

MEETING MINUTES – WCFLAMS Chapter

Teach the Teachers Workshop

DATE: March 23, 2010

LOCATION: University of South Florida
C.W. Bill Young Auditorium
Tampa, FL 33620

PRESENTATIONS: The Teach the Teachers Workshop was one of the most widely attended and successful meetings sponsored and funded jointly by the West Central Florida Chapter of the American Meteorological Society and the College of Arts and Sciences, University of South Florida. **Dr. Jennifer Collins**, Assistant Professor of Geography at the University of South Florida orchestrated the educational experience and served as the emcee to the event. Dr. Collins provided an overview of the workshop to an audience of over eighty-five attendees. She also recognized contributions from donors, the guest presenters (Figure 1), the members performing the experiments and former Chapter award recipients.



Figure 1: Dr. Jennifer Collins, Assistant Professor, University of South Florida Department of Geography and WCFLAMS Chapter Vice President introduces Guest Speaker, Dr. John Knox of the University of Georgia to attendees of the Teach the Teacher Workshop.

SPEAKERS: **Dr. John Knox**, Department of Geography, University of Georgia: *The Forecast Factory*.

Ms. Danielle Groenen, National Weather Service (NWS) Volunteer: *CoCoRaHS: A Community Collaborative Rain, Hail, and Snow network*.

Mr. Charles Paxton, NWS and University of South Florida (USF) graduate student: *The Use of Computer Models in Weather Forecasting – Examples from Research Conducted at the University of South Florida.*

Dr. Don Chambers, USF College of Marine Science: *Sea Level Rise and its Impact on Florida.*

Guest speaker, **Dr. John Knox**, from the University of Georgia Department of Geography, along with his PhD student Aneela Qureshi co-presented a highly interactive session entitled “The Forecast Factory” and taught an audience of teachers, as well as several weather enthusiasts, the history of weather forecasting. Dr. Knox explained how before the 1950’s, weather forecasting was based on intuitions, myths, and rules of thumb. In our modern era, weather forecasting is based on science and complicated equations.

Dr. Knox led the group in an active-learning role-playing exercise that metaphorically recreated L.F. Richardson’s original vision for numerical weather forecasting as well as the modern methods for numerical weather prediction. Dr. Knox’s presentation did an excellent job of engaging the audience and provided a foundation of learning and resources for teachers, no matter the grade level. Dr. Knox has published this approach in the *Journal of Geoscience Education* (2000, pp. 579-580).

Ms. Danielle Groenen, a volunteer for the National Weather Service, presented CoCoRaHS, or the Community Collaborative Rain, Hail, and Snow network. CoCoRaHS involves the use of rain gauges and hail pads to take daily measurements. There are very specific requirements for recording data, and the audience at the Teach the Teachers workshop was fortunate enough to be in an impromptu learning session. The rain gauge was explained, as well as proper location and measurement techniques. The rain gauge is a great tool for getting students involved in weather forecasting as they gain hands on experience collecting valuable data.

The third presenter of the evening was **Mr. Charles Paxton**, Science and Operations Officer with the NWS and also a USF graduate student of Dr. Collins pursuing a PhD in the Department of Geography. Mr. Paxton spoke on the use of computer models in weather forecasting; especially in two research projects where Dr. Collins and Charles Paxton (and collaborators) published results. The first project was a smoke and fog event that produced tragedy on Florida’s Interstate-4 during January 2008. The second project was on Southwest Florida warm-season tornadoes. Mr. Paxton mentioned four types of models which include the grid point, spectral model, statistical, and hybrid models (the latter of which is a combination statistical-dynamical model). Mr. Paxton went on to describe the use of computer modeling in their research on the meteorological conditions leading up to the 70 car pile-up on I-4 in central Florida. Also described was the use of the Weather Research and Forecasting (WRF) computer model to imitate conditions prior to and during a Florida tornado event. This research will likely lead to better forecasting ability, as the model forecasted a mesocyclone seen in observations on the day of the actual event. Please see the following articles for related material.

Collins, J.M., C. Paxton and A. William, 2009: Southwest Florida Warm Season Tornado Development. National Weather Association's *Electronic Journal of Operational Meteorology*, 2009-EJ12.

Collins, J.M., A. N. Williams, C. H. Paxton, R. J. Davis and N. M. Petro 2009: Geographical, meteorological, and climatological conditions surrounding the 2008 interstate-4 disaster in Florida. Papers of the Applied Geography Conferences. Papers of the Applied Geography Conferences, 32: 153-162.

A link to these works can be found at

<http://www.weathercenter.usf.edu/studentspace/research.html>

The fourth and final presenter of the evening was **Dr. Don Chambers** from the College of Marine Science at USF. Dr. Chambers presented on sea level rise and its potential impacts on Florida. Dr. Chambers described that a rise of sea level is caused by heat flux, melting of grounded ice, and local wind-stress and ocean circulation. The tools for measuring sea level change include island tide gauges, GPS, gravity (which was described as being the most unique and important), satellite altimeters, and laser altimeters. Dr. Chambers suggests there is evidence of acceleration of sea level change in the Gulf of Mexico, and due to subsidence and soil erosion, Florida is at risk. Also noted was the heavily populated coastline of Florida producing a greater risk and the need for mitigation efforts.

Each attendee received a CD of weather experiment activities which were also presented to the attendees by several WCFLAMS members. Survey responses from participants were very positive. The following testimonials are included as examples.

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

Forecast Factory was a terrific way to engage learners, bring visual, kinesthetic, and multiple intelligences activities for learning throughout the room.

3. Were your expectations met? If not, please explain.

Amazing presentations, I was very impressed with the amount of relevant information given and the experience of the presenters.

4. Question for teachers: Are you likely to adopt some aspect of the forecast factory role play idea in your classes in the next year?

Yes, everyone was engaged

5. Question for teachers: Are you likely to be using 1 or more of the experiments (applets, cloud in a bottle, convection, radiometer) presented to you in class this year? If so, which experiments? If not, why? Or n/a if you didn't see any experiments.

I WILL USE THE CLOUD IN THE BOTTLE TO REVIEW GASES / I WILL USE THE RADIOMETER TO TEACH IRRADIATED WITH THE HAM DRYER

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

Besides the food! Really enjoyed each presenter. I will sign up for workshops!

3. Were your expectations met? If not, please explain.

I was impressed with the presentation of material. The speakers were extremely enlightening and dynamic.

4. Question for teachers: Are you likely to adopt some aspect of the forecast factory role play idea in your classes in the next year?

You better believe I will!

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

Cloud in bottle demo Love the Teacher Demos!!

Convection demo

3. Were your expectations met? If not, please explain.

YES NOT ONLY WAS THE INFORMATION EXCELLENT BUT PRESENTATION TECHNIQUES FOR CLASSROOM USE WAS ALSO EXCELLENT.

4. Question for teachers: Are you likely to adopt some aspect of the forecast factory role play idea in your classes in the next year?

DEFINITELY IF I TEACH ANY TYPE OF METEOROLOGY COURSE

5. Question for teachers: Are you likely to be using 1 or more of the experiments (applets, cloud in a bottle, convection, radiometer) presented to you in class this year? If so, which experiments? If not, why? Or n/a if you didn't see any experiments.

APPLETS - EXCELLENT & WILL APPEAL TO TODAY'S STUDENTS

CLOUD IN BOTTLE + RADIOMETER - VERY VISUAL, SIMPLE TO USE

CONVECTION - DID NOT GET A CHANCE TO SEE THIS

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

"FORECAST FACTORY" & CHARLES PAXTON'S PRESENTATION } ALL EXCELLENT
SEA LEVEL PRESENTATION

What was the best thing about this USF/AMS "Teach the Teacher" event.

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

The opportunity for teachers to get into about weather

5. Question for teachers: Are you likely to be using 1 or more of the experiments (applets, cloud in a bottle, convection, radiometer) presented to you in class this year? If so, which experiments? If not, why? Or n/a if you didn't see any experiments.

I will probably use the cloud in a bottle. I had heard of it but had never seen it done. I works much better than I had imagined.

6. What was the best thing about the USF/AMS "Teach the Teacher" event?

I liked the large variety of presenters and experiments. It gave me bits of information that I can insert into several different lessons.

20. Any other comments or questions?

I thought it was well designed.

20. Any other comments or questions?

One of the most "fun" & informative trainings I've taken ever!

TREASURER'S REPORT: The West Central Florida Chapter of the AMS account balance, as of March 23, 2010: \$1,048.19.

CONCLUSION: The meeting was attended by an outstanding audience of **85** educators, AMS members, National Weather Service employees and representatives from local media. In addition, an elaborate, home-cooked buffet dinner and dessert was provided to all members, courtesy of Kim Bolton and family – the mother of the WCFLAMS Chapter's youngest member, Matt Bolton, who is a home-schooled high school student planning to pursue a career in meteorology. Donations were also obtained from Publix, Walmart, the USF Office of Undergraduate Research, USF's School of Global Sustainability and the USF Alumni Office.

Submitted by Brian LaMarre, National Weather Service (Corresponding Secretary, West Central Florida Chapter) and Dr. Jennifer Collins (Vice President) with contributed material from Alicia Williams, University of South Florida (Secretary). Email: Brian.LaMarre@noaa.gov