1.8 EWOC 2006: AN INTERNATIONAL CONFERENCE TO PROMOTE METEOROLOGICAL, OCEANOGRAPHIC, AND CLIMATE EDUCATION

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1. INTRODUCTION

This summer (July 2006), the Seventh International Conference on School and Popular Meteorological and Oceanographic Education will convene in Boulder, Colorado. This conference will provide a forum for scientists, educators and interested participants to exchange their ideas on educational initiatives to promote the study and to increase the awareness of weather, oceans and climate. This paper will examine the history of this conference and provide information about the upcoming conference.

2. HISTORY OF THE CONFERENCE

The series of conferences now known as EWOC (Education: Weather, Ocean, Climate) began in 1984, when, from 2 to 4 July, the First International Conference on School and Popular Meteorological Education was held in an Oxford University college. The host organization was the Royal Meteorological Society and the conference was co-sponsored by the American Meteorological Society and the World Meteorological Organization. The meeting attracted 82 participants from 22 countries, and the proceedings of the conference were published by the Royal Meteorological Society in 1985 in a volume called *Weather Education* (Walker, 1985). This volume contains a record of the papers presented at the conference, as well as information about the workshops and exhibitions that were important elements of the meeting. It also contains the text of the address by Professor G.O.P. Obasi, Secretary-General of World Meteorological Organization, who opened the conference.

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The second conference changed its title and expanded its focus by including oceanography as a field of interest. It was called The Second International Conference on School and Popular Meteorological and Oceanographic Education (ICSPMOE) and was held in July 1989 in Crystal City, just outside Washington DC. Hosted by the American Meteorological Society, it was co-sponsored by the Royal Meteorological Society and the World Meteorological Organization. The conference attracted 180 participants from sixteen countries, almost 100 of them teachers from the USA, supported by the American Meteorological Society and a generous grant from the National Science Foundation (Snow et al., 1990). The papers presented at this conference were published by the American Meteorological Society in a pre-print volume.

The third ICSPMOE was held in Toronto, Canada, in July 1993 and took place in the Ontario Science Centre. The host organization was the Canadian Meteorological and Oceanographic Society, and the co-sponsors were again the American Meteorological Society, the Royal Meteorological Society and the World Meteorological Organization. The conference attracted 140 participants from twenty countries (Newman and Smith, 1994).

For the fourth conference, held in July 1996, the venue was the University of Edinburgh, Scotland, and the host organization was again, as in 1984, the Royal Meteorological Society. The co-sponsors were, once more, the American Meteorological Society and the World Meteorological Organization, and a pre-print volume was produced by the Royal Meteorological Society. The conference attracted 124 participants from sixteen countries, many of whom took advantage of the two post-conference study days

which focused upon the outstanding geology of Scotland's east coast. (Moran et al., 1998)

The fifth ICSPMOE, the first conference called EWOC, was held in Australia in July 1999. The first two days of the conference took place in the University of Ballarat and the last two in a secondary school in Melbourne. On the third day of the conference, enroute from Ballarat to Melbourne, conference delegates enjoyed visits to the Marine Discovery Centre at Queenscliff and the Australian Bureau of Meteorology in Melbourne. The conference was hosted by the Australian Meteorological and Oceanographic Society, and the co-sponsors were again the Royal Meteorological Society, the American Meteorological Society and the World Meteorological Organization. In addition, several Australian bodies provided support, among them the Bureau of Meteorology. The conference attracted 105 participants from twelve countries. An innovation for this conference was a competition for Australian schools in which students undertook weather projects. (Smith and Moran, 2000).

The sixth conference was held in the Universidad Europea de Madrid, Spain, in July 2003. It was hosted by the university's Physics Department and attracted 120 participants from 19 countries. The co-sponsors were, yet again, the Royal Meteorological Society, the American Meteorological Society and the World Meteorological Organization and additional sponsorship was provided by a number of Spanish bodies, including the Instituto Nacional de Meteorologia. For the first time, the pre-print volume took the form of a CD, produced by the host organization. Again there was a competition for school children, this one an international competition in which children were invited to prepare a weather broadcast.

Clearly, the six previous conferences have provided educators with an excellent opportunity to exchange their ideas on how to promote the study of weather, oceans, and climate and to present their innovations for the classroom or popular educational venues.

3. PLANS FOR EWOC 2006

3.1 *Conference Venue*

The local host for EWOC 2006 is the University Corporation for Atmospheric Research (UCAR) Office of Education and Outreach (www.ucar.edu) in Boulder, Colorado, on behalf of the American Meteorological Society (www.ametsoc.org). The Local Arrangements Committee includes representatives from several UCAR programs, NOAA, and the University of Colorado. Founded in 1960, UCAR is a nonprofit consortium of North American member universities, each of which grants doctoral degrees in the atmospheric and related sciences, plus an increasing number of international affiliates offering comparable degrees, and North American academic affiliates offering pre-doctoral degrees. UCAR manages the National Center for Atmospheric Research (NCAR) (www.ncar.ucar.edu) with primary support from the National Science Foundation.

NCAR supports the community of atmospheric and geoscience researchers with tools such as aircraft and radar, to observe the atmosphere, and technology and assistance necessary to interpret and use these observations, including supercomputer access, computer models, and user support. NCAR's research projects, many in collaboration with the world-wide community of university researchers, cover a vast array of topics including: *atmospheric chemistry*—such as the chemical structure of healthy and polluted air; *climate*—including temperature, rainfall, winds, and extreme events over decades or centuries, from prehistoric times to the present and into the future; *weather ingredients*—such as cloud physics, storm structure, and other keys to improved weather forecasting; *weather hazards to transportation*—including detection and warning systems for turbulence and icing in the air and on the ground; *interactions between the Sun and Earth*—including solar weather; *computer science innovation*—for understanding and visualizing the whole Earth system; and *the role of humanity* in both creating change and responding to weather and climate.

3.2 *Conference Program*

The EWOC 2006 conference information is available on http://www.ametsoc.org/meet/fainst/ewoc2006.html. Registrations will be accepted after January 3, 2006. Papers for both oral and poster presentation are solicited and abstracts may be submitted electronically via the Web by 15 February 2006. Workshops featuring hands-on activities for the classroom will be included in the program. In addition, there will be a weather forecasting contest for school children incorporated into the conference. The focus of this conference will be on education and outreach initiatives pertaining to weather, ocean and climate. Possible topics for sessions include:

- The role of learned societies in educational outreach
- Enhancing public awareness of meteorology and oceanography through the media
- Teacher training
- Business and education partnerships for meteorology and oceanography

- Student-centered educational programs
- Cyberinfrastructure and computer-based learning for meteorology and oceanography
- Science, society and schools
- Education and outreach for the coastal and marine environment
- Indigenous perspectives of weather, climate and oceans
- Promoting diversity and enhancing the involvement of under-represented groups In meteorology and oceanography
- Informal education for meteorology and oceanography
- International education programs and collaborations.

A variety of pre- and post-conference outings will be posted on this web site early in 2006 for which participants may register for free or for an additional fee. They will include activities that one can do on one's own, such as guided scenic drives and hikes into the mountains to explore Rocky Mountain National Park (www.nps.gov/romo/), geology, wildlife, and ecosystems in the foothills near Boulder, historic gold mining towns, music festivals, and recreational activities such as white water rafting, mountain biking, roller balding, and hiking. The city of Denver, 30 miles from Boulder, provides access to many museums, sports events and many other cultural resources.

3.3 *Registration and Lodging*

The EWOC 2006 registration fee is expected not to exceed $350. It will cover all conference sessions, coffee breaks, and luncheons on Monday and Wednesday through Friday, as well as a reception/dinner on Monday evening at the NCAR Mesa Lab. The July 4 Independence Day holiday will be recognized with a morning poster session. The afternoon will offer an optional BBQ celebration (for an additional fee) and recommendations for recreational activities in the Boulder area. Evening fire works are free and enjoyable from many vantage points in the city. Lodging reserved and listed on the conference web site will be by Boulder area hotels until June 1, 2006.

3.4 *Local Community Amenities*

Boulder is a small city with a population of 100,000 people, with the addition of about 30,000 university students. It is located at an elevation of 5,430 feet (1,672 m), at the eastern foothills of the Rocky Mountains (known as Colorado's "Front Range"). It is the home of the University of Colorado (www.colorado.edu), Naropa University (www.naropa.edu), and several federally funded research laboratories, including the National Center for Atmospheric Research (NCAR: www.ucar.edu), the National Oceanic and Atmospheric Administration (NOAA- www.noaa.gov), and the National Institute of Science and Technology (NIST: www.nist.gov).

The weather forecast for a summer day in Boulder is frequently "clear to partly cloudy with a chance of afternoon showers." Air temperature can range from the 50's to 100 degrees F, and it can cool quickly after sunset. Therefore, bring a sweater to ensure your comfort in air-conditioned rooms and a rain jacket, in case there is a shower. Casual dress is always appropriate in Boulder.

Extensive city and mountain parks, scenic vistas and close proximity to remarkable natural landscapes and wildlife, make Boulder a perfect place to enjoy outdoor recreation. Hotel accommodations are immediately accessible to miles of hiking biking and rollerblading trails that connect to excellent shopping and dining spots, including the Pearl Street Mall. Boulder is the summer home of the University of Colorado (CU) Shakespeare Festival (www.coloradoshakes.org/), the Colorado Music Festival (www.coloradomusicfest.org/), the Colorado Chautauqua Association (www.chautauqua.com/programs.html), and a magnificent, free-to-the public, 4th of July fireworks celebration at the CU stadium.

4. SUMMARY

Informal, K-12, and undergraduate teachers with interest in sharing and enhancing their knowledge about weather, oceans, and climate educational programs around the world will benefit from the 3-7 July 2006 EWOC conference to be held at UCAR/ NCAR in Boulder, Colorado. Important details on the conference may be accessed on http://www.ametsoc.org/meet/fainst/ewoc2006.html. For further information, please contact the program co-chairperson: David R. Smith, Oceanography Department, United States Naval Academy, 572C Holloway Road, Annapolis, MD 21402 (tel. 410-293-6553; fax 410-293-2137; email: drsmith@usna.edu or the Local Arrangements Committee coordinator: Susan Q. Foster, UCAR Office of Education and Outreach, PO Box 3000, Boulder, CO 80307 (tel. 303-497-2595; fax 303-497-2598; email: susanf@ucar.edu).

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