



COASTAL SUSTAINABILITY



UNIVERSITY OF CALIFORNIA
SANTA CRUZ

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Conserving the coastal zone is critical for us all. Coastal ecosystems are under intense pressure from population growth, commercial development, pollution, overfishing, climate change, and rising sea levels. Decisions that we make now, or fail to make, can have negative, long-term effects on coastal health. Innovative ideas and research are needed to solve these problems in California, the U.S., and around the world. From helping to pass the Marine Mammal Protection Act, to raising the alarm about the impacts of rising sea levels, to launching a revolution in sustainable agriculture, UCSC has been a leader in solving tough problems like coastal sustainability where science, policy, and society meet. We invite your partnership in this exciting and urgent mission.

Paul Koch

Dean of Physical and Biological Sciences

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OVERVIEW

OUR COASTS INSPIRE AND SUSTAIN US. THEY ARE A TREASURE OF BIODIVERSITY, FROM REDWOODS AND WHALES TO CHAPARRAL AND SALMON, AND A PRIZED HOME FOR THE MORE THAN 25 MILLION CALIFORNIANS WHO LIVE IN A COASTAL SHORELINE COUNTY. A HEALTHY COASTAL ZONE IS CRUCIAL TO THE STATE'S ECONOMY. THREE-QUARTERS OF CALIFORNIA'S \$2 TRILLION ANNUAL GDP—THE NATION'S LARGEST—IS DERIVED FROM ITS COASTAL COUNTIES.



Coastal communities depend on functioning ecosystems and the services they provide, so ensuring that these ecosystems are sustainable and resilient in the face of growing environmental and human stresses is critical. In Monterey Bay and beyond, UCSC's coastal scientists, students, and partners are working

every day to ensure a sustainable future for all who rely on the coastal zone.

Our location on Monterey Bay and our coastal research campus (which has attracted state and federal partners) allow us to conduct groundbreaking collaborative research and offer students unique educational opportunities. We are an incubator, inspiring students to create small businesses and NGOs that

contribute to coastal sustainability and marine conservation. Our alumni are leaders in marine science, land-use planning, coastal hazards, sustainable agriculture, and conservation. Our students will be the policy makers of the future.

Coastal sustainability is central to the university's larger commitment to be at the forefront of environmental responsibility. Investment in this initiative will advance a generation of new knowledge and will educate the scientists and leaders who will make coastal sustainability throughout the world not only a priority, but also a reality.



VISION AND GOALS

OUR GOAL IS TO RESTORE AND SUSTAIN THE HEALTH OF THE COASTAL ZONE SO THAT IT CAN CONTINUE TO SUPPORT PEOPLE, PLANTS, AND ANIMALS. TO EXPAND OUR IMPACT, WE SEEK RESOURCES TO DEVELOP:

Coastal Science and Policy Master's Program.

This multidisciplinary master's degree will prepare students for leadership in coastal science and conservation. Graduates of this program will help ensure that the knowledge and insights generated by coastal scientists inform policy decisions in public and private sectors.

Interdisciplinary Research in Coastal Science.

Collaborative research at UCSC by talented undergraduate and graduate students, faculty, and other partners is confronting the challenges the coastal zone faces. This work crosses disciplines, cultures, and geographic boundaries. Doing so exponentially increases understanding of the coastal zone and it prepares the next generation of coastal scientists. The expansion of resources for undergraduate research, graduate fellowships, and endowed chairs will accelerate this leading-edge coastal research and support bringing the brightest students and researchers to UC Santa Cruz.

Coastal Biology Building. The addition of the Coastal Biology Building on the coastal campus will enable research and teaching on coastal conservation, water science, climate change impacts, and policy. The potential to expand our impact is limited without this high-priority space.

Center for Agroecology & Sustainable Food Systems.

New farming methods are vital to keeping rivers and other water that flows into the ocean healthy. We are long-time leaders and innovators in sustainable agriculture, anchored in our 30-acre organic farm and garden founded in 1967. Funding will secure operations and improve student and public access to these key educational resources.

Seymour Marine Discovery Center. For more than a dozen years, the Seymour Center at Long Marine Lab has been fostering public understanding and awareness of coastal science and conservation. A secure financial base will support its operation and programs.

Marine Mammal Research Facilities. One of only a handful of marine mammal research facilities in the United States, the marine mammal pools at Long Marine Lab are used by UCSC scientists and students, as well as researchers around the world. The reconstruction and expansion of these pools is key to supporting studies of seals, sea lions, dolphins, otters, and other marine mammals.

BACKGROUND

UC Santa Cruz is internationally recognized for its boundary-crossing research and leadership in marine and coastal conservation. It ranks among the top five most productive institutions in North America for publications in conservation biology. It is home to experts in coastal biology, climate change and coastal hazards, fisheries and agricultural systems, conservation, hydrology and water management, public policy, economics, and more.

The main campus is spectacularly located at the foot of the Santa Cruz Mountains overlooking Monterey Bay—the country's largest National Marine Sanctuary and one of the world's most diverse marine ecosystems. Water from California's Salinas Valley, known as the "Salad Bowl of the World," drains into this bay, creating a unique laboratory for studying the impacts of land use practices on the coastal ocean. The main campus is nestled in a terrestrial biodiversity hotspot as well—a redwood forest watered by summer fog that hosts mountain lions and other charismatic plants and animals, large and small. Our Coastal Science Campus—directly on the bay—is a major hub for research, teaching, and outreach. Collaborators include NOAA, National Marine Fisheries Service, U.S. Geological Survey, U.S. Fish & Wildlife,

California Fish & Wildlife, and many non-profit conservation organizations that are co-located on the campus. UCSC is home to the longest-running organic farm on a college campus and manages five natural reserves on the Central California Coast.

Research at UCSC has sparked major advances in coastal sustainability:

- Our marine scientists were pivotal in implementing the landmark California Marine Life Protection Act and now monitor 29 reserves.
- Our pioneering research in agroecology includes partnering with commercial growers of strawberries and vegetables to find optimum fertility while protecting water quality in sensitive habitats.
- Our long-term study of sea otters has improved their chances for survival and revealed their key role in sustaining the kelp forests that are critical to the survival of many other species.
- UCSC researchers are leading efforts to understand and manage coastal freshwater aquifers on the Central Coast and in other coastal areas to increase water supply and improve water quality.

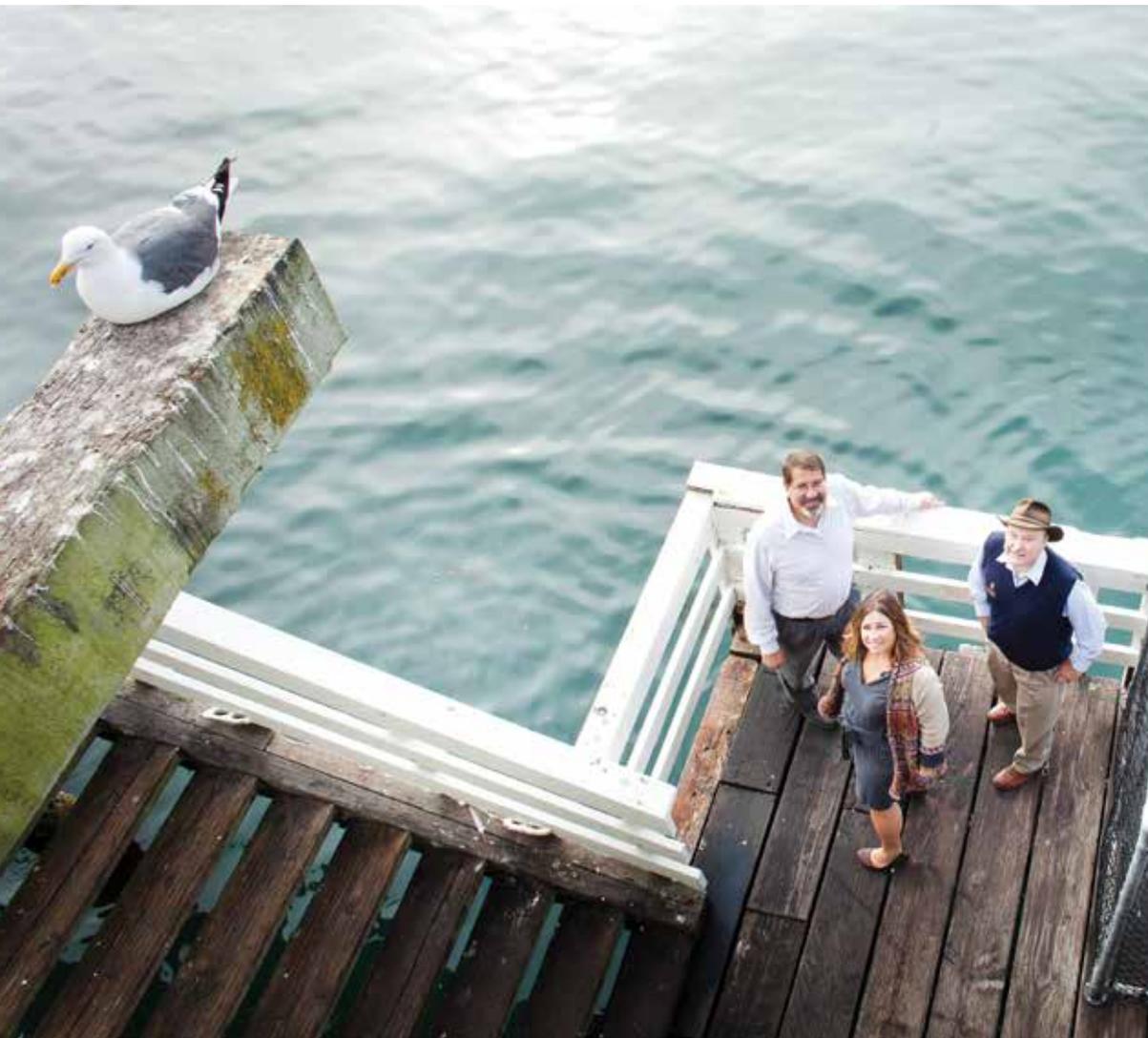
- Begun by UCSC researchers at Long Marine Lab, the efforts of the international nonprofit Island Conservation are highly effective at saving endangered island plant and animal species. To date, 977 populations of 389 species have been brought back from the edge of extinction.
- Our knowledge of coastal erosion is helping coastal communities plan for the impacts of climate change and sea-level rise around the world.

Our alumni are shaping policy and science in this area all over the world. They include former astronaut Kathryn Sullivan, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator; Julie Packard, executive director of the Monterey Bay Aquarium; and Ken Alex, senior policy advisor to Gov. Jerry Brown and Director of the California Office of Planning and Research, specializing in environmental and energy issues.

GIVING OPPORTUNITIES

Donor support is essential to advance the goals of the Coastal Sustainability Initiative. Opportunities include naming-level gifts for facilities and programs in marine and environmental systems, program support, faculty chairs, fellowships, and scholarships. All allow us to attract and support the thinkers and doers who will become tomorrow's leaders in academic research and policy making. Join us in making a difference!

► FOR MORE INFORMATION, GO TO [CAMPAIGN.UCSC.EDU](https://campaign.ucsc.edu).



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