

# **WORKSHOP ON CLIMATE CHANGE IMPACTS AND ADAPTATION TO AGRICULTURE, FORESTRY AND FISHERIES AT THE NATIONAL AND REGIONAL LEVELS**

**(Orlando, Florida, USA, 18-21 November 2008)**

Welcome to the Workshop on Climate Change Impacts and Adaptation to Agriculture, Forestry and Fisheries at the National and Regional Levels. This Workshop is sponsored by the World Meteorological Organization (WMO), the United States Department of Agriculture (USDA), and the Southeast Climate Consortium (SECC) of United States of America.

This workshop aims to bring together experts in the area of climate change impacts and adaptation for agriculture, forestry, and fisheries. These experts will present state-of-the-art papers on real world applications and innovative techniques for climate change adaptation, and will develop recommendations for producing and using weather and climate information for planning and implementing effective climate change adaptation strategies at the national and regional levels.

## **SPECIFIC OBJECTIVES OF THE WORKSHOP**

- To characterize the contributions of climate change and climate variability to risks in the management of agriculture, forestry, and fisheries;
- To appraise and report on current capabilities in the analysis of climate change and variability specifically as they relate to and affect agriculture, forestry, and fisheries at the national and regional levels;
- To review the status of climate change scenarios and research on climate variability at the national level and summarize them at a regional scale to support the formulation of adaptation strategies for agricultural areas;
- To review the information and decision aids based on the use of seasonal climate forecasts, historical climate data, and other climate analyses that help decision-makers identify management options to reduce risk and increase profits, identify deficiencies in applications of long-range predictions for agriculture and make recommendations for improving the technology for the benefit of agriculture at the national and regional levels;
- To recommend on the partnerships needed to build socially equitable extension and outreach programs for farmers, forest and fisheries managers, and policy makers to enhance users' familiarity with the new seasonal climate forecasts and decision aids and to provide mechanisms for users to give feedback to researchers.





The meeting programme will be designed in such a way as to engage all the participants in discussions and develop appropriate recommendations for all organizations involved in sustainable agricultural development. Workshop sessions on the opening day (18 Nov 2008) are open to anyone interested in the application of meteorology to developing solutions to regional and national problems that agriculture, forests, and fisheries face from as a result of climate change. The remainder of the workshop will be open only to members of the WMO ICT and members of the SECC.

Proceedings of the workshop will be published by USDA, WMO, and SECC and will be widely distributed to promote wider applications of climate change adaptation strategies in agriculture, forestry and fisheries.

### LOCAL COORDINATORS

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**TUESDAY, 18 November 2008**

**JOINT SESSION OF WMO ICT EXPERT PANEL AND SECC**

- Room: Bay-Park Lake
- 07:30 – 08:30 Poster presenters hang posters
- 07:30 – 09:00 Registration, refreshments
- 08:00 – 09:00 Poster viewing

**SESSION 1: Workshop Opening**  
(Chair: Jim Jones)

- 09:00 – 09:10 Opening comments  
*Jim Jones, University of Florida*
- 09:10 – 09:25 Welcome from UF/IFAS  
*Joan Dusky, University of Florida*
- 09:25 – 09:30 A brief history of the SECC  
*Jim O'Brien, Florida State University*
- 09:30 – 09:40 Welcome  
*Mannava Sivakumar, WMO*
- 09:40 – 09:50 Welcome  
*Ray Motha, Chair, CAgM Implementation/Coordination Team (ICT)*
- 09:50-10:00 Welcome  
*Jim Salinger, President, WMO Commission for Agricultural Meteorology*
- 10:00 – 10:15 Refreshment Break – poster viewing

**SESSION 2: Climate Change Impacts and Adaptation to Agriculture, Forestry and Fisheries: Regional Perspectives**  
(Chair: David Zierden Rapporteur: David Stooksbury)

- 10:15 – 10:35 A synopsis overview of the impacts, vulnerability and adaptation of climate change for agriculture in different regions based on the IPCC Fourth Assessment Report  
*A. Kashyapi, India Meteorological Department*
- 10:35 – 10:55 Climate change/variability as it impacts national and regional agriculture, forestry and fisheries in Southeast Asia  
*Azhar Ishak, Malaysia Meteorological Department*

- 10:55 – 11:15 Climate change/variability as it impacts national and regional agriculture, forestry and fisheries in South America  
*Gonzalo Hurtado Moreno, Instituto de Estudios Ambientales (IDEAM), Columbia*
- 11:15 – 11:35 Overviews of the impacts, vulnerability and adaptation of climate change for agriculture, forestry and fisheries in China  
*Panmao Zhai, China Meteorological Administration*
- 11:35 – 11:55 Current capabilities in the analysis of climate change and variability as they relate to and affect agriculture, forestry and fisheries at the national and regional levels  
*Peter Falloon, UK Met Office*
- 11:55 – 12:15 Review of climate change scenarios and research on climate variability at the national level and methods for regional scale summaries for supporting the formulation of adaptation strategies for agricultural areas.  
*Samuel Gameda, Agriculture and Agri-Food Canada*
- 12:15 - 12:35 Deficiencies in the operational applications of long-range predictions for agriculture, and recommendations for improving the technology for the benefit of agriculture at the national and regional levels.  
*Barnabas Chipindu, University of Zimbabwe*
- 12:35 – 13:30 Lunch
- 13:30 - 13:50 Coping with climate change and climate variability--developing an adaptation strategy at the national and regional levels.  
*Ray Motha, United States Department of Agriculture*
- 13:50 – 14:10 Climate Change Adaptation Framework for Agriculture in South Asia  
*Mannava Sivakumar, WMO*
- 14:10 - 14:30 Impact of Climate Change on Fisheries  
*Jim Salinger, National Institute of Water and Atmospheric Research (NIWA), New Zealand*
- 14:30 – 15:00 General Discussion
- 15:00 – 15:30 Refreshment Break – poster viewing

**SESSION 3: Climate Change Impacts and Adaptation to Agriculture, Forestry and Fisheries: National Perspectives**  
(Chair: Dave Letson Rapporteur: Jim Novak)

- 15:30 – 15:50 Overview of SECC mission, strategy, and programs  
*Keith Ingram, University of Florida*
- 15:50 – 16:10 Public opinion on climate change in Florida  
*Kenny Broad, University of Miami*
- 16:10 – 16:30 Downscaling GCMs to local and regional levels  
*Guillermo Baigorria, University of Florida*

16:30 – 16:50	SECC extension and status of AgroClimate website <i>Joel Paz, University of Georgia</i>
16:50 – 17:10	SECC-led Research on the agricultural impacts due to climate variations and management practices of water resources <i>John Christy, University of Alabama, Huntsville</i>
17:10 – 17:30	Agricultural research in the SECC: A systems analysis approach <i>Gerrit Hoogenboom, University of Georgia</i>
17:30	Adjournment
18:30 – 20:30	Dinner meeting for SECC Administrators and Executive Committee

**WEDNESDAY, 19 November 2008**

**SESSION 4: Separate Meetings of SECC and WMO ICT**

07:00 – 08:30	Refreshments	
	<b>SECC</b>	<b>WMO</b>
08:30 – 10:00	Plenary discussion Room: Bay-Park Lake	Discussion in board room Room: Highland Lake
10:00 – 10:30	Break	Break
10:30 – 12:00	Breakout sessions	Discussion
	1) Decision Analysis Room: Spring Lake Chair: David Letson Rapporteur: Jim Novak	
	2) Climate Room: Rock Lake Chair: David Zierden Rapporteur: Ryan Boyles	
12:00 – 13:30	Lunch	Lunch
13:30 – 15:00	Breakout sessions	Discussion
	3) Water Resources Room: Spring Lake Chair: Puneet Srivastava Rapporteur: Greg Kiker	
	4) Agricultural Extension Room: Rock Lack Chair: Joel Paz Rapporteur: Clyde Fraisse	
15:00 – 15:30	Break	Break

15:30 – 17:00	Breakout sessions	Discussion
	5) Agricultural Research Room: Spring Lake Chair: Jim Jones Rapporteur: Gerrit Hoogenboom	
	6) Water Resources DSS Room: Rock Lack Chair: Puneet Srivastava Rapporteur: Pam Knox	
17:00	Adjournment	
18:30 – 20:30	Water Resources Dinner Meeting	

**THURSDAY, 20 November 2008**

**SESSION 5: Separate Meetings of SECC and WMO ICT**

07:00 – 08:30	Refreshments	
	<b>SECC</b>	<b>WMO</b>
08:30 – 10:00	Plenary reports from breakout discussions	Discussion Room: Highland Lake
08:30 – 08:45	Jim Novak	
08:45 – 09:00	Ryan Boyles	
09:00 – 09:15	Greg Kiker	
09:15 – 09:30	Clyde Fraise	
09:30 – 09:45	Gerrit Hoogenboom	
09:45 – 10:00	Pam Knox	
10:00 – 10:30	Break	Break
10:30 – 12:00	General discussions and wrap up	Discussion
12:00	Adjourn	
12:00 – 13:30	Lunch	Lunch

## **SESSION 6: FIELD TRIP**

14:00	Depart hotel for CREC
14:00 – 14:30	Travel to CREC
14:30 – 16:30	CREC Tour
16:30 – 17:00	Return to hotel
17:00	Adjourn

## **FRIDAY, 21 November 2008**

## **SESSION 7: Joint Meetings of WMO ICT and SECC Executive Committee** (Chair: Jim Jones Rapporteur: Bob Stefanski)

07:00 – 08:30	Refreshments
08:30 – 10:00	Reports on WMO and SECC discussions from previous days
08:30 – 09:00	Report of the WMO ICT Meeting <i>Ray Motha</i>
09:00 – 09:15	Discussion
09:15 – 09:45	Report of the SECC discussions <i>Keith Ingram</i>
09:45 – 10:00	Discussion
10:00 – 10:30	Break
10:30 – 12:00	Discussion of opportunities for collaboration between WMO and SECC and drafting of final recommendations from workshop

## **SESSION 8: Closing Session**

12:00 – 12:10	Vote of Thanks <i>Mannava Sivakumar, WMO</i>
12:10-12:20	Final Remarks <i>Jim Jones</i>
12:20	Workshop closes

