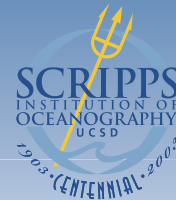


Special Issue—Scripps Centennial

Scripps Time Line



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November 19, 1856: William E. Ritter is born on a pioneer homestead in Hampden, Wisconsin.

June 1891: University of California, Berkeley, Professor William E. Ritter marries physician Mary Bennett and honeymoones at the Hotel del Coronado in San Diego, where he collects zoological specimens at the seashore. He meets San Diego physician and shell collector Fred Baker.



The dashing young Professor William E. Ritter in his study at UC Berkeley (ca. 1897), at that time the only campus of the University of California.

1892: The University of California provides Ritter and students with \$200 to establish a summer instruction program in marine zoology. Ritter purchases a tent

and a few instruments and sets up a seaside laboratory at Pacific Grove, south of Berkeley, California.

Summer 1901: Ritter raises \$1,800 from citizens of Los Angeles and additional funds from the University of California to support a summer laboratory in San Pedro, California.

May 1902: Baker invites Ritter to establish his marine laboratory in San Diego. Ritter replies that an effort is being made to raise money in Los Angeles for a laboratory in San Pedro. Ritter returns to San Pedro for the summer laboratory.

January 26, 1903: Baker again invites Ritter to establish a permanent laboratory in San Diego.

February 2, 1903: Ritter writes to Baker that the laboratory can be established in San Diego if funds can be raised locally to support the summer work.

March 15, 1903: Baker calls on newspaper magnate E. W. Scripps to solicit a contribution. Scripps says that he doesn't believe in giving to charity but is glad to help anybody who is trying to do something constructive and scientific. Scripps contributes \$500 and recommends that Baker call upon his philanthropic sister, Ellen Browning Scripps.

March 19, 1903: Ellen Browning Scripps contributes \$100 toward Ritter's San Diego laboratory.

March 23, 1903: E. S. Babcock, manager of the Hotel del Coronado, writes to UC President Benjamin I. Wheeler offering use of the hotel's boathouse as a laboratory during the summer.

March 27, 1903: Ellen Browning Scripps and her sister Virginia Scripps attend Ritter's lecture on marine life and meet him for the first time.

June 22, 1903: Ritter and his colleagues and students begin working at the Hotel del Coronado's boathouse.

July 18, 1903: Siblings E. W. Scripps, Fred Scripps, Ellen Browning Scripps, Virginia Scripps, and others visit the Hotel del Coronado boathouse at Ritter's invitation. This is the first time E. W. Scripps and Ritter meet.



The Hotel del Coronado boathouse, first marine laboratory (1903-1905) of what would become Scripps Institution of Oceanography.

July 28, 1903: E. W. Scripps invites Ritter and his deputy, Charles A. Kofoid, to visit him at his home, Miramar Ranch. He sends his son James in an open Ford coupe to pick up his guests. Kofoid later describes the high-speed drive through the chaparral across the mesa as "a real joy ride." Ritter's diary notes that E. W. Scripps "assures us that if we can locate in La Jolla and do something for the scheme that interests him, viz. a popular public aquarium, he will help us."

August 2, 1903: Ritter meets with E. W. Scripps and Ellen Browning Scripps at Miramar and outlines a proposal to establish a permanent marine laboratory in La Jolla affiliated with the University of California.

September 26, 1903: The Marine Biological Association of San Diego is formed at a meeting held at the Chamber of Commerce. The purpose of the association is to found and endow a scientific institution known as the San Diego Marine Biological Institution. Ritter is named scientific director. Businessman Homer Peters, E. W. Scripps, and Ellen Browning Scripps each pledge \$1,500 per year for three years to support the institution.

1904: E. W. Scripps loans his yacht *Loma* to the Marine Biological Association to be used as a research vessel. He gives it to the association on January 3, 1906.

December 1904: B. M. Davis, the Marine Biological Association's resident naturalist, is collecting specimens at Point Loma when E. W. Scripps arrives by yacht to discuss the progress of the work.

"As the yacht cruised lazily around the Bay we talked of various things, mostly of the sea...gradually [his questions] became more specific....What would you think of a permanent laboratory where the one now is? ...he was interested in knowing about the survival of animals that were brought in fresh from the open sea. Could they be kept alive?...I did not realize at the time the import of his questions. I know now that they were of considerable significance. He was probably pumping me to get information from an unbiased individual in regard to the best place in this region for locating a permanent laboratory for the study of marine biology."

April 1905: Funds are raised by public subscription in La Jolla to build a marine biological laboratory. The San Diego City Council grants the Marine Biological Association, "the free tenancy of a suitable tract of land near Alligator Head." A small wooden laboratory is built at a cost of \$992.

January 1906: Ellen Browning Scripps promises to contribute \$50,000 to the Marine Biological Association.

July 25, 1906: Research sailboat *Loma* is shipwrecked near the Point Loma lighthouse in San Diego Bay.

March 1907: A contract is signed with San Diego shipbuilder Lawrence Jensen for the construction of a new 85-foot research vessel. R/V *Alexander Agassiz* is launched on August 21, 1907.



R/V Alexander Agassiz (ca. 1907), was the first vessel built from the keel up for the Marine Biological Association of San Diego, later to become Scripps Institution of Oceanography.

June 1907: Edna Watson receives the first graduate degree for work done in Ritter's San Diego marine laboratories.

August 10, 1907: At the insistence of E. W. Scripps, the Marine Biological Association purchases Pueblo Lot 1298, a tract of 170 beachfront acres in La Jolla Shores, at an auction sale held on the steps of City Hall, for \$1,000. San Diego land speculators agree not to bid against the association. The true value of the land is estimated at \$30,000–50,000.

September 1, 1907: The “Little Green Laboratory,” a wooden building housing the marine biological laboratory in La Jolla Cove, is formally dedicated.



The “Little Green Lab” at the cove (1905-1910), the first La Jolla marine laboratory of what would become Scripps Institution of Oceanography. Scripps’s first graduate, Edna Watson, completed her doctoral research at this laboratory. Resident naturalist Ellis Michael oversaw daily operations as Ritter split his time between Berkeley and San Diego. A portion of the building remains standing today.

Summer 1908 & Summer 1909: Kofoid tours the biological stations of Europe, purchasing instruments and collecting information on buildings and aquaria that might be useful in planning the San Diego Marine Biological Station.

1909: Thousands of eucalyptus seedlings are planted on the 170-acre tract of land in La Jolla by E. W. Scripps.

February 25, 1909: Ellen Browning Scripps adds a codicil to her will bequeathing \$150,000 to the University of California Regents to support the work of the marine biological laboratory in La Jolla.

June 1909: Ritter and his wife move from Berkeley to La Jolla.

August 1909: Directors of the Marine Biological Association contract with Irving Gill for the construction of a concrete laboratory building and water tower on the La Jolla Shores land.

1910: The George H. Scripps Memorial Marine Biological Laboratory (“Old Scripps”) building is completed. The oldest marine laboratory in the western hemisphere, Old Scripps is added to the National Register of Historic Places in 1977 and becomes a National

Landmark in 1982. A piece of the old water tower is recovered in 2003 as part of the Scripps centennial celebration.



The “Saltwater Tower” and the George H. Scripps Building, ca. 1910, the first buildings on the present day site. The Saltwater Tower was demolished in 1932. The Old Scripps Building today houses the graduate student office and a classroom.

October 18, 1911: Directors of the Marine Biological Association vote to give the “Little Green Laboratory” back to the Park Commission.

July 1912: Ellen Browning Scripps contributes \$2,500 a month for two years (a total of \$60,000) to be used for the physical development of the marine station.

July 1, 1912: The Marine Biological Association of San Diego deeds its property in consideration of a sum of \$10 to the University of California Regents. The Marine Biological Association ceases to exist, and Scripps Institution for Biological Research of the University of California is established.

December 8, 1912: Ellen Browning Scripps writes to University of California President Wheeler: “I should like to add how greatly I appreciate the introduction of the State as a factor in the development of this institution as putting it on a footing of public esteem and giving it the promise of a future power and influence that mere private contributions could not have accomplished.”

February 1, 1913: Wesley C. Crandall joins the Scripps staff as business manager and serves until February 1, 1924, when Scripps Director Thomas Wayland Vaughan abolishes the Office of the Business Manager and subsumes the functions of that office under the Office of the Director.

June 1913: Construction of twelve cottages on the Scripps campus is completed. The “temporary” cottages serve as residences for faculty, staff, and visitors.

December 1913: Construction of the Scripps Director's House (T-16) is completed.

April 1915: Ellen Browning Scripps announces that she will give Scripps Institution an additional \$100,000 gift.

May 24, 1915: Contract for the construction of a salt-water pumping station, a saltwater reservoir, and a seawall, at a cost of \$7,048.50 is signed by Mercereau Bridge & Construction Company and Ellen Browning Scripps. These same parties sign a contract for construction of a 1,000-foot pier for \$26,184.

1916: A one-story wooden building is completed to house the Scripps aquarium and is equipped at a cost of \$2,103.69.



Snaking piles for the first pier construction, 1916. Logs were offloaded from ships from Los Angeles, then floated ashore. The original wooden pier stood until replaced in 1988.

1916: Construction of the Scripps library and museum building is completed, at cost of \$25,000.

August 6, 1916: A formal dedication ceremony is held for Scripps Institution. Speakers include UC President Wheeler and Stanford President David Starr Jordan.

June 1923: Ritter retires as director.

February 1, 1924: Thomas Wayland Vaughan, a geologist with expertise in corals and foraminifera, becomes the second director of Scripps.

September 1925: Scripps Institution buys a 64-foot purse seiner, renamed R/V *Scripps*, to replace R/V *Alexander Agassiz*, which was sold in 1917.

October 13, 1925: The UC Regents formally change the name of the institution from Scripps Institution for Biological Research to Scripps Institution of Oceanography.

August 15, 1931: Roger Revelle arrives at Scripps Institution as a research assistant and graduate student in oceanography. He and his wife, Ellen Clark Revelle, who is a member of the Scripps family, move into cottage 24.

1932: Ritter Hall is constructed at a cost of \$120,000, with one-third each contributed by the state of California, Ellen Browning Scripps, and the Rockefeller Foundation, the latter for assistance rendered by Vaughan for his help in developing the organizational plan to create Woods Hole Oceanographic Institution on the East Coast.



Ritter Hall under construction April 9, 1931. Named after first Director William E. Ritter, one-third of construction costs was paid for by the Rockefeller Foundation for Scripps second Director T. Wayland Vaughan's help in developing plans to establish Woods Hole Oceanographic Institution.

May 22, 1936: Revelle receives a doctorate for his graduate work at Scripps.

September 1, 1936: Physical oceanographer Harald U. Sverdrup becomes the third director of Scripps Institution.

November 13, 1936: R/V *Scripps* explodes and burns in San Diego Harbor, killing cook Henry Ball and severely injuring Captain Murdock Ross.

December 17, 1937: Robert Paine Scripps, son of E. W. Scripps, gives Scripps Institution a 104-foot auxiliary schooner, renamed R/V *E.W. Scripps*. The ship allows Scripps to undertake cruises farther away from the California coastline.

January 1938: Scripps graduate students begin to enroll at University of California, Los Angeles, instead of UC Berkeley.

1938–39: Desiring to have higher-caliber graduate students apply to Scripps, Sverdrup organizes an undergraduate program in oceanography at UCLA. This is the first time Scripps teaches undergraduates.

February–March 1939: Scripps scientists conduct the first Gulf of California Expedition, the first of two cruises which constitute the first comprehensive hydrographic survey of the gulf. The cruise is the first extended voyage away from La Jolla by a Scripps ship.

1941: The UC Division of War Research acquires USS *Jasper* from the Navy. Renamed R/V *Stranger*, the vessel is transferred to Scripps at the end of World War II.

June 1941: Scripps scientists begin research on sonar and other aspects of underwater sound at Point Loma.

July 10, 1941: U.S. Navy Reserve Officer Roger Revelle leaves Scripps to report for active naval duty.

July 14, 1941: Director Sverdrup announces plans to offer training in meteorology and surf and tide forecasting to military officers at Scripps. Officers trained in this program later prepare the surf forecasts for Allied landings in Normandy, North Africa, and the Pacific.

July 21, 1941: R/V *E. W. Scripps* is placed at the disposal of the U.S. Navy Radio and Sound Laboratory and the UC Division of War Research for war work.

August 15, 1941: A contract is concluded between the Office of Scientific Research and Development and the University of California to support wartime research in San Diego. By the end of the war, the UC Division of War Research has become the largest single laboratory working on problems of underwater sound and submarine warfare and has spent more than \$12 million of federal funds on research. Lieutenant Commander Roger Revelle administers the work of the laboratory for the Navy. German Admiral Doenitz acknowledges Allied scientific advances in submarine detection in December 1943, when he writes that “the enemy has rendered the U-boat war ineffective...through his superiority in the field of science.”

1942: *The Oceans: Their Physics, Chemistry, and General Biology*, the first comprehensive oceanography textbook, is published. Written by Scripps scientists Sverdrup, Richard H. Fleming, and Martin W. Johnson,



Harald U. Sverdrup with an Army training class at Scripps, 1943. Scripps defined techniques of wind-wave correlations and tide predictions, and taught military officers the methods during World War II.



*In December 1942, the textbook, *The Oceans: Their Physics, Chemistry, and General Biology*, written by Scripps third Director Harald U. Sverdrup and coauthors Martin Johnson and Richard Fleming, is published. It becomes the cornerstone for Scripps graduate education, and later is transplanted to other universities.*

the book is judged valuable to the war effort and is not distributed abroad until after the war.

January 30, 1945: Revelle is assigned to Joint Task Force One to lead the oceanographic and geophysical components of Operation Crossroads, the first postwar atomic tests on Bikini Atoll in the Pacific. A number of Scripps staff, including Walter Munk, Johnson, and Marston Sargent serve as consultants and observe the tests.

April 1, 1946: Scripps scientist Francis Shepard is in Hawaii to write a book on marine geology, but loses the manuscript in a tidal wave. He remains in Hawaii for several months to study the tsunami and write a paper about it.

June 1946: The UC Division of War Research ceases to exist and some of its research work is taken over



*Carl Hubbs (left) and Hollywood actor Errol Flynn embark on Flynn's yacht Zaca on a collecting expedition in 1946. The movie, *Cruise of the Zaca*, recounted the adventure, with the tale made bigger with a swashbuckling flourish.*

by the newly formed Marine Physical Laboratory. Carl H. Eckart is director. The laboratory becomes part of Scripps in 1948.

July 1, 1946: The newly formed Office of Naval Research (ONR) agrees to provide \$120,000 to Scripps for, "research in the fields of oceanography, including geographical investigations (surveys), experiments in the laboratory and at sea, theoretical studies, analysis, and compilation of data."

August 13, 1946: Errol Flynn arrives at Scripps Institution with his father, marine biologist T. Thomson Flynn, and his yacht *Zaca*, and departs with Scripps scientist Carl Hubbs for a scientific cruise to Mexico.

October 1946: Scripps postdoctoral student C. K. Tseng returns to China to open its first institute of oceanography at Tsingtao.

1947: The California State Legislature passes a law that provides \$300,000 for the support of research to investigate the depletion of the sardine in California waters. These funds lead to the establishment of the Marine Life Research Program at Scripps.

1947: Revelle resurveys Bikini Atoll. Cores are drilled which prove Darwin's theory that atolls are sunken volcanic islands on which enormous layers of skeletons of reef-building organisms accumulated during the sinking process.

1947: A former harbor minesweeper is transferred by the Navy to Scripps Institution and renamed R/V *Crest*.

1948: An ocean tug is acquired by Scripps from the Navy and renamed R/V *Horizon*.

March 1948: Eckart becomes director of Scripps. Revelle returns from naval service to become associate director.

June 15, 1948: Scripps purchases purse seiner *Paolina-T* with funds provided by the Navy.

August 1948: Radio station WWD is created to establish communication between Scripps and its fleet.

July–October 1950: The first Scripps expedition to the deep Pacific, the University of California-Navy Electronics Laboratory Mid-Pacific Expedition (MidPac), contributes to a new understanding of oceanic processes and geology of the seafloor. Studies of heat flow conducted by Revelle, along with graduate student Arthur Maxwell and scientist Sir Edward Bullard, pose fundamental problems that are eventually resolved by plate tectonics theory.



Roger Revelle on the MidPac Expedition, 1950, when scientists discovered the Mid-Pacific Mountains.

October 1950: The Thomas Wayland Vaughan Aquarium-Museum Building is completed, on the Scripps campus.

March 26, 1951: A conference, "The Position of the Scripps Institution of Oceanography in the University, State, and Nation" is held at Scripps for the dedication of the Vaughan Aquarium-Museum.

July 1951: Revelle is appointed director of Scripps.

August 1951: Scripps acquires a former army tug from the U.S. Maritime Commission and renames it *Spencer F. Baird*.

August 15, 1953: Scripps submits a grant proposal, entitled, "Proposed Development of Marine Biology at the Scripps Institution of Oceanography," to the Rockefeller Foundation to "advance the frontiers of marine biology." In 1954, the Rockefeller Foundation grants \$1 million, which funds a new professorship of theoretical biology, a visiting professorship in biology, three new assistant professorships, and five postdoctoral fellowships. The grant supports work on microorganisms, biochemistry and genetics of marine organisms, geochemistry, physiology, and other fields of study.

January 13, 1954: The University of California Institute of Marine Resources is organized and located at Scripps Institution.

February 19, 1954: The University of California President's Administrative Advisory Conference is held at Berkeley to consider the long-range educational policy of the university. Revelle is asked to prepare a statement of education policy for La Jolla that considers plans for expansion.

April 1955: *E. W. Scripps* goes on its last cruise as a research vessel of Scripps Institution. It is sold and becomes *Henrietta* in the film *Around the World in 80 Days*.

May 1955: The UC Regents ask Revelle to prepare a report on the feasibility of establishing a new campus of the University of California in San Diego.

July 1956: Scripps is designated as a participant in the Atmospheric Carbon Dioxide Program of the International Geophysical Year. Charles D. Keeling joins the staff to head the program and begins the first continuous measurements of atmospheric carbon dioxide.

February 1957: Revelle and Hans Suess publish an article in *Tellus* warning about the increase in atmospheric carbon dioxide caused by the burning of fossil fuels.

1958: Jeffery D. Frautschy is named assistant director of Scripps.

July 18, 1958: The UC Regents endorse the idea of a general university campus adjacent to Scripps, to become the University of California, San Diego.

April 15, 1959: Munk submits a "Proposal for the Establishment of a Branch of the Institute of Geophysics on the La Jolla Campus" to UCLA. Louis Slichter provides the first budget support and Munk is named associate director. The Institute of Geophysics and Planetary Physics is dedicated at Scripps in 1964.

July 1, 1960: Revelle is named dean of the School of

Science and Engineering and chief administrative officer of the University of California, San Diego.

May 18, 1961: Francis B. Sumner Auditorium and Harald Sverdrup Hall are dedicated.

June 22, 1962: Research platform FLIP (Floating Instrument Platform), designed by Scripps scientists at the Marine Physical Laboratory, is launched.

May 10, 1964: The Joint Oceanographic Institutions for Deep Earth Sampling (JOIDES) is established to promote deep-sea drilling research. Scripps is one of four institutions that forms JOIDES.



The 365-ft-long Floating Instrument Platform (FLIP), launched in June 1962, has been in service ever since.

September 26, 1964: UCSD's "Farewell to Revelle" party is held at Scripps's Hydraulics Laboratory, after Revelle resigns from the directorship to become the first science adviser to the U.S. Secretary of the Interior.

August 2, 1964: UC President Clark Kerr and UCSD Chancellor Herbert York announce that a new marine facility for Scripps will be constructed on a six-acre site at Point Loma leased to the university by the Navy.

October 1, 1964: Fred N. Spiess is appointed director of Scripps for a one-year term.

June 1965: The Scripps Physiological Research Laboratory building is completed. In 1989 it is renamed Scholander Hall in honor of Scripps marine physiologist Per F. Scholander.

June 29, 1965: Scholander's floating biological laboratory, R/V *Alpha Helix*, is launched.

July 1, 1965: William A. Nierenberg becomes director of Scripps.

August 26–October 10, 1965: SeaLab II, a manned underwater habitat, is operated for 45 days northwest of the Scripps Pier on a ledge in the Scripps Submarine Canyon, at a depth of 205 feet. Astronaut turned aquanaut Scott Carpenter chats from the habitat with orbiting astronaut Gordon Cooper in Gemini V. Later, aquanaut/Scripps graduate student Richard Grigg speaks from the habitat with the French Conshelf III undersea habitat, which is deployed off Monaco at a depth of 328 feet.

March 11, 1966: The Chester W. Nimitz Marine Facility is dedicated in San Diego Bay. R/V *Thomas Washington* and R/V *Alpha Helix* are commissioned.

June 24, 1966: The UC Regents and Scripps receive a \$12.6-million-dollar contract from the National

Science Foundation to fund the 18-month Deep Sea Drilling Project.



The Chester W. Nimitz Marine Facility at Point Loma was dedicated on March 11, 1966. R/V Alpha Helix is shown tied to the wharf.

March 23, 1968: Scripps's R/V *Glomar Challenger* is launched at Levingston Shipbuilding Company in Orange, Texas.

October 28, 1969: Scripps is awarded an additional \$22.2-million-dollar contract from the National Science Foundation for a three-year extension of the Deep Sea Drilling Project (DSDP). With funds provided later, DSDP contracts totaled \$35,290,000.



SeaLab II spent 45 days 205 ft underwater on a ledge of the Scripps Submarine Canyon northwest of the Scripps Pier.



R/V Glomar Challenger was launched in Texas on March 23, 1968. The ship drilled cores from the ocean floor for the Deep Sea Drilling Project based at Scripps.

1970s: Scientists at Scripps join the multi-institutional, multiyear Geochemical Ocean Sections Study (GEOSECS) for a global investigation of the chemical and isotopic properties of the world's oceans. GEOSECS represents the most complete set of ocean chemistry data ever collected and contributes significantly to the advancement of chemical oceanography.

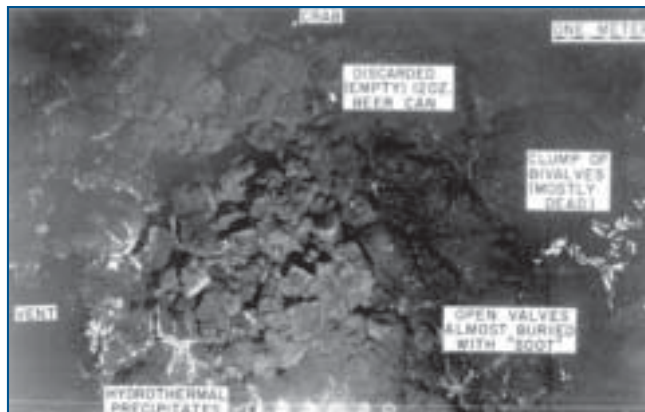
October 9, 1975: Emperor Hirohito of Japan visits the Scripps campus.

May 1976: Using the towed camera platform DeepTow, Scripps geologist Peter Lonsdale discovers new life, including large clams and crabs, during the first photographic survey of a hydrothermal vent field, in the Galapagos Rift in the East Pacific Rise.



Japanese Emperor Hirohito visited the Scripps campus on October 9, 1975.

October 26, 1978: Scripps announces acceptance of its first state-funded research vessel, R/V *New Horizon*. The 52-meter \$3.3-million-dollar vessel is dedicated at a ceremony held January 25, 1979.



The Scripps towed camera platform, DeepTow, first photographed unknown life at the hydrothermal vents in 1976. Scripps discoveries in 1979 include subseafloor magma chambers and black smoker vents.

1979: During the Rise Expedition to the East Pacific, Spiess and others are the first to discover a sub-seafloor magma chamber and black smokers rising from a hydrothermal field. They take photographs using the deep-diving submersible *Alvin* and DeepTow, an unmanned vehicle.

August 20, 1979: Scripps receives a \$1.5-million grant from the Max C. Fleischmann Foundation to be used for a program to upgrade Scripps's major equipment resources for research and teaching.

October 12, 1979: The Scripps Satellite Oceanography Facility is dedicated, making Scripps the first oceanographic institution to make use of remote-sensing instruments on satellites.

February 12, 1981: Scripps announces the establishment of a new research unit, the Center for Coastal Studies, to be directed by Douglas L. Inman.



The Scripps Satellite Oceanography assists scientists in relaying data and monitoring Earth from space.

May 15, 1981: Scripps announces that it has received a National Climate Program Office grant to operate the nation's first Experimental Climate Forecast Center.

October 8, 1982: Scripps announces that cottage T-29 has been renamed the Martin Johnson House and has been restored and remodeled as a meeting room. It is one of the original cottages that housed faculty and staff at Scripps during its early years. Johnson and his family lived in the cottage from 1934 to 1956.

February 26, 1983: Queen Elizabeth and Prince Philip of England visit the Scripps campus.

July 23, 1984: The Scripps Physical Oceanography and Space Science Building is opened. In 1987, it is renamed in honor of Scripps Director William A. Nierenberg and his wife, Edith Nierenberg.



For a time in early 1988, Scripps had two piers—the new pier, completed in June 1988, was built alongside the original pier.

March 22, 1989: The first Robert L. and Bettie P. Cody Award in Ocean Sciences is presented to geophysicist George Veronis.

September 15, 1989: The Marine Biology Building is dedicated as Hubbs Hall in honor of Scripps ichthyologist Carl L. Hubbs.

1991: The Heard Island Experiment demonstrates the stability of long-range acoustic propagation by sending acoustic signals halfway around the world. Using advanced digital signal-processing techniques, Scripps researchers are able to perform what one calls "the acoustic equivalent of time-lapse photography."

March 20, 1992: The UC Regents approve an endowed faculty chair at Scripps named in honor of William E. and Mary B. Ritter.

August 21, 1992: Scripps is entered into the *Guinness Book of World Records* for the fastest human-powered submarine, SubDude, designed by a team of Scripps engineers led by Kevin Hardy.

September 16, 1992: The Stephen Birch Aquarium-Museum opens on a hilltop overlooking the Scripps campus.

September 21, 1992: Scripps announces creation of a new academic program in earth sciences leading to a bachelor of science degree.

November 25, 1992: Scripps announces that it has concluded a cooperative research agreement with the National Oceanic and Atmospheric Administration (NOAA) to create the Joint Institute for Marine Observations, with a mission to study long-term global environmental processes.



England's Queen Elizabeth and Prince Philip visited Scripps on February 26, 1983.

July 27, 1984: Scripps purchases the 125-foot research vessel *Robert Gordon Sproul*.

July 1, 1986: Edward A. Frieman becomes director of Scripps.

March 26, 1987: More than 70 members of the Scripps family attend the groundbreaking for the new Ellen Browning Scripps Memorial Pier. The old pier is used as a platform to construct the new pier, so for a brief period Scripps has two piers. The old pier is demolished in February 1988. The new pier is completed and opened to the public for one day on June 26, 1988.

October 17, 1988: Vice President George H. W. Bush visits the Scripps campus.



The Stephen Birch Aquarium-Museum at Scripps opened to the public on September 16, 1992.

January 27, 1993: Scripps announces the establishment of the Center for Marine Biotechnology and Biomedicine to explore biotechnology and pharmaceutical resources from the sea.

February 19, 1993: Scripps announces that it has been awarded a \$35-million research contract from the Defense Advanced Research Projects Agency for a study measuring ocean climate. The Acoustic Thermometry of Ocean Climate project grew out of the 1991 Heard Island Experiment conducted by Munk.

August 27, 1993: Scripps announces that it has received an award of \$3.27 million for a one-year research grant from NOAA to study the role of the global ocean in climate.

November 16, 1993: Scripps Crossing is dedicated, and the Institute of Geophysics and Planetary Physics (IGPP) is renamed in honor of Cecil H. and Ida M. Green. The 1964 IGPP building is dedicated as the Judith and Walter Munk Laboratory. The new four-building complex constructed as an addition to IGPP is dedicated as the Roger and Ellen Revelle Laboratory.

April 20, 1995: R/V *Roger Revelle* is christened at Moss Point, Mississippi, by Revelle's widow, Ellen. Festivities welcoming the vessel to the Scripps fleet are held August 2, 1996.

April 24, 1995: Victor Vacquier, Scripps emeritus professor of geophysics, receives the Alexander Agassiz Medal for his "discovery of the flux-gate magnetometer and for the marine magnetic anomaly surveys that led to the acceptance of the theory of seafloor spreading."

December 10, 1995: Paul Crutzen receives the Nobel Prize in Chemistry. Crutzen is a Scripps adjunct professor as well as director of the atmospheric chem-



R/V Roger Revelle was christened in April 1995 and joins the fleet in August 1996.

istry division of the Max Planck Institute in Mainz, Germany.

September 12, 1995: The National Research Council ranks Scripps first in faculty quality among American doctoral oceanographic programs. UCSD is ranked first in neurosciences and oceanography and tenth overall.

March 15, 1996: The "unwhaling" of Randy Puckett's 40-foot, bronze whale exhibit is held at the Birch Aquarium at Scripps. Entitled, "The Legacy," it is funded by members of the Scripps family in memory of Edward W. (Ted) Scripps II.

August 1, 1996: Wolfgang Berger is named interim director of Scripps.

October 1996: IGPP Director John Orcutt becomes the first recipient of the Secretary of the Navy/Chief of Naval Operations Chair. IGPP Associate Professor Bradley Werner is named as the first Office of Naval Research/Scripps Institution of Oceanography Scholar.

November 15, 1996: Francisco Valero is named first director of the Joint Center for Observation System Science, to be cooperatively operated by the Goddard Space Flight Center/NASA and Scripps.

February 1, 1998: Charles F. Kennel becomes director of Scripps, as well as vice chancellor, Marine Sciences, and dean, Graduate School of Marine Sciences.

1999: The W. M. Keck Foundation Center for Ocean-Atmosphere Research is dedicated at Scripps.

September 26, 2003: Scripps Institution of Oceanography celebrates its centennial and embarks upon a second century of exploration. 