The Transformation of the Annual Meetings of the American Meteorological Society

Keynote by

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First Chair and Chair of Several Early IIPS Conferences
(International Conference on Interactive Information and Processing Systems for Meteorology, Oceanography and Hydrology)

It was 1983 when the United States Air Force Range Commanders Council (RCC) requested the Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM) for financial assistance for a conference on interactive processing. The RCC consisted of the USAF, NASA, the FAA and NOAA. The OFCM consisted of representatives from 13 federal agencies and was a result of an Act of The U.S. Congress. Needless to say, the OFCM provided requested financing and NASA provided the facilities and logistics. The NASA and the OFCM became the Co-Sponsors. Fritz Hasler of NASA and I were the co-chairs, Fritz for logistics and me for the program and other arrangements.

However, Dr. Alexander (Sandy) MacDonald and his staff from the NOAA PROFS (Program for Regional Observing and Forecasting Services which was the predecessor of the Forecast Systems Laboratory) in Boulder, Colorado, and Digital Equipment Corporation (DEC) were the key people who made the demonstration of interactive graphics possible. The demo excited attendees with cutting edge software on a relatively small computer of the time. On the first morning of the conference, Sandy and his people put on a dazzling demonstration which captured the imaginations of all. It was this demonstration and the remainder of the conference which led to the creation of the AMS IIPS Conferences.

The Federal Conference on Interactive Meteorological Processing was held at NASA Goddard Space Flight Center in Greenbelt in 1983 November 1-3.

"The objectives of the conference include:

1 Increasing the awareness and understanding of interactive meteorological information processing and technologies.

2. Providing a catalyst for establishing and facilitating avenues of communications among agencies and personnel to increase cooperative efforts and for exchange of ideas.

3. Helping to determine formal actions that may be needed for coordination to facilitate interoperability, and standardization to improve effectiveness, efficiency, and economy of resources in the Federal Government.

The conference is free; however, there is a charge for the banquet and buffet/reception."

The conference was to be for government personnel only; however, I began to receive calls from the private sector and industry. We made the decision to allow any non-government people or organization who had a contract with the government to attend. Of course that's about everyone. Originally we had planned on about 300 or 400 people, but it turned out to be around 700. Two auditoriums were needed, one with closed circuit TV at NASA. Noal W. Hinners, Director of GSFC provided the welcome, the legendary William S. "Bill" Barney, the Federal Coordinator, provided opening remarks, and Colonel George E. Chapman, Commander of the Air Weather Service provided the Keynote Address. Dr. Edith W. Martin, Deputy Undersecretary of Defense for Research and Engineering was the banquet speaker.

All speakers were hand picked to ensure a wide range of topics. There were five sessions. "Session 1 - Current and Planned Systems" with speakers from NOAA National Weather Service, from the Naval Oceanography Command and from the USAF "Session 2 - Standards" with speakers from the National Bureau of Standards; "Session 3 - Developing Systems and Applications" with John Dutton of Penn State, Sam

Fuller from DEC, and people from NOAA; "Session 4 - Policy, Management, and Economics" with Dr. Richard Hallgren, Director of the National Weather Service, and speakers from the US Office of Management and Budget, US General Services Administration and the US General Accounting Office; and "Session 5 - More Developing Systems and Applications" with speakers from the Federal Emergency Management Agency, the NWS, MITRE, the Range Commanders Council, and the University of Michigan. All of this was followed by a panel for comments, suggestions and conclusions. Finally, Dr. Kenneth C. Spengler, Executive Director of the AMS, addressed the conference about planning for the 1984 conference.

The purpose of this lengthy background is to show the vision we had for the future. It was during the second day of the conference in the foyer that a few of us including Ken Spengler and people from industry and academia discussed what next. My experience with the major computer conferences of the time led us to the conclusion that the next conference should be held outside of government.

Courageous Ken Spengler took the matter before the AMS Board of Directors, and after a battle the AMS decided to make IIPS part of the Annual Meeting. The AMS also decided to add many other conferences to the Annual Meeting to help entice industry to bring expensive exhibits. But that couldn't be done in 1984 because of time constraints since AMS Annual Meetings were held early in the year. Here we were in November 1983. Consequently, the first IPPS together with several other conferences was held in 1985 in the newly renovated Biltmore Hotel in Los Angeles.

Annual meetings of the AMS were primarily scientific rather than technology oriented. They were sort of club like meetings with several hundred attendees and a few hundred square feet of exhibit space for an Alden Fax machine, teletypewriters and an AMS book exhibit. The IIPS was something quite different. Lots of technology - high speed data circuits (relatively speaking), radar, interactive graphics, satellite data feeds into the exhibit area and much more.

The AMS did not have the resources to put on such a conference. However, Evelyn Mazur, the AMS conference planner and meetings coordinator was up to the task. She went to a small company that had experience in planning and managing technical conferences. Yale Schiffman of the company was assigned the AMS job. Yale was later hired by the AMS and is now the AMS Director of Meetings Operations. Yale's technical knowledge and expertise helped to bring the First International Conference on Interactive Information and Processing Systems for Meteorology, Oceanography and Hydrology (IIPS) the success which the AMS has experienced over the past 20 years. Attendees now number several thousand and exhibit space takes more than 100 000 square feet (10 000 m^2). Quite a contrast from earlier Annual Meetings which used several hundred square feet for exhibits. Not bad for relatively small disciplines of meteorology, oceanography, hydrology, space weather and other sciences and applications.

The struggle between academia, research, other scientists and technologists was evident at the beginning. It wasn't until a few years later when Dr. Joseph Smagorinsky and I were invited to speak at an Interamerican conference in Mexico City that I had the opportunity to talk about it at dinner with Joe - just the two of us. Joe was head of the NOAA Geophysical Fluid Dynamics Laboratory at Princeton at the time. He reminisced that of the days when the AMS Annual Meetings were sort of a club where researchers and academia got together to discuss their work. He liked the environment of those meetings; however, he admitted that the transformation of the AMS Annual Meetings with all of its technology and the many and varied conferences have been a great advantage to help advance science.

The multiple parallel conferences have provided opportunities for those in different disciplines to meet and talk with one another and to learn more about how each discipline and project relate to others. Although it seems like a multiple ring circus, where else can scientists kick the tires of technology and meet technologists while meeting with colleagues and scientists from all over the world who attend annual meetings of the American Meteorological Society.

I salute the AMS for taking on such a huge task. If you look at the first IIPS Preprint Volume you will note that it doesn't say the first annual conference of IPPS. The AMS waded into the unknown; however, the talent in the AMS headquarters, the interest of those who submitted papers, the private sector that brought in exhibits are the true heros.

During the first conference, I visited each exhibit booth and asked how it was going. Invariability the answer was, we're not getting many people visiting our booth. After visiting several, I went back and asked who was visiting. It was then they realized that they were speaking with top people, the ultimate decision-makers, from many other countries, as well as those from the United States

of America. Nothing more needed to be said. The exhibit area covered about 25 000 square feet.

Beware of those who say that we have reached our technological limit and applications. In 1960 we installed a disc drive on a then supercomputer. It weighed more than a ton (1 000 kg). Today, SD Security data storage chips are the size of a postage stamp which you can carry in your pocket have greater capacity than that early disc drive and now are used in a multitude of devices. Now, nanotechnology is in its early stages of development. The challenge now is to have the vision on how to apply these new technologies to the atmospheric and environmental sciences like those who had the vision to bring technology to scientists and users which made these IIPS conferences and the expanded AMS annual meetings possible.

There are so many applications which need attention. However, education beginning with kids in K-12 schools is foremost. Kids are the future. Imagine using game platforms such as Sony's PlayStation2, Microsoft's Xbox and Nintendo's GameCube for Computer-Assisted Instruction (CAI). They cost less than $180 US now. Think of the portability using nanotechnolgy and the expanded learning opportunities which do not require being in a classroom full time. Think how the learning experience which continues throughout life can be brought directly to observation and research sites and into homes and businesses to provide a direct connection between classrooms and real life research and science projects to make the learning experience more meaningful.

Technology continues to evolve, and there is a great need to learn more about the environment we live in, and how we can "live in productive harmony" (National Environmental Policy Act of 1969). There is a great need to push back barriers to understanding. There is a great need to apply our knowledge to benefit society. And, there is a great need to get the best knowledge which science can provide to the public in an understandable way.

The Annual Meetings of the American Meteorological Society and the IIPS conferences are significant vehicles to bring diverse scientists and technologists together to push back barriers and to tell the public what scientists have learned.

I wish you all success and keep up the good work.

Thanks for inviting me to speak.