

## **Scripps Oceanography Awarded New Research Building to Study Fragile Marine Ecosystems**

*U.S. Department of Commerce provides \$12 million for new state-of-the-art ocean science research building*

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### **Scripps Institution of Oceanography/UC San Diego**

Scripps Institution of Oceanography at UC San Diego has been awarded \$12 million by the U.S. Department of Commerce (DoC)/National Institute of Standards and Technology (NIST) to construct a new laboratory building on the Scripps campus for research on marine ecosystem forecasting. This new building will become a resource for marine ecological research at Scripps and for other national and international ocean science organizations that address the management of marine resources.

NIST is a non-regulatory federal technology agency within the U.S. Department of Commerce that develops and promotes measurement, standards and technology. NIST also develops measurement capabilities that are fundamental to understanding environmental change, untangling natural variation from human-induced causes, predicting the consequences and enabling the design of effective incentives and regulatory approaches to improve environmental quality. Funding for this new research building enables Scripps scientists to complement DoC science and technology programs, to promote national impacts through research outcomes, and to provide scientific training and opportunities for cross-disciplinary collaborations.

The new research building at Scripps will house the Marine Ecosystem Sensing, Observation and Modeling (MESOM) Laboratory. Scripps, a leader in research on climate change and its impacts on marine ecosystems, is a research institution and graduate/undergraduate school at UC San Diego. With more than 300 research programs aimed at gaining comprehensive understanding of the oceans, atmosphere and structure of the planet, Scripps is an integral part of the education and research excellence of UC San Diego.

"This new state-of-the-art laboratory at Scripps Oceanography will accelerate UC San Diego's leadership in research and collaboration to benefit society," said Marye Anne Fox, chancellor of the University of California, San Diego.

The new facility will enable Scripps scientists to build upon a long history of successful research on marine ecosystems and their response to climate variability and change and to develop a new program that will provide the scientific foundation for marine ecosystem forecasting. The program will integrate the development of new physical, biological and chemical sensors, autonomous oceanographic platforms to support them, observations in the California Current Ecosystem (CCE) and forecasting of the CCE based on physical and biological numerical models. The program will make the CCE a model for understanding processes across the world's oceans. The results of the research and modeling will benefit collaborations with the National Oceanic and Atmospheric Administration's (NOAA) growing programs in marine ecosystem management.

For more than 50 years, Scripps has been home to two of the most important measurement programs in marine ecological systems and global climate: the California Cooperative Oceanic Fisheries Investigations

(CalCOFI) and the Keeling Curve, the CO<sub>2</sub> time series at Hawaii's Mauna Loa Observatory. The U.S. National Bureau of Standards (now NIST), together with the U.S. Weather Bureau, funded the observatory built in 1956 atop Hawaii's volcanic peak. Rising above the lower atmosphere and surrounded by thousands of miles of clean ocean, it was-and remains today-one of the best sites on Earth to measure undisturbed air.

"This tradition and institutional commitment to scientific efforts in long-term measurement programs make Scripps unique in its ability to continually conduct excellent science on marine ecosystems," said Tony Haymet, director of Scripps Institution of Oceanography and Vice Chancellor for Marine Science. "We are grateful for this vote of confidence and Scripps scientists look forward to reinvigorating the collaborations we began with the Keeling CO<sub>2</sub> measurements as Scripps and NIST help the U.S. deal with environmental change."

Scripps also leads the Southern California Coastal Ocean Observing System (SCCOOS), a multi-institutional program stretching from Point Conception across the border to northern Baja California. Scripps is home to the NOAA Joint Institute for Marine Observations (JIMO) that addresses major themes of marine resource management. The NOAA Southwest Fisheries Science Center (SWFSC) resides on the Scripps campus, and strong ties exist between SWFSC and Scripps through joint educational and research collaborations at both institutions. In all of these efforts, DoC, through NOAA, has been a partner with Scripps in realizing the full potential of these programs, using scientific results to directly address issues of growing importance to policy makers and society.

The DoC/NIST construction grant to Scripps Oceanography will provide the MESOM Laboratory with its own building, enabling valuable information exchange among collaborators who would otherwise be split across five or six buildings. The proposed three-story building will have a total of more than 18,000 assignable square feet divided among laboratories, offices and conference rooms. The design of the new research building will focus on optimizing the opportunities for multidisciplinary research and both formal and informal interactions between the different disciplines. The building will be integrated functionally, so the scientists using it will be able to work efficiently and easily collaborate with one another. It will house the range of scientists necessary to provide aspects of sensor and platform development, design and implementation of field programs, analysis and interpretation of field data and model development.

Every effort will be made to incorporate sustainable practices into this building. The goal is to achieve a United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Platinum rating. At a minimum, a Silver LEED rating will be attained, which is in compliance with UC San Diego policy.

In light of the adverse impact of California's budget deficit on financing for University of California capital projects, federal government funds are essential to help Scripps realize its vision for the MESOM Laboratory. The \$12 million award from DoC/NIST provides almost half of the funding for the new environmental research building. Total construction and outfitting will cost about \$26.5 million, with the balance of funding coming from Scripps/UC San Diego and private support. Construction is scheduled to begin in summer 2010 and finish in 2012.

The Scripps proposal was one of only three selected in a merit competition out of 93 applicants. The other two grants were awarded to UC Berkeley, which received nearly \$11 million for a Center for Integrated Precision and Quantum Measurement, and to the University of Florida, which received \$1.2 million for construction of an Aquatic Animal Health Facility.

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