

## UNESCO ADVANCING SCIENCE FOR PEACE AND SUSTAINABLE DEVELOPMENT

UNESCO, since 1945, has promoted the advancement of science and its applications to develop knowledge and capacity, key to economic and social progress and the basis for peace and sustainable development. Within the context of its intergovernmental mandate and universal membership it has focused its work in science on issues of global concern requiring multinational collaboration such as in the fields of freshwater resource management, ocean health, natural disaster reduction, biodiversity loss, and capacity building in science, technology and innovation. Science, to build peace and to respond to international development goals, continues to be of key concern.

UNESCO's work in science covers two broad areas – promoting science, technology and innovation and using science to manage the environment in a sustainable way including the ocean, freshwater, and the Earth's natural resources, ecosystems and biodiversity. To build a sustainable future, programmes also focus on engineering and renewable energy as well as protecting communities through using scientific knowledge for natural disaster reduction and through promoting science education. The contribution of indigenous knowledge systems to helping us build a sustainable future and the needs of small island developing states is also of particular focus. Integrating the needs of Africa and promoting gender equality are overall priorities.

UNESCO acts as an advocate for science, a platform for generating and sharing ideas and standard setting, and promotes dialogue between scientists and policy-makers. It empowers and catalyses innovative initiatives in the field of international cooperation in science, in particular through networks and capacity building.

### Organizational Structure of the Natural Sciences Sector:

- Division of Science Policy and Capacity Building
- Division of Water Sciences
- Division of Ecological and Earth Sciences
- The Intergovernmental Oceanographic Commission
  
- *Cross-cutting Thematic Units:* Engineering, Biodiversity, Natural Disaster Reduction, Science Education

### UNESCO NATURAL SCIENCES SECTOR THEMES

#### Policy and governance

- Science, Technology and Innovation (STI) Policy and Reform
- Science Governance and Diplomacy
- Science Parks and Innovation

#### Science, technology and engineering

- Basic Sciences
- Engineering
- Renewable Energy
- Research for Health

#### Natural resources and the environment

- Freshwater
- The Ocean
- Ecological Sciences
- Earth Sciences

#### Global challenges

- Climate Change
- Water Crisis
- Natural Disasters
- Biodiversity Loss
- Energy Crisis

#### Focus on

- Africa
- Women and Gender Equality
- Small Island Developing States
- Local and Indigenous Knowledge Systems
- Youth

#### All themes contribute to

- Policy Advice and Formulation
- Capacity Building
- Science Education
- Decade of Education for Sustainable Development
- Popularization of Science



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The **Natural Sciences Sector**, with a staff of around 140, is led by the Assistant Director-General for Natural Sciences. The **Intergovernmental Oceanographic Commission (IOC)** is led by the Executive Secretary of IOC, the Assistant Director-General. Programmes and activities are implemented through UNESCO Headquarters and the UNESCO Field Office network. Around 27 of UNESCO's 57 Field offices have a specialist in science. UNESCO's science programmes are also advanced through its network of national commissions and its multiple networks and partners both in the public and private sectors.

In the period 2012-2013, as a follow-up of the United Nations Conference on Sustainable Development (Rio+20) in 2012, and in preparation for the post 2015 development agenda, UNESCO will focus on the growing importance of science, technology and innovation for sustainable development and interdisciplinary problem-oriented sustainability science to respond to the growing global challenges of environmental degradation, economic development and social inclusion. UNESCO has been asked to set up the Scientific Advisory Board to the UN Secretary-General and the UN system.

### INTERNATIONAL SCIENCE PROGRAMMES (ISPs)

- Intergovernmental Oceanographic Commission (IOC)
- International Hydrological Programme (IHP)
- Man and the Biosphere Programme (MAB)
- International Geosciences Programme (IGCP)
- International Basic Sciences Programme (IBSP)

### UNESCO INTERSECTORAL PLATFORMS LED BY THE NATURAL SCIENCES SECTOR

- UNESCO Action to Address Climate Change
- Mauritius Programme of Action for the Sustainable Development of Small Island Developing States

### ASSOCIATED INSTITUTES AND CENTRES

**Category 1 Institutes** are an integral part of UNESCO:

- The UNESCO-IHE Institute for Water Education, Delft, the Netherlands
- The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy

*The World Academy of Sciences (TWAS) in Trieste is affiliated to UNESCO.*

**Category 2 Centres** under the auspices of UNESCO:

- a network of around 40 centres in the fields of water, renewable energy, science policy, mathematics, physics, biotechnology, the geosciences and remote sensing augment the Regular Programme by carrying out capacity building in their specific areas of competence.

### UNESCO CHAIRS IN THE NATURAL SCIENCES

Around 200 of the university chairs in the UNESCO/UNITWIN chairs Programme are in science – in the fields of basic and engineering sciences, ecological and earth sciences, science policy and sustainable development, water and ocean sciences.

### UNESCO PRIZES and AWARDS IN THE NATURAL SCIENCES

#### Prizes

- Kalinga Prize for the Popularization of Science
- L'Oréal-UNESCO Prize "For Women in Science"
- Sultan Qaboos Prize for Environmental Preservation
- UNESCO-Equatorial Guinea International Prize for Research in the Life Sciences

#### Awards

- UNESCO-MAB Young Scientists Award
- Michel Batisse Award for Biosphere Reserve Management
- Mercosur Award in Science and Technology

### A LITTLE HISTORY

*The 'S' has been an integral part of UNESCO from its foundation in 1945. In its 65 years of existence, UNESCO has acted as a catalyst for the establishment of many, now leading scientific unions and bodies such as the International Union for Conservation of Nature (IUCN, 1948), and the European Organization for Nuclear Research (CERN, 1954) where the basis of the Internet was developed. Initiatives with far-reaching implications for sustainable human security and well-being – such as the International Hydrological Programme (IHP), the Intergovernmental Oceanographic Commission or the Man and the Biosphere Programme (MAB) – were launched in the first thirty years of UNESCO's history.*



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