TESTIMONY OF
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GULF OF MAINE OCEAN OBSERVING SYSTEM

TO THE HOUSE SUBCOMMITTEE
ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS

CONCERNING OCEAN OBSERVING SYSTEMS

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Mr. Chairman and members of the Committee, thank you for allowing me to testify on the status of Ocean Observing Systems in the U.S., and in particular about the Gulf of Maine Ocean Observing System (GoMOOS). GoMOOS is one of several young regional coastal ocean observing systems in the nation. Our existence is made possible by a new generation of technology, the skill of scientists at our region's universities, the investments of taxpayers and member organizations, and the commitment of dozens of user groups and volunteers in our region.

GoMOOS has been "in the water" now for 3 full years—reporting on the hour, 24 hours a day, 365 days a year. We monitor waters across the 36,000 square miles of the Gulf of Maine, from Cape Cod to the Bay of Fundy. And if, before coming to this hearing this morning, you had logged onto www.gomoos.org, you would have been one of several thousand users who are viewing our data at the rate of more than 1 million pages and 5 million "hits" per year, and growing. These are data for which there is a hungry public. The data products, all available on a free and open basis across the Internet, are designed to meet the needs of many users

We track users because we are a user-based system. We are a nonprofit with more than 30 organizations as paying members, and a Board of Directors composed of representatives of educational and research institutions, marine industry, marine resource agencies, and NGOs.

We ask for feedback on our web site on how our observations are used. Here are a dozen examples from the last six months:

- A business is using the data products for shipping analysis
- Another business is using it in a report for siting an LNG Regas plant
- A research organization is using the data for a study on cod larval transport
- A hospital employee is using it for a presentation on marine hazards
- A Coast Guard employee is using it for training and search and rescue
- A marine surveyor is using the data to investigate weather related damage, while a contractor is using it for a marine construction project
- A nonprofit group is using buoy data to help in a salmon tracking study in Cobscook Bay
- A middle school teacher is using it for a science class, and a college student for a marine ecology class
- A scientist is loading the data into a model of the Gulf of Maine
- A member of the public is using the data to predict waves for surfing, another to plan sailing trips, and another for kayaking
- A state government employee is using the data to help with lobster management zones
- And an engineer is using the wind speed data to assess wind turbine electrical performance.

And so our users are mariners, fishermen, search and rescue personnel, scientists, recreationalists, educators, marine contractors and engineers, and resource managers. By delivering real time information and forecasts to them, GoMOOS is helping to save lives, save dollars, and save a large and valuable marine ecosystem. A preliminary, independent NOAA analysis estimated that the return from GoMOOS may be worth as much as $30 million annually. If this is true, and if we amortize our initial capital costs of about $8 million and add our annual operating costs of about $3.5 million per year, the return to society is roughly 5:1.

Regional coastal ocean observing systems fill a large niche. With our real-time observations of ocean conditions, we are positioned between and complement the atmospheric observations of the National Weather Service, the long-term fisheries surveys of the National Marine Fisheries Service and state fisheries agencies, and the seafloor geological surveys of USGS. We measure winds, currents, waves, fog, sea temperature, salinity, dissolved oxygen, chlorophyll, and measures of fluorescence that track plankton blooms. We do so from an array of fixed buoys with remote sensors, high frequency radar stations, and satellite images. The system was designed by and is operated under contract to a Science Team based at the region's universities and research institutions. We comply with high, uniform standards for the data, and as a result are able to exchange it freely and routinely with the Weather Service and other agencies.

Indeed, we have formed a close bond with these agencies, and with the Census of Marine Life and other generators of large marine data bases on the Gulf of Maine. Together, we have formed the Gulf of Maine Ocean Data Partnership, which GoMOOS hosts. This Partnership is committed to a seamless system of data exchange – physical, geological, biological—that will be available to the public on demand; in short, a truly integrated coastal ocean observing system for our region.

It is the forerunner of what will become over the next year a Regional Association of state, federal, institutional, and nonprofit observing systems in the Gulf of Maine. In turn, the Regional Association will be part of a national federation of such associations. This will create a national system of observations and predictions for the coastal ocean similar in function and value to the observations and predictions of the atmosphere by our weather service. That is our goal.

Thank you, and I would be pleased to answer any questions.