

***5th International Conference on School and Popular
Meteorological and Oceanographic Education***

by Robert P. Wanton

This international conference was the fifth in a series (one every four years) which focuses on meteorology and oceanography in school and popular education. It drew together teachers, science communicators, meteorologists and oceanographers to exchange ideas.

The conference encompassed such areas as:

- . Weather and ocean studies in the primary and secondary (K-12) classroom
- . Meteorology and oceanography professional development programs for teachers
- . Using the Internet for schools and public education

and included:

- . Oral presentations
- . Workshops providing participants with hands-on activities and practical ideas to take back to the classroom
- . Poster presentations, including the opportunity for school students to present their work

The conference was held July 5th - 9th 1999 in Melbourne and Ballarat, Victoria, Australia and was hosted by the ***Australian Meteorological and Oceanographic Society***.

There were 105 attendees representing the following 13 countries:

Argentina
Australia
Canada
France
Germany
Japan
Norway
Philippines
Singapore
South Africa
Spain
UK
USA

It was a privilege, honor, and pleasure for me to be the lone representative of the National Weather Service of the United States. My trip *down-under* came about through the efforts of many individuals, none of whom was more influential than Ira Geer, Education Program Director of the American Meteorological Society. Ira strongly urged the NWS to participate in the conference and suggested that I would be an excellent person to do so. This was based on the fact that I have been involved with the AMS DataStreme Project since its inception 3 years ago; have attended the last two AMS Annual Meetings (Dallas and Phoenix) and have co-presented with John Moore, AMS Atmospheric Education Resource Agent (AERA) in southern New Jersey, at both; and have a very ambitious Education Outreach Program in the Mount Holly NWS Forecast Office.

My attendance at the conference made a loud and positive statement by the NWS -- it showed the world that the NWS places an enormous emphasis on K-12 education.

The Conference

Monday and Tuesday July 5th & 6th

The first two days of the conference were held at the **University of Ballarat** (Ballarat is located about 110 km west northwest of Melbourne). Oral presentations were given in the morning and early afternoon --- workshops took place in the late afternoon.

At the end of Monday's sessions, we traveled to Ballarat Town Hall where the Mayor of Ballarat and the Ballarat City Council hosted a ***Civic Reception*** for all conference attendees. Following the reception, we returned to the University of Ballarat for a hot buffet dinner.

The *conference dinner* was held Tuesday evening at Sovereign Hill (a reconstruction of Ballarat in the early gold-rush period of the 1850s). Following dinner, we were treated to a sound and light show called "*Blood On The Southern Cross*". The show was set in 1854 and related the battle of the Eureka stockade (the only civil uprising in the history of Australia).

Wednesday July 7th

Travel day --- we departed Ballarat at 8:15AM in two buses headed, eventually, for Melbourne. But first it was off to Queenscliff, a picturesque and historic town situated at the entrance to **Port Phillip Bay**. We visited **The Marine Discovery Centre** (an educational facility of the prestigious Marine and Freshwater Resources Institute). It is the only marine education facility in southern Australia to be linked to such an institute. The Centre assists people of all ages to discover the wonders of the unique southern Australian temperate marine environment.

We were then divided into three groups (A,B,&C). Group A participated in a *rockpool ramble* at Point Lonsdale. This group wore old clothes and shoes that they could get wet. They discovered the fascinating animal and plant life of one of Southern Australia's most unique rock platforms. They found weird and wonderful sea creatures at the Point Lonsdale Marine Reserve, while also uncovering the mystery surrounding the treacherous 'Rip' and the ships that it has claimed over the past 100 years.

Group B (myself included) took a 2-hour boat cruise onto Port Phillip Bay. There were approximately 40 of us on board a relatively small fishing/scientific vessel. We used a variety of sampling equipment to investigate the physical, chemical, and biological aspects of the Bay. We discovered a host of marine life living both above and below the surface. One of the most fascinating aspects of the trip was visiting colonies of *Australian Fur Seals* and *Australasian Gannets*. We were practically nose to nose with the seals (well...3 or 4 feet away).

Group C participated in a guided tour of the Marine Discovery Centre, which included a lecture and a slide presentation.

We had a quick lunch at the Centre and then it was off to Melbourne and a visit to the Bureau of Meteorology. We were again divided into groups and given the option of picking 2 of the following 5 tours...

- 1) **Bureau of Meteorology Training Centre** --- participants got an overview of current and future developments in forecasting. They saw the atmosphere in fluid motion with displays synthesizing surface and upper level observational data, satellite information and visualization techniques.

2) **Bureau of Meteorology Public Relations Area** --- participants (I was one) saw a historical display of meteorology in Australia (old logbooks, instruments, etc.). We toured the facilities available to school groups, talked to the Bureau's public relations officer, saw a "tornado generator", and viewed many pamphlets, brochures, and videos.

3) **National Climate Centre** --- participants learned about Seasonal Climate Outlooks (providing rainfall outlooks for Australia for the next three months, linked to changing patterns in the Pacific and Indian Oceans), mapping services (using GIS technology developed over the last 5 years, currently mapping all sorts of meteorological observations and noticing new trends), the SILO web site (providing Australian rainfall observations as soon as they are available), and the newly developed 'meteograms' (weather guidance straight from the computer models for any location in Australia).

4) **National Meteorological Operations Centre** --- this is one of three World Meteorological Centres (the other two are in Washington and Moscow). Participants got to see a complete range of full southern hemisphere real time weather charts, satellite data, and numerical model products. They also were able to talk with the operational meteorologists.

5) **Victorian Regional Forecasting Centre** --- this is the equivalent of our forecast offices here in the U.S. Participants, including myself, were able to see forecasters and the latest technology in action, discuss the current weather, and participate in a chart discussion.

Thursday and Friday July 8th & 9th

The remainder of the conference was held at **Glen Waverly Secondary College** in Melbourne. Once again, oral presentations were in the morning and workshops in the afternoon.

Our presentation (John Moore and I) was scheduled to be last...*I suppose it would be too much to assume that they left the best for last.* It was titled "Developing Weather Awareness and Outreach Through Collaborative Teacher Enhancement Programs".

One of the highlights of the conference week was the Thursday night program -- **Science in the Pub**. This, once a month, feature is an initiative of the NSW (New South Wales) Branch of the Australian Science Communicators (ASC). It was being held in collaboration with our conference, the Australian Meteorological and Oceanographic Society (AMOS), and the Victorian Branch of the ASC. The topic for the program was very appropriate --- **Greenhouse Warming Is A Lot Of Hot Air**.

The panelists for the session were *Professor Ann Henderson-Sellers*, Director of Environment at ANSTO, and a member of the National Greenhouse Advisory Panel and *Professor Ian Plimer*, Professor of Geology at the University of Melbourne, and a well-known member of the Australian Skeptics. Dr. Paul Willis, ABC Radio science broadcaster, moderated the debate.

While many worthwhile scientific facts were discussed, much of the 2 — hour program was done with tongue-in-cheek. The room was packed, not only with conference goers but with many college students. What a great idea --- have a scientific debate in a pub!

And with the beer flowing, a good time was had by all. But conclusions about whether or not human activities are having anything to do with global warming, or, for that matter, whether global warming is taking place at all, will have to wait -- probably for a few more centuries. The program was recorded for later use on national radio.

Summary

What an opportunity. Something that comes along once in a lifetime. I not only got to visit an absolutely wonderful country but I was able to swap tales with some of the worlds most influential scientists. There were pieces of information picked up, not only from the presentations and workshops, but from the discussions at breakfast and the incidental meeting in a hallway.

The main topic of the conference was Science Education in our schools. Everyone at the conference was there because he/she had that interest at heart. ***Our children are our most important assets and science matters.*** Lets not let them fall through the cracks.

Afterthought

For those of you wondering if there really are kangaroos and koalas down-under -- yes there are and I have pictures to prove it, but that's for another time.