

FloridaWCA WORKSHOP REPORT

Workshop #18

Thursday, April 5, 2018

10:00 AM – 4:30 PM

Hosted by

Center for Ocean-Atmospheric Prediction Studies (COAPS)

The Florida State University (FSU)

2000 Levy Avenue, Room 255, Tallahassee, FL 32310

Workshop Report prepared by

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Executive Summary

Florida Water and Climate Alliance (Florida WCA) is a stakeholder-scientist partnership committed to increasing the relevance of climate science data and tools to support decision-making in water resource management, planning and supply operations in Florida (<http://floridawca.org/>). The FWCA brings together interested stakeholders (public water supply utilities, local governments, water management districts and academic institutions) to increase the relevance and usability of climate change and variability data and tools to the specific needs of public water supply utilities and resource managers and planners. Initiated in 2010 by the UF Water Institute, the FWCA partnership includes the UF Water Institute, Southeast Climate Consortium (SECC), the Florida Climate Institute (FCI), and UF/IFAS Center for Public Issues Education, six major public water supply utilities, representatives of local governments, and three water management districts. Initially supported through [two NOAA funded projects](#) and interim funding provided by FloridaWCA partners, currently, Tampa Bay Water supports the FloridaWCA workshops and website. *Detailed information on the FloridaWCA is available the [FloridaWCA website FloridaWCA.org](http://floridawca.org).*

Network Goal: Unfold the need for, and enhance the usability of, climate change and variability data and tools in the planning and operations of Florida's public water supply utilities by creating spaces for sharing knowledge from the multiple perspectives and enhancing collaborative research. FloridaWCA participants are interested in impacting relevant research agendas in the technical and social sciences; understanding policy, management, operations and application of planning tools and understanding new policy changes at the state/local level that would affect the utilities; and the FloridaWCA network sustainability.

Steering Committee: Tirusew Asefa (TBW), Kevin Morris (PRMRWSA), Rob Teegarden (OUC), Ed Carter (SJRWMD), Vasu Misra (FSU), Tracy Irani (UF) and Chris Martinez (UF); Workshop Coordinator – Lisette Staal (UF Water Institute)

Workshop Goal: Provide an environment for stakeholder-scientist exchange of current research and tools to address climate variability and change issues. Focus on topics that may help inform scientists' research that would result in an actionable science of use to practitioners.

Summary of Workshop Outcomes

1) RESEARCH PROPOSALS

- ☐ NSF Proposal - **Due September.** Vasu Misa will take the lead in developing a 2 page context paper to capture ideas. He will share this concept paper for initial input with the following people for review and input: Tracy Irani, Chris Martinez, Rob Teegarden, Alison Adams, Michee Lachaud, Abbey Tyrna, Aavudai Anandhi

- NASA ROSES proposal –**Due April 17th**. Chris Martinez will take the lead in developing Stage 1 (5 page response).
- Tirusew will share the proposal that he and USGS are working on for ET across the state with Wendy, to provide background and for potential leveraging.

2) POTENTIAL LINKAGES AND SYNERGIES -

- Potential to write about the FloridaWCA experience (Tracy Irani and Vasu Misra indicated interest).
- Dr. Aavudai Anandhi, Biological Systems Engineering, Florida Agricultural and Mechanical University (FAMU) share several publications and they have been included on the FloridaWCA website.

3) SUSTAINABILITY –

- Recent support for the FloridaWCA workshops and website has been provided by Tampa Bay Water, and the current contract ends soon with this being the final workshop under the current agreement. Tampa Bay Water will continue to fund at the same level the Workshops.
- Steering committee will need to explore options on support needed to continue website.

Workshop Summary- Monday, October 2, 2017

The 18th workshop since the FloridaWCA began was hosted by **Center for Ocean-Atmospheric Prediction Studies (COAPS)** at The Florida State University (FSU), and was attended by 19 participants (*see Appendix 1 for participant list*).

Workshop Goal: Provide an environment for stakeholder-scientist exchange of current research and tools to address climate variability and change issues with a focus on increasing local relevancy to utilities and water resource managers. Explore topics that that may help inform scientists’ research that would result in an actionable science of use to practitioners.

Specific Workshop Objectives:

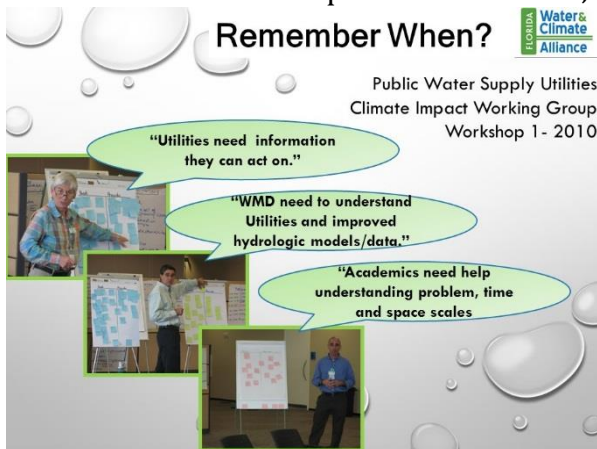
1. Research - Share relevant research regarding Seasonal Scale Forecasts and Long term Climate Projections and how they might be useful to local planning and operations.

2. Collaboration - Explore research interests and potential synergies for proposals including the nexus of food, energy and water and Earth science applications for water resources.
3. Community - Consider ways to continue to address FloridaWCA participants' interests based on shared strengths and resources of the represented institutions?

Session 1: Welcome, Introductions and FloridaWCA background

The participants were welcomed by Dr. Eric Chassignet, Director, COAPS, FSU who shared information about the [Center for Ocean-Atmospheric Prediction Studies](#) and related activities.

Lisette Staal (UF Water Institute) reminded the participants that the FloridaWCA first got going in 2010 with a goal of increasing regional relevant and usability of climate information to support decision-making of water suppliers. As a reflective and introductory exercise, she asked participants to think about that time period (2010), reminding them of some major world events. Then she asked participants to draw two pictures in the context of “water and climate” - one that depicts them in 2010, and one that depicts them now. Participants then



introduced themselves and share both of their drawings showing changes over the years. Changes reflected personal, technology and institutional aspects of participants' engagement with water and climate over the years.

Reflecting back on the early workshops of FloridaWCA, some of the key needs identified included needs to 1) address uncertainty in climate predictions, 2) know about the available tools and their usefulness, and 3) develop decision strategies that can benefit from

appropriate tools. Although progress has been made, many of the needs continue, in particular moving toward decision strategies.

Dr. Tracy Irani, UF, shared results of her recent study of the FloridaWCA as a network and example of a scientist-stakeholder partnership. [Qu, S., & Irani, T. \(2017\). The impact of Florida Water and Climate Alliance: A citation analysis. PIE2016/17-07. Gainesville, FL: University of Florida/Department of Family Youth and Community Sciences.](#)

Session 2: RESEARCH “FloridaWCA relevant Research”

Seasonal Scale Forecasts (presentations)

- Chris Martinez, Associate Professor, Agricultural and Biological Engineering, University of Florida, [“Seasonal scale forecasts for water management: What has been accomplished and what still needs to be done?”](#)
- David Zierden, State Climatologist and Associate in Research, COAPS, [“Florida Winter Climate Review and Spring/Summer Outlook”](#)

Long term Climate Scenarios (presentations)

- Vasu Misra, Associate Professor of Meteorology, Department of Earth, Ocean and Atmospheric Science, [“Impact of urbanization and air-sea interactions on long term climate variations over Florida”](#)
- Seungwoo Jason Chang, Ph.D., Post-Doctoral Associate, Water Institute, University of Florida, [“How what we know about climate projections translates into hydrology projections and water resource decisions for Tampa Bay Water.”](#)

Session 3: NETWORK “Learning from Each Other”

Participants shared some of their recent activities they felt would be of interest to the FloridaWCA group. This included updates on publications, proposals, recent presentations, ideas for collaboration.

Dr. Aavudai Anandhi, Biological Systems Engineering, Florida Agricultural and Mechanical University (FAMU) share several publications and they have been included on the FloridaWCA website:

- Anandhi, A. [CISTA-A: Conceptual model using indicators selected by systems thinking for adaptation strategies in a changing climate: Case study in agro-ecosystems](#)
- Anandhi, A. and N. Kannan [Vulnerability assessment of water resources – Translating a theoretical concept to an operational framework using systems thinking approach in a changing climate: Case study in Ogallala Aquifer](#)
- Kannan, N. et al. [Estimation of Stream Health Using Flow-Based Indices](#)

Session 4: PROPOSALS “Exploring new possibilities”

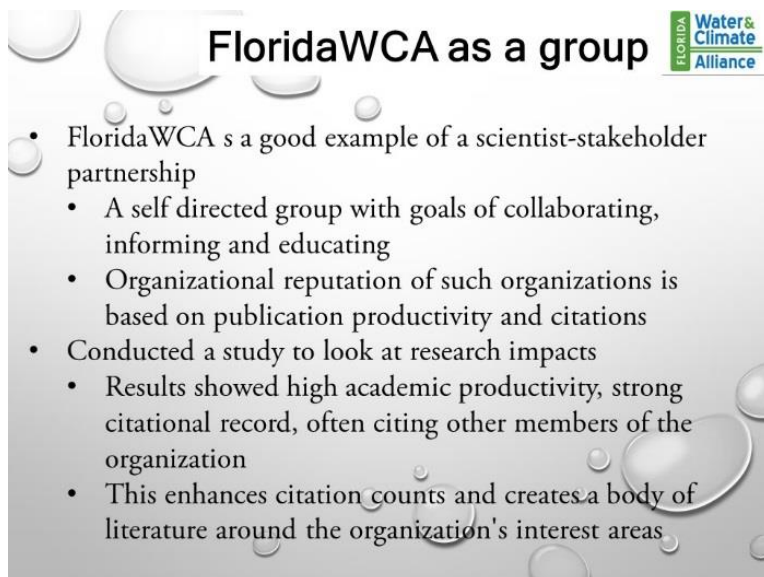
NSF INFEWS Proposal - Innovations at the Nexus of Food, Energy and Water Systems (INFEWS) NSF 18-545


Wendy Graham, UF Water Institute, [provided background on the program and advice on preparing a solid proposal](#). Dr. Vasu Misra, FSU/COAPS shared [information on the call, and potential approach](#). All participated in a discussion of potential ideas. Agreed to try to move forward with a proposal concept paper (lead: Vasu Misra). The following people volunteered to review initial draft Action: Vasu Misra will draft concept paper based on initial discussion. Following people agreed to review and contribute to this effort: Tracy Irani, Chris Martinez, Rob Teegarden, Alison Adams, Michee Lachaud, Abbey Tyrna, and Aavudai Anandhi

NASA ROSES 2018 proposal – Earth Science Applications: Water Resources NNH18ZDA001N-WATER

Tirusew Asefa provided some background on the request and pointed out strong linkages to the focus of the FloridaWCA. Chris Martinez agreed to move forward and draft a 5 page stage 1 proposal, based on a proposal submitted earlier. That proposal receive very good review, however there were several recommendation that would be helpful to address. He will connect with Vasu, Tirusew, Keven and others that were involved in the earlier proposal. Action: Chris Martinez to draft Stage 1 five page proposal and connect to previous team.

Session 5: COMMUNITY AND PARTNERSHIP

The slide features a background of water bubbles. On the left, a bulleted list describes FloridaWCA as a scientist-stakeholder partnership. On the right, the Florida Water & Climate Alliance logo is displayed. The title 'FloridaWCA as a group' is centered at the top.

FloridaWCA as a group 

- FloridaWCA is a good example of a scientist-stakeholder partnership
 - A self directed group with goals of collaborating, informing and educating
 - Organizational reputation of such organizations is based on publication productivity and citations
- Conducted a study to look at research impacts
 - Results showed high academic productivity, strong citational record, often citing other members of the organization
 - This enhances citation counts and creates a body of literature around the organization's interest areas

Tracy Irani, UF, initiated the discussion with the participants by asking what they found useful about the FloridaWCA and “Why are we still engaged?”

Comments were contributed by participants who have been engaged since the beginning, as well as participants that were attending a FloridaWCA workshop for the first time. Key reasons for staying engaged included uniqueness of interactions and dialogue across disciplines, new information gained, ability to bring strength of

partnership to current work and potential proposals, shared efforts toward addressing climate issues, and an information portal.

Recent support for the FloridaWCA workshops and website has been provided by Tampa Bay Water, and the current contract ends soon with this being the final workshop under the current agreement. Tampa Bay Water will continue to fund at the same level the Workshops. Steering committee will need to explore options on support needed to continue website. Agreed that current efforts for proposals are significant for continuing future engagement.

APPENDIX 1: List of Participants – FloridaWCA Workshop

Thursday, April 5, 2018 - The Florida State University/COAPS, Tallahassee, FL.

Adams	Alison	Utility	Tampa Bay Water- Retired
Anandhi	Aavudai	University	Florida Agricultural & Mechanical University
Asefa	Tirusew	Utility	Tampa Bay Water
Bhardwaj	Amit	University	FSU- COAPS
Borisova	Tatiana	University	University of Florida
Carter	Ed	WMD	SJWMD
Chang	Jason (Seungwoo)	University	University of Florida
Graham	Wendy	University	University of Florida Water Institute
Irani	Tracy	University	University of Florida
Jordan	Wyatt	University	Florida State University
Lachaud	Michee	University	Florida A&M University
Magley	Wayne	private-retired	Environmental Manager-retired
Mandrup-Poulsen	Jan	private-consulting	Dynamic Solutions
Martinez	Christopher	University	University of Florida
Misra	Vasu	University	Florida State University/COAPS
Staal	Lisette	University	University of Florida Water Institute
Teegarden	Robert	Utility	Orlando Utilities Commission
Tyrna	Abbey	govt-county	Sarasota County Sustainability
Zierden	David	University	Florida State University/COAPS

APPENDIX 2: Workshop Agenda

FloridaWCA Workshop Agenda

Thursday, April 5, 2018

Hosted by: **Center for Ocean-Atmospheric Prediction Studies (COAPS)**

The Florida State University

Location: 2000 Levy Avenue, Room 255, Tallahassee, FL 32310

Directions: <http://coaps.fsu.edu/visitor-information>.

Overall Workshop Goal: Provide an environment for stakeholder-scientist exchange of current research and tools to address climate variability and change issues with a focus on increasing local relevancy to utilities and water resource managers. Explore topics that may help inform scientists' research that would result in an actionable science of use to practitioners.

Specific Workshop Objectives:

4. Research - Share relevant research regarding Seasonal Scale Forecasts and Long term Climate Projections and how they might be useful to local planning and operations.
5. Collaboration - Explore research interests and potential synergies for proposals including the nexus of food, energy and water and Earth science applications for water resources.
6. Community - Consider ways to continue to address FloridaWCA participants' interests based on shared strengths and resources of the represented institutions?

Workshop Agenda:

9:45–10:00 Check-in, Networking

10:00–10:30 Session 1: Welcome, Introductions and FloridaWCA “Refresher”

10:30–12:00 Session 2: RESEARCH - FloridaWCA relevant RESEARCH - (Seasonal Scale Forecasts, Long term Climate Scenarios)

Seasonal Scale Forecasts (presentations)

- Chris Martinez, Associate Professor, Agricultural and Biological Engineering, University of Florida, “**Seasonal scale forecasts for water management: What has been accomplished and what still needs to be done?**”
- David Zierden, State Climatologist and Associate in Research, COAPS, “**Florida Winter Climate Review and Spring/Summer Outlook**”

Long term Climate Scenarios (presentations)

- Vasu Misra, Associate Professor of Meteorology, Department of Earth, Ocean and Atmospheric Science, **“Impact of urbanization and air-sea interactions on long term climate variations over Florida”**
- Seungwoo Jason Chang, Ph.D., Post-Doctoral Associate, Water Institute, University of Florida, **“How what we know about climate projections translates into hydrology projections and water resource decisions for Tampa Bay Water.”**

12:00–12:30 Lunch

12:30 – 1:00 Session 3: NETWORK “Learning from Each Other” – Opportunity to share your current activities

1:00 – 3:30 Session 4: Explore new possibilities --- PROPOSALS

(1:00 – 2:15) **NSF INFEWS Proposal** - Food, Energy Water

- Why this proposal and overview of RFP (Vasu Misra, COAPS/FSU)
- NSF perspective – (Wendy Graham, UF Water Institute)
- Explore some key topic areas together -

(2:15 – 3:30) **NASA ROSES 2018 proposal** – Earth Science Applications: Water Resources

- Why this proposal and overview of RFP (Tirusew Asefa, TBW)
- Idea generation, and discussion (Vasu Misra, COAPS)
- Develop concept and next steps

3:30 –4:30 **Session 5: COMMUNITY and PARTNERSHIP** - How can we continue to address the participants’ interests based on shared strengths and resources of the represented institutions?