

# Project Atmosphere 2011

by Ann Jackson<sup>2</sup>



This past summer, I was the fortunate Canadian to be chosen for Project Atmosphere in Kansas City, Missouri. Project Atmosphere is a two-week series of studies organized by the American Meteorological Society (AMS) in conjunction with the National Oceanic and Atmospheric Administration (NOAA). This intensive study took place between July 17 and July 29 at the U.S. National Weather Service Training Center (NWSTC) in Kansas City. My participation at this event was made possible by the Canadian Meteorological and Oceanographic Society (CMOS) and the Canadian Council for Geographic Education (CCGE) – I am grateful for their support of this program.

Sixteen teachers were gathered from across the United States, from both the elementary and secondary panels. It was interesting to hear about the delivery and nature of weather instruction at the different grade levels from my American colleagues. I am certainly envious of the extent to which weather is directly taught at many grade levels as it seems that much of our Ontario weather instruction is delivered in the context of climate change. These teachers shared their wealth of knowledge and experiences and certainly made the lone Canadian feel welcome.

The two-week workshop was an opportunity to try hands-on weather activities and attend a variety of seminars and presentations on the many aspects that make up weather and climate analysis and prediction. Our list of presenters certainly was a “Who’s who” of weather gurus. This was obvious too, in the level of passion as they spoke about their specialty. Many of these exceptional speakers also mentioned that somewhere along the way, they were

---

<sup>2</sup> St. Thomas Aquinas CHS  
Russell, Ontario, Canada



Group photo for Project Atmosphere 2011. Ann Jackson is in the front row, second from the right.

encouraged and motivated by a particular teacher who helped them to pursue their interests. This was a wonderful reminder that, as teachers, we are capable of influencing students well beyond the classroom. Kudos certainly go to the following for giving dynamic presentations that brought their specialty to life: Bill Read, director of the National Hurricane Center; Dr. Louis Uccellini, director of the National Centers for Environmental Prediction; Doug Cluck for an entertaining look at climate; Ron Przybylinski from the St. Louis National Weather Service; Jon Malay from the AMS; and Scott Tessmer for his talk on Space Weather.

Weather has always been a personal interest of mine since childhood. As a teacher, I have tried to incorporate weather facts and trivia into the other math and science classes (physics, environmental science and general 9/10 sciences), but I will also admit to following weather statements, watches and warnings in pursuit and anticipation of the infamous "*Weather Day*" when school buses are cancelled for the day.

So I went to Project Atmosphere armed with a list of weather questions that have always intrigued me, and I was not disappointed. Does anyone really consider a "changing" Sun could be affecting the weather/climate on the earth? How is it possible to see rotation or tornadoes by looking at a radar image? How accurate are the models for predicting hurricane development and paths when looking at infant weather systems off the coast of Africa? What are the criteria for rating tornadoes? Are there other weather terms out there like derecho, bow echo, hook echo, or haboobs? So is the climate actually changing? NOAA has so many amazing maps and products out there —how can I use these images to predict how a Colorado Low will end up causing a snowstorm in eastern Ontario?

The group was treated to detailed information for all these types of questions and given links to additional electronic

resources for further study. I can honestly say that those questions were addressed, and I have been given even more to think about. If I was a weather addict before going to Project Atmosphere, I can now justify my increased habit as simply further studies!

We were treated to a daily weather briefing that began to incorporate all the things that we had learned. Many thanks to Jerry Griffin who was able to explain why the weather in Kansas and southern states was so incredibly hot and relatively uneventful while we were at Project Atmosphere! This was an excellent introduction to the vast array of high-tech imagery that is available through NOAA to the general public and how it is used to better understand, model and predict the weather.

At the NWSTC we examined different types of equipment for recording weather data. We visited the National Aviation Weather Center to learn the impacts that weather can have on air traffic. We ventured to Topeka, Kansas, to participate in the daily launch of a weather balloon with an attached radiosonde and better understand weather monitoring at the local level. The group was treated to an excellent running commentary by Dr. Moran on the geology encountered along the way to Topeka. On a weekend excursion to the flooded Missouri River and Subtropolis, an underground business complex in a former salt mine, Dr. Moran again provided excellent commentary. This certainly reminded us of the evidence that climate change is an ongoing process as the earth changes over time.



Launching a weather balloon at Topeka.

Between these activities, we worked through different modules that have been developed by the AMS. Some of my favourite topics included El Niño/La Niña, solar radiation, air pressure and jet streams, tornadoes, conditions for ice storms, and of course, understanding the mechanics of snow storms. These are modules that can be shared with other teachers and used directly in the classroom with students.

A huge thank you to Patricia Warthan, Jim Brey, Kira Nugnes, Dr. Moran and Bob Weinbeck for their organization and dedication to incorporating so much learning into a very short period of time! It was a privilege to have had the opportunity to participate in Project Atmosphere 2011 and I extend my appreciation to CMOS and CCGE for enabling me to attend this workshop.