NASA Applied Sciences Program, Water Resources Meeting

NASA Ames Research Center, Moffett Field, CA

September 5-6, 2012

Draft Agenda

September 5

8:00 **Registration**

8:30 **Welcome,** Ed Sheffner (NASA Ames Research Center)
Program Overview, Brad Doorn (NASA HQ)

9:00 **Update from the NASA Water and Energy Cycle Program,** Jared Entin (NASA HQ**;** via web conf.)

9:30 **Hydrological Decision Support I: National and International Applications**

Benjamin Zaitchik (Johns Hopkins Univ.), *Project Nile: Distributed hydrological information for water management in the Nile basin* (via web conf.)

David Toll (NASA GSFC), *NASA Water Resources Program International Support Activities*

Charon Birkett (Univ. of Maryland), *The Global Reservoir and Lake Monitor (GRLM): Expansion and Enhancement of Water Height Products*

Brian Cosgrove (NOAA), *Improving Flash Flood Prediction Through a Synthesis of NASA Products, NWP Models and Flash Flood Decision Support Systems*

10:20 **Break**

10:30 **Hydrological Decision Support II: Water Supply Monitoring and Forecasting in the Western U.S.**

Tom Painter (NASA JPL), *Integration of precision NASA snow products with the operations of the Colorado Basin River Forecast Center to improve decision making under drought conditions*

Qing Xia / Soroosh Sorooshian (UC Irvine), *Enhancing California's Water Resource Management and Decision Support System to Address Impacts of Climate Change*

Jeff Dozier (UC Santa Barbara), *Assessing Water Resources in Remote, Sparsely Gauged, Snow-Dominated Mountain Basins*

Steven Margulis (UC Los Angeles), *Investigating the Feasibility of Incorporating Remote Sensing and Earth Science Datasets into Existing Frameworks for Improving Water Supply and Drought Forecasts in California*

Noah Molotch (UC Boulder / NASA JPL), *Blended observations and models of snow water equivalent for water resources applications* (via web conf.)

11:30 **Discussion: Developing a national and international strategy. Lessons learned, key achievements, key partners, new opportunities.**

12:15 Lunch

1:30 Water Quality Applications

John Lehrter (EPA), *Application of ocean color remote sensing to water quality standards development and marine spatial planning* (via web conf.)

Molly Macauley (RFF), *Improving Water Quality Management: Use of Earth Observations in SPARROW*

Phillip Townsend (Univ. of Wisconsin), *Improving BASINS/HSPF predictions of nitrogen export to improve TMDL accuracy using NASA imagery* (via web conf.)

Discussion: Strategy for water quality monitoring applications: Lessons learned, key achievements, key partners, new opportunities.

2:20 Drought Forecasting, Impact Monitoring, and Mitigation

Mark Svoboda / Brian Wardlow (Univ. of Nebraska), Augmenting Drought Early Warning efforts in the U.S.: from Grids to GAC (via web conf.)

Ximing Cai (Univ. of Illinois), *Developing Seasonal Predictive Capability for Drought Mitigation Decision Support System*

Jasmeet Judge (Univ. of Florida), *Integration of remote sensing observations and a web-based decision support system for managing impacts of agricultural droughts on crop yields in heterogeneous landscapes*

Jim Verdin (USGS), *Fallowed Area Mapping for Drought Impact Reporting and Decision Making*

3:10 **Break**

3:30 **Drought Forecasting, Impact Monitoring, and Mitigation (continued)**

Enrique Vivoni (Arizona State Univ.), *Cloud Computing-based Delivery of Drought Information at Multiple Scales*

Chris Hain (Univ. of Maryland / NOAA), *Development of a Mult-Scale Remote Sensing Based Framework for Mapping Drought over North America*

Forrest Melton (CSUMB / NASA ARC), *Mitigation of Drought Impacts on Agriculture through Satellite Irrigation Monitoring and Management Support*

4:10 **Discussion**

5:00 **Adjourn / Tour of Sustainability Base**

6:00 **No-Host Dinner, Tied House Brewery, Mountain View**

September 6

8:30 **Updates on new and upcoming satellite missions,** Brad Doorn (NASA HQ)

9:00 **Hydrological Decision Support I: National and International Applications (continued)**

Nir Krakauer (CUNY), *Application of land surface remote sensing to enhance modeling for decision support in the New York City water supply*

Greg Hall (NOAA), *Present and future operational modeling with the GSFC Land Information System at NOHRSC/NWC* (via web conf.)

Rama Nemani (NASA ARC), *NASA Earth Exchange*

9:50 **Agriculture and Food Security Applications**

Wade Crow (USDA), *Enhancing the USDA Global Crop Production Decision Support System with NASA Land Information System and Water Cycle Satellite Observations*

William Teng (NASA GSFC), *Improving World Agricultural Supply and Demand Estimates by Integrating NASA Water Cycle-Related Data and Technologies into USDA World Agricultural Outlook Board Decision Making Environment*

10:20 **Break**

10:45 **Agriculture and Food Security Applications (continued)**

James Verdin (USGS), *A Land Data Assimilation System for Famine Early Warning*

Matt Hansen (Univ. of Maryland), *Integrating MODIS crop characterization capabilities with AWiFS and agricultural survey data to improve the accuracy and timeliness of national crop acreage forecasts provided by the USDA NASS Cropland Data Layer* (via web conf.)

Matt Hansen (Univ. of Maryland), *Advancing methods for global crop area estimation* (via web conf.)

Chris Justice (Univ. of Maryland), *The GEO Global Agriculture Monitoring Task: Supporting the GEOSS vision for an Agricultural Monitoring System of Systems*

Chris Justice (Univ. of Maryland), *Global Agricultural Monitoring: Transitioning NPP VIIRS Observations into the USDA FAS Decision Support System / Global monitoring of agricultural drought: A contribution to GEO GLAM*

12:00 **Lunch**

1:15 **Agriculture and Food Security Applications (continued)**

Cynthia Rosenzweig (NASA GSFC) / Jonathan Winter (Columbia Univ), *Integration of NASA Models and Missions into Agricultural Decision Support* (via web conf.)

Cynthia Rosenzweig (NASA GSFC) / Jonathan Winter (Columbia Univ), *Adaptation Planning for Climate Change Impacts using Advanced Decision Support and Remote Sensing: Irrigated Agriculture in California's Central Valley* (via web conf.)

1:45 **Discussion: Key partnerships and emerging opportunities related to agriculture and food security**

2:15 **Break**

2:30	**Open discussion: Programmatic needs, feedback from PIs, strategies for enhancing value of WR program to team members**
3:30	**Concluding remarks,** Brad Doorn (NASA HQ)
3:45	**Adjourn**