

Annex 1: UNESCO IHP

The UNESCO International Hydrological Programme (IHP) is the only intergovernmental programme of the UN system devoted to water research, water resources management, and education and capacity building. Since its inception in 1975, IHP has evolved from an internationally coordinated hydrological research programme into an encompassing, holistic programme to facilitate education and capacity building, and enhance water resources management and governance.

IHP facilitates an interdisciplinary and integrated approach to watershed and aquifer management, which incorporates the social dimension of water resources, and promotes and develops international research in hydrological and freshwater sciences. UNESCO's International Hydrological Programme, founded in 1975 and implemented in six-year programmatic time intervals or phases, is entering its eighth phase¹ to be implemented during the period 2014-2021.

The eighth phase (IHP-VIII) focuses on six thematic areas to assist Member States in their endeavor to better manage and secure water and to ensure the necessary human and institutional capacities. These eight themes are:

Theme 1: Water-related Disasters and Hydrological Changes

Theme 2: Groundwater in a Changing Environment

Theme 3: Addressing Water Scarcity and Quality

Theme 4: Water and Human Settlements of the Future

Theme 5: Ecohydrology, Engineering Harmony for a Sustainable World

Theme 6: Water Education, Key to Water Security

IHP Initiatives

IHP's two cross-cutting initiatives, FRIEND-Water and HELP, interact with all IHP themes through their operational concepts. IHP's associated initiatives cover projects and activities that contribute to the development and implementation of IHP themes, and are often interlinked with joint initiatives and interagency components. Below is a list of some of IHP's initiatives.

Flow Regimes from International Experimental and Network Data (FRIEND-Water)

(<http://en.unesco.org/themes/water-security/hydrology/programmes/friend>)

FRIEND-Water is an international research initiative that helps to set up regional networks for analyzing hydrological data through the exchange of data, knowledge and techniques at the regional level.

Groundwater Resources Assessment under the Pressures of Humanity and Climate Change (GRAPHIC) (<http://en.unesco.org/graphic>)

GRAPHIC is a UNESCO-led project seeking to improve our understanding of how groundwater interacts within the global water cycle, how it supports human activity and ecosystems, and how it responds to the complex dual pressures of human activity and climate change.

Hydrology for the Environment, Life and Policy (HELP) (<http://en.unesco.org/themes/water-security/hydrology/programmes/help>)

HELP is a new approach to integrated catchment management by building a framework for water law and policy experts, water resource managers and water scientists to work together on water-related problems.

¹ <http://en.unesco.org/themes/water-security/hydrology/IHP-VIII-water-security>

International Drought Initiative (IDI) (<http://en.unesco.org/themes/water-security/hydrology/programmes/droughts>)

IDI aims at providing a platform for networking and dissemination of knowledge and information between international entities that are active working on droughts.

International Flood Initiative (IFI) (<http://en.unesco.org/themes/water-security/hydrology/programmes/floods>)

IFI is an interagency initiative promoting an integrated approach to flood management which takes advantage of the benefits of floods and the use of flood plains, while reducing social, environmental and economic risks. Partners: the World Meteorological Organization (WMO), the United Nations University (UNU), the International Association of Hydrological Sciences (IAHS) and the International Strategy for Disaster Reduction (ISDR).

The International Initiative on Water Quality (IIWQ) (<http://en.unesco.org/waterquality-IIWQ>)

IIWQ is aimed at international scientific and policy cooperation to promote research, knowledge generation and dissemination, and effective and innovative policies to meet global water quality challenges in a holistic and collaborative manner towards ensuring water security for sustainable development.

International Sediment Initiative (ISI) (<http://en.unesco.org/themes/water-security/hydrology/programmes/sedimentation>)

ISI assesses erosion and sediment transport to marine, lake or reservoir environments aimed at the creation of a holistic approach for the remediation and conservation of surface waters, closely linking science with policy and management needs.

Integrated Water Resources Management (IWRM) (<http://en.unesco.org/themes/water-security/hydrology/programmes/iwrm>)

Implementing IWRM at the river basin level is an essential element to managing water resources more sustainably, leading to long-term social, economic and environmental benefits. UNESCO has published the “IWRM Guidelines at River Basin Level” and other tools to support IWRM implementation.

Joint International Isotope Hydrology Programme (JIIHP) (<http://en.unesco.org/themes/water-security/hydrology/programmes/jiihp>)

The JIIHP facilitates the integration of isotopes in hydrological practices through the development of tools, inclusion of isotope hydrology in university curricula and support to programmes in water resources using isotope techniques.

Urban Water Management Programme (UWMP) (<http://en.unesco.org/themes/water-security/hydrology/programmes/uwmp>)

UWMP generates approaches, tools and guidelines which will allow cities to improve their knowledge, as well as analysis of the urban water situation to draw up more effective urban water management strategies.

World Hydrogeological Map (WHYMAP) (<http://en.unesco.org/themes/water-security/hydrology/programmes/whymap>)

WHYMAP is an initiative to collect, collate and visualize hydrogeological information at the global scale to convey groundwater-related information in a way appropriate for global discussion on water issues.

Water Information Network System (IHP-WINS) (<https://en.unesco.org/ihp-wins/>)

The Water Information Network System is an open source and open access platform that combines geolocalized data. It was developed by UNESCO's International Hydrological Programme to serve as a global reference in the design and support of operations, management, and decision support functions for sound water resources governance. It is also designed to assist Member States in monitoring and implementing the Sustainable Development Goal to "ensure availability and sustainable management of water and sanitation for all" (SDG6).

UNESCO Activities on water in SIDS and coastal areas: some examples

Over the decades UNESCO has implemented many projects on water around the world. Below are a few examples of projects that may be of particular interest to Pacific stakeholders:

GRAPHIC Groundwater and Climate Change in Small Island Developing States (2015)

(<http://unesdoc.unesco.org/images/0023/002352/235228e.pdf>)

This brochure summarises the (I) current state of groundwater on SIDS, (II) potential impacts of climate change to groundwater on SIDS, and (III) importance of groundwater resources in climate change mitigation on SIDS.

Transboundary Aquifers and Groundwater in SIDS: main challenges (summary for policy makers)

(<https://www.un-igrac.org/sites/default/files/resources/files/TWAP%20-%20Summary%20for%20Policy%20Makers.pdf>)

The Groundwater component of the Transboundary Waters Assessment Programme (TWAP) deals with transboundary aquifers and with groundwater systems of Small Island Developing States (SIDS). It was executed by the UNESCO International Hydrological Programme (IHP) and represents the first structured baseline assessment of the state of 199 transboundary aquifers and 42 SIDS groundwater systems as a basis for periodic assessments and to develop scenarios of possible future developments.

Main Hydro(geo)logical Characteristics, Ecosystem Services and Drivers of Change of 26 Representative Mediterranean Groundwater-related Coastal Wetlands

(<http://unesdoc.unesco.org/images/0023/002352/235228e.pdf>)

Although not focused on SIDS, this publication summarises a preliminary assessment of 26 Mediterranean groundwater-related coastal wetlands, including: (1) the general geological and hydrogeological characteristics; (2) the status and evolution trends of the ecosystem services; (3) the drivers that induce changes in wetlands functioning.