

UNITED STATES INVOLVEMENT IN UNESCO'S INTERNATIONAL HYDROLOGICAL PROGRAM

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Water plays an indispensable role in man's existence, because human life thrives on water and is threatened by a shortage of it. The accelerating growth of human populations, the rapid advances made in industry and agriculture and the desire to secure higher standards of living have resulted in a rapidly increasing use of water by man, to the extent that the availability of water as well as the control of excessive water have become critical factors in the development of many regions of the world. Since the efficient development of water resources is a world-wide problem, international cooperation should be on a world-wide scale. People concerned with specific problems in one part of the world should be able to benefit by the knowledge gained in any other part of the world. In order to encourage and promote the necessary international cooperation in the field of hydrology, the International Hydrological Decade (IHD) was organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO). It was initiated on January 1, 1965 and extended through 1974. The IHD was very successful and UNESCO decided to continue providing support for the global cooperative spirit that was generated by continuing the effort as the International Hydrological Program (IHP). The IHP has operated continuously since 1974 in a series of six-year phases. Each phase has been planned around a central topic in order to narrow the focus of the program into a manageable work effort. The central topic then was further subdivided into a series of even more specific themes and projects.

IHP-V

The Fifth Phase of the IHP began in January 1996 and will continue through 2001. The central topic for this phase is: Hydrology and Water Resources Development in a Vulnerable Environment. The central topic has been further subdivided into eight specific themes.

IHP-V Hydrology and Water Resources Development in a Vulnerable Environment

- Theme 1. Global hydrological and biogeochemical processes.
- Theme 2. Ecohydrological processes in the surficial zone.

Theme 3. Groundwater resources at risk.

Theme 4. Strategies for water resources management in emergency and conflicting situations.

Theme 5. Integrated water resources management in arid and semi-arid zones.

Theme 6. Humid tropics hydrology and water management.

Theme 7. Integrated urban water management.

Theme 8. Transfer of Knowledge, Information and Technology.

To provide even more guidance to the hydrologic community, each generalized theme has been subdivided into several specific project areas as listed below. Any activities associated with the IHP for the next six years should fit into one of these project areas.

Theme 1. Global hydrological and biogeochemical processes.

Projects

1.1 Application of methods of hydrological analysis using regional data sets (Flow Regimes from International Experimental and Network Data Sets/FRIENDS).

1.2 Development and calibration of coupled hydroecological atmospheric models.

1.3 Hydrological interpretation of global change predictions.

1.4 Strategies for water resource assessment and management under conditions of anthropogenic global climate change.

Theme 2 Ecohydrological processes in the surficial zone.

Projects

2.1 Vegetation, land use and erosion processes.

2.2 Sedimentation processes in reservoirs and deltas.

2.3 Interactions between river systems, flood plains and wetlands.

2.4 Comprehensive assessment of the surficial ecohydrological processes.

Theme 3. Groundwater resources at risk.

Projects

- 3.1 Groundwater contamination inventory.
- 3.2 Monitoring strategies for detecting groundwater quality problems.
- 3.3 Role of unsaturated zone processes in groundwater supply quality.
- 3.4 Groundwater contamination due to urban development.
- 3.5 Agricultural threats to groundwater resources.

Theme 4. Strategies for water resources management in emergency and conflicting situations.

Projects

- 4.1 International water systems.
 - (a) Conflict analysis and resolution.
 - (b) Development of integrated hydrological information and decision systems for international river basins.
 - (c) Large-scale diversions; systems control, emergency procedures and extreme hydrological conditions.
- 4.2 Comprehensive environmental risk and impact assessment.
- 4.3 Non-structural measures for water management problems.

Theme 5. Integrated water resources management in arid and semi-arid zones.

Projects

- 5.1 Hydrological processes in arid and semi-arid zones.
- 5.2 Water resources assessment in arid and semi-arid zones.
- 5.3 Water resources management for sustainable development in arid and semi-arid zones.
- 5.4 Coping with water scarcity.

Theme 6. Humid tropics hydrology and water management.

Projects

- 6.1 Hydrological processes in the humid tropics environment and other warm humid regions.
- 6.2 Land use, deforestation, erosion and sedimentation in the humid tropics.
- 6.3 Integrated water management for sustainable development in the humid tropics.
- 6.4 The technology transfer of hydrological research

and experiences in water management across the humid tropics.

Theme 7. Integrated urban water management.

Projects

- 7.1 Non-structural flood control measures to balance risk-cost-flood control management in urban areas.
- 7.2 Surface and groundwater management in urban environment.
- 7.3 Integrated urban drainage modeling in different climates: tropical, arid and semi-arid, and cold.

Theme 8. Transfer of Knowledge, Information and Technology.

Projects

- 8.1 Formal education at all levels.
- 8.2 Continuing education and professional training at all levels.
- 8.3 Transfer of information and technology.
- 8.4 Public awareness issues related to hydrology.

IHP Organization

UNESCO administers the IHP through its Division of Water Sciences, located in Paris, France. The Director of this Division serves as the Secretary of the IHP. In addition to the Secretariat office in Paris, seven IHP Regional Offices have been formed to cover the areas of: Africa, Arab States, Europe, Latin America and the Caribbean, Pacific States, South and Central Asia, and South East Asia. Each of the Regional Offices provides the focal point for IHP activities within their spheres of interest by serving as a source of information, fostering increased levels of communication, supporting a wide variety of hydrologic activities, and hosting conferences, workshops, and seminars.

National Committees

Individual countries throughout the world have formed groups known as National Committees in order to help coordinate and focus hydrologic work on IHP activities at a local scale. By the end of 1994, 113 National Committees had been established in the Member States of UNESCO. In addition, other groups with the same objective, but known as National Focal Points, also had been established in another 37 Member States. Thus, a total of 150 (out of 184) Member States of UNESCO have designated some type of national counterpart to coordinate local IHP activities. Although not a Member State of UNESCO, the United States also formed a

national group to focus on IHP activities. It is called the U.S. National Committee on Scientific Hydrology (USNC/SH).

Acting upon the endorsement of Federal agencies concerned with global activities in scientific hydrology, the U.S. National Committee on Scientific Hydrology was established by the Department of State in July 1975. According to the Charter, members of the Committee shall range in number from 10 to 20, shall be individuals chosen from the hydrological and closely-related professions, and shall be citizens of the United States of America. The members will represent selected Federal agencies and non-Federal organizations, with Federal representation constituting at least half of total membership. In 1996, membership consists of representatives from the following organizations:

Federal Agencies

Department of Agriculture
Department of Commerce
Department of Defense
Department of Energy
Department of The Interior
Department of State
Environmental Protection Agency
Federal Energy Regulatory Commission
International Boundary and Water Commission
National Science Foundation
Tennessee Valley Authority
U.S. Geological Survey

Non-Federal Organizations

American Geophysical Union
American Institute of Hydrology
American Society of Civil Engineers
American Water Resources Association
Geological Society of America
National Academy of Sciences
Universities Council on Water Resources

Observers

Department of State-Bureau of International Organizations
U.S. National Committee on Geology
U.S. National Committee for the International Association of Hydrogeologists
U.S. National Committee for the International Association of Hydrological Sciences
U.S. National Committee for the International

Water Resources Association

As specified in the Committee's Charter, the permanent Chairman of the Committee shall be the Chief Hydrologist of the U.S. Geological Survey and the U.S. Geological Survey also shall provide an Executive Secretary and other staff support as necessary. The functions of the Committee are:

- Formulate the United States' program for participation in the International Hydrological Program and assist upon request in the formulation and review of other international programs of scientific hydrology.
- Serve as a channel of communication among organizations involved in U.S. participation in international scientific hydrological activities.
- Promote international activities which further research, education, and training within the hydrological sciences and their applications to water-related resources problems, and such domestic activities as are related thereto.
- Develop for Department of State approval U.S. positions for participation in the International Hydrological Program, and keep the Department informed of projects under the IHP and related international activities.
- Arrange for and coordinate such U.S. actions as may be requested of nations participating in the International Hydrological Program.

Although not now a Member State of UNESCO, the United States continues to provide some financial support for IHP activities. The Department of State undertakes this support through a small annual contribution of funds to the USNC/SH from the office for International Contributions for Scientific Educational and Cultural Activities (ICSECA). The USNC/SH then disburses the funds to U.S. scientists in response to proposals requesting financial support for activities associated with specific IHP projects.

Proposal Criteria

Any member of the U.S. hydrologic community is eligible to submit a proposal to the USNC/SH requesting financial support for activities supporting the furtherance of the IHP goals. The funds available are not very large, however, and in many instances would only cover partial support of a given activity. The type of proposals submitted to the Committee cover a wide range of

activities, but typically might include support to host (or travel to) international conferences, workshops, or symposia, publish hydrologic-related materials that have a potential global audience; attend IHP planning sessions, or support small research projects on topics pertinent to a particular IHP-V Project. Proposals are received by the Committee throughout the year, but are evaluated on a quarterly basis. The funds for successful applicants are disbursed as appropriate to the activity. Proposals submitted to the Committee should meet the following criteria:

- Any activity for which funding support is requested must contribute substantively to a specific, identified objective of the IHP project or other IHP-sponsored or co-sponsored activity of which it is a part.
- Any travel funds made available to individuals will be available only to U.S. participants in IHP activities and cannot be used to subsidize travel by foreign participants.
- USNC/SH funds cannot be used to pay for overhead charges.
- The grantee should publicly acknowledge support from the USNC/SH when and where possible.

The proposal must include an itemized budget estimate and the details of how the proposed activity contributes to a specific IHP project. Written proposals should be sent to the Executive Secretary of USNC/SH and should follow the format described below.

Theme (Number): Number and title of IHP-V Theme with which the proposal is associated.

Project (Number): Number and title of IHP-V Project with which the proposal is associated.

Activity: Brief description (1/2 page or less) of the activity for which funds are requested.

Person Requesting Support: Identity of the person who will Support: receive the funds and their professional affiliation. Include an address, telephone and Fax number, and email address if any.

Funds Requested: The total amount of the funds requested with an itemized budget estimate including (as appropriate) airfare, subsistence, salary, capital expenses, etc.

Comments: Any comments that might help the Committee evaluate the proposal.

Attachments: Any attachments as appropriate that support the proposal and help the evaluation process.

Upon receipt, the Executive Secretary of the USNC/SH makes copies of the proposal which are sent to all Committee members for review and evaluation on a quarterly basis. If the proposal is approved by a majority of the Committee members, the Executive Secretary takes the steps necessary to provide the funds in a timely manner. Following standard government accounting procedures, successful recipients of funding are required to provide supporting documentation for their expenses.

Contacts

The IHP office in Paris publishes a newsletter titled *IHP Waterway* in English, French, Chinese, Russian, and Spanish. This quarterly publication provides information on IHP activities throughout the world. It includes reports from the seven IHP Regional Offices, a list of new IHP publications, a calendar of IHP activities, and some details associated with selected international meetings and training courses.

Individuals may get on the mailing list to receive the free newsletter by contacting the office of the IHP Secretariat at the following address:

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