Echoes of Scripps Institution of Oceanography in Texas

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During the second World War, Scripps Institution of Oceanography trained many Army and Navy meteorologists, many of whom went on to distinguished careers. Two played an important role in the founding of the oceanography department at the Agricultural and Mechanical College of Texas, now known as Texas A&M University. Ultimately, their work led to the founding of the meteorology and ocean engineering departments at the university (Brooks, 1994).

In 1940, a few years before the decline of the California sardine, fishermen along the Texas and Louisiana coasts noticed that oysters were dying. The decline of the oysters coincided with the expansion of the oil industry into the coastal areas, and the oystermen blamed the industry for the decline. To defend themselves in a lawsuit, the oil industry turned to the Texas A&M Research Foundation for help. Dr. A.A. Jakkula, executive director of the foundation, agreed to assist, and he soon headed a study team that included microbiologist Claude E. ZoBell from Scripps.

The oyster study highlighted the need for experts in oceanography, ocean waves, coastal processes, and marine biology in Texas. To meet the need, Jakkula asked the A&M College Board of Regents on January 3, 1949, for permission to establish an oceanography department, the first in the country, with five faculty positions. The board agreed to the plan. The five professors would teach a curriculum based on the Scripps model with courses in biological, chemical, geological, and physical oceanography, with emphasis on the practical problems of the Texas coast.

To staff the new department, Jakkula again turned to Scripps for help, asking then-Director Harald U. Sverdrup and ZoBell to suggest possible faculty for the new department. Sverdrup recommended Dale E. Leipper and Robert O. Reid. Both were Army meteorologists trained at Scripps as part of the war effort. Leipper agreed to head the new department, and he arrived in College Station in August 1949 as associate professor of oceanography. Reid hoped to avoid administrative duties and remained at Scripps. Eventually, Leipper convinced Reid to join the department, and he started work in January 1951 as assistant professor of physical and meteorological oceanography. Three other positions completed the faculty. John G. Mackin, who had worked on the oyster project, was appointed professor of marine biology; W. Armstrong Price, a coastal geologist became professor of geological oceanography; and Donald W. Hood, a recent graduate of the biochemistry Ph.D. program at A&M College, became assistant professor of chemical oceanography.

Leipper had initially studied under Sverdrup, but he switched to Carl H. Eckart and Jacob Bjerknes after Sverdrup left Scripps. Reid had collaborated with Sverdrup on the theory for the wind-driven geostrophic circulation of the eastern tropical Pacific. This study culminated in Sverdrup's landmark paper, "Wind-driven currents in a baroclinic ocean; with application to the equatorial currents of the eastern Pacific," in which he showed for the first time how winds produce geostrophic currents running upwind. Reid assembled the meteorological and hydrographic data used to support the theory, and his figures were included in the paper.

The new oceanography department grew rapidly—to 50 people by 1952. An important part of the growth was fueled by an undergraduate and research program in meteorology, built in part on Leipper's and Reid's professional experience in the field. Soon the department hired meteorologists along with oceanographers, and by 1956 it was the Department of Oceanography and Meteorology. In 1965 a new Department of Meteorology emerged from oceanography.

The oceanography department's interest in practical coastal problems led to a specialty in ocean engineering. Eventually, Reid helped the Department of Civil Engineering start an ocean engineering program within that department, and he went on to make many important contributions to coastal oceanography and engineering for which he was elected to the National Academy of Engineering.

From Scripps to Texas A&M: The Scientists

As the Department of Oceanography grew throughout its first two decades, other Scripps graduates were hired both as faculty and for research projects. Some of the early hires included the following:

- John D. Cochrane, who joined the department in 1956 as a research scientist, spent the rest of his

career in the department. He earned his M.S. in oceanography from Scripps in 1948 and had worked in its bathythermograph lab.

- Hugh J. McLellan, who earned his Ph.D. from Scripps in 1956, was hired as an assistant professor in 1957. He was very helpful in modernizing the instrumentation in physical oceanography. He moved to the Office of Naval Research, and subsequently to the National Science Foundation, where he managed the physical oceanography program until his retirement.
- Leo D. Berner, who completed his Ph.D. thesis at University of California, Los Angeles in 1957, worked closely with Ed Ahlstrom at Scripps. He joined the department in 1966 as associate dean of the college and professor of oceanography after serving four years at the National Science Foundation. He worked at Texas A&M until his retirement, becoming professor and dean of the Graduate College.
- Leila Jeffrey, who had worked as an assistant to Denis Fox at Scripps, became a staff assistant in chemical oceanography at Texas A&M.
- Linda Haithcock Pequegnat received her M.S. in 1957 from Scripps, where she studied under biologist Martin Johnson. She married Willis Pequegnat, and both came to Texas A&M in 1962 where she was a research scientist and curator of marine invertebrates.
- T. K. Treadwell joined the department in 1971 as assistant department head for marine operations, and then as head of marine operations. He received his M.S. from Scripps in 1949 and completed a naval career before moving to academia.
- David R. Schink graduated from Scripps in 1962 and accepted an appointment in chemical oceanography. He became associate dean of research and professor of oceanography.

During the 1920s, Scripps was isolated from the city of San Diego, which forced many of those who worked at the institution to live on campus with their families. Shown here are the "Scripps Kids."

References

Brooks, D., 1994: Oysters and oceanography at Texas A&M: The early years. *Quarterdeck*, 2(1), 4–7.