Meeting of the Anglophone Caribbean
UNESCO – International Hydrological Programme (IHP)
National Committees and Focal Points

Kingston Jamaica, 17-19 March 2004

FINAL REPORT

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Meeting of the Anglophone Caribbean UNESCO – International Hydrological Programme (IHP) National Committees and Focal Points
Kingston, 17 – 19 March, 2004

FINAL REPORT

1. OPENING CEREMONY

The 17th March 2004, the Meeting of the Anglophone Caribbean UNESCO - International Hydrological Programme (IHP) National Committees and Focal Points was opened in the presence of representatives from 13 countries (see List of Participants in Annex 2) in Kingston, Jamaica.

Mr. Basil Fernandez, President of the Jamaica IHP National Committee welcomed the participants and introduced Ms. María Concepción Donoso, UNESCO Regional Hydrologist for Latin America and the Caribbean. Ms. Donoso underlined the importance of convening this Meeting in the Caribbean, and referred to the intention of the IHP-LAC Programme to have biennial meetings in the region. Ms. Donoso indicated that the IHP-LAC will strengthen cooperation with the Caribbean partners. She presented the goals of the meeting and thanked authorities for their attendance and support. (see Annex 1).

Following, Ms. Helene-Marie Gosselin, Director of the UNESCO Cluster Office for the Caribbean emphasized the importance of the IHP to the region and expressed the commitment of her Office to cooperate with the programme (see Annex 1).

The third speaker, Mr. Victor Pochat, President of the IHP Intergovernmental Council presented the important actions and activities that the IHP has developed in the region and stated the interest of the IHP to reinforce its actions in the Caribbean region (see Annex 1).

To close the opening session, the Honorable Mr. Donald Buchanan, Minister of Water and Housing of Jamaica expressed the importance of having specific actions in sustainable water resources management developed in the region. The Honourable Minister concluded his speech by declaring the Meeting open (see Annex 1).

2. ELECTION OF THE CHAIRPERSON, VICE-CHAIRPERSONS, AND THE RAPPORTEURS

The first working session was opened by Mr. Basil Fernandez who gave general remarks. Following this, Mr. Victor Pochat called for the election of the Bureau for the meeting which resulted as indicated below:

CHAIRPERSON: Mr. Basil Fernandez, President Jamaica IHP National Committee
FIRST VICE-CHAIRPERSON: Mr. Richard Cant, Bahamas Focal Point
SECOND VICE-CHAIRPERSON: Mr. Ramon Frutos, Representative of the Belize Focal Point
FIRST RAPPORTEUR: Ms. Deborah Bushell, Saint Lucia Focal Point
SECOND RAPPORTEUR: Mr. Cromwell Williams, St. Kitts and Nevis Focal Point

3. ADOPTION OF THE AGENDA

The provisional agenda was unanimously approved without modifications. (See Annex 3)

4. IHP ACTIONS WORLDWIDE AND IN LATIN AMERICA AND THE CARIBBEAN

Ms. Maria Donoso made a presentation on those IHP actions carried out at the global level. She mentioned ongoing IHP programmes, activities, and events at the regional and global levels. She also presented the IHP VI Phase. Next she presented a summary of the resolutions approved during the last meeting of the IHP National Committees and Focal Points of Latin America and the Caribbean held in May 1999 in Santiago, Chile, and referred to their follow up. She subsequently highlighted the relevant events for IHP in Latin America and the Caribbean that took place during period 2000-2003.
Finally, she presented a summary of the 2000-2003 activities, pointing out that Mr. Carlos Fernández-Jáuregui, former Regional Hydrologist, had been in charge of part of the implementation under said period. She stated that there had been a period during which the position was vacant before her eventual appointment to the position in May 2003.

In order to reflect that the Anglophone Caribbean are part of the wider UNESCO designated region of Latin America and the Caribbean, the Regional Hydrologist recommended that the Resolutions approved at this meeting be numbered in a sequential order continuing the numbering of the Resolutions approved at the Meeting of National Committees and Focal Points of Latin America, Haiti and Cuba held in Guayaquil, Ecuador, 18-19 November 2003. In this sense, the first Resolution to be approved in the present meeting will bear the number IHP-LAC V-12. The National Committees and Focal Points present agreed with this proposed procedure.

5. PARTICIPATION OF IHP LAC AT THE INTERGOVERNMENTAL COUNCIL AND BUREAU OF IHP

Mr. Víctor Pochat, made a summary on the IHP Intergovernmental Council activities. He referred to the network of regional and international centres established worldwide and the knowledge areas they cover. Then he referred to the IHP activities and projects being carried out and their contributions to the region. Finally he mentioned the important water events that have taken place in the last two biennia and the future meetings and important activities to be held during the year 2004.

Resolution No IHP/LAC V - 12

The National Committees and Focal Points present approve the Report of the work carried out by the IHP in Latin America and the Caribbean during the period 2000-2003 as presented by the Regional Hydrologist of the IHP.

6. PRESENTATION OF MEMBER STATES ACTIVITIES IN THE FRAMEWORK OF THE IHP

Representatives from: Aruba, Bahamas, Barbados, Belize, Dominica, Grenada, Jamaica, Netherlands Antilles, St. Kitts and Nevis, St. Lucia, Trinidad and Tobago, United States, and the British Virgin Islands made their corresponding presentations (see Annex 2).

The fact of each island having a different set of circumstances although sharing certain common concerns was visualized through the presentations. Common concerns expresed were:

- scarcity of fresh water supplies;
- insufficient number of professionals in water management;
- high cost of potable water;
- sectorial approach to water resources. Water supply has a leading role while other uses, such as irrigation, have a secondary role. There is a need for a more holistic approach in this respect;
- participation of the private sector in the water distribution and importance of including it in the mentioned holistic approach;
- inadequacy of reliable data and information on water resources;
- difficulties to install and maintain hydrometric networks;
- need for water education;
- need for legislation for appropriate regulation and control;
- need for institutional strengthening.

The following resolution was adopted:

Resolution No IHP/LAC V - 13

The National Committees and Focal Points present indicated strong interest in developing activities on water desalination as it has become a common source of potable water in the region.
7. STRENGTHENING OF THE IHP NATIONAL COMMITTEES

Mr. Víctor Pochat, President of the UNESCO-IHP Intergovernmental Council, expressed the importance of having active National Committees as a way of maintaining stable bonds between the IHP and the UNESCO Member States. The participants at the meeting recognized that having a UNESCO IHP National Committee strengthens the position of the Water Agencies or Authorities as advisors to the governments on water resources management policies.

Mr. Pochat recommended that the countries should constitute their IHP National Committees by bringing together the Government authorities (as the IHP is an Intergovernmental Programme), academia, and civil society (NGOs, community organizations, etc). These parties may interact with and cooperate from their position in the water sector in order to provide solutions on water resources matters. Countries should choose the most suitable means of establishing their National Committees according to their unique characteristics. The UNESCO-IHP staff is available to provide advice on this process.

Mr. Pochat recommended that more experienced IHP National Committees provide support to the least developed ones. Such support could be materialized through the transmission of experiences on such important aspects as the formal creation of an IHP National Committee, water laws, water resources assessment, among others.

Resolution No IHP/LAC V - 14

The National Committees and Focal Points present express their willingness to strengthen the IHP National Committees and Focal Points while receiving assistance from the IHP Secretariat and Regional Hydrologist in the concrete steps to be taken for this purpose.

Resolution No IHP/LAC V - 15

The National Committees and Focal Points present agree to strengthen National Committees by encouraging horizontal cooperation firstly in the region and afterwards out of the region in order to become acquainted with the operation and activities of long standing National Committees that have achieved positive results.

Mr. Pochat informed on the ongoing discussion in relation to either keeping the current structure of the IHP Intergovernmental Council (central body that meets on biennial basis), or holding Regional Intergovernmental Council meetings, prior to the Intergovernmental Council, where UNESCO Member States would actively participate in IHP activities and contribute with programme-related guidelines. He outlined the pros and cons of both positions.

Resolution No IHP/LAC V - 16

The National Committees and Focal Points present agree to recommend to the Intergovernmental Council that mechanisms be established for the structuring of the IHP on the basis of Regional Intergovernmental Councils.

The National Committees and Focal Points requested that the IHP Secretariat and the IHP Regional Hydrologist for Latin America and the Caribbean provide guidance and assistance to advance the IHP in the Member States.

In view that the day’s presentations and discussions had extended beyond the originally allocated time frame, the National Committees and Focal Points agreed to continue the meeting on the next day at 8:00 am, prior to the beginning of the Workshop on Water and Global Change.

Activities for the 17th March 2004 concluded with this discussion.
8. PRESENTATION OF UNESCO LAC PROGRAMMES

On 18th March, the Meeting started with the presentation of the following UNESCO LAC programmes (see Annex 4):

FRIEND/AMIGO (Flow Regimes from International Experimental and Network Data) for Latin America and the Caribbean, presented by Mr. Eduardo Planos.

HELP (Hydrology for the Environment, Life and Policy) and the Luquillo Mountain Basin presented by Mr. José Juan Terrasa

9. THE UNESCO-IHP LAC ON THE INTERNET

Ms. Maria Concepcion Donoso presented the new UNESCO-IHP LAC web site in English and Spanish. The website will also be translated into Portuguese and French, as a way of reflecting all languages spoken in the region. The new site aims to encourage and enhance participation in IHP activities and the exchange of information among all Member States.

Ms. Donoso illustrated the different sections of the page and identified the special section assigned to the IHP National Committees and Focal Points. Here, each National Committee or Focal Point will be able to make a link to the web site it currently has (where applicable) or they can provide the IHP-LAC with information to be included, so as to enhance the visibility of the activities being carried out.

Resolution No IHP/LAC V – 17

The National Committees and Focal Points present agree to participate and support the development of the IHP webpage, and request that the Regional Hydrologist add to and maintain all pertinent information on UNESCO’s water activities and programmes at the Montevideo based IHP-LAC website.

10. UNESCO-IHP FUNDS AND EXTRA-BUDGETARY FUNDS

Ms. Maria Donoso, described the different sources of funding for the execution of IHP activities, as well as to the possibility of executing joint projects with other agencies and bodies. Ms. Donoso noted out that it is necessary to make the interests of participating institutions coincide.

Ms. Donoso presented the UNESCO Participation Programme -implemented through the UNESCO National Commissions-, which enables the funding of projects presented by countries in any of the thematic areas of UNESCO and invited the representatives of the countries to make greater use of this programme. Mr. Basil Fernandez, President of the Jamaica IHP National Committee, encouraged the Member States to participate in the UNESCO Participation Programme.

11. CENTERS UNDER THE AUSPICES OF UNESCO

Mr. Guido Soto, Executive Director of the recently established Water Center for Arid and Semi-Arid Zones in Latin America and the Caribbean (CAZALAC) made a presentation that included: objectives of the Center, how it was established, the general situation of the areas where it is working, activities carried out during 2002-2003, and actions to be developed in the future (see Annex 4).

12. INITIAL PREPARATION OF IHP VII PHASE

The IHP Phase VII is starting in 2008. Mr. Pochat invited the countries to submit their contributions and expressed the importance of having an ample regional participatory process in the preparation of the IHP Phase VII. This phase should respond to the requests presented by the countries/regions in relation to the problems and areas of interest they consider important.
13. IHP LAC 2004-2005 AND FUTURE ACTIONS

Ms. Maria Donoso presented the main lines of action to be covered during the second biennium (2004-2005) and future actions to be taken in the framework of the IHP VI Phase:


Ms. Donoso stated that various activities are to be carried out in collaboration with other regional and sub-regional partners. This will contribute to the optimization of available resources in LAC.

Resolution No IHP/LAC V - 18

The National Committees and Focal Points present express the need to further enhance the collaboration between the IHP-LAC and other regional and sub-regional organizations and water-related institutes in order to mutually strengthen regional capacity and activities.

Resolution no PHI/LAC V - 19

The National Committees and Focal Points present support the V Inter-American Dialogue on Water Management to take place in Jamaica in 2005.

The National Committees and Focal Points agree to undertake the following activities:

Under the activity “Capacity building in IWRM” carry out workshops/training activities on Desalination
Under “Water education and capacity-building for sustainable development and security” support the participation of a water and education specialist in the Water and Education Initiative coordinated by the Argentina IHP National Committee.
Under the activity “Water Resources in Coastal Zones” provide support for the assessment of water resources (availability, withdraws, consumption, quality, influence of climate change, etc.)
Under the ”CAZALAC-Flemish project”, provide support for Caribbean participation in the Mapping of Arid and Semi-Arid zones in LAC.
Under the “FRIEND-AMIGO LAC project” support the participation of the Caribbean in the formulation and re-organization of the FRIEND database.
Under the “transboundary aquifer” activity incorporate the transboundary ground-water systems of Hispaniola in the regional effort.

14. SUMMARY OF DISCUSSIONS

Mr. Victor Pochat presented a summary of the main topics, resolutions, recommendations, and future actions discussed during the Meeting of the Anglophone Caribbean IHP National Committees and Focal Points.

Activities for the 18th March 2004 concluded with this presentation.

15. PRESENTATIONS BY INVITED REGIONAL ORGANIZATIONS

On 19th March, the Meeting started with the presentation of the following invited regional organizations:

− Caribbean Water Partnership (CWP) by Ms. Marilyn Crichlow
− Caribbean Environmental Health Institute (CEHI) by Mr. Herold Gopaul
− Caribbean Institute for Meteorology and Hydrology (CIMH) by Mr. Frank Farnum
− Organization of the American States (OAS) by Mr. Bernhard Griesinger

Presentations included the objectives, programmes, and the main activities developed in the region.
The National Committees and Focal Points present reiterate the importance of developing joint activities among the different organizations working in the region and of carrying out cooperative activities in areas of shared concern.

16. PRESENTATION OF THE IHP EDUCATIONAL INITIATIVE

Ms. Maria Donoso presented one of the IHP educational initiatives, the “Educational Program from Argentina to the Americas” and invited the Caribbean countries to join the initiative and its adaptation to the Caribbean context, and to have representatives in the future developments of this activity.

Resolution No IHP/LAC no. 20

The National Committees and Focal Points present agree to participate in the water and education activities carried out by the IHP in the LAC region. They agree to join in the initiative being developed by the Argentina IHP National Committee for children from Kindergarten to Secondary level, and to participate in its adaptation to the Caribbean context.

17. ADOPTION OF THE FINAL REPORT

First and second Rapporteurs, Ms. Deborah Bushell, St. Lucia Focal Point, and Mr. Cromwell Williams, St. Kitts and Nevis Focal Point, respectively, read the draft final report. The Barbados Focal Point, Mr. Carlyle Bourne, moved a motion to approve the Report presented by the rapporteurs with slight modifications. Mr. Richard Cant, The Bahamas Focal Point, seconded the motion. The National Committees and Focal Points present at the Meeting unanimously approved the Report. It was agreed that the Regional Hydrologist would send a copy of the approved Final Report, with all the corresponding annexes, to the participants and other National Committees and Focal Points of Latin America and the Caribbean, as well as to the corresponding individuals and institutions.

18. CLOSURE

At the closing session, the Chairperson of the Meeting, Mr. Basil Fernandez, President of Jamaica IHP National Committee, thanked participants for their work and active participation during the meeting.

Mr. Victor Pochat, President of the UNESCO-IHP Intergovernmental Council thanked the Jamaican Government for their hospitality and support which were key to the success of the meeting.

The Regional Hydrologist, Mrs. María Concepción Donoso also thanked the local hosts for their help in the organization and development of the meeting. Likewise, she thanked participants on behalf of the UNESCO-IHP Secretariat for their support and outlined that the successful results of the IHP in Latin America and the Caribbean are particularly owed to the support and action of the countries involved.

The Meeting of the Anglophone IHP National Committees and Focal Points for the Caribbean concluded with this speech at 4:30 p.m.
Meeting of the Anglophone Caribbean UNESCO – International Hydrological Programme (IHP) National Committees and Focal Points

Kingston, Jamaica, 17 – 19 March, 2004

FINAL REPORT

Annex 1

Opening Ceremony Presentations
National Committees and Focal Points and Workshop on Global Change and Water in the Caribbean

Kingston, Jamaica
17 – 19 March, 2004

Address presented by the UNESCO-IHP Regional Hydrologist for Latin America and the Caribbean, Mrs. Maria Concepcion Donoso at the Opening Ceremony of the Anglophone Caribbean National Committees and Focal Points Meeting (Kingston, Jamaica, 17 March, 2004)

- Your Excellency, Mr. Donald Buchanan, Minister of Water and Housing of Jamaica
- Commander, Mr. Basil Fernandez, President of the Jamaican IHP National Committee
- Your Excellency, Mr. Victor Pochat, President of the UNESCO - IHP Inter-governmental Council
- Madam Helene-Marie Gosselin, Director of the UNESCO Jamaica Office

Ladies and gentlemen,

Water is an integral part of the environment and its availability is indispensable to the efficient functioning of the biosphere. Water is also of vital importance to all socio-economic sectors - human and economic development simply is not possible without a safe, stable water supply. This is especially true in island states, where water resources are limited and confined to a reduced space. On the other hand, water has also a destructive potential. Extreme events may have an impact not only on the human society but also on the aquatic and terrestrial environments.

The International Hydrological Programme (IHP) of UNESCO focuses on all possible aspects of hydrology. However, during its different phases in time, the Programme - while maintaining an overall view - sets priorities. In this regard, the present phase of IHP emphasizes societal aspects of water resources. This emphasis should not be interpreted as the replacement of the primary concern: to study the occurrence and distribution of water within the natural environment.

The incorporation of the social dimension underlines the need for improved, more efficient management of water resources and the more accurate knowledge of the hydrological cycle for better water resources assessment. The core of the present IHP phase (2002-2007) is based on the fundamental principle that freshwater is as essential to sustainable development as it is to life, and that water, beyond its geophysical, chemical, biological function in the hydrological cycle, has social, economic and environmental values that are inter-linked and mutually supportive. In recognition of these innovations in thinking about water from fragmented compartments of scientific inquiry to a more holistic integrated approach, the general theme for IHP-VI has been defined as "Water Interactions: Systems at Risk and Social Challenges".

In line with the comprehension of water interactions, technological development of data acquisition, and improved modeling of processes and interactions, the relevant IHP-VI topics on hydrologic research, water resources management and education are framed under five themes:

- Global Changes and Water Resources
- Integrated Watershed and Aquifer Dynamics
- Land Habitat Hydrology
- Water and Society, and
- Water Education and Training

Within the framework of this thematic basis, four main lines of action are being implemented for the starting biennium (2004-2005), namely:

- Global change and water: advancing hydrological sciences for improved assessment
- Water for human needs
- Water education and capacity-building for sustainable development and security
- Land-water interactions: towards sustainable development.
In this context, the International Hydrological Programme for Latin America and the Caribbean is the vehicle through which Member States of the region can upgrade their knowledge on water resources (their state and availability), and thereby increase their capacity to better manage and develop their water sector. It is our main objective to contribute to improve the quality of life of the inhabitants of the region through the scientific and technological development of water sciences using a multi-objective and multidimensional holistic approach.

During this biennium, a considerable percentage of the IHP budget is dedicated to the Caribbean. Although UNESCO is not a financial institution nor a development agency, but rather a science and education promoter and implementer, it is expected that this financial support will contribute to enhance the country participation and consequently the wider implementation of the IHP activities in the Caribbean.

But the success and further development of the IHP in the Caribbean is a task that involves more than the input of the Regional Hydrologist and the support of the Caribbean UNESCO offices (Kingston, Havana, and Haiti), this will require the active and permanent participation of all actors, but most important of the National IHP Committees and Focal Points. In this regard, allow me to take this opportunity to invite and encourage, both new and senior country representatives to enhance and expand their involvement in the program, and explore and exploit what IHP has to offer to their individual countries and to the Wider Caribbean. As a Caribbean raised person, I look forward to working with the IHP Colleagues and partner organizations of the Caribbean.

In ending this address, allow me to acknowledge the extraordinary work carried out by the Jamaican IHP National Committee in the preparation of the present meeting. The IHP also wishes to thank the UNESCO Office in Jamaica for the support provided to this event.

To conclude, Your Excellency, Minister of Housing and Water, we wish to express the appreciation of the UNESCO International Hydrological Programme to the Government of Jamaica for hosting the meeting of the Anglophone Caribbean National Committees and Focal Points, and the commitment of the to reiterate our commitment to strengthen and multiply the bonds of collaboration and friendship that have always characterized the relation between the Jamaican water community and the IHP.

Thank you,
It is my pleasure to welcome you to this important meeting of the Anglophone Caribbean National Committees and Focal Points of UNESCO’s International Hydrological Programme, the first meeting of its kind in our region.

As the Director of the recently established UNESCO Cluster Office for the English and Dutch-speaking Caribbean, I welcome this initiative from UNESCO’s Regional Science Bureau for Latin America and the Caribbean and from our local host, the Jamaican International Hydrological Programme National Committee. My colleague, Mrs Maria Concepcion Donoso, Regional Hydrologist, has already given you a broad overview of the mission of the IHP programme in the region.

I would like to underline how important I consider my Office’s strong involvement in a Caribbean Hydrological Programme inspired by your contributions and to assure you of our full support.

I direct a multi-disciplinary Office, responsible for the implementation of UNESCO’s programmes in the fields of Education, Culture, Communication and Information, Social and Natural Sciences. One of my challenges is to develop more inter-sectoral programme strategies to support the Caribbean in reaching the Millennium Development Goals adopted by Caribbean Heads of State and Government at the United Nations Millennium Assembly in New York in September 2000.

I do not need to stress to this audience the importance that Science, Education as well as, Culture play in the management and use of water resources, here in the Caribbean like elsewhere in the world. We need to understand better why people act the way they do in consuming natural resources in order to develop strategies to impact and hopefully change their behaviour. The “Caribbean Sea” and the “Sandwatch” projects already try to actively involve students, through the UNESCO Associated Schools and thus in the protection of the Caribbean Sea as a valuable and fragile resource. But we also need to sensitize and educate our young people on the implications and consequences of
consumptions and the importance of water consumption, in particular, if we are to reverse the current trend. It seems to me that ministries of education should play a more active role in this regard.

Indeed, access to safe drinking water is the third Millennium Development Goal adopted at the UN Summit in 2000. UNESCO stands ready in the Caribbean to assist our Member States in reaching this most important goal.

Allow me to quote from the UN’s first World Water Development Report launched in 2003 in Japan. UNESCO was the UN Coordinator of that significant effort. The Report states:

“At the beginning of the twenty-first century, the Earth, with its diverse and abundant life forms, including over six billion humans, is facing a serious water crisis. All the signs suggest that it is getting worse and will continue to do so, unless corrective action is taken. This crisis is one of water governance, essentially caused by the ways in which we mismanage water. The crisis is experienced also by the natural environment, which is groaning under the mountain of wastes dumped onto it daily, and from overuse and misuse, with seemingly little care for the future consequences and future generations”....unquote

I invite you to consult the World Water Portal website for more information.

At the launch of the Report in Kyoto in Japan last March, UNESCO’s Director-General Koichiro Matsuura stated that “of all the social and natural crises we humans face, the water crisis is the one that lies at the heart of our survival and that of our planet Earth. No region will be spared from the impact of this crisis which touches every facet of life, from the health of children, to the ability of nations to secure food for their citizens.”

It is very interesting to note that in the list of countries that are the poorest or the richest with regards to water availability per person each year, we find our Caribbean region in both; the Bahamas listed as one of the world’s poorest, with 66 cubic meters per person per year and Guyana (316,689), Suriname (292,566) and French Guyana (812,121) in the list of the top 10 water-rich countries.

I am looking forward to reviewing your proposals for action at the end of this meeting and to discuss with our IHP National Coordinators, in the English and Dutch-speaking Caribbean, my Office’s involvement in assisting you to implement your proposed action plans.

I wish you a very successful and fruitful meeting.
MEETING OF THE ANGLOPHONE CARIBBEAN UNESCO IHP National Committees and Focal Points And Workshop on Global Change and Water in the Caribbean

Kingston, Jamaica, 17-19 March, 2004

OPENING CEREMONY

SPEECH OF MR. VÍCTOR POCHAT,
CHAIR OF THE INTERGOVERNMENTAL COUNCIL OF THE INTERNATIONAL HYDROLOGICAL PROGRAMME (IHP)

Authorities,
Distinguished colleagues,
Ladies and gentlemen,

The International Hydrological Programme (IHP), UNESCO’s intergovernmental scientific cooperative programme in hydrology and water resources is presently the only broadly-based science programme of the UN system in this area. It was established because both the international scientific community and governments, realizing that water resources are often the primary limiting factors for the peaceful development in many regions and countries of the world, saw the need for an internationally coordinated scientific programme focusing on water. It has had a prime role as a catalyst in promoting cooperation in water science and water resources management.

Since 1975, IHP has been the stimulus of strong interactions between scientific research applications and education.

Far away from international conference centers, UNESCO operations reached the field where people live and on a daily basis faces numerous problems.

IHP applies its know-how in marshaling top scientific talent from around the world to support activities aiming toward better management of the earth’s water resources.

Its activities can be summarized as: learning by doing; free exchange of information, ideas and expertise through workshops, seminars, symposia and publications; collaboration among specialists in the natural and social sciences; and dialogue among planners, decision-makers, local populations and international communities of scientists and engineers.

IHP networks at international, regional and local levels are calling for broader, more responsive interactions across the spectrum of society and the setting of wise strategies and innovative practices.

The IHP Programme for 2002-2007 has a focus on the efficient management of water resources and the world’s ecosystems. The Programme intends to provide substantial, “policy-relevant” research-results.

Improving human understanding of the hydrological processes through experimentation and modeling and providing new analytical techniques for the management of water resources are high priorities. The need for new, more precise predictions and scenario-case studies on climate changes and socioeconomic trends regarding the diverse habitats of our planet are highlighted. Events such as El Niño, region-specific land and water interactions, coastal and river systems, and underlying aquifers and watersheds are to be analyzed using an integrated approach.

The rapidly expanding large cities of the developing world are displaying many of the most extreme conditions: teeming human concentrations increased by high rates of rural migration and abysmal disparities between the wealthier and poorer segments of the population, the poorer often served by substandard, subsidized water supplies at exorbitant prices. IHP has embarked on an active programme to produce approaches, tools and guidelines which will allow cities to improve their knowledge and analysis of the urban water situation and to draw up more effective urban water management strategies.

As a chief component of UNESCO and its mandate, education is a major objective for IHP. Water
Education and Training (WET) traverses all five themes of the present Phase VI. WET emphasizes institutional capacity building, research, and information networking, especially at the university, postgraduate and continuing professional education levels, reaching a wide community of water specialists and the general public.

Before finalizing, allow me to express my satisfaction for participating in this opening ceremony.

Having the honor and the responsibility of chairing the IHP Intergovernmental Council, representing our region of Latin America and the Caribbean, it's for me a privilege to learn from your experiences and to transmit them within our large and diverse region and to the other regions representatives.

I would also like to express my appreciation and congratulations to the Jamaican IHP National Committee for its efforts to organize this meeting.

Your Excellency, Minister of Housing and Water,

Coming from the southern end of our Continent, I would like to transmit to you my deep understanding that IHP is a magnificent way for strengthening the friendly links between our countries.

Thank you.
Chairman-Mr. Basil Fernandez, Managing Director, Water Resources Authority and Chairman of the Jamaican IHP National Committee;

Your Excellency, Mr. Victor Pochat-President of the UNESCO -IHP Intergovernmental Council;

Madam Helen-Marie Gosselin, Director of the UNESCO Jamaica Office;

Mrs. Maria Concepcion Donoso, UNESCO_IHP Regional Hydrologist for Latin America and the Caribbean;

Distinguished Guests;
Ladies and Gentlemen;

“Jamaica's Water-Every Drop Precious” is the motto of the Water Resources authority and right now in the middle of our dry season it is most appropriate as we implement measures to conserve on water as a result of the lack of rainfall and the subsequent impact on the yields of many of our springs and surface water supply systems.

Water is recognized as being critical to life, health and the economic well being of any nation and has a real value as a commodity. It is a catalyst for industrial and agricultural development and a vehicle for empowerment and poverty alleviation. Inadequate supplies can and do have adverse social and economic consequences. However water is finite and vulnerable resource and has to be properly managed to ensure its availability.

It is noted that the International Hydrological Programme (IHP) initially had as it objectives the development of methodologies for hydrological studies and training and education in the water sciences. Now greater emphasis is being placed on the role of water resources management for sustainable development and adaptation to the hydrological cycle to cope with the expected changing climate and environmental conditions. The major initiatives embarked upon by the Government of Jamaica emphasize the recognition and action for improved management of our water resources. Future water development and capital expenditure must be guided by the assessment of water resources and the determination of reliable yield. In addition systematic planning based on reliable information and a range of plausible alternatives has the potential to contain demand and reduce the amount of capital needed.

The current phase of IHP-IHP six (IHP_VI)- covers the period 2002 to 2007. This phase is devoted to “Water Interactions: Systems at Risk and Social Challenge”. Some of the interactions to be investigated include among others:

- Surface water and ground water;
- Fresh water and salt water;
- Watersheds and rivers;
- Quantity and quality; and
- Science and policy.

How do the major initiatives being embarked in by the Government of Jamaica and in particular the Ministry of Water and Housing compare to the objectives of and the interactions under this phase of the IHP?

The initiatives being undertaken include the following:

1. The interaction between surface water and ground water in an island where our major aquifer is
primarily Karstic Limestone is critical to the management and allocation of water resources. In many areas of the island our rivers sink into the limestone to contribute to groundwater and then may rise much further down gradient in the hydrological basin to support the flow of other streams. The pumping of ground water can have a negative impact on the flows within the rivers and the availability of surface water as the ground water table is lowered. On the north coast this is of particular concern as major tourist attractions depends on continuous and reliable streamflows. The monitoring programmes of the Water Resource Authority focus on understanding this interaction and the implications for sustainable water resources management. The updating of the Water Resources Master plan will take these interactions when allocation framework, an output of that project, is developed.

2. Salt water intrusion into coastal karstic aquifers has occurred along the south coast of the island where agricultural development is highest and prior to any management control of abstraction of water resources. We cannot afford any further expansion of this intrusion, as our southern coastal plains are economically very important. This interaction is now being investigated through a regional project between Jamaica, Barbados and Antigua with funding from the Organization of American States (OAS) and the respective governments. The objective of this project is to determine the mechanism of the intrusion, develop a model that will allow for the optimal use of water resources while reducing salt water intrusion. There is also an educational component to this project where the capacity of the respective water authorities will be strengthened. The horizontal cooperation between the Caribbean States through the transfer of technology and the sharing of information is a model for all to emulate.

3. The National Environment and Planning Agency (NEPA) in conjunction with the water sector agencies, in now reviewing the Watershed Policy with the aim of ensuring more sustainable watershed management. In addition the completion of the Forest Action Plan by the Forestry Department and the formation of the Integrated Watershed Management Council, which pulls together all the stakeholders in watershed management, will enhance the protection of watersheds and the continued outflow of high quality and quantities of water to sustain yields in our rivers and for our water supply systems. New investments in watershed management are now being formalized between GOJ and the Canadian International Development Agency (CIDA) and the US AID. These investments will involve the communities located in the watersheds.

4. The upgrade of the Water Resources Master Plan now underway will assess the quantity and quality of the island’s water resources and will present as an output inventories of water availability and demand. These inventories will take into consideration the impact of water quality and availability with a projection up to the year 2025. The Master Plan will identify the areas of surplus and deficit, determine the volumes and present scenarios as to how the surplus should be used to meet the demands. The Master Plan will also prepare a new allocation framework to ensure transparency in the allocation and optimal use of our water resources.

5. The National Water Policy prepared by the Ministry of Water and Housing will depend on the use of science and technology to implement the strategies and action plans to meet the policy objectives. The Water Sector Policy was developed to complement and be consistent with several other policies including the National Policy on Science and Technology.

In recognition of the close linkages between the initiatives of the Government and those of the IHP I have recently signed an executive Act to establish a new National IHP Committee. This committee will ensure that a considerable portion of the budget of this biennium that is dedicated to the Caribbean can be accessed by Jamaica. In addition the committee will take advantage of the opportunities under the IHP for the building of capacity to better manage and develop our water resources.

In closing I want to extend a warm Jamaican welcome to all participants from across the Caribbean and the United States of America.

I want to particularly welcome the President of the IHP Inter-governmental Council, Mr. Pochat and the Regional Hydrologist, Mrs. Donoso. Jamaica looks forward to a closer and more effective relationship with UNESCO-IHP.

I want to wish you all the best in your deliberations over the next three days. I am sure that the information that will be shared in your meetings will be to the benefit of the entire region. Thank you.
Meeting of the Anglophone Caribbean UNESCO – International Hydrological Programme (IHP) National Committees and Focal Points

Kingston, Jamaica, 17 – 19 March, 2004

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Annex 2

List of Participants
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Meeting of the Anglophone Caribbean UNESCO – International Hydrological Programme (IHP) National Committees and Focal Points

Kingston, Jamaica, 17 – 19 March, 2004

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Annex 3

Agenda
AGENDA

17 March, 2004

08:00 a.m.  Registration

09:00 a.m.  Opening Ceremony

10:00 a.m.  Coffee Break

Meeting of the Caribbean IHP National Committees and Focal Points

10:20 a.m.  First Working Session:
-  Opening remarks (B. Fernandez)
-  Selection of the President, Vice-Presidents and Rapporteurs
-  Approval of the Agenda
-  IHP Actions worldwide and in LAC (M. Donoso)
-  IHP LAC participation at the Intergovernmental Council and Bureau of IHP (V. Pochat)
-  Country Presentations by IHP representatives:
  -  Aruba (T. G. Damian)
  -  Bahamas (R. Cant)
  -  Barbados (C. Bourne)
  -  Belize (R. Frutos)

12:30 p.m.  Lunch

01:30 p.m.  Second Working Session:
-  Country Presentations by IHP representatives (cont.)
  -  Dominica (P. Martin)
  -  Grenada (C. Husbands)
  -  Jamaica (B. Fernandez)
  -  Netherland Antilles (C. Winkel)
  -  Saint Kitts and Nevis (C. Williams)
  -  St. Lucia (D. Bushell)
  -  Trinidad and Tobago (K. Mulchansingh)
  -  United States of America (M. Larsen)
  -  Virgin Islands, UK (M. Davis)
-  Strengthening the IHP National Committees and Focal Points (V. Pochat)
-  IHP Global Programmes
  -  FRIEND (E. Planos)
  -  HELP (J. Terrasa)
-  UNESCO-IHP LAC in the internet (M. C. Donoso)

04:00 p.m.  Coffee Break

04:15 p.m.  Third Working Session:
-  IHP Funds and Extra-budgetary funds (M.C. Donoso)
-  Centers under the auspices of UNESCO (G. Soto)
-  Initial preparation of IHP - VII (M. C. Donoso)
-  IHP LAC 2004-2005 (M. C. Donoso)
-  Presentations by invited regional organizations (Representatives)
-  Future Actions (M. C. Donoso)
-  Summary of Discussions: Agreements, Recommendations, and Actions (V. Pochat)

06:00 p.m.  Adjourn of the Meeting of the Caribbean IHP National Committees and Focal Points
18 March, 2004

Workshop on Global Change and Water in the Caribbean (cont.)

09:00 a.m. Fourth Working Session:
Co-Chairs: V. Pochat and R. Cant
- Introductory Remarks (B. Fernandez)
- Global climate and Caribbean regional climate (A. Chen)
- Climate and precipitation outlook (S. Burton)
- The Western Hemisphere Warm Pool Regulator & Mediator for Inter-American Climate (D. Enfield)

10:30 a.m. Coffee Break

10:45 a.m. Fifth Working Session:
Co-Chairs: C. Williams and C. Bourne
- Water Assessment and Global Change (M.C. Donoso)
- Assessment of Water Resources in the Caribbean (J. Karanjac)
- Impact of Climate in Water Resources in the Caribbean (E. Planos)

01:00 p.m. Lunch

02:30 p.m. Sixth Working Session:
Co-Chairs: F. Farnum and D. Enfield
- Country Presentations:
  - Aruba (T. G. Damian)
  - Bahamas (R. Cant)
  - Barbados (C. Bourne)
  - Belize (R. Frutos)
  - Dominica (P. Martin)

04:00 p.m. Coffee Break

04:15 p.m. Seventh Working Session:
Co-Chairs: H. Thomas and J. Terrasa
- Country Presentations (cont):
  - Grenada (C. Husbands)
  - Guyana (J. Jafferally)
  - Jamaica (C. Campbell)
  - Netherland Antilles (C. Winkel)
  - Saint Kitts and Nevis (C. Williams)
  - St. Lucia (D. Bushell)
  - Trinidad and Tobago (K. Mulchansingh)
  - United States of America (M. Larsen)
  - Virgin Islands, UK (M. Davis)
- Discussion and Summary

06:00 p.m. Adjourn

19 March, 2004

Workshop on Global Change and Water in the Caribbean (cont.)

09:00 a.m. Eighth Working Session:
Co-Chairs: C. Campbell and H. Gopaul)
- Water Resources Assessment and New Generation of Water Balances (M. Larsen)
- The Future of Managing Water Resources in the Caribbean: Collaborative Actions (T. Hardware)
10:30 a.m.  Coffee Break

10:45 a.m.  Ninth Working Session:
Co-Chairs: B. Fernandez and M. Donoso
- Discussion on Future Actions and Projects in the Caribbean
- Summary and Final Conclusions

12:00 noon.  Workshop ends

Meeting of the Caribbean IHP National Committees and Focal Points (cont)

02:00 p.m.  Tenth Working Session:
- Review and Approval of Resolutions
- Review and Approval of Final Report

03:30 p.m.  Final Remarks and Closing

04:00 p.m.  Meeting ends
Meeting of the Anglophone Caribbean UNESCO – International Hydrological Programme (IHP) National Committees and Focal Points

Kingston, Jamaica, 17 – 19 March, 2004

FINAL REPORT

Annex 4

Introduction

This document lists the activities developed within the framework of the International Hydrological Programme (IHP) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) during biennia 2000-2001 and 2002-2003.

During the first part of this 4 year-period, specifically until December 2001, the acting Regional Hydrologist for Latin America and the Caribbean was Mr. Carlos Fernández-Jáuregui. At the end of April 2003, Mrs. María Concepción Donoso takes office as Regional Hydrologist. In spite of this transitional period, the IHP continued to develop and extend its actions in the region.

During period 2002-2003, three relevant events for IHP in Latin America and the Caribbean took place, namely:

- Mr. Victor Pochat, Argentina IHP President, was elected President of the IHP Intergovernmental Council by the XV IHP Intergovernmental Council Meeting (June 2002).

- The Water Center for Arid and Semi-Arid Zones of Latin America and the Caribbean (CAZALAC) was established in La Serena, Chile, with the support of the Chilean and Flemish Governments (December 2002).

- During years 2002 and 2003 steps were taken for the establishment of the Water Portal of the Americas as a prototype for UNESCO Water Portal-WWAP.

The submission of WWAP Programme (World Water Assessment Programme) report was another activity that significantly contributed to advance the water agenda worldwide. This programme is a joint initiative of the United Nations system under the coordination of the UNESCO Water Sector.

In the global context, it is important to remark the incorporation of the IHE (Delft) to the UNESCO family in mid 2003. IHE is now a UNESCO Centre Category 1, and it is being called the “UNESCO-IHE Institute”.

The evaluation of the V Phase of IHP Programme was developed during years 2002 and 2003. The participation of Latin America and the Caribbean, although scarce at first, resulted of great value for the analysis being carried out by the IHP Secretariat.

What follows are the actions developed by the UNESCO International Hydrological Programme for Latin America and the Caribbean and its global scope.

1. Projects/studies/research

- Support to the Paraguay water sector re-structuring project in order to develop administrative instruments (tasks and job description, objectives, structure, organizational chart, contracting profiles, administrative procedures, etc.) by the Paraguayan authorities with a view to creating the Water Resources Office in the Ministry of Public Works and Communications.

- Quito North Aquifer (Ecuador) comparative study of vulnerability applying DRASTIC, AVI and GODS index methodologies.

- Development of the first evaluation phase of the vulnerability in South American extreme plains. Elaboration of risk maps on extreme precipitation conditions highlighting densely populated areas with tabulation of total population in areas of different risk degree.

- Aquifer vulnerability research programme (applied to Quito Aquifer), September 2001 in Water Resources Inter-American Centre (CIRA) of Toluca, Mexico, under the direction of Mr. Jaime Garfilas and Mr. Remigio Galárraga.

- Support to activities developed in the framework of the Agreement signed between the Bolivian Government (Ministry of Sustainable Development and Planning – MDSP) and IHP UNESCO for
the strengthening of the Bolivia water sector.

- First phase of the Guaraní Aquifer System and MERCOSUR Project (data base and numerical modelling of the system) conceptual model.

- Second phase of Guaraní Aquifer System and MERCOSUR Project (data base and web site) conceptual model, implementation of aquifer information and observation system (data base) and primary modelling based on pilot data.

- Third phase of Guaraní Aquifer System and MERCOSUR Project (data base and web site) conceptual model developed and applied to the Azul Stream basin.

- Updating of the Bolivia water resources availability through the Bolivian micro-regional surface water balance supported by the Bolivia IHP National Committee, (IRD ex – ORSTOM), IHH/UMSA, SENAMHI, Naval Hydrography Service and UNESCO-IHP.

- Guayas River Basin Surface Water Balance, Republic of Ecuador using the IHP-UNESCO proposed methodology and in the framework of Latin America and the Caribbean Surface Water Balance Project.

- “2003 Passenger Scenes” Project on water and biodiversity.

- Study and evaluation of organizations and agencies in the USA in order to identify potential counterparts for UNESCO in the implementation of components of the 6th IHP Phase 2004-2007.

- Hydrological comparative analysis of the Guaraní Aquifer System region and other great aquifer systems. Identification of institutions and professionals in the water (hydrogeology and hydrology) research/management sectors.

- Transboundary aquifer programme ISARM/UNESCO. Screening of main projects requiring interdisciplinary collaboration.

- Development and validation of a methodology to estimate water extraction and consumption in Central America

- Development of climate humidity index (CHI) annual variation indicators, runoff and water availability.

- Research on current legislation and policy regulating water resources management and how water data is used to establish/implement water laws and policies in the Panama Canal Basin.

- Study on the Chilean water resources considering the state of variability and climate change potential impact to be published in the IHP-UNESCO virtual library.

- Study for the elaboration of a base document for the development of a Water Cultures Atlas in Latin America.

- Establishment of a platform for the creation of a data base in support to integrated water resources management in Haiti.

- Support to the coordination and implementation of AMIGO/FRIEND project in the Caribbean (Flow Regimes from International Experimental and Network data). See Annex I

- Support to the coordination and implementation of HELP (Hydrology for the Environment, Life and Policy) Project Latin America and the Caribbean.

- Support to the coordination and execution of WHYMAP (World Hydrogeology Mapping and Assessment Programme) in Latin America. See Annex I

- Support to the coordination of the Ecohydrology project in Latin America. See Annex I
Support to Americas Transboundary Aquifer Programme (ISARM/Americas). See Annex I

2. Books/publications

- Translation into Spanish of the book: “Methodological Guide for the use of contingency tables in climatic applications”. Publication in English and Spanish. Authors: Mr. Eric Alfaro, Mr. David Einfeld and Mr. Javier Soley.

- Organization and stockcheck of IHP UNESCO Montevideo library in order to make it available for the consultation of Latin America and the Caribbean counterparts.

- Book “Law and Data” to be published in year 2005 which will sum up the current legislation and policies affecting water resources management in the Panama Canal. Author: Mr. Carlos Vargas.

- Second and third Phase of the: “Basic Education on Protection of Ground Water Guide” (virtual version) elaborated by the Fluid and Environmental Engineering Institute of the University of the Republic (Uruguay), Faculty of Exact and Natural Sciences of the National University of La Pampa (Argentina) and supported by IHP-UNESCO.

- Hydrology and Water Management in the Humid Tropics, UNESCO TDM, N° 55, Mr. J.Gladwell (editor), Paris, France, 2002.

- Contributions to the knowledge on the stratigraphy and hydrochemistry of the giant Guaraní Aquifer System, South America, S. Kittl. Edición en Internet, December 2000.


3. Regional/subregional events

- International Seminar on Sustainable Development of Water Resources System by Mr. John Gladwell, Panama City, Panama, 21-23 June, 2000.


- III Water Information Summit, jointly organized by CES-FAU, OAS, CATHALAC, IWRA, GWP/SAMTAC and IHP-UNESCO and Information for All Programmes, Miami, USA, 3-5 November, 2000.

- I Hydrometeorological LBA (LBA-Hydonet v1.0) network Workshop organized and supported by the University of New Hampshire (USA), INPE-CPTEC, IGBP-BAHC, NASA, CATHALAC and IHP-UNESCO, Cachoeira Paulista, Estado de Sao Paulo, Brazil, 4-6 December 2000. Representatives from Bolivia, Ecuador, Peru, Venezuela, and Colombia participated in the workshop.


- ISARM Programme Consultative Meeting (Transboundary Aquifers) for the Guarani and the La Plata Basin Aquifers, Santa Fe, Argentina, 29-31 August, 2001, jointly organized by IHP-UNESCO, the International Association of Hydrogeologists (IAH), the Argentina IHP National Committee and the "Universidad Nacional del Litoral". Representatives from Argentina, Uruguay, Brazil, Paraguay, and non-MERCOSUR countries participated at the Meeting.
- Support to a Paraguayan researcher to present the results of the study on “Zoning of Flooding Areas in the Paraguay River” in the Seventh Workshop of the Chilean IHP National Committee, under the motto: “Challenge of water sustainability in the third millennium”, Valparaiso, Chile, 6-7 September, 2001.

- Support to an Argentinean researcher to present the results of the study on “Water education a regional socio-productive integrative proposal” in the Seventh Workshop of the Chilean IHP National Committee, under the motto: “Challenge of water sustainability in the third millennium”, Valparaiso, Chile, 6-7 September, 2001.

- Participation of the Regional Coordinator of Project 2.3/2.4 of IHP-V on Ecohydrology working group at the Final Conference of the First Phase of the Project (Application of Ecohydrology to the Development and Management of Water Resources), Venecia, Italy, 16-18 September, 2001 organized by UNESCO-Venice Office.


- ISARM Programme Consultative Meeting (Transboundary Aquifers) for the Guarani and the La Plata Aquifers, Santa Fe, Argentina, 29-31 August, 2001, jointly organized by IHP-UNESCO, the International Association of Hydrogeologists (IAH), the Argentina IHP National Committee, and the Universidad Nacional del Litoral. Representatives from Argentina, Uruguay, Brazil, Paraguay, Bolivia, and non-MERCOSUR countries participated in the meeting.

- In the framework of the scientific activities of the Climate Variability and Prediction Panel (CLIVAR), organization of the International Scientific Conference: “South America jet stream in low levels situated at the East Andes”, Santa Cruz de la Sierra, Bolivia, 5-7 February, 2002, with the participation of 80 representatives of countries from the region and out of the region.

- II LBA-HydroNET Workshop, Manaos, Brazil, 5-6 July, 2002. Organized by the University of New Hampshire, the Centro de Pervisão do Tempo e Estudos Climaticos and the Instituto Nacional de Pesquisas da Amazônia, with the support of the National Aeronautics and Space Administration and the IHP-UNESCO. Representatives from Venezuela, Brazil, Peru, USA, and Ecuador participated in the workshop.


- XXXII HIA & VI ALHSUD Congress: “Ground Water and Human Development” (Mar del Plata, Argentina, 21-25 October, 2002. Representatives from Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Panama, Paraguay, Peru, and Uruguay as well as representatives of North America, Europe, Asia, Africa, and Oceania participated in the Congress.


- III Latin American Congress on Water Basin Management, Arequipa, Peru, 9-13 June, 2003. The Congress was organized by the FAO Regional Office for Latin America and the Caribbean and supported by the IHP-UNESCO. Around 950 representatives from Peru, Guatemala, Bolivia, Mexico, Chile, Ecuador, Colombia, Argentina, Costa Rica, Nicaragua, Paraguay, Brazil, Dominican Republic, Honduras, Venezuela, El Salvador, Panama, USA, and Europe participated in the Congress.

- I Hispano-American Seminar on the state of the art in Hydrogeology, and III Argentinean Congress of Hydrogeology, Rosario, Argentina, 23-26 September, 2003. Representatives from Brazil, Uruguay, Argentina, Colombia, and Spain participated in the Congress.

- Transboundary Aquifers of the Americas Workshop, Montevideo, Uruguay, 24-25 September, 2003, jointly organized by the OAS and the IHP-UNESCO with the support of IWRN, GEF, UNEP, and MERCOSUR.
VI Regional Workshop of the Oceanographic Intergovernmental Commission Working Group on Harmful Algal Blooms problems in South America (IOC-FANSA), Guayaquil, Ecuador, 14-16 October, 2003. The workshop was organized by the Navy Oceanographic Institute (Ecuador), IOC and the IHP-UNESCO. Representatives from Argentina, Brazil, Chile, Ecuador, Peru, and Uruguay participated in the workshop.

V Regional Meeting of the IHP National Committees and Focal Points Latin America, Cuba, and Haiti, held in Guayaquil, Ecuador, 18-19 November, 2003. Representatives from Argentina, Brazil, Bolivia, Chile, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Haiti, Honduras, México, Perú, Uruguay, UNESCO centres and programmes participated in the Meeting.

III Climate Outlook Forum for the South American West coast, Guayaquil, Ecuador, 19-21 November, 2003. The Forum was organized by the International Research Center on El Niño (CIIFEN), the World Meteorological Organization (WMO), the International Research Institute for Climate Prediction (IRI), the Escuela Politécnica del Litoral (ESPOL), the NOAA Global Programmes Office with the support of the UNESCO-IHP.

Forum of the Americas: “Agreements: An instrument for the sustainable management of fresh water in the XXI century” (La Paz, Bolivia, 9-12 December, 2003). The Forum was organized by the Bolivian National Academy of Sciences, the Bolivian Ministry of Foreign and Affairs and Culture, the Bolivian Ministry for Sustainable Development, the Institute for the Conservation and Research in Biodiversity, Intercooperation: Swiss Foundation for Development and Cooperation, the Commission for Integrated Water Management in Bolivia, the Universidad Mayor de San Andres, and the Universidad Mayor de San Simón, with the support of the IHP-UNESCO.

4. Latin America and the Caribbean participation in global events

Support for the participation of the AMIGO/FRIEND Regional Coordinator in the Symposium/Workshop “Forest-Water-People in the Humid Tropics”, for the presentation of the results of a study on the impact of natural disasters (hurricanes and massive landslides). The activity was jointly organized by IHP-UNESCO and the Regional Humid Tropics Centre (Kuala Lumpur), Kuala Lumpur, Malaysia, 30 July – 4 August, 2000.

Participation of the Director of Plains Hydrology, Argentina, at the Workshop Seminar of technical-scientific and legal-institutional activities, in the framework of the preparation of the project for the environmental protection and integrated sustainable development of the Guaraní Aquifer System. The Director made a presentation on the Guaraní Aquifer conceptual model development, Asuncion, Paraguay, 28-30 November, 2000.


Participation of the World Hydrogeological Mapping and Assessment Programme (WHYMAP) Regional Coordinator to the XXXI IAH International Congress, Munich, Germany, 10-14 September, 2001.


Support for the participation of the FRIEND/AMIGO project LAC Coordinator at the 4th


- Support for the participation of experts from Jamaica, Chile, Costa Rica, and Panama to the 3rd World Water Forum, Kyoto, Japan 16-23 March, 2003.


- Participation of the IHP Intergovernmental Council President and of the Director of CAZALAC and CATHALAC Centres at the following meetings: “Operationalizing Partners within UNESCO-IHP-IHE community” and “The Challenges in Water Education towards the UN Decade of Education for Sustainable Development”, Delft, Holland, 15-18 July, 2003. Both meetings were organized by IHE and supported by IHP-UNESCO.


- VI Water Information Summit, Delft, Netherlands, 9-12 September, 2003. Partial support to participants from Latin America and the Caribbean.

5. Data bases

- Within the framework of IHP ARCHISS (Archival Climate History Survey project in Latin America), development of the inventory of the Ecuador hydro-meteorological information (end of XIX century to the beginning of the XX).

- Research project on the history of the Peruvian colonial climate (starting in the XVIII century) in the framework of IHP ARCHISS (Archival Climate History Survey project in Latin America).

- Project on the management of IHP data of the Mamoré river basin, Bolivia, through the modules 61623 (data fill in), 61623 (calculation of flows), 61623 (design of the network according to Karaseff, the square gris, NAUGLS, NAR and Kriging), and 61623 (economical investment).

- Research project on the history of the Bolivian climate covering from the republican era (1825) to 1942, year of creation of the National Service on Meteorology (SENAMHI), using the files of ABAS parish churches and the old meteorological data of Jesuit observers at La Paz (San Calixto) and Sucre (Secred Heart), and the press job of Potosi, in the framework of IHP ARCHISS (Archival Climate History Survey project in Latin America).

- Research project on the revision of civil and ecclesiastic files in Mexico City in order to obtain data on the climate behaviour in central Mexico during centuries XVI, XVII, XVIII and XX in the framework of IHP ARCHISS (Archival Climate History Survey project in Latin America).

- R-Hydronet (regional project “Network of hydrometeorology electronic information for South America, Central America, and the Caribbean”) carried out by the University of New Hampshire (USA). Online consultation: www.r-HydronET.sr.unh.edu

- ESPE, HIDRO and HICOS, components of LACHYCIS (Latin American and Caribbean Hydrological Cycle and Water Resources Activities Information System. ESPE contains data on hydrologists and hydro-geologists of the region certified according to the regulations of the American Institute of Hydrology, HIDRO contains data on certified hydraulic and hydrologic research centres in the region. HICOS has a list of publications and reports concerning IHP-LAC.
6. Capacity building

- International Congress on Efficient Use of Water, organized by the Faculty of Engineering of the Cuyo University and the General Department of Irrigation of the Mendoza Province (Argentina) with the support of UNESCO. Mendoza, Argentina, 26-28 April, 2000.

- Short course on sedimentation in rivers and reservoirs in charge of Prof. Gregory Morris at the Hydraulic National Institute of Chile, with the support of IHP-UNESCO, Santiago de Chile, Chile, 10-13 October, 2000. Representatives from Venezuela, Ecuador, Bolivia, and Colombia participated in the course.

- Support to a Chilean young researcher for the development of a master degree final project (thesis) in partial fulfilment of the Master in Management of the Environment and Natural Resources at the Universidad Politécnica de Madrid, Madrid Centre of Postgraduate Studies in Business Administration, Spain, during the last three-month period of the year 2000.

- I Hispano American Course in Ground Hydrology, Montevideo, Uruguay, 26th November - 2nd December, 2000, organized by the Engineering Faculty at the University of the Republic, Uruguay, under the auspices of UNESCO and OAS. Financial support for Spanish professors.

- Support to a young scientist for the development of the project of a doctoral dissertation/studies (special course in prediction of the water offer of the rivers mainly situated in mountain areas) at the Russian State Hydro-meteorological University in Saint Petersburg, Russian Federation, December 2000 – March, 2001.


- I Hispano American Course in Ground Hydrology (having an international postgraduate level), Montevideo, Uruguay, 30th September – 6th December, 2002. The course was organized by the Institute of Fluids Mechanics and Environmental Engineering of the Engineering Faculty at (Uruguay University of the Republic) and supported by the Universidad Politécnica de Cataluña, Cedex, Waterloo University, Universidad del Centro de la Provincia de Buenos Aires, Universidad Nacional de la Pampa, IHP-UNESCO, and the International Atomic Energy Agency (IAEA). Representatives from Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Panama, Paraguay, Peru, Uruguay, and Venezuela participated in the course.

- Participation of a Peruvian expert in the XXXVI Ground Hydrology International course for postgraduates organized by CEDEX and the Universidad Politécnica de Cataluña, from January to July, 2002.

- Special session on Eco-hydrology in the framework of the International course of the Argentinian Institute of Water Resources – Buenos Aires University on Water Management with the support of UNESCO-IHP, UNESCO-ROSTE Venice and the International Centre of Technology for the Environment PNUMA-IETEC. Representatives from Argentina, Uruguay, Paraguay, and Brazil participated in this activity.

- Support to the participation of two professors in the Isotopic Hydro-geology in Central America, Panama City, Panama, 20-24 October, 2003.

- Human Resources Capacity building project (courses, assistantships, working practices and workshops) for students and professors in the area of water management at Trinidad Agricultural School, Uruguay.

- Institutional capacity building of the Sciences Faculty in Integrated Management of Coastal areas in order to develop a programme for a graduate course in Integrated Management of Coastal Areas that will be given in Uruguay in 2004.
– Two postgraduate study fellowships granted to Latin American students in the area of environmental geography through the Latin-American Association of Groundwater for Development – ALHSUD.

7. Extra-budgetary funds

Project: PORT ENVIRONMENT AND THE INTERACTION WITH THE FLUVIAL-MARINE SYSTEM IN THE RIO DE LA PLATA
Financing source: Uruguay National Port Administration
Length of project: 4 years (2000-2003)
Budget: U$S 90.000 (approximately)

Project: WATER PORTAL OF THE AMERICAS
Financing source: Various
Length of project: 3 years (2001-2003)
Budget: U$S 500.000

Project: SUPPORT TO THE ARID AND SEMI-ARID ZONES MANAGEMENT (execution through the Water Centre for Arid and Semi-arid Zones in Latin America and the Caribbean, CAZALAC)
Financing source: Flanders Government
Length of project: 3 years (2003-2005)
Budget: U$S 400.000

Project: Water Centre for Arid and Semi-arid Zones in Latin America and the Caribbean (CAZALAC)
Financing source: Chilean Government and Serena University
Length of project: 2001-2003
Budget: U$S 151.000

Project: TRANSBOUNDARY AQUIFER PROGRAMME ISARM/UNESCO
Financing source: Inter-American Water Resources Network and OAS
Length of project: 2002
Budget: U$S 50.000 (approximately)

8. IHP-LAC in the internet

– Internet service, design and updating of the web site of AMIGO/FRIEND project.
– Development of the Water Portal of the Americas.
– Re-design and updating of the IHP-UNESCO website

9. Activities of IHP National Committees and Focal Points in the Caribbean

The presentation of the summary tables on the activities of the IHP National Committees and Focal Points for the Anglophone Caribbean follows.