International Hydrological Programme (IHP): past, present and future

UNESCO Future Forum - Global Water Futures 2050
12 April, 2012

Abdin Mohamed Ali Salih
Director a.i.
Division of Water Sciences Secretary of the International Hydrological Programme (IHP), UNESCO
• How will Climate effect water Availability?
Can we predict the future changes which are responsive to “user” needs?
Water Scarcity and High Stress.
Growing Population and Accelerated Demand.
Inefficiencies in Water allocation.
Spatial and Temporal Variability.
Climate Change.
Problems of Governance and Institutional Arrangement.
World total, rural and urban population


Dr Ron Wimberley
NC State University
Global average temperature 1850-2010
Based on Brohan et al. 2006

Annual average and 95% confidence range
Smoothed annual average and 95% confidence range

Met Office Hadley Centre
Source: www.metoffice.gov.uk/hadobs
Crown Copyright 2011

Georg Kaser
Global Warming And Hydrologic Cycle Connection

Consequence: Intensification of Hydrologic cycle

Source: Gi-Hyeon Park
Lack of information and data at a time when we need it more than ever to deal with increasing complexity

7332 stations, monthly data including data derived from daily discharge data (Status: 6 February 2009)
Koblenz: Global Runoff Data Centre, 2009.
UNESCO’S Intergovernmental Scientific Cooperative Programme in Hydrology and Water Resources

The 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. The programme, tailored to Member States’s needs, is implemented in six-year phases—allowing it to adapt to a rapidly changing world.
Strengthening global water initiatives to sustain world water governance

By: Varady, Robert G., Katherine Meehan, John Rodda, Matthew Iles-Shih, and Emily McGovern (2008)

The IHP oval is in bold for readability only, since it overlaps with so many other initiatives. The acronyms identify various global water initiatives, and their placement is a schematic attempt to situate them according to their primary institutional aims.
Water at UNESCO: "The three plus one pillars"

- **International Hydrological Programme - IHP**

  IHP Secretariat: Paris + Field Offices + Regional settings
  National Committees in member states: 161


- **Network of 26+ (more in the pipeline) IHP Water Centers**

- **UNESCO-IHE Institute for Water Education**: postgraduate education for water professionals (Delft, The Netherlands)
History of IHP


- 1975-1980 : IHP-I

- 1981-1983 : IHP-II

- 1984-1989 : IHP-III
Transition of IHP’s phases: *continuity with change*

1990-1995 IHP IV
Hydrology and Water Resources Sustainable Development in a *Changing Environment*

1996-2001 IHP-V
Hydrology and Water Resources Development in a *Vulnerable Environment*

2002-2007 IHP-VI
Water Interactions: *Systems at Risk* and Social Challenges

2008-2013 IHP-VII
Water Dependencies: *Systems under Stress* and Societal Responses
IHP VII (2008-2013)

Water dependencies:
Systems under Stress and Societal Response
IHP VII (2008-2013)
HELP Network of Basins – Promoting Integrated Water Resources Management through Stakeholder Driven Best Practice Examples

FRIEND – A global network of regions to share data, monitoring and modeling techniques for scientific understanding of the water cycle
Web site development
www.g-wadi.org
6-Hour PERSIANN-CCS Rainfall

http://hydis8.eng.uci.edu/GCCS

6-Hour 0.04° x 0.04° rainfall over 7-day period

GWADI-GeoServer
A G-WADI for Latin American and the Caribbean is Created

Asian G-WADI Web site
http://asian-gwadi.westgis.ac.cn
UNESCO addressing hydrological extremes: knowledge base and capacity for prediction, adaptation and mitigation

IFI: International Flood Initiative

International Centre for Water Hazard and Risk Management under the auspices of UNESCO (UNESCO-ICHARM, Tsukuba, Japan)

The ISI Information System was established by the International Research and Training Center for Erosion and Sedimentation (IRTCS) in Beijing, China. It provides a global information resource portal, through the creation of a database repository and direct access to priority information on sediments from Member States, and to professional communities and regions concerned.

The ISI Information System accomplishes its main purposes by three mechanisms: (a) Information access: through the creation of a global information resource portal, (b) Information repository: through the establishment of a sediment database and other information, and (c) Information development through the implementation of strategic training activities. These purposes and mechanisms are mutually supportive.

**WHAT IS NEW?**

- NEWSLETTER (No. 2 July 17 2006)
- NEWSLETTER (No. 1 July 17 2006)
- Guidelines for Case Studies in Selected River Basins (Case Studies)
- Review of Sedimentation Issues on the Mississippi River (Case Studies)
- Sedimentation Initiatives in Developing Countries (Case Studies)
- International Training Workshop on Watershed Eco-environment and Water Resources Management (Trainings)

**Database Links**

- UNESCO
- UNESCO-IHP
- UNESCO-UN-WWAP
- UNESCO Office Beijing
- MIWR PR China
- IRTCES
- WASER
- SedNet
- GeoWeb
Ecohydrology Action Areas

in 31 Demonstration Projects
“groundwater is the major source of drinking water across much of the world… but there has been very little research on the potential effects of climate change”.

Inter-governmental Panel on Climate Change (IPCC) in both their 3rd (2001) and 4th (2007) Assessment Reports.
UNESCO - GRAPHIC

Groundwater Resources Assessment under the Pressures of Humanity and Climate Change
International Drought Initiative (IDI)
International Basins of the World

TFDD
Database: Basins at Risk
Millivele Projection
Oregon State University
October 2009
From Potential Conflict to Co-operation Potential

Water for Peace

a contribution to

World Water Assessment Programme
Advancing towards the Eighth Phase of the International Hydrological Programme

(IHP-VIII, 2014 - 2021)
At its 43rd session in June 2009, the Bureau of IHP decided to launch the preparation of the eighth phase of the IHP

- **First Step:**
  Preparation of a concept paper which was to serve as the basis to stimulate detailed consultations with Member States
Ms. Maria C. DONOSO (Coordinator)
Mr Taikan OKI, Japan
Mr Kalanithy VAIRAVAMOORTHY, UK
Mr Callist TINDIMUGAYA, Uganda
Ms Akissa BAHRI, Tunisia / Mr. Waleed K AlZubari/ Bahrain
Ms Anne BROWNING, USA
Mr Maciej ZALEWSKI, Poland

Institutes & Associations:
Mr. Giuliano DI BALDASSARRE, UNESCO-IHE
Ms Eva BOEGH, IAHS
Mr Jaroslav VRBA, IAH
The overall work of the IHP-VIII Task Force is to formulate a Strategic Plan for the eighth phase of the International Hydrological Programme (IHP 2014-2021) of UNESCO in consultation with the IHP National Committees and the Governing Bodies of IHP that must approve this plan.
April: the Task Force held an initial teleconference in which a first set of ideas was outlined

May: the Bureau of IHP (44th session) discussed at length the outcomes of the Task Force teleconference

May: first meeting of the IHP-VIII Task Force to prepare concept note

May: the Bureau of IHP held a teleconference with participation of the coordinator of the Task Force and of members of the Secretariat to discuss concept note

The Task Force, assisted by the Secretariat, produced the summary concept note for IHP IGC
2010

- September: National IHP National Committees and NGOs for comments and proposals for the strategic plan of IHP-VIII
- December: Deadline for receiving comments/proposals from the IHP NCs and NGOs
TIME FRAME FOR THE PRODUCTION OF THE STRATEGIC PLAN FOR IHP VIII (cont.)

2011

- January-February: Processing of results of consultation and other preparatory work
- March: Task force analysis/discussion of input from member states
- April: Preparation by the Taskforce of extended outline of the draft strategic plan of IHP-VIII
- May: 46th session of the Bureau, review and endorsement of the extended outline of the strategic plan
TIME FRAME FOR THE PRODUCTION OF THE STRATEGIC PLAN FOR IHP VIII (cont.)

**2011**

- **June:** Second meeting of the TF to write the first draft of the strategic plan and to discuss outline of implementation plan.
- **September:** Task Force submits the first draft of the strategic plan and outline of implementation plan.
- **October:** Progress on formulation of the IHP-VIII strategic plan reported to the 36th General Conference of UNESCO.
- **October-December:** Consultation with Member States, NGOs and IGOs relative to the draft strategic plan and outline of implementation plan.
TIME FRAME FOR THE PRODUCTION OF THE STRATEGIC PLAN FOR IHP VIII (cont.)

- **January:** Deadline for receiving Member States/NGOs/IGOs comments on Draft Strategic Plan
- **February:** *(Teleconference)* Third meeting of the Task Force to consider inputs from IHP National Committees, NGOs and IGOs
- **February-March:** *(out of the session in Marseille):* Finalization of Draft Strategic plan May 47th session of the IHP Bureau Review and endorse the revised draft plan
- **June:** 20th session of Intergovernmental Council of IHP: IHP-VIII strategic plan adopted
IHP VIII (2014-2021)

“Water Security: Responses to Local, Regional, and Global Challenges”
### IHP VIII (2014-2021)

**“Water Security: Responses to Local, Regional, and Global Challenges”**

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Continuity with Change


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THEME 5: Ecohydrology, engineering harmony for a sustainable world

THEME 6: Water education, key for water security

IHP programmes
- IFI
- ISI
- IDI
- PCCP
- JIIHP
- ISRAM
- G-WADI
- UWMP
- GRAPHIC
- WHYMAP
- HELP
- FRIEND

- **THEME 1**: Water-related Disasters and Hydrological Change
- **THEME 2**: Groundwater in a changing environment
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**UNESCO-IHE Institute for Water Education**: (Category I Centre)

**Network of 26 + Category II Centres and UNESCO chairs**

**IHP National Committees in member states**: 161
Geographical distribution of Centers

- UNESCO category 1 Centre (1)
- UNESCO category 2 Centre (26)
Thank you!