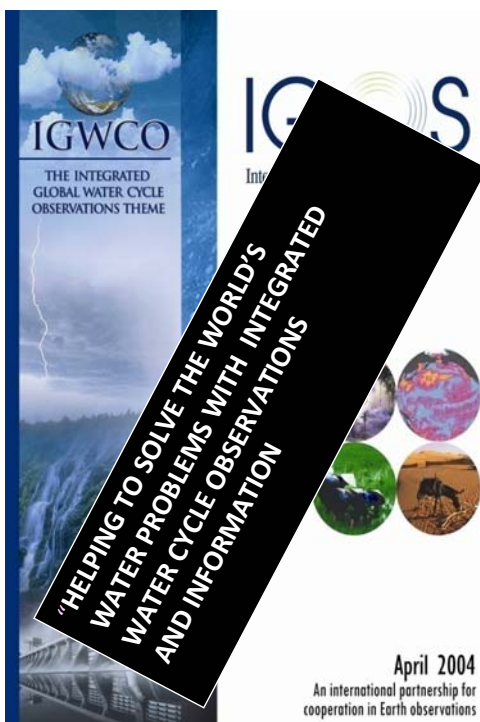


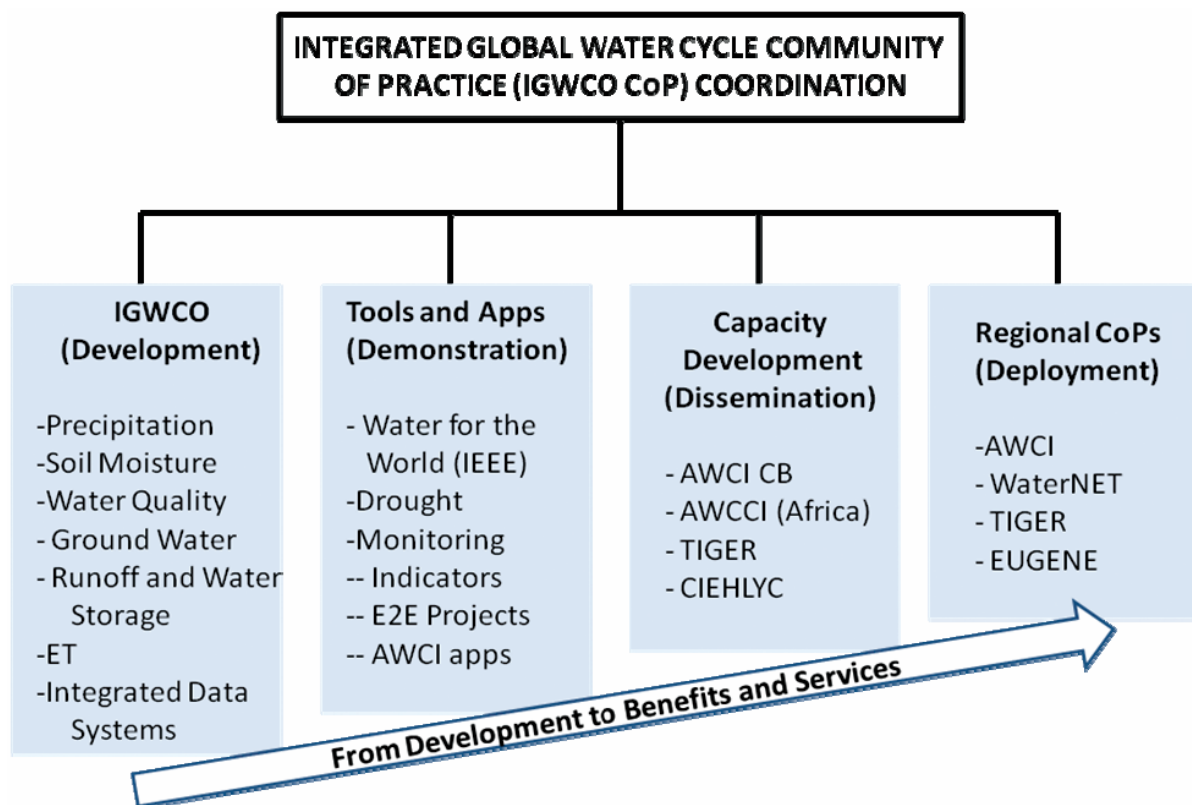
IGWCO Status Report: 2010 in review

THE INTEGRATED GLOBAL WATER CYCLE OBSERVING THEME (IGWCO) IS A “BEST EFFORTS” ACTIVITY WITH THE FOLLOWING OBJECTIVES:



1. Provide a framework for guiding decisions on priorities and strategies regarding water cycle observations for:
 - Monitoring climate variability and change,
 - Effective water management and sustainable development of the world's water resources,
 - Societal applications for resource development and environmental management,
 - Specification of initial conditions for weather and climate forecasts,
 - Research directed at priority water cycle questions
2. Promote strategies that facilitate the processing, archiving and distribution of water cycle data products

In 2008, the IGWCO became the IGWCO Community of Practice within the GEO framework



Who are the members of the GEO IGWCO Community of Practice?

They are groups of people who share a concern, a set of problems, or a passion about a topic by interacting on an ongoing basis

They include:

- Users who benefit from Water Cycle Research and interact with the water cycle community.
- The IGWCO community which has developed the area of water cycle research.
- Regional water cycle initiatives that have a large community at present.
- Specific efforts related to Capacity Building for water resources management.

The GEO IGWCO COP supports the Water Societal Benefit Area within the GEOSS Implementation Plan and works to achieve its goal.



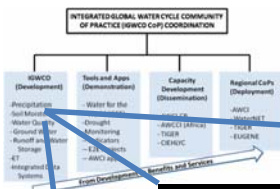
The Water Target →

By 2015, produce comprehensive sets of data, information products and services to support decision-making for efficient management of the world's water resources, based on coordinated, sustained observations of the water cycle on multiple scales.

→ **Tasks**

Results of a recent GEO survey of data needs in its nine Societal Benefit Areas

Variable	Ranking in the Cross-SBA List in US-09-01a	Status of Observations	Possible Follow-on
Precipitation	#1	In good shape in most areas	GPM needs support IGWCO happy to help with US-09-01a follow-on
Soil Moisture	#2	SMOS & SMAP beneficial. Surface obs need help	
Surface Humidity U. Air Humidity	#6 #17	IGWCO has looked to GEWEX to lead	Intercomparison of products.
Vegetation Cover (Evapo-transpiration)	#7	ET is not included as an GCOS ECV	ET workshop planned
River flow Observations	#19	WMO has advanced HARON proposal	NASA/CNES has a mission proposal under development



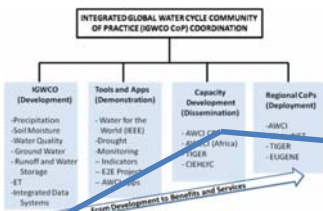
WA-08-01: Integrated Products for Water Resource Management and Research: Improvements and expansion of in-situ networks, combined with new and existing satellite missions and emerging assimilation and prediction capabilities, are opening the door to a new era in global water-cycle management.

- a) *Soil Moisture*
- b) *Runoff*
- c) *Groundwater*
- d) *Precipitation*
- e) *Water Cycle Data Integration*
- f) *Pilot Projects for Improved Water Discovery and Quality Assessments*
- g) *Global Water Quality Monitoring*



WA-06-02: Droughts, Floods and Water Resource Management Address decision-making challenges related to the management of hydrometeorological extremes and the sustainable use of water.

- a) *Forecasting and Early Warning Systems for Droughts and Floods **
- b) *Impacts from Drought **
- c) *ACQWA (Assessing Climatic change and impacts on the Quantity and quality of WAter)*
- d) *Drought Monitoring ** WA-06-02: Droughts, Floods and Water Resource Management



WA-06-07: Capacity Building for Water Resource Management

Initiate capacity building programs in support of water management, to show the value of, and develop tools for, Earth observation data.

- Latin and Caribbean America (Comunidad para la Informacion Espacial e Hidrologica en Latinoamerica y el Caribe (CIELHYC))*
- Asia (Asian Water Cycle Initiative (AWCI))*
- Africa (Africa Water Cycle Coordination Initiative (AfWCCI))*

January to March 2010

IGWCO COP Planning Meeting in New York launched a list of activities to be pursued in making links with various decision making groups. This has launched efforts to promote better sharing between data systems (CEOP/DIAS/GTN-H/National systems)

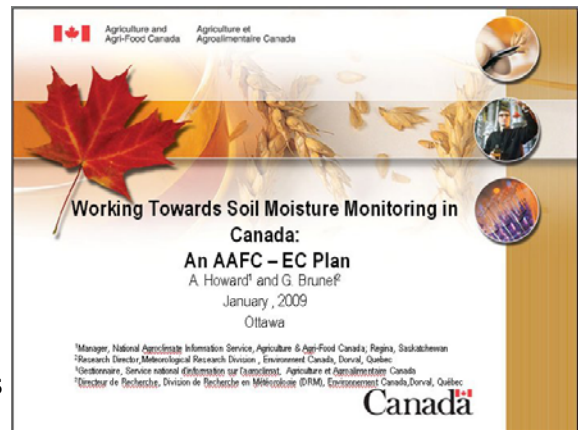


Water Workshop at the Asia Pacific GEO Symposium clarified needs of many Central Asian countries for Earth Observations related to the water cycle.

April to June 2010

DRI (Drought Research Initiative) – GEO Meeting on drought in Winnipeg, Manitoba recommended greater interaction between Water Cycle and Agriculture SBA activities in the area of drought and soil moisture.

NOAA/GEO workshop in Asheville, NC to assess approaches for global drought monitoring.



GEO Work plan review and the STC review of GEO Water Tasks in Pretoria. There were no major limitations identified through this process.

Presentation of CIEHLYC to the US UNESCO IHP to support greater UNESCO commitment.

July to September 2010

August: Town Hall meeting on GEO Water Cycle activities at the AGU Meeting of the Americas in Brazil.

GEO and GEO Water presented at the pan-GEWEX meeting.

September: Participation in the workshop on metrics and methodologies of estimation of extreme climate events in Paris

October: IPWG discussion of next steps in precipitation integration and GPM

October to December 2010

October: IPWG meeting discussed next steps in precipitation integration and GPM

November: IGWCO COP participated in the Beijing Summit by:

- distributing a summary document on IGWCO to participants
- participation in the GEO COP exhibition.
- IGWCO COP presentation at the GEO User Engagement Workshop

December: Paper on IGWCO related topics given at the AGU fall meeting .

January to March 2011

January : Preparations for workshops

**February: African Water Cycle Coordination Initiative held in Addis Ababa
There was a strong commitment to move forward with a two studies in
Different basins (a Water Authority and a Water Initiative.**

March: The Seventh IGWCO meeting is now being held here in Tokyo.

Planned Meetings for 2011

February 2011 – African Water Cycle Coordination Initiative
(Ethiopia)

March 2011 – IGWCO COP Planning Meeting in Tokyo

April 2011 – Workshop on Evapotranspiration (NASA/ USDA)

April 2011 – IEEE Workshop on Drought Monitoring
- Workshop on Global Drought Monitoring (NASA)

October 2011 – Asian Water Cycle Coordination Initiative

Date? - IEEE Water Quality and Health workshop

Date? – Latin and Caribbean Americas Water Cycle Capacity
Building

(Complete)

Given the complexity of the GWC activities, it is recommended that a descriptive overview be developed for the WC activities. This document could include products produced in the Water SBA that would be of benefit to other tasks. This document should be published and distributed at the GEO Summit. **(Document was printed and distributed at the Summit)**

A small SWAT team will be established to explore the feasibility of developing a white paper for a Water Cycle Constellation as part of the CEOS program.

The possibility of integrating new data products derived from *in situ* measurements over South Africa and GRACE products will be explored. **(Not much could be done)**

A workshop on Evapotranspiration will be organized
(Workshop sponsored by USDA and NASA has been organized for Silver Springs on April 5 to 7, 2011. More than 100 people have registered.)

(Some Progress but incomplete):

Each variable in WA-08-01 should be asked to develop an integration plan and to submit it before the review of GEO Water in May 2010. **(Precipitation was the only group to provide a meaningful plan)**

ESIP has a significant capability and desire to interact with Water Users. This capability could help IGWCO expand its User engagement. A review of user contacts should be carried out to identify areas that are mature enough to benefit from an initiative between IGWCO and ESIP to explore the decision-making processes.

(Consultations with ESIP on-going. They have focused mainly On the GEO CFP Water activities)

Based on the potential synergies between water and health, the feasibility of a water/ health workshop will be explored.
(IEEE has indicated an interest in organizing a workshop on Water and Health)

Baseline information for the appropriate components of the UIC Call for Concept Proposals will be mapped to IGWCO initiatives.

(GEO has made decisions on the approval of projects under their CFP. However, this information is not being communicated in sufficient detail to do the mapping).

A small working group should be established to decide the future actions to be taken with respect to the Water Cycle User Needs survey.

(Sushel Unnayar has had some discussions and has plans to Print the report and distribute it)

A plan for developing links between the UNESCO IHP activities and the links with the L&CA initiative will be explored.

(Angelica M is now a regular participant in US UNESCO IHP Meetings and is now planning a second CIEHYC workshop)

(Not complete):

A dialogue between JAXA and GTN-H will be opened to explore which option(s) are preferred for a JAXA data distribution System. The Task Group is asked to report to IGWCO and GEO Secretariat Water Coordinator by May 1, 2010. **(Result from GTN-H mtg)**

IGWCO should explore possible GEWEX interests in identifying activities that could be linked to clouds and water vapour – two water cycle variables that are not addressed in the Water SBA.

The UN Water Statistics presentation identified an important link between water, economics and governance. IGWCO would benefit from one or two test cases where satellite data or data products were used to drive the UN accounts spreadsheets for two or three countries to see how the balances would be affected. **(CUNY to Update)**

6

The water sector provides many opportunities to blend socio-economic data and physical data. However, we do not fully understand the spatial and (especially) temporal characteristics of economic data (e.g., GDP). It would be useful to have a small project where we could assess the compatibility of economic data and indicators derived from physical data. **(CUNY to update)**