

# *DR RICHARD SPINRAD, ASS. ADMINISTRATOR FOR NOAA RESEARCH, AND CHAIRMAN OF OI06 CONFERENCE COMMITTEE*

## Oi06 in All its Diversity

Through the years, Oceanology International (OI) events have been the most important of their kind, and Oceanology International 06 (Oi06) will be no exception. But of equal importance is the parallel-running conference, at which many papers are presented on new developments, and the simultaneously held meetings. To draw more attention to these “alongside” components of Oi06, Dr Richard Spinrad, assistant administrator for NOAA Research, USA and chairman of the Oi06 Conference committee agreed to be interviewed on the conference and related matters.

Please give our readers a brief explanation of how you became involved in oceanology and hydrography, and describe hydrographic aspects of your present function with NOAA.

I became interested in oceanography during the earliest stages of my education. From teenage years I was fascinated with all aspects of marine science. I continued my formal education through college and graduate school, striving to obtain the most diverse scientific training, including coursework in physical, biological and geological oceanography. This diversity of educational background, plus career experiences in the private sector, academic research and a non-governmental organisation, gave me the basis for a true appreciation of the applications benefits of ocean research. At NOAA I have had a range of responsibilities in marine research and applications. I worked for several years leading NOAA’s National Ocean Service, the organisation that has responsibility for our nation’s civilian coastal mapping and charting. As head of NOAA Research I lead an organisation with responsibility for more than US\$400M worth of research working to improve capabilities in ocean, climate and weather applications.

Oceanology covers many aspects such as resources, climate, environment, etc. What in your view is the most important of these, and is this reflected in papers to be presented at the Oi06 Conference?

The exquisite value of oceanology is that the societal relevance of our work is not easily separable into distinct one-to-one correspondences. For example, the work we do to improve our models of coastal circulation feeds into improved forecasts of weather, as well as enhanced real-time navigational aids. In this respect, I believe the most important aspect is to define the breadth of applications and benefits to be derived from our many efforts in oceanology. These include but are not limited to resource management, safety of navigation, military operations, climate forecasting, weather prediction, hazard mitigation, ecosystem health, human health, and education. The theme of the Oi06 conference, “Ocean Technology in Service to Society”, well reflects these concepts.

Do you manage in your function with NOAA to form one coherent policy from all these divergent aspects of oceanology?

NOAA’s mission is to understand and predict changes in the Earth’s environment and to conserve and manage coastal marine resources to meet our nation’s economic, social and environmental needs. Developing a set of research priorities consistent with operational requirements is a key aspect of my role at NOAA. Doing so means having a clear NOAA-wide set of planning, programming, budgeting and execution processes and policies to best use limited resources. Consequently, just last year NOAA developed both a twenty-year vision and a five-year plan for our research. This does, indeed, represent a coherent statement of policy.

What in your opinion is the most important part of Oi06: the exhibition, the conference or the “meetings alongside”, and why?

The most important part of Oi06 is the co-ordination of all of these elements, including, I might add, the pierside ship tours. I know from my own experience at previous Ois that I find the opportunity to meet in one place more than five hundred exhibitors, knowing I can make a timely stop to hear a particularly intriguing talk, makes Oi unique. And, of course, let’s not forget about the accessibility of well-stocked watering holes! The after-hours chat over a pint is oftentimes as productive as the more formal venues. The Oi set-up makes it possible to optimise the blend of visits to stands, conference presentations, ship tours and social conversation.

Is the scientific oceanographic community equally interested in Oi06 as the business people?

It’s always a challenge to define the niche of relevance for every potential community. I estimate that in the oceanographic community (broadly defined) there are some fifty different venues in any given year available for attendance and at which to present research results.

The organising committee for the Oi06 Conference has worked hard to provide a clear definition, through the theme of this conference, to attract a core set of key scientists and technologists. That clear definition, coupled with the extraordinary volume and diversity of business exhibits, makes for a very well balanced attraction for a targeted scientific community.

Looking at the Conference programme it is noticeable that many speakers are from public organisations. Is Oi06 of interest to “scientists” wanting to present the latest developments in their hydrographic studies?

The number of abstracts that we have received from scientists worldwide speaks for itself as an indication of their strong interest. This year, especially, the extraordinary number of natural hazard events (the Indian Ocean tsunami, and the numerous hurricanes and typhoons globally) lent a special focus to the latest developments in hydrographic and oceanographic-related research.

The Oi06 Conference subjects cover a broad and very interesting range. Are there any subjects on which you would have liked to receive more papers, or ones on which you received none?

Generally speaking the marine-science community has a strong and rich portfolio of activities within a broad range of topics, including marine biology, ocean chemistry, weather and physical oceanography. Also, our community is focusing more attention on some of the “connective” issues in the social sciences. Economics, demographics and environmental stewardship are all examples of areas within which we are striving to build stronger alliances with the physical and life sciences than are more traditionally thought of in oceanography and hydrography. I hope that in future Oi conferences we will see a burgeoning set of such “cross-disciplinary” papers and research presentations.

Are you satisfied in general with the co-operation between scientists, industry and military people with the field of hydrography? Is there much interest from the military side for Oi06?

As someone who spent a considerable portion of my career working for the US Navy, I don’t tend to see a lot of separation between the scientists, industry and military communities. In fact, I believe many of the priorities for research and operations are identical. For example, the need to develop ever more effective means of real-time updates of electronic navigational charts is as relevant to the military as it is to the commercial shipping industry as it is to the community of academic researchers studying near-shore processes. At Oi06 we will see a very active level of participation from all of these sectors.

Do natural disasters like Hurricane Katrina and the 2004 Tsunami generate more funds for ocean/climate-related research, or are such disasters accepted as being “acts of God”, and will protection be concentrated on artificial measures such as raising dikes etc.?

The disastrous impact of Hurricane Katrina (and Rita, Wilma and Ophelia etc.) as well as the devastation of the 26th December 2004 Indian Ocean Tsunami have demonstrated to the global community the true power of nature, and the need for us to better understand and predict environmental processes. Globally, through the efforts of individual nations, the international community (e.g. the Intergovernmental Oceanographic Commission and the World Meteorological Organisation) and private citizens, we have seen outpourings of aid. And this aid has come in the form of more than just funding, although this has been considerable. Programmes of training, education, capacity building, and planning advice, and donations of equipment have also been provided. I believe the tragedy in all of these cases is that much of the loss and devastation could have been reduced or prevented through efforts in previous years. We must ensure that with the dimming memory of these tragedies we, as global citizens, do not become complacent about the need to pursue continued development of capabilities for preventing such loss of life and property in the future.

The ocean is a difficult environment in which to do measurements: it can be hostile, it is immense, water is a difficult medium etc. Where and upon which techniques would you like to place more R&D capacity? Or do you think we are simply paying too much attention to technique and integrated ocean policy, and that raising awareness and more attention for environmental stewardship will yield more results in the long run?

Well, you’ve described one of my pet peeves. The ocean is, in fact, one of the most hostile environments not just on this planet but in the whole universe. Seawater is not kind to instrumentation. Temperatures and pressures at depth are hostile. And, on top of all that, communication with remote oceanographic instrumentation is more difficult than communication with a landing vehicle on Mars. Clearly, data communications and remote control are some of our toughest challenges. Additionally, the diverse nature of our operations in the ocean dictates that we have an extraordinary suite of observational capabilities to address the broad range of physical, biological, chemical and geological parameters in question. We must also ensure that as we develop these observational capabilities we see to their full interoperability, a concept at the heart of the Global Earth Observation System of Systems (GEOSS).

Based upon your experience with research in your present function with NOAA and your chairmanship of the Oi06 Conference Committee, what is your view on future trends in hydrography?

I am extremely optimistic. I believe that as society learns the great benefit to be gained from our developments in oceanography and hydrography we will build a level of support heretofore unseen. In years to come we will find communities as diverse as public health, reinsurance, advanced materials, and agribusiness at our doorstep seeking our co-operation in helping to solve their most critical problems. The challenge, of course, is to build the appropriate invitations to get their initial interest. Oi is a key component of that effort.

Do you have a message for the oceanographic community in general, or the visitors to Oi06 in particular?

Not one message, several:

- be inquisitive (visit some stands and hear some talks from areas outside your typical realm of interest)
- be critical (ask the tough questions that’ll move our community forward)
- be open (ask yourself at the start of each day, “what do I want to learn today?”)
- have fun (remember where the pub is!).

