

*Responses to follow-up questions presented to Dr. Leinen subsequent to her presentation before the U.S. Commission on Ocean Policy Meeting in San Pedro, California*

**1) "It would seem that there are many potential "platforms of opportunity" available for research purposes. Offshore oil and gas platforms, cruise ships, tankers and freighters, commercial and recreational fishing vessels, and even commercial aircraft. I know that the research community has taken advantage of these, but is there a way to make better use of them, especially in the context of a coordinated national ocean observing system? What about the potential of smaller platforms associated with State resource management agencies or marine labs?"**

There is no question that we can make better use of 'platforms of opportunity'. As noted, the research community has experience in working with many of these platforms and has gained insights into the obstacles and opportunities they present.

Many of the platforms mentioned were discussed at the Ocean.US March 2002 Workshop, the goal of which was to develop an implementation plan for the Integrated Ocean Observing System. Issues related to the oil and gas industry, vessels of opportunity, commercial aircraft and marine labs that were discussed at that meeting are outlined below. Platforms associated with state resource management agencies were not discussed and merit further attention.

There is a history of joint efforts in support of research between government, the Minerals Management Service in particular, and the oil and gas industry. The industry has been open to considering joint projects, particularly if the project is mutually beneficial, and has often provided transportation, logistics, living quarters, etc. Obstacles to participation can include limited availability of working space and liability issues. In addition to undertaking work on the platforms, scientists are interested in the nature and duration of measurements that industry takes for its own needs and whether they would be willing to share that data. The Director of Ocean.US, Captain David Martin, is presently in discussions with representatives of the oil and gas industry to determine whether new opportunities can be identified.

Vessels of opportunity -- cruise ships, tankers and freighters, commercial and recreational fishing vessels -- present intriguing possibilities. Different types of vessels provide unique advantages -- routine tracks are helpful in building in long time-series, and vessels traveling to less trafficked portions of the ocean provide useful data points. The fact that ships have varied instruments that measure the same variables, however, makes intercomparison of the data more questionable. The use of standardized sensor packages that operate in an unattended mode and are capable of a range of measurements should be expanded. For commercial aircraft, the possibility of interference with the avionics, as well as concern over security risks, present obstacles to any substantial expansion of activity in the near future. However, an opportunity exists to improve the measurements currently made and to expand efforts.

Marine labs are a valuable source of observations. Through the National Association of Marine Labs, the labs are organizing their data and making it available. Biological data sets obtained by monitoring specific locations over a period of years, will be valuable for detecting the impacts of climate change on organisms.

As technology and instrumentation become increasingly sophisticated and autonomous, efforts to engage 'platforms of opportunity' will grow. As the effort expands, it will be important to ensure data comparability in order to be useful in assimilative models. As an added advantage, by engaging citizen operators in science, these activities have education and outreach dimensions in addition to the benefits to research.

**REQUEST -- As mentioned in the "Question and Answer" session following your presentation, please provide the Commission with a list of private industry marine facilities.**

Private industry operates extensive marine facilities that are not under my purview. To determine how best to ensure the Commission has the information it needs on such facilities, my staff consulted with the Commission's Associate Director of Research, Education and Marine Operations. It is our understanding that much of this information will be gathered through a contract administered by the Commission.

Nevertheless, I suggest the following resources and web sites as a starting point:

2002 Sea Technology Buyers Guide/Directory

<http://www.naml.org> (list of national marine labs)

<http://www.mtsociety.org> (sponsoring organizations of the Marine Technology Society)

<http://www.offshore-technology.com/> (list of companies associated with the oil and gas industry)