

Humans depend on the ocean to help stabilize the climate, provide food and support livelihoods. Long-term ocean health depends on better understanding of the human-ocean connection and active stewardship of marine ecosystems to be more resilient to global threats like ocean acidification, climate change and overfishing.

Mission

The Center for Ocean Solutions works to solve the major problems facing the ocean and prepares leaders to take on these challenges.

Role

We bridge the gap between research and decisionmakers and identify pathways to solutions within science, technology and policy for solving major ocean challenges.

Goals

- Define and measure ocean health and develop resiliency metrics including thresholds and indicators.
- Research and identify the root causes of key threats to ocean health and work through interdisciplinary teams to build enduring solutions.
- Communicate effectively with our stakeholders about critical ocean threats so they can be understood, quantified, modeled and solved.
- Engineer solutions for real-world applications through active engagement with researchers, decisionmakers, funders and stakeholders.
- Link knowledge and technology to ocean needs resulting in action by government, non-governmental organizations, foundations and business.
- Equip decisionmakers and emerging leaders with the knowledge and skills they need to make decisions that lead to long-term health of the ocean.

WE ARE

- a collaboration among the Stanford Woods Institute for the Environment and Stanford's Hopkins Marine Station, the Monterey Bay Aquarium, and the Monterey Bay Aquarium Research Institute, comprising more than 80 scholars;
- focused on coastal and ocean ecosystems using insights from the natural, physical and social sciences;
- partners with academic, governmental and non-governmental organizations around the world to tackle interdisciplinary and cross-sector problems;
- located at Stanford University and in Monterey, California.

WE ENGAGE

- Resource managers
- Government leaders
- Foundations
- Community leaders
- Fishing and other commercial interests
- Non-governmental organizations
- Science and research organizations
- Graduate students and post-graduate scholars



Ecosystem Health



Climate Change



Land-Sea Interactions

Focal Areas

Ecosystem health, climate change and land-sea interactions are inextricably linked, and our progress in one area will inform and advance work in the other areas. Leadership development, education and communications

are central to every Center for Ocean Solutions strategy. Four cross-cutting approaches inform our pathways to solutions across the focal areas. These “Solution Spaces” include:

- Developing innovative concepts and tools for measuring ecosystem health.
- Advancing research, knowledge and capacity of integrated human-natural systems.
- Fostering integrated ocean policy and management.
- Enhancing leadership in ocean science and governance.

Examples of Emerging Solutions

- **Environmental DNA** — Developing genetic techniques for tracking and monitoring marine animals.
- **Kelp Forest Array** — Creating a state-of-the-art cabled platform for observational and experimental science aimed at monitoring and understanding local impacts of global climate change.
- **Incorporating Natural Capital into Climate Adaptation Planning** — Enabling California decisionmakers at the state, regional and local levels to consider the role of natural habitat in coastal climate adaptation planning.
- **Small-Scale Fisheries** — Building knowledge and capacity to facilitate the transformation of small-scale fisheries to sustainable and resilient social-ecological systems.
- **California Fisheries** — Developing guidance for the challenges facing California’s state-managed fisheries and identifying actionable policy and management opportunities.

For more information:

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