

**Regional Coordination on Improved Water Resources Management & Capacity Building
Technical Stakeholder Meeting
October 19-21, 2011 - Dubai, UAE
Summary Note**



Meeting Objective

Between October 19-21, 2011, the GEF Project Technical Stakeholder Meeting gathered technical specialists from each implementing agency under the GEF Project on “Regional Coordination for Improved Water Resources Management and Capacity Building”, NASA experts, ICBA, USAID and the World Bank to:

- Overview **NASA tools and methods** as applicable to the project for improved: (i) Irrigation, agriculture and water conservation; (ii) Flood and drought mapping and (iii) Climate change monitoring;
- Overview **ICBA experience** with LDAS and establish lessons learned;
- Agree to **methodologies and project design** to achievement of project outputs and outcomes; and
- Agree to **project schedule and regional cooperation**

As a result of this meeting each country has further refined their area of interest ranging from drought and flood prediction to groundwater recharge estimates. Country specific areas of interest are presented below.

Project Overview

The scarcity of freshwater in most countries of the Middle East and North Africa (MENA) region is an increasingly acute problem, particularly as populations grow, rapid urbanization continues and the pressure to shift water from agriculture (which consumes over 84% of the region’s water resources on average) to domestic and industrial uses increases. Fourteen of twenty MENA nations are classified as being in water deficit, defined as less than 500 m³ of renewable water supply per capita per year. The Intergovernmental Panel on Climate Change further reports an expected precipitation decrease over the next century by over 20% for large parts of the MENA region, a likely increase in the frequency and severity of droughts and a reduction in groundwater recharge rates.

Furthermore, over 60% of the MENA region’s water supply flows across international borders which further engenders political tensions between communities, stakeholders and countries and therefore necessitates equitable appropriation of available water among riparians. This underlines the need for regional cooperation in the Arab

world's water resource management. Quantitative measurements of the location, availability, quality and current/future uses of local and regional water resources are critical for sound decision making and management. To date however, the high cost of in-situ data collection and analysis, the lack of data management systems and the non-standardized methods and protocols for data collection, management and validation across MENA have obstructed the development and effective use of reliable local and regional water information systems.

Modern advances in technology (including geographic information systems, data assimilation, and modeling techniques among others) and space based remote sensing techniques now enable the routine collection of accurate water data. Data collected in this manner can provide measurements over areas where no data have otherwise been available and at greatly reduced costs as compared to traditional methods. Such data can also easily be turned into valuable information through maps and graphs that allow stakeholders and water managers to make better, more informed decisions for water management and planning.

In June 2008, the Arab Water Council and the World Bank sponsored a workshop in Porto Marina, to address water resources issues in the Arab region and the impact of impending climate change. Participating in the workshop were representatives from most of the Arab League countries, USAID, NASA and other representatives from donor groups and academia. Following the discussion in Porto Mariana USAID has supported ICBA's efforts to utilize NASA data sets and modeling tools to better understand the Middle East and North Africa at a regional scale.

Concurrently the World Bank worked with remote sensing centers in Morocco, Tunisia, Egypt, Jordan and Lebanon to develop a program where each country could utilize a variety of NASA Water Information Systems Platforms (WISPs) to better inform water resources policy and management. The GEF Project was approved by the Board in May 2011.

Interrelation of donors

This activity is able to leverage approximately \$1 million dollars in USAID funding with \$5.6 million of World Bank funding and \$1.2 million dollars of in-kind technical assistance from NASA.

Overall coordination

The Arab Water Council has established a Regional Project Management Unit (RPMU) composed of a procurement and a financial management specialist, a communications specialist and a project coordinator. The RPMU is responsible for: (a) organizing yearly regional workshops; (b) coordinate the implementation of regional applications of WISP tools; (c) compiling an annual yearly regional report on local and regional research results; and (d) liaising with PMUs on implementation of regional activities. The RPMU will also establish a Technical Advisory Committee (TAC) for review and guidance of the technical aspects of the projects. The TAC will comprise: (a) a NASA representative; (b) representatives from each participating country; and (c) representatives from local centers of expertise.

Country specific activities

Country specific activities and lead agencies are listed in the table below. Grant Negotiations with Egypt are still pending. Names and contact details of lead agency participants that attended the meeting are provided in Attachment 2: Participants List.

Location	Activity Focus	Lead Agency
Tunisia	Ground water and aquifer change	CRTEAN
	Agriculture Water usage	CRTEAN
	Floods	CRTEAN
Jordan	Ground Water Recharge	MWI
	Irrigation Water Usage	MWI
	Climate Change	MWI
Lebanon	Drought	CNSR-CRS
	Crop Yield	CNSR-CRS
	Climate Change	CNSR-CRS
Morocco	Regional Hydrological Analysis	CRTS
	Climate Change	CRTS
	MODIS Direct Receiving Ground Station	CRTS
Tunisia	Ground water and aquifer change	CRTEAN
	Agriculture Water usage	CRTEAN
	Floods	CRTEAN
Location	Activity Focus	Lead Agency
Egypt ²	Evapotranspiration	NARSS
	Floods / Flash Floods	NARSS

NARSSS – National Authority of Remote Sensing and Space Sciences (Egypt)

JRGC – Jordan Royal Geographic Center

CNSR – National Council for Scientific Research – Center for Remote Sensing (Lebanon)

CRTS – Centre Royal de Teledetection Spatiale (Morocco)

CRTEAN – Centre Regional de Teledetection des Etats de l' Afrique du Nord (Tunisia)

Annex 1 - Agenda

Wednesday, October 19, 2011					
8:30 - 11:30 am		11:45 - 1:30 pm		2:30 - 5 pm	Evening
<p>8:30 - 9:00 am Welcome Panel : Dr. Shawki Barghouti (ICBA), Claire Kfourri (WB), Mark Peters (USAID), - Welcome and introduction to project, description of meeting objectives, outcomes and outputs and introduction of participants</p> <p>9:00 - 10:30 am: Key topics and Introduction of NASA team and experts (Dr. Shahid Habib). WISP Overview (Dave Toll), Drought Monitoring and Prediction and LDAS and Water Resources (Matt Rodell), ET Mapping (TBD), Floods modelling, mapping and forecast (Shahid Habib)</p> <p>10:30 - 11:30 am ICBA : Lessons Learned and Cooperation Moving Forward (Dr. Rachael McDonnell)- Description of ICBA experience with LDAS to date, challenges, lessons learned, next steps, setting of expectations etc. Walk through ICBA facilities</p>	<p>11:30-11:45 am Coffee Break and Walk Through ICBA Facilities</p>	<p>11:45 - 1:30 pm: Introduction of Country teams and Presentations by country teams on results to be delivered through project, ties to existing Ministries etc</p>	<p>1:30 - 2:30 pm Lunch Break - Introduction to Procurement at the World Bank</p>	<p>2:30 - 4 pm: Working Group on Modeling and Utilizing Land Data Assimilation System</p> <p>4 - 5 pm: Integrated Summary Report Development</p> <p>2:30 - 5 pm: Project Management Working Group: Procurement Guidelines, Action plan, schedule, delivery, plan next meeting, monitoring etc</p>	<p>8 - 10 pm Working Dinner Discussion: <u>Real time downlinks: Pros, Cons and Other Options.</u></p>
Thursday, October 20, 2011					
8:30 - 11:30 am		11:45 - 1:00 pm		2:30 - 5 pm	Evening
<p>8:30 - 11:30 pm: Working Group on Flood and Drought Mapping and Parallel Working Group on Agriculture, Irrigation and Water Loss</p>	<p>11:30 -11:45 am Coffee Break</p>	<p>11:45 - 1:00 pm: Working Group on Flood and Drought Mapping and Parallel Working Group on Agriculture, Irrigation and Water Loss</p>	<p>1:00 - 2:30 pm - Site Visit to Emirates Institution for Advanced Science and Technology</p>	<p>2:30 - 4:00 Working Group on Flood and Drought Mapping (Continued) and Parallel Working Group on Agriculture, Irrigation and Water Loss</p> <p>4 - 5 pm: Integrated Summary Report Development</p>	<p>Free time</p>
Friday, October 21, 2011					
8:30 - 11:30 am		11:45 - 1:30 pm		3:30 - 5 pm	Evening
<p>Working Group on Climate Change Monitoring and Adaptation</p>	<p>11:30- 11:45 am Coffee Break</p>	<p>Working Group on Climate Change Monitoring and Adaptation (Continued)</p>	<p>1:30 - 3:30 pm Prayer Break and Lunch</p>	<p>3:30 - 5:00: Wrap up and Next Steps: Discuss Project Timeline and Deliverables. Establish date for next regional meeting. Wrap up and conclusions</p>	<p>Farewell Check out and Departure</p>

Annex 2 – List of Participants

Regional Coordination for Improved Water Resources Management Project - Technical Workshop
Dubai, UAE, 19-21 October 2011

List of Participants

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Annex 3 – Additional Photos

