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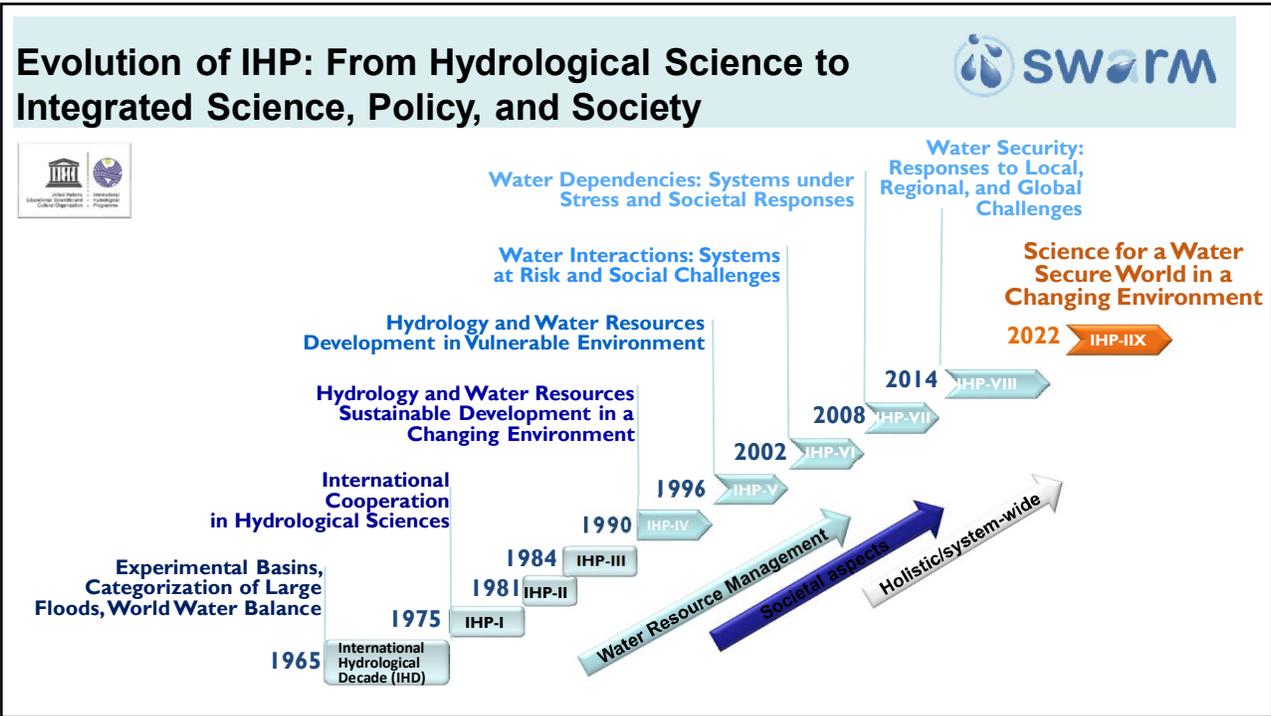


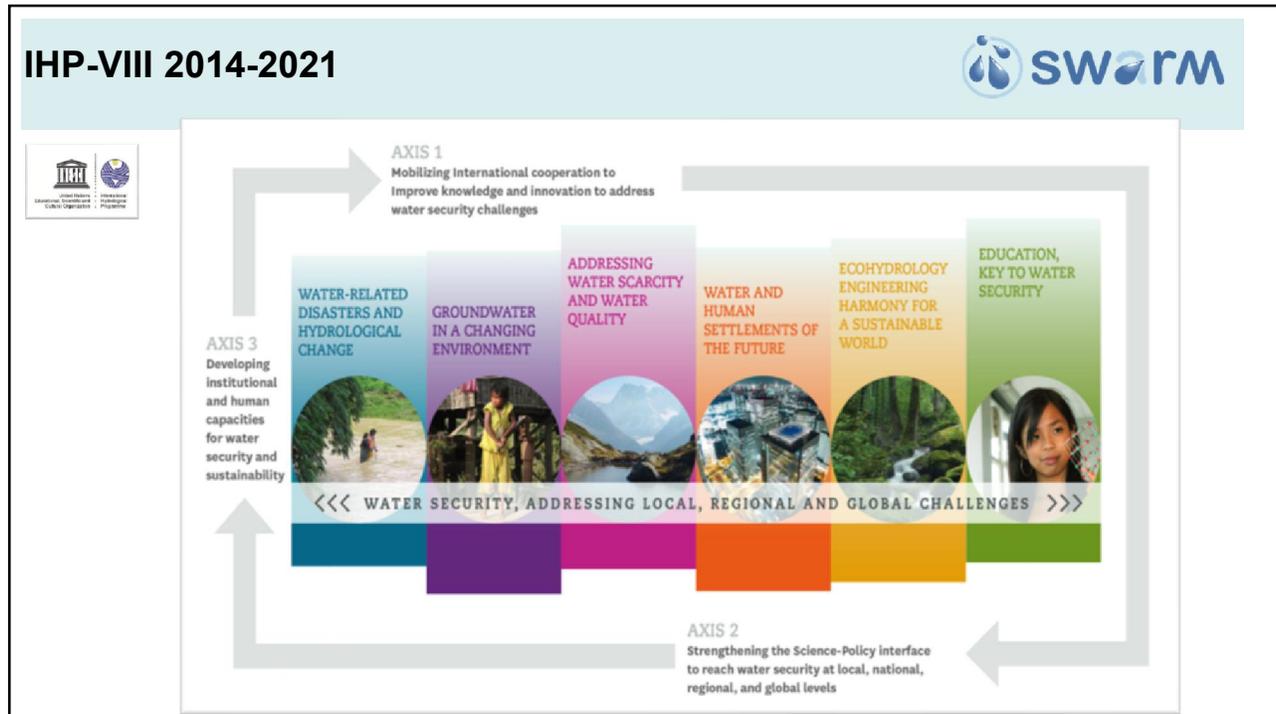
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UNESCO's Intergovernmental Hydrological Programme (IHP) Phase Nine (IHP IX): Priority Areas and the contribution of UNESCO Chairs



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IHP-IX 2022-2029



IHP Vision

IHP envisions a water secure world where people and institutions have adequate capacity and scientifically based knowledge for informed decision-making on water management and governance to attain sustainable development and to build resilient societies.

IHP IX mission

Our mission for the period 2022-2029 is to support the Member States to accelerate the implementation of water-related SDGs and other relevant agendas through water science and education in cooperation with partners and other UN agencies active in the water sector.

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Outcome and Priority Areas

Several challenges arise from achieving water security, which range from the effects of global change such as water-related disasters to operational aspects such as understanding the value of water as this is expressed by local water rates. The Intergovernmental Hydrological Programme's approach to these challenges is to expand the human potential, scientific base and knowledge at all levels to "understand the impacts of global changes on water systems and to link scientific conclusions to policies for promoting sustainable management of water resources"

- **Strategic Objective 1:** Ensure quality, equitable and inclusive education and promote lifelong learning opportunities for all, in order, inter alia, to reduce inequalities and promote learning and creative societies, particularly in the digital era.
- **Strategic Objective 2:** Work towards sustainable societies and protecting the environment through the promotion of science, technology, innovation and the natural heritage.

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Outcome and Priority Areas

Overall outcome: IHP will do so by providing support for its Member States to "practice and evidence-based water governance and management based on improved scientific data, research, knowledge, capacities and science-policy-society interfaces towards sustainable resilient societies".

The following performance indicators (PI) will be used to monitor progress towards the achievement of the desired Outcome:

- PI 1: Number of Member States/stakeholder use improved water science, research and apply the strengthened capacities to expand knowledge and better manage services and related risks at all levels
- PI 2: Number of Member States with enhanced water informal, formal and non-formal education at all levels
- PI 3: Number of Member States which use, develop and encourage scientific and quality-controlled data and knowledge to sustainably manage their water resources
- PI 4: Degree of integrated water resources management addressing global challenges practice by number of Member States
- PI 5: Degree of mechanisms, policies and tools based on science implementation to strengthen water governance for mitigation, adaptation and resilience by number of Member States

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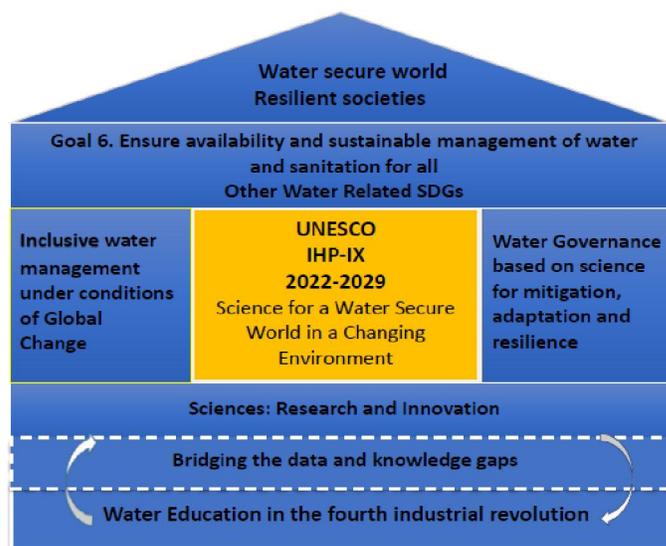


Priority areas

The IHP-IX priority areas, identified and elaborated by UNESCO's Member States, are presented as five transformative tools that will enable water security to sustain development in a changing world for the period 2022-2029:

1. Scientific Research and innovation
2. Water education in the Fourth Industrial Revolution including Sustainability
3. Bridging the data-knowledge gap
4. Inclusive water management under conditions of global change
5. Water governance based on science for mitigation, adaptation, and resilience

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Priority Area 1: Scientific research and innovation

The development of hydrological science and research has provided practical knowledge and information for society about water fluxes, transport and management, however ever increasing and uncertain environmental changes demands for a continued effort on research innovation and application. Scientific research incorporating human interactions with nature in the context of complex water sciences and management problems provide fundamental feedback for water resources management, along with the application of new tools, approaches and technologies.

By 2029, the Member States have the knowledge, sound scientific and research capacity, new and improved technologies, and the management skills that allow them to secure water resources for human development and healthy of ecosystems within a sustainable development context.

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Priority Area 2: Water Education in the Fourth Industrial Revolution including Sustainability

It is undeniable that the success of Agenda 2030 for Sustainable Development and water-related SDGs and associated targets depends on a profound transformation in human values and, consequently, human behaviour and actions, directly impacting how we live our lives. Achieving that end can only be envisioned when society recognizes the need to reintegrate itself with nature in ways that embrace a common understanding of the importance and limits of our natural resource base to improving our quality of life.

Water education at all levels for an improved water culture, in a context of global change, is undoubtedly a formidable tool for Member States to practice inclusive, evidence-based water governance and management in order to move towards resilient and sustainable societies. It is a tool that encourages the engagement of all sectors of society to adopt sustainable consumption and production patterns that are in tune with the regeneration pace of ecosystems.

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Priority Area 2: Water Education in the Fourth Industrial Revolution including Sustainability

Water education must therefore

- begin at an early stage in life and
- continue to be offered in a variety of ways

to build a water stewardship mentality at all ages and in all communities, awakening critical and emancipatory awareness in citizens in relation to their rights and duties so that they can be active citizens.

By 2029, a critical mass of decision makers, educators and citizens worldwide will be trained, have their awareness raised and their knowledge enriched on water related challenges and opportunities based on sound scientific and research information to facilitate sustainable water management and governance and governance.

Networks of scientists will be strengthened to develop and disseminate related material and conduct the training / raising aware sessions.

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Priority Area 3: Bridging the data-knowledge gap

Transparency and accessibility of data are among the main pillars that sustain the advancement of open science – a coming commitment of UNESCO. Hydrological measurements are essential for decision-making and sustainable water resources management. The absence or inaccessibility of comprehensive or long-term data about water quantity, quality, distribution, access, risks, use, etc. often leads to partial or ineffective management and investments. Therefore, both sufficient data and its accessibility need to be ensured and, in many cases, improved.

- The difficulty in collecting and understanding raw data and then applying it to a hydrological system in a decision context is often much more complex than initially contemplated.
- The gap between data and knowledge can only be bridged if data is collected in a transparent, comprehensible manner and can be scaled to the level of detail necessary to address specific issues.
- The challenge of data gathering, sharing, and interpretation becomes more complex when a water resource is transboundary.

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Priority Area 3: Bridging the data-knowledge gap

Bridging the data-knowledge gap asks for availability, intergration and processing of data from various disciplines and sources; IHP-IX will take a full use of data and knowledge repositories available within the UNESCO water family, such as a Global Groundwater Information System (GGIS, since 2004) developed at the International Groundwater Resources Assessment Centre (IGRAC), a Category 2 UNESCO centre.

By the year 2029, significant advances will have occurred in transparency, comparability and accessibility of water data, which made possible further development of open-access science platforms and generated facilitating instruments for integrated watershed management, for all water resources, including transboundary ones.

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Priority Area 4: Integrated water resources management under conditions of global change

Healthy rivers, lakes, wetlands, aquifers, and glaciers do not just supply safe drinking water, safeguard biodiversity and maintain all ecosystems on the planet; they also support agriculture, hydropower, industry, recreation, communications, and transportation of goods.

Global change is simultaneously a threat and an opportunity for integrated water management. Water management should

- be inclusive to strengthen all the mechanisms that enable the participation of all water stakeholders
- grantee water security while protecting water quality, the environmental flows and its ecosystems services, including all fresh water, all interests, all levels of government, and the widest possible range of relevant disciplines.

By 2029, most societies have managed to adapt to or mitigate water risks derived from, among others, climate change and the human factor, such as global pandemics, generating better participatory management practices and new opportunities for the future of our planet.

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Priority Area 5: Water Governance based on science for mitigation, adaptation, and resilience

Water governance:

- Refers to the political, social, economic, legal, and administrative systems in place that influence water's access and use, protection from pollution, and management in general.
- It determines the equity and efficiency in water resource and services allocation and distribution, and balances water use between socio-economic activities and the goods and services provided through ecosystem preservation.
- It includes formulation, establishment, and implementation of water policies, with clear and practical standards based on science, including water ethics, legislation and institutions, and the roles and responsibilities of all stakeholders.

By 2029, Member States use science-based tools, capacity and knowledge addressing adaptation and mitigation to climate change to significantly reduced water governance gaps.

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https://en.unesco.org/sites/default/files/3rd_order_draft_of_ihp-ix_31_jan_2021.pdf

