IW:Science 'Enhancing the use of Science in International Waters projects to improve project results'

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1. First ever synopsis of the science behind the IW portfolio of projects to date according to transboundary IW system types; river basins, lakes, groundwater, the coastal zone & land-based pollution, and large marine ecosystems and the open ocean.

2. A systematic analysis of the IW portfolio and integrating knowledge from the wider scientific community with regards to critical emerging science issues, the application of science for adaptive management and the development and use of indicators to support IW projects

3. Creation of the IW:Science knowledge management system, a fully integrated relational database of IW documents and suite of learning network and communication tools. This powerful tool made the synopsis and analysis process of ca. 5,500 documents possible while capturing new knowledge and review insights of the scientific working groups.

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PROJECT OBJECTIVE

To enhance - through knowledge integration and information sharing tools - the use of science in the GEF IW focal area to strengthen priority setting, knowledge sharing and results-based, adaptive management in ongoing and future projects.

RESULTS:
IW:Science serves to enhance the use of science in International Waters projects in the role of a portfolio-wide learning initiative. With the goal to do this to improve project results across the IW portfolio it is these ongoing and future geographically focused projects that will see results such as stress reduction and water resource and environmental status.

As one of the learning initiatives within International Waters the IW:Science project was designed to conduct a review, analysis and synthesis of the science behind 20 years of IW projects. This was undertaken using an approach akin to the writing of the IPCC Assessment Reports of the Millennium Ecosystem Assessment. Five groups of scientists, comprising experts both within and external to the IW projects, were assembled according to their areas of expertise in the five GEF IW system types; River Basins, Lakes, Groundwater, Coastal Zone/Land-based Pollution Sources, and Large Marine Ecosystems and the Open Ocean. Both natural and social science expertise was considered when looking at the IW impact in the sustainable management of global transboundary water systems worldwide.

The five groups each reviewed the relevant segment of 20 years of IW projects to produce an IW system type Synopsis Report. These five Reports bring together the scientific underpinnings for the IW projects according to the group area of expertise; rivers, lakes, groundwater, coastal zone / land-based pollution sources, and large marine ecosystems / the open ocean.

Each group then used a common set of questions to conduct an analysis of the IW portfolio with regards to critical emerging science issues, the application of science for adaptive management and the development and use of indicators to support IW projects. A key component of this process was not only learning from the science and design within IW projects but also to bring in science understandings and good practices from the wider scientific community. This resulted in an additional five IW system type reports, termed Analysis Reports, from each group that built on the Synopsis findings and aim to provide assistance to GEF IW project design and implementation into the future.

The final stage, to be completed for the 6th GEF International Waters Conference, is the preparation of the Synthesis Reports. The core questions used in the Analysis process were designed to allow a synthesis of the findings from each IW system type group. The final reports are written in accordance with the analysis question themes; critical emerging science issues, the application of science for adaptive management and the development and use of indicators to support IW projects This aims to provide GEF with a portfolio-wide insight of the science behind 20 years of IW projects as well as what the scientific groups consider important lessons learned, current challenges and what they foresee for the future. A recommendation of the IW:Science Synthesis Group, the need for science advisory bodies in projects for the continual involvement of the scientific community both during and beyond the project as part of project design has already been taking up by GEFSec.

Supporting the review, synopsis and analysis process was the creation of the IW:Science knowledge management system (KMS). This saw the compilation of approximately 5,500 IW project documents and outputs into a relational database and made both entirely text searchable and retrievable by 70 fields of metadata categories. Integrated with the database were learning network and communication tools and an integrated electronic template to capture the efforts and insights of the working groups reviews. The KMS was built using the KIM-UNU software platform (Knowledge Integration and Management – United Nations University) which is also being implemented for managing information with the Lake Victoria Basin Commission, parts of the GEF Land Degradation focal area, the UN-Water Activity Information System on transboundary waters, Central and Western Africa river basins as well as some interest for land management approaches in the Western Asia, Northern Africa region and water data in the Arab region.

Indicators: The IW:Science project is a learning initiative that serves to increase understanding of the scientific underpinnings of IW projects and enhance such foundations into the future. Consequently the process, stress reduction and water resource & environmental status indicators are not directly applicable to the project. Results and targets for such indicators will be realized through improved design, implementation and results of projects benefitting from the findings of IW:Science.