by 38 scientists from the four ICSU ROA thematic areas. The participants sought to develop project proposals based on the concepts and pillars agreed on from the revised Africa Science Plans in Maputo in February 2017.

LIRA2030

Leading Integrated Research for Agenda 2030 in Africa (LIRA2030 Africa) aims to develop the potential of next-generation scientists in Africa to produce and communicate integrated policy-relevant knowledge. In 2017, the programme entered its second year.

To achieve its goals, the LIRA programme provides capacity-building activities as well as two-year grants to support integrated (inter- and trans-disciplinary) research by engaging different disciplines and non-academic partners (i.e. civil society, policy makers, and the private sector) in the research process. LIRA2030 Africa is being delivered by the Council together with its Regional Office for Africa (ICSU ROA), the Network of African Science Academies (NASAC) and the International Social Science Council (ISSC).

In 2017, nine collaborative research projects across Africa were awarded grants of 90 000 Euros each over two years to build understanding of the “energy–health–natural disasters” nexus in African cities. These projects aim to generate place-based knowledge that can help address the major challenges facing African cities. These challenges include mitigating health risks caused by air pollution and floods, providing decentralized water treatment for local communities, co-designing energy services with local communities, and many more. The projects bring together early-career scientists from several countries

across the region Africa, including the Democratic Republic of Congo, Cameroon, Kenya, Ethiopia, Tanzania, Malawi, Uganda, South Africa, Rwanda, Nigeria, Senegal, Côte d’Ivoire and Zambia.

LIRA2030 provided a number of scientific leadership opportunities for the early-career scientists that were awarded grants in 2017, for example by inviting LIRA grantees to present at international events, including the 32nd ICSU General Assembly in Taipei and the International Trans-disciplinary Conference at the Leuphana University of Lüneburg, Germany, and others.

Representatives of LIRA projects met at the LIRA Annual Research Forum in Abuja, Nigeria to share their experiences in practising trans-disciplinary (TD) research across the African continent, to foster collaboration and knowledge exchange across LIRA projects and to connect with major ICSU co-sponsored programmes such as IRDR and UHW (Urban Health and Well-being). As part of this Forum, representatives of LIRA projects received training on science advice to governments at events held by INGSA and hosted by the Nigerian Academy of Science.

In 2017, ICSU launched the second call for pre-proposals to identify research projects in Africa that explore the development of new approaches and strategies towards the innovative re-thinking of urban futures in the region – in partnership with local authorities, industry, communities and government.

Following the call, over 130 collaborative pre-proposals were submitted, of which 31 were selected and their authors invited to attend a five-day training workshop on trans-disciplinary research at Makerere University, Kampala, Uganda. 31 early-career scientists from 15 different countries across Africa attended, and represented different disciplines, universities and communities of practice. The workshop aimed to: strengthen scientific capacity to undertake trans-disciplinary research; enable researchers to build meaningful inter- and trans-disciplinary projects; strengthen science communication skills; and support the development of full proposals.

Subsequent to the training, researchers were invited to submit full proposals, which were reviewed by external experts and the LIRA Scientific Advisory Committee (SAC). In February 2018, the members of the LIRA SAC met at the National Commission for Science and Technology of Malawi and selected 11 collaborative projects for funding, as listed below.

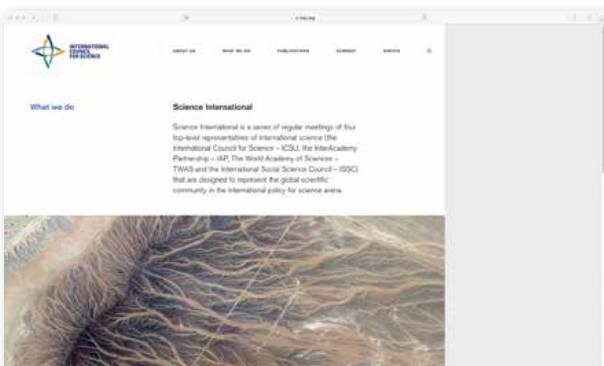
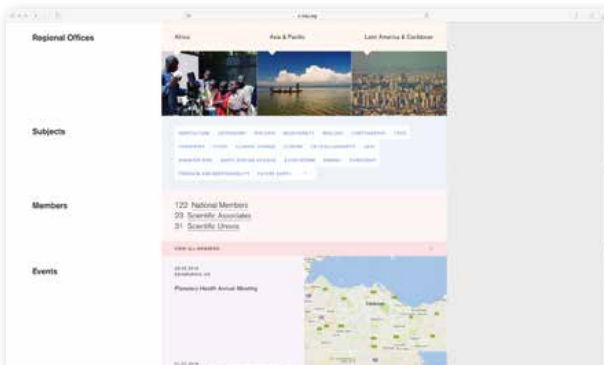
Throughout the year 2017, ICSU continued to build new partnerships around the LIRA programme. The Robert Bosch Foundation has agreed to provide financial support for a project coaching workshop for early-career scientists to ensure the successful implementation of projects supported by the LIRA programme.

PRINCIPAL INVESTIGATOR	TITLE OF THE PROJECT	COUNTRIES INVOLVED IN THE PROJECT	INSTITUTION OF THE PI
Simiyu Sheillah	Management of shared sanitation facilities in informal settlements of Kisumu, Kenya and Kumasi, Ghana	Kenya, Ghana	Great Lakes University of Kisumu, Kenya
Tolu Oni	Integration of housing and health policies for inclusive, sustainable African cities	South Africa, Cameroon	University of Cape Town, South Africa
Justin Visagie	Realising the potential of urban density to create more prosperous and liveable informal settlements in Africa	South Africa, Angola	Human Sciences Research Council, South Africa
Peter Elias	Standardising City-Level Data-Gathering towards Achieving Sustainable Development Goal 11 in Africa (SCiLeD)	Nigeria, Ghana	University of Lagos, Nigeria
Phumlani Stanley Nkontwana	Bridging Decentralized Energy Planning with Neighbourhood-level Innovations in Cities of Africa: Case Studies from Ghana and South Africa	South Africa, Ghana	Stellenbosch University, South Africa
Buyana Kareem	Co-Creating an Urban Framework for Localised Norms on Sustainable Energy	Kenya, Uganda	Makerere University, Uganda
Madelein Stoffberg	Community led upgrading of informal settlements	Namibia, Zambia	Namibia University of Science and Technology
Safiétou Sanfo	Green Spaces and Repurposing Waste: Building Capacities for Resilience in Urban and Periurban West Africa	Burkina Faso, Ghana	WASCAL, Burkina Faso
Alice McClure	Transforming southern African cities in a changing climate	South Africa, Zimbabwe	Climate Systems Analysis Group, University of Cape Town, South Africa
Lwetoijera Dickson Wilson	Integrating sustainable water and sanitation solutions to create safer, more inclusive and climate resilient cities in Tanzania and South Africa	Tanzania, South Africa	Ifakara Health Institute, Tanzania
Sylvia Croese	Co-producing urban knowledge in Angola and Mozambique through community-led data collection: towards meeting SDG 11	Angola, Mozambique	University of Cape Town, South Africa

INGSA

During 2017, the International Network for Government Science Advice (INGSA) sought to increase its involvement in the regions. Following the creation of a regional chapter in Africa, regional chapters were established for Latin America and the Caribbean, and Asia and the Pacific. The three are coordinated by the respective ICSU regional offices, and their aim is to strengthen science advisory capacity in developing countries by raising awareness, sharing knowledge and practices, supporting training, and research.

ICSU and INGSA successfully applied for funding to the International Development Research Center (IDRC) for a three-year project aiming to create the competencies and conditions for better use of science-based evidence to inform public policy, especially around the SDGs. As part of this project, INGSA will run regional workshops, training, and provide research grants.



COMMUNICATIONS

In 2017, ICSU launched a fully redesigned website that is faster, mobile-friendly and more intuitive to use than the previous one. It has a number of features designed to make navigating the site easier and enable users to get more quickly to the content they are looking for. One is the new search function, which not only works better than before - it also makes suggestions as you are typing to access overview pages relating to specific topics. These topic pages represent an entirely new way to access ICSU's diverse range of publications and other content.

The new website also integrates more deeply than before the work of the ICSU Regional Offices and features this work on the homepage, whereas previously it was hidden on a sub-section of the website.

With its publications, ICSU is moving to a digital-first paradigm. Whereas before, reports were available only as downloadable PDFs, browsable online publications are now being created, making it easier for users to access the sections most relevant to them, and doing so across devices. The first report to be published in this way was the Annual Report for 2016. In the Current, Events and Publications sections, visitors can now filter content by region, topic, type and date.

In line with web design trends, the new website is much more visual than the previous one and allows much better use to be made of photography. It structures the content more clearly, giving a better sense of the Council's core activities and successes.

In 2018, this website will be repurposed to serve as the website of the new International Science Council, following the merger of ICSU and ISSC in July.

Another major project in 2017 was work on the graphic and visual aspects of the new SDGs flagship report. The report was praised for its innovative look and feel. The visuals and infographics for the report were produced by a team of designers, coordinated by the ICSU communications team.

In June, ICSU hosted for the first time a two-day communications workshop involving participants from all ICSU Regional Offices. Participants discussed the different challenges of raising awareness for ICSU's work in the regions, exchanged best practices and worked together to familiarize themselves with the possibilities provided by the new website. The use of social media tools as a way of reaching audiences in the regions was also discussed.

Screenshots of the new ICSU website



Local host

Colombia

IUFRO

BUGS

ADMINISTRATION AND GOVERNANCE

PAST OFFICERS AND DIRECTORS OF ICSU

PRESIDENTS

- 2014-2018 Gordon McBean
- 2011-2014 LEE Yuan-Tseh
- 2008-2011 Catherine Bréchignac
- 2005-2008 Goverdhan Mehta
- 2002-2005 Jane Lubchenco
- 1999-2002 Hiroyuki Yoshikawa
- 1996-1999 Werner Arber
- 1993-1996 James Clement Dooge
- 1988-1993 Mambillikalathil Govind Kumar “M. G. K.” Menon
- 1983-1988 John Cowdery Kendrew
- 1980-1983 Daniel Adzei Bekoe (Ghana)
- 1978-1980 Cornelis de Jager (Netherlands)
- 1976-1978 Brunó Ferenc Straub (Hungary)
- 1974-1976 Harris Brown (USA)
- 1972-1974 Jean Coulomb (France)
- 1968-1972 Victor A. Ambartsumian (USSR)
- 1966-1968 James Merritt Harrison (Canada)
- 1963-1966 H W Thompson (UK)
- 1962-1963 Sven Hörstadius (Sweden)
- 1961-1962 Edgar William Richard Steacie (Canada)
- 1958-1961 Rudolph Peters (UK)
- 1955-1958 Lloyd Viel Berkner (USA)
- 1952-1955 Bertil Lindblad (Sweden)
- 1949-1952 Alexander von Mural (Switzerland)
- 1946-1949 John Ambrose Fleming (USA)
- 1945-1946 Hugo Rudolph Kruyt (Netherlands)
- 1937-1945 C Fabry (France)
- 1937 Niels Erik Nørlund (Denmark)
- 1931-1934 George Ellery Hale (USA)

SECRETARIES GENERAL

- 2011-2018 David Black (Australia)
- 2008-2011 Maurice Tchuenta (Cameroon)
- 2002-2008 Ana María Cetto (Mexico)

- 1996-2002 H.A. Mooney (USA)
- 1993-1996 L.J. Cohen (UK)
- 1988-1993 J W M La Riviere (Netherlands)
- 1982-1988 L Ernstner (Sweden)
- 1980-1982 James Clement Dooge (Ireland)
- 1974-1980 John Cowdery Kendrew (UK)
- 1970-1974 F A Stafleu (Netherlands)
- 1966-1970 K Chandrasekharan (India)
- 1963-1966 D Blaskovic (Czechoslovakia)
- 1961-1963 J van Mieghem (Belgium)
- 1958-1961 N Herlofson (Sweden)
- 1956-1958 H Spencer Jones (UK)
- 1952-1956 A V Hill (UK)
- 1937-1952 F J M Stratton (UK)
- 1931-1937 H Lyons (UK)

EXECUTIVE DIRECTORS

- 2015-2018 Heide Hackmann
- 2014-2015 Peter Liss (interim)
- 2012-2014 Steven Wilson
- 2009-2012 Deliang Chen
- 2002-2009 Thomas Rosswall
- 2000-2002 Larry Kohler
- 1998-2000 J.F. Stuyck-Taillandier
- 1992-1997 J Marton Lefevre

EXECUTIVE SECRETARIES

- 1989-1992 J Marton Lefevre
- 1966-1986 F.W.G. Baker
- 1964-1965 Mr. A.E. Decae

ADMINISTRATIVE SECRETARIES

- 1954-1960 Ronald Fraser

EXECUTIVE BOARD 2014–2018



Gordon McBean
President



David Black
Secretary-General



Yuan-Tseh Lee
Past-President



Jinghai Li Vice-President for
Scientific Planning and Review



Michael Clegg Vice-Presi-
dent for External Relations



Barbara Erazmus
Treasurer



Daya Reddy
President-Elect

FROM UNION MEMBERS



Orhan Altan



John Buckeridge



Manuel de Léon



Cheryl de la Rey

FROM NATIONAL MEMBERS



John Ball
(United Kingdom)



Raghavendra Gadagkar
(India)



Nicole Moreau
(France)



Kazuyuki Tatsumi
(Japan)

FINANCIAL SUMMARY

STATEMENT OF INCOME AND EXPENDITURE

International Council for Science (ICSU) for the period 1 January to 31 December 2017

Income	Euros
Membership dues	
Members	2 418 997
Scientific Unions	172 153
Scientific Associates	12 000
Provision Arrears	81 919
National Member support for GA / Dev. Countries travel	40 000
NSF support for WCRP	67 151
Grants from NSF	316 772
NSF dedicated funds at the end of previous years	275 743
France	100 000
TAIPEI grant for ICOE	-
Taipei dedicated funds at the end of previous years	660 057
SIDA Grant for LIRA activities	504 607
SIDA dedicated funds at the end of previous year	839 984
BOSCH for LIRA Programme	35 000
IDRC funds for INGSA	233 533
Other income	1 590
Cancellation other provision	10 025
Investment income	89 782
Total income	5 859 313
Expenditure	Euros
Governance meetings	172 045
Policy committees	143 093
International Programme & Interdisciplinary Bodies	1 365 760
Policy Activities & Fora	40 465
Capacity Development & Early Career Science activities	1 308 214
International Events	43 863
Other Review response actions & New Initiatives	34 954
Membership	313 530
Regional Offices	233 305
Outreach	138 710
Human resources	2 086 471
Administration / Overheads	161 821
Contingency/Provision	-
Loss on arrears	1 688
Loss on exchange	9 223
Investment charges & losses*	22 317
Total expenditure	6 075 459
Excess of expenditure over income	-216 146

BALANCE SHEET

International Council for Science (ICSU) for the period 1 January to 31 December 2017

Assets	Euros
Bank & cash balances	2.112.280
Marketable securities	2.270.769
NSF & UNESCO, funds for IRDR & RIO+20	-
Others assets	66.833
Fixed assets	6.760
Total assets	4.456.642
Liabilities	Euros
External funds allocated	827.895
Sundry creditors & accruals	480.021
Provision / Retirement	218.404
Total liabilities	1.526.320
Reserves	Euros
Mandatory reserve	1.500.000
General fund / Retained earnings	1.646.468
Total reserves	3.146.468
Net Result	-216.146

* Including provision for unrealized losses on Portfolio for a total amount of 5,9K €

SECRETARIAT

MANAGEMENT

Heide Hackmann Executive Director
Charles Erkelens Operations Director
Lucilla Spini Head of Science Programmes
Clare Thirlway Head of Human Resources
Denise Young Head of Communications

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Katsia Paulavets Science Officer
Rohini Rao (to 30/09/2017) Administrative Officer
Anne-Sophie Stevance Science Officer
Irene Schöfberger (maternity cover, from 10/07/2017 to 08/12/2017)
 Science Officer

SCIENTIFIC PLANNING AND SPECIAL PROJECTS

Maureen Brennan Administrative Officer
Charles Ebikeme Science Officer

COMMUNICATION AND INFORMATION TECHNOLOGY

Yun-Kang Ahn IT Officer
Johannes Mengel Online Editor/Communications Officer
Victoria Yates (sabbatical cover, from 19/06/2017 to 22/12/2017)
 Social Media / Web Editor

ADMINISTRATIVE STAFF

Alexandra Guennec Payroll and HR Administration Officer
Eric Leparmentier General Services
Natacha de Marchi Accountant
Arno De Marchi Accounts/Administrative Assistant
Nora Papp Administrative Officer
Miia Ylöstalo-Joubert (from 06/06/2017) Administrative Officer

COMMITTEE ON FREEDOM AND RESPONSIBILITY IN THE CONDUCT OF SCIENCE

Roger Ridley Executive Secretary CFRS (on secondment by and based at the Royal Society of New Zealand)

REGIONAL OFFICE FOR AFRICA

Daniel Nyanganyura Director
Richard Glover Programme Specialist in Biological Sciences
Bongani Mahlalela Communications Officer
Lerato P Mmatloa Administrative Assistant
Nomasomi Gasa (from 14/02/2017) Project Coordinator
Hanna McCallum (from 09/2017) Intern

REGIONAL OFFICE FOR ASIA AND THE PACIFIC

Mazlan Othman (from 01/09/2017) Director
Tengku Sharizad Tengku Dahlan Senior Science Officer
Mohd Hizamddin Jaafar (to 16/07/2017) Administrative Officer
Ahmad Sufyan Mohamed Aslam (from 24/01/2017) Science Officer

REGIONAL OFFICE FOR LATIN AMERICA AND THE CARIBBEAN

Manuel Limonta Director
Karla Rodriguez Administrative Officer
Claudia Marroquín Liaison Officer
Oscar Reyes Communications Officer

NATIONAL MEMBERS

ICSU has 122 National Members covering 142 countries. These Members provide input, from a national, multidisciplinary perspective, on priority areas for future ICSU activities. They also play an important role in facilitating links with national governments and science agencies. The majority of ICSU National Members are scientific academies, although some are national funding agencies or other nationally representative science bodies.

- Albania** Academy of Sciences
- Angola** Foundation of Science and Development
- Argentina** National Scientific and Technological Research Council (CONICET)
- Armenia** National Academy of Sciences of the Republic of Armenia
- Australia** Australian Academy of Science
- Austria** Die Österreichische Akademie der Wissenschaften
- Azerbaijan**** Azerbaijan National Academy of Sciences
- Bangladesh** Bangladesh Academy of Sciences
- Belarus**** National Academy of Sciences (NASB)
- Belgium** Royal Academies for Science and the Arts of Belgium (RASAB)
- Bolivia**** Academia Nacional de Ciencias de Bolivia (ANCB)
- Bosnia & Herzegovina** ANUBiH Academy of Sciences and Arts of Bosnia & Herzegovina
ANURS Academy of Sciences and Arts of the Republic of Srpska
- Botswana**** Ministry of Infrastructure Science and Technology
- Brazil** Academia Brasileira de Ciências (ABC)
- Bulgaria** Bulgarian Academy of Sciences (BAS)
- Burkina Faso**** Centre National de la Recherche Scientifique et Technologique
- Cameroon** Cameroon Academy of Sciences
- Canada** National Research Council of Canada
- Caribbean*** Caribbean Academy of Sciences (CAS)
- Chile** Academia Chilena de Ciencias
- China** CAST China Association for Science and Technology (CAST)
- China** Taipei Academy of Sciences located in Taipei
- Colombia** Academia Colombiana de Ciencias Exactas, Físicas y Naturales
- Costa Rica** Academia Nacional de Ciencias
- Côte d'Ivoire**** Académie des Sciences, des Arts, des Cultures d'Afrique et des Diasporas Africaines (ASCAD)
- Cuba** Academia de Ciencias de Cuba
- Czech Republic** Academy of Sciences of the Czech Republic
- Denmark** Royal Danish Academy of Sciences and Letters
- Dominican Republic** Academy of Sciences of the Dominican Republic
- Egypt** Academy of Scientific Research and Technology (ASRT)
- El Salvador** Vice Ministry of Science and Technology
- Estonia** Estonian Academy of Sciences
- Ethiopia**** Ethiopian Science and Technology Agency
- Finland** Delegation of the Finnish Academies of Science and Letters
- France** Académie des Sciences
- Georgia*** Georgian Academy of Sciences
- Germany** Deutsche Forschungsgemeinschaft (DFG)
- Ghana**** Ghana Academy of Arts & Sciences
- Greece** Academy of Athens
- Guatemala*** Academia de Ciencias Médicas Físicas y Naturales de Guatemala
- Honduras** National Academy of Sciences of Honduras
- Hungary** Hungarian Academy of Sciences
- India** Indian National Science Academy
- Indonesia** Indonesian Institute of Sciences (LIPI)
- Iran, Islamic Republic of** University of Tehran
- Iraq** Ministry of Science and Technology
- Ireland** Royal Irish Academy
- Israel** Israel Academy of Sciences and Humanities
- Italy** Consiglio Nazionale delle Ricerche
- Jamaica**** Scientific Research Council
- Japan** Science Council of Japan
- Jordan** Royal Scientific Society
- Kazakhstan*** National Academy of Sciences of the Republic of Kazakhstan
- Kenya** Kenya National Academy of Sciences
- Korea, Democratic People's Republic of**** State Academy of Sciences
- Korea, Republic of** National Academy of Sciences of the Republic of Korea
- Lao People's Democratic Republic**** Lao National Science Council
- Latvia** Latvian Academy of Sciences
- Lebanon**** National Council for Scientific Research
- Lesotho**** Department of Science and Technology
- Lithuania** Lithuanian Academy of Sciences
- Luxembourg** Fonds National de la Recherche
- Macedonia, Former Yugoslav Republic of**** Macedonian Academy of Sciences and Arts
- Madagascar*** Ministère de l'Enseignement Supérieur et de la Recherche Scientifique
- Malawi** National Research Council of Malawi
- Malaysia** Academy of Sciences Malaysia
- Mauritius** Mauritius Research Council
- Mexico** Academia Mexicana de Ciencias

- Moldova** Academy of Sciences of Moldova
- Monaco, Principality of** Centre Scientifique de Monaco
- Mongolia**** Mongolian Academy of Sciences
- Montenegro** Montenegrin Academy of Sciences and Arts
- Morocco**** Centre National de la Recherche Scientifique et Technique
- Mozambique**** Scientific Research Association of Mozambique (AICIMO)
- Namibia** Ministry of Education: Directorate of Research, Science and Technology
- Nepal**** Royal Nepal Academy of Science and Technology
- Netherlands** Koninklijke Nederlandse Akademie van Wetenschappen
- New Zealand** Royal Society of New Zealand
- Nigeria** Nigerian Academy of Science
- Norway** Norwegian Academy of Sciences and Letters
- Oman, Sultanate of** Research Council of Oman
- Pakistan**** Pakistan Association for the Advancement of Science
- Panama** Universidad de Panama
- Peru** Academia Nacional de Ciencias
- Philippines** National Research Council
- Poland** Polish Academy of Sciences
- Portugal**** Academia das Ciencias de Lisboa
- Romania** Academia Română
- Russian Federation** Russian Academy of Sciences
- Rwanda**** Kigali Institute of Science and Technology (KIST), Rwanda
- Saudi Arabia, Kingdom of**** King Abdulaziz City for Science and Technology (KACST)
- Senegal**** Association des Chercheurs Sénégalais
- Serbia** Serbian Academy of Sciences and Arts
- Seychelles**** Seychelles Centre for Marine Research and Technology
- Singapore** Singapore National Academy of Science
- Slovak Republic** Slovak Academy of Sciences
- Slovenia*** Slovenian Academy of Sciences and Arts
- South Africa** National Research Foundation (NRF)
- South Pacific** University of the South Pacific
- Spain** Ministerio de Ciencia y Innovación
- Sri Lanka** National Science Foundation
- Sudan, Republic of**** National Centre for Research
- Swaziland**** National Research Council
- Sweden** Royal Swedish Academy of Sciences
- Switzerland** Swiss Academy of Sciences
- Tajikistan**** Academy of Sciences of the Republic of Tajikistan
- Tanzania, United Republic of**** Tanzania Commission for S&T
- Thailand** National Research Council of Thailand
- Togo**** Chancellerie des Universités du Togo
- Tunisia*** Université Tunis El Manar
- Turkey**** Scientific and Technical Research Council of Turkey
- Uganda**** Uganda National Council for Science and Technology (UNCST)
- Ukraine** National Academy of Sciences
- United Kingdom** Royal Society
- United States** National Academy of Sciences
- Uruguay** Comisión Consejo Nacional de Innovación Ciencia y Tecnología (CONICYT)
- Uzbekistan, Republic of**** Uzbekistan Academy of Sciences
- Vatican City State**** Pontificia Academia Scientiarum
- Venezuela**** Fondo Nacional de Ciencia, Tecnología e Innovación
- Vietnam**** Vietnam Union of Science and Technology Associations
- Zambia**** Zambia Academy of Sciences
- Zimbabwe** Research Council of Zimbabwe
- *National Associate
- **National Observer

SCIENTIFIC UNIONS

The 31 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.

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

*Scientific Union Observer

INTERDISCIPLINARY BODIES

THEMATIC BODIES

- COSPAR** Committee on Space Research
- IRDR** Integrated Research on Disaster Risk
- SCAR** Scientific Committee on Antarctic Research
- SCOR** Scientific Committee on Oceanic Research
- SCOSTEP** Scientific Committee on Solar-Terrestrial Physics
- Urban Health**

GLOBAL ENVIRONMENTAL CHANGE PROGRAMMES

- Future Earth: Research for Global Sustainability**
- WCRP** World Climate Research Programme

MONITORING/OBSERVATION BODIES

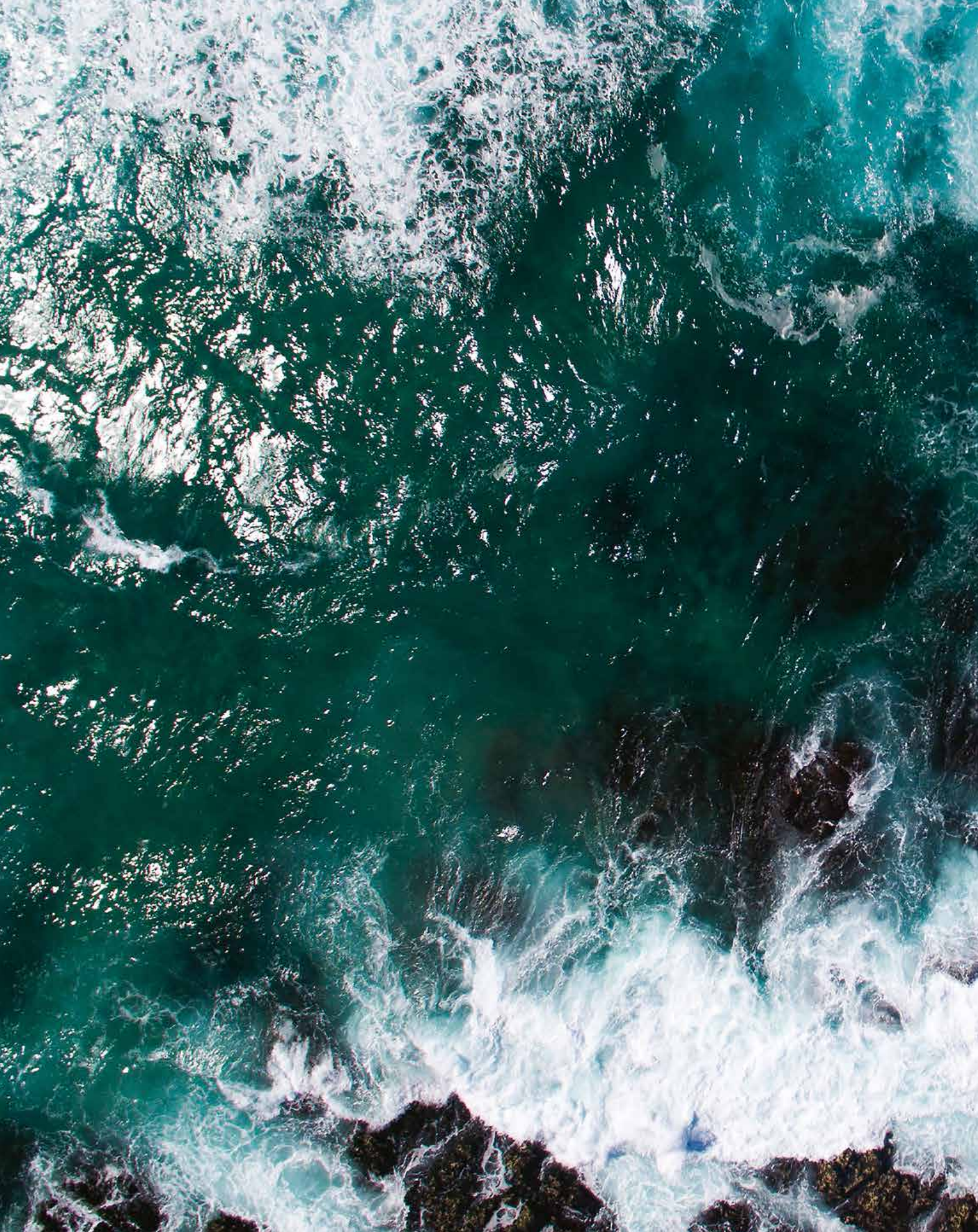
- GCOS** Global Climate Observing System
- GOOS** Global Ocean Observing System
- GTOS** Global Terrestrial Observing System

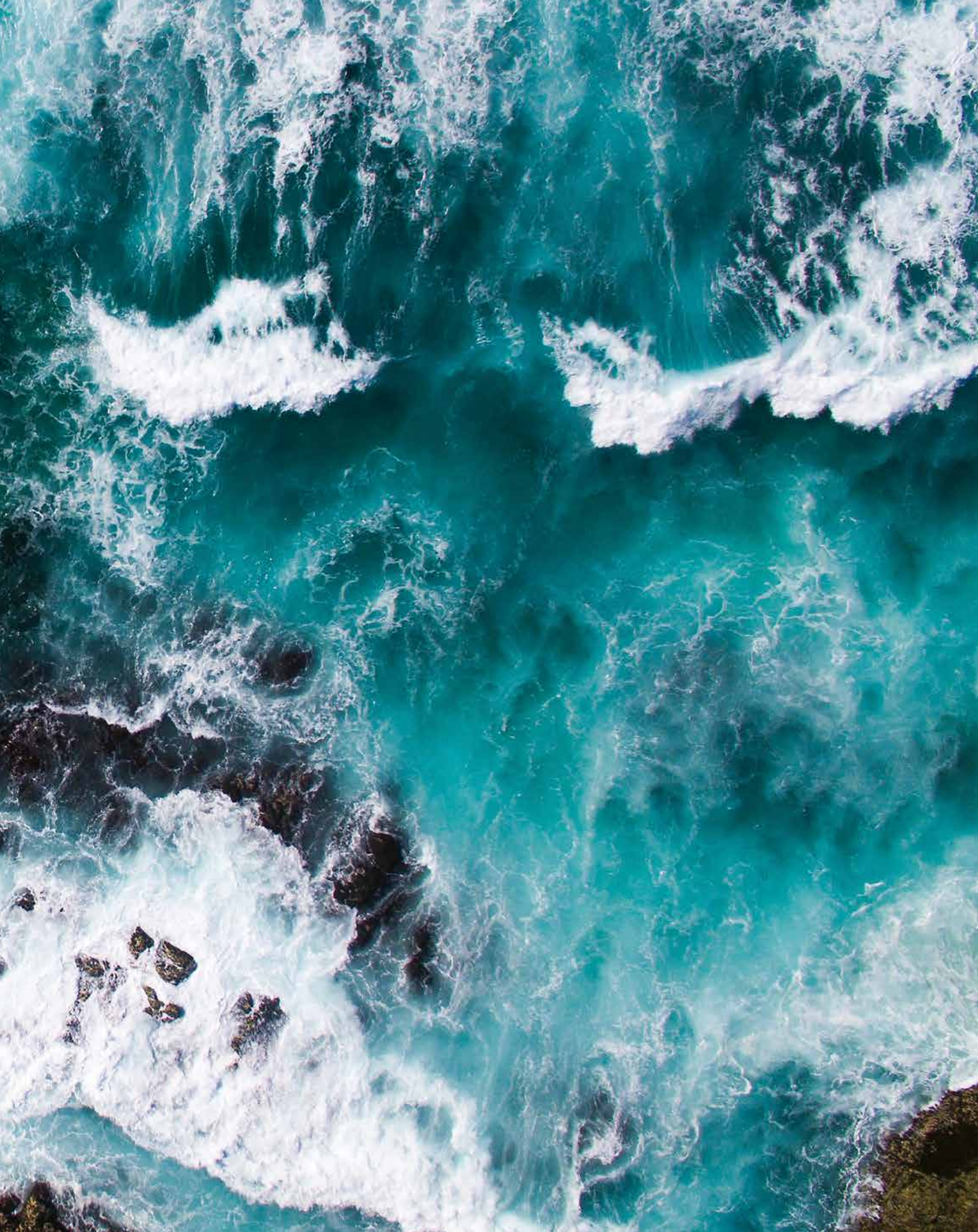
DATA AND INFORMATION BODIES

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

SCIENTIFIC ASSOCIATES

- AAS** African Academy of Sciences
- AASSA** Association of Academies and Societies of Sciences in Asia
- CIE** Commission Internationale de l'Eclairage
- IASC** International Arctic Science Committee
- IAHR** International Association of Hydraulic Engineering and Research
- ICA** International Commission for Acoustics
- ICO** International Commission for Optics
- ICIAM** International Council for Industrial and Applied Mathematics
- ICLAS** International Council for Laboratory Animal Science
- ICSTI** International Council for Scientific and Technical Information
- IFIP** International Federation for Information Processing
- IFLA** International Federation of Library Associations and Institutions
- FIG** International Federation of Surveyors
- IFS** International Foundation for Science
- IIASA** International Institute for Applied Systems Analysis
- ISDE** International Society for Digital Earth
- IUVSTA** International Union for Vacuum Science,
Technique and Applications
- IWA** International Water Association
- PSA** Pacific Science Association
- 4S** Society for Social Studies of Science
- TWAS** The World Academy of Sciences
- UIS** Union Internationale de Spéléologie





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