

Pathways to Advance Diversity, Equity, and Inclusion in California's Coastal and Ocean Sciences

Proceedings and recommendations from a series
of virtual roundtable discussions convened by the
California Ocean Science Trust

July 2022



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OCEAN SCIENCE TRUST



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About this Report

This proceedings report was produced by California Ocean Science Trust (OST) following the convening of a series of virtual roundtable discussions to advance Diversity, Equity and Inclusion (DEI) in California's coastal and ocean science community. The strategies and recommendations presented reflect all collaborative exchanges that took place during each virtual roundtable event and our subsequent integrative syntheses. We acknowledge, however, that these actions are neither comprehensive nor sufficient to alleviate every challenge faced by historically excluded groups in the coastal and ocean sciences, nor do they remove all barriers to advancing DEI. Rather, they aim to contribute to the ongoing dialogue and current body of work that the California coastal and ocean science community has undertaken to make our community more inclusive, welcoming, and equitable. This report is intended to serve as a resource for the roundtable series participants, as well as individuals, groups, organizations, and institutions committed to furthering this work.

About California Ocean Science Trust

OST is an independent non-profit organization created by California legislation to formally bridge the gap between cutting-edge research and sound ocean management. OST's founding legislation also includes a mandate to support graduate education, and a commitment to future ocean science workforce development. Effectively executing this mandate demands an understanding of barriers faced by historically excluded groups in coastal and ocean sciences and a commitment to supporting pathways to advance DEI in science leadership in academia and beyond. OST's unique positionality, which transcends any one academic campus and includes close connections with California state government, enables the facilitation of collaborative and innovative action toward a more inclusive and equitable future for California's coastal and ocean science community. To learn more [visit our website](#).

Acknowledgements

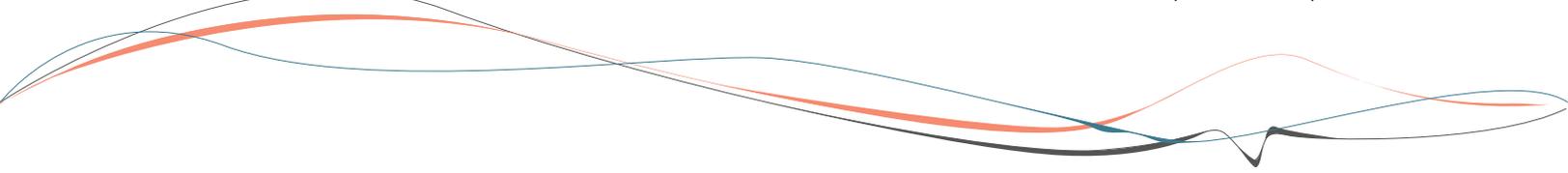
Funding for this initiative was provided by the **Alfred P. Sloan Foundation** and the **Gordon and Betty Moore Foundation**. Facilitators **Adair Cates**, **Nicole Bossard**, and **Leah Michael** from XCHANGE collaborated in designing and facilitating the roundtable series. We thank all of the roundtable series participants (see Appendix A) for their engagement, thoughtfulness, and creativity that led to the development of this report.

We also thank and acknowledge **Dr. Carole Hom** (UC Davis) and **Dr. Karina Nielsen** (formerly San Francisco State University, now Oregon Sea Grant) for their thoughtful leadership, support, and partnership throughout this initiative. We also extend our appreciation to the following OST interns for contributing their expertise and lived experiences: Taylor Pantiga, San Francisco State University; Tim Scully, University of California Santa Cruz; and Olivia Won, University of California, **Authors**uz.

Melissa Abderrahim - Science Officer, OST

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Overview

From May 2021 through May 2022, in partnership with San Francisco State University Estuary & Ocean Science Center (EOS Center) and University of California, Davis Coastal and Marine Sciences Institute (CMSI), OST convened a series of interactive virtual roundtable discussions to advance DEI in California's coastal and ocean science community. These brought together key actors of the coastal and ocean sciences higher education and career system in California, including university faculty and staff, state and federal agency representatives, nonprofit staff, career development professionals, students, postdocs, recent graduates, and staff from funding entities and programs. By intentionally creating community and a safe space for dialogue, the roundtables cultivated inspiring conversations around envisioning a different future. Participants were able to discuss and acknowledge shared barriers and challenges, while also developing actionable strategies and recommendations to promote institutional and cultural change across California's coastal and ocean science community.

OST conducted an extensive outreach process to seek participation in these events, including an open registration process for the Faculty Perspective, the Student & Postdoc Experience Roundtables, and the Funders Roundtable. All participants of the roundtable series (with the exception of funding organization representatives) were offered financial

compensation for their participation. However, key voices and perspectives were missing from the roundtable discussions. Going forward, we are committed to learning from this process and developing more inclusive and equitable opportunities to support the advancement of DEI in California's coastal and ocean science community. It is our goal to continue to contribute and expand on the recommendations and strategies in this report, engaging a broader set of individuals not represented in the Roundtable Series.

The roundtable series consisted of virtual, professionally facilitated discussions and were designed to minimize potential power dynamics between participants of different backgrounds and levels of experience. In particular, separate roundtables were held for students, faculty/staff, and career professionals. The sequencing of the roundtable series was designed to demonstrate actionable commitment to students and early career professionals from their superiors, mentors, and potential employers prior to their roundtable discussion. A 10-member Steering Committee advised in the scope, design, and sequencing of the roundtable series.

**92 participants
in total**

**25 California
institutions of higher
education**

including Minority Serving
Institutions and Community
Colleges

**18 ocean science
organizations**

including California state
agencies, federal agencies, and
nonprofits

20 students,
postdocs, and
recent graduates

23 university faculty
and staff

29 funding sector
representatives

The Roundtables

I. The **Career Pathways Development Roundtable** convened participants from various sectors of coastal and ocean science careers, as well as graduate program coordinators and career center staff, to illuminate pathways and connectivity, including access to professional experiences such as internships, fellowships, and addressing hiring and selection practices in and beyond academic careers that are supported by degrees in coastal and ocean sciences.

II. The **Faculty Perspective Roundtable** convened tenure and non-tenure track faculty from public and private universities, as well as community colleges across California to provide input and reflection on institutional challenges and opportunities for advancing DEI in academia and beyond, including best practices for institutional accountability.

III. The **Student & Postdoc Experience Roundtable** convened undergraduate students, masters and PhD students, postdocs, and recent graduates from California's universities and community colleges to explore strategies and ongoing challenges with efforts aimed at improving institutional culture, mentorship, curriculum development, belonging, retention, recruitment, and more.

IV. The **Integration Roundtable** convened participants from all three of the previous roundtable discussions as an opportunity for participants to collectively share outcomes from their respective roundtable discussions, foster a sense of community among roundtable participants, and focus efforts on action planning and practical next steps.

V. The **Funders Roundtable** convened representatives from a range of funding sectors, entities, and programs, including state and federal government, the philanthropic sector, and funding networks to share lessons learned from the previous three roundtable events and expand the community around shared goals for the advancement of DEI.

We would like to thank the following 10-members Steering Committee for advising on the scope, design, and sequencing of the roundtable series.

Dr. David Asai, Howard Hughes Medical Institute

Dr. Jeanette Davis, Science is Everywhere, LLC

Dr. Laura Good, CSU Monterey Bay

Dr. Carole Hom, UC Davis CMSI

Dr. Lekelia Jenkins, Arizona State Univ.

Dr. Randall Hughes, Northeastern University

Dr. Kate Lowry, Science Philanthropy Alliance

Dr. Anne-Marie Núñez, Ohio State Univ.

Dr. Craig Strang, UC Berkeley

Dr. Karina Nielsen, San Francisco State Univ. (former, now Oregon Sea Grant)

Envisioning Our Future



The coastal and ocean sciences continues to be one of the least diverse STEM fields¹ despite an upward trend in overall degrees granted over the last few decades. Systemic barriers to recruitment and retention of historically excluded groups in the field of coastal and ocean sciences are numerous and well documented². They are, in part, the result of institutional norms and a culture that does not incentivize nor reward efforts to make the coastal and ocean sciences field more accessible, inclusive, and equitable. We convened this roundtable series with the mission to catalyze change in institutional norms and culture and to produce actionable recommendations and strategies that accelerate progress across California's coastal and ocean science community.

Each roundtable discussion began by establishing a safe space and building community among the participants. It was clear to the project and facilitation team that members of the coastal and ocean science community would not be able to authentically participate without feeling a sense of trust and safety. To achieve this, we organized the virtual roundtable discussions around reflection and connection activities, where participants interacted with each other and the project team in small groups. Participants were able to find similarities in their experiences and backgrounds, reflect on their personal and professional paths, and at times, share deeply personal and painful experiences. This process created a supportive venue for participants to come together, learn from each other, and produce innovative and practical solutions to advance DEI at their institutions, organizations, and throughout the coastal and ocean science community in California.

1 Bernard, R.E., Cooperdock, E.H.G., 2018. No progress on diversity in 40 years. *Nature Geoscience* 11, 292-295. <https://doi.org/10.1038/s41561-018-0116-6>

2 [Garza \(2021\)](#), [Graham et al. \(2021\)](#), [Harris et al. \(2021\)](#), [Whittaker et al. \(2015\)](#)

Following the reflection and connection activities, participants began a series of envisioning exercises to visualize a more inclusive, welcoming, culturally relevant, and equitable community. In particular, a future where historically excluded students, early-career professionals, and faculty members are supported and elevated and where opportunities to advance equity and inclusion are expanded. Participants produced bold and innovative ideas, rethinking the current paradigm and holding themselves and the broader coastal and science community accountable to lasting institutional and cultural change. After processing and synthesizing participants' contributions, we uncovered two common goals and three strategies to achieve them. These goals and strategies advance values of diversity, equity, and inclusion by removing barriers faced by historically excluded groups and promote durable institutional and cultural change in the coastal and ocean sciences. The following goals complement each other, and should be advanced in parallel.

Expanding Access to an Achievable Ocean Science Career

The coastal and ocean sciences are transformed into an accessible and achievable career path, where diverse students, workforce and leadership are elevated to create a welcoming environment and all are able to access education and career opportunities. Students and early-career professionals are connected to each other, resources, financial support, mentorship and professional opportunities. This supportive and connected community celebrates expansive career paths, while fostering connection and collaboration across institutions, sectors and levels.

Expanding Collective Agency for Accountable Change

Agency, or power, is redistributed to empower more individuals, groups, and networks to become agents of change in the coastal and ocean science community. A community that sustainably builds equitable collaborations and partnerships with historically excluded communities that have been and will continue to be most impacted by issues facing the coast and ocean. A system of mutual accountability is created, where efforts to advance DEI are expected, quantified, and recognized, and all individuals, regardless of experience level or seniority, are held to the same standards.

Braided Strategies Toward Our Common Goals

We identified three strategies as pathways to achieve these goals and recognize them as “Braided Strategies”¹: all three strategies are intertwined and need to be advanced in unison to effectively make the coastal and ocean sciences more inclusive, equitable, and diverse.

Strategy 1: Prioritize Sustained Investment for System Change

Strategy 2: Support an Accountable & Equitable Coastal and Ocean Science Community

Strategy 3: Foster Community & Connection in the Coastal and Ocean Sciences

¹ We take inspiration from the publication “Reimagining STEM Workforce Development as a Braided River” <https://eos.org/opinions/reimagining-stem-workforce-development-as-a-braided-river>

Strategy 1: Prioritize Sustained Investment for System Change

Progress toward a more inclusive and diverse coastal and ocean science community requires equitable and sustainable investment into system change. Roundtable participants collectively prioritized funding as necessary for all strategic efforts in this report. Here, we identify strategies to remove barriers for historically excluded groups by increasing access to funding resources, revising institutional funding practices, and ensuring policies and processes are equitable and lead to inclusive outcomes. Highlights include investing in early-career and recent graduates through innovative strategies that remove high-level bottlenecks of funding decisions, while increasing inclusion and support through institutional and individual methods.

1.1 Change internal funding paradigms away from institutional benefit to generating benefits for all

Recommendations:

- Increase institutional support from leadership to build sustained investment into a more equitable and inclusive culture for faculty, students, and other changemakers
- Identify levers in existing university governance and administrative policies and practices that can be targeted to support, expedite, or sustain system change (e.g., hiring committees, academic senate)
- Embed and prioritize DEI-related support within institutions, organizations, and their funding programs
- Restructure incentive-reward systems to invest in groups with demonstrated commitment to DEI (e.g. research teams, academic departments)
- Increase funding toward graduate-level professional development opportunities (e.g. internships, networking, foundational trainings) and student participation/access
- Increase availability of/access to discretionary funds for students or other types of direct-student support, such as tuition aid, and for specialized high-cost personal gear (e.g., scuba equipment, outdoor field clothing/gear)

Box 2. Investing in Students, Faculty, and Staff

Sustained system change requires supporting the agents of change in an institution. Our roundtable participants actively engaged in DEI efforts frequently cited the need for more financial support to alleviate the extra service burdens on students, faculty, and other staff in their efforts to build a more equitable support system around DEI initiatives. One example includes funding for DEI programmatic positions within an institution, such as departmental hires for coordinating DEI-related activities or environmental justice positions to elevate agency and inclusivity in science.

1.2 Leverage external entities or collaborative efforts to strengthen and diversify financial support

Recommendations:

- Increase and grow funding programs and opportunities outside of academic institutions that directly bring more financial support towards DEI-related efforts
- Increase public funding opportunities by elevating the ocean sciences as a strategic area for investment by governmental entities
- Expand public funding to invest in permanent, continuous training opportunities across the career system (i.e., end-to-end support)
- Create strategic partnerships between public and private entities to remove and alleviate barriers around sustainable investment into DEI activities (See Box 3)
- Build state-wide academic coalitions including K-12 institutions, UC and CSUs, community colleges, minority-serving institutions, and others to coordinate strategic investments and share best practices
- Invest in long-term relationship-building with local communities to build consensus, connection, and agency within the ocean sciences

Box 3. Leveraging Strategic Public-Private Partnerships

Roundtable participants discussed innovative and collaborative strategies to circumvent institutional barriers. In particular, forming public-private partnerships to bring external investments, resources, and support into system change efforts. This can include:

- Funding graduate education degrees, professional development opportunities, and various types of programmatic support (e.g., paid internships, trainings, overhead and personnel costs)
- Establishing external financial hubs to distribute funding with more flexibility and fewer limitations (e.g., circumvent legal barriers preventing funding to excluded communities)

1.3 Restructuring funding practices to increase accessibility and impact of financial support

Recommendations:

- Revise funding opportunities (e.g., grant applications) to instill and elevate inclusivity and equity throughout the process of applying, receiving, and using funds
 - Include flexible, unconditional overhead funding for supporting DEI-related activities in grants or proposals
 - Remove application barriers, such as GPA requirements and changing historic exclusionary language
 - Diversify funding timelines by considering both long-term engagement and rapid short-term or interim support
- Review and modify institutional accountability in funding to ensure effective investment into DEI activities
- Invest more resources into relationship building and student inclusivity
- Increase funding to organizations with ongoing and demonstrated efforts to support historically excluded groups
- Fund opportunities such as paid internships, fellowships, and research training to change culture away from volunteerism
- Fund professional development opportunities around student support (e.g. mentorship networks) and activities to promote culture change, such as necessary trainings
- Build a portfolio of opportunities to increase awareness and accessibility of funding sources for ocean sciences

Strategy 2: Support an Accountable & Equitable Coastal and Ocean Community

Participants identified support and accountability as key elements of an inclusive and equitable culture. They felt that increasing accountability would alleviate the burden on students, faculty and professionals from historically excluded groups. Here, we identify strategies to provide adequate resources to faculty and university staff invested in advancing DEI efforts and changing institutional norms, as well as strategies to create and sustain accountability within academic institutions and in other organizations.

2.1 Support faculty and university staff engaged in changing the academic culture

Recommendations:

- Incentivize and value DEI work in hiring practices, recruitment, tenure and promotion processes
- Support the recruitment and retention of faculty members from historically excluded groups
 - Provide mentorship for early-career faculty members
 - Promote an inclusive workplace culture
 - Use [cluster-hires](#) of faculty to create cohorts of supported faculty members (see example in Box 4)
- Ensure administration commitment to individually-led culture shift efforts
 - Offer compensation and relief from teaching load or other committee commitments for faculty who are very engaged in DEI efforts at the institution
 - Bridge both top-down (administration) and bottom-up (campus culture) efforts at universities
- Provide consistent funding and support for students/faculty to advance DEI efforts (see Strategy 1)
- Support hiring and integration of Director/Liaison of DEI positions
 - If a specific position is not created, at minimum ensure that DEI work is part of the duty statements and job descriptions to guarantee DEI work is a necessary component of job performance
 - Empower DEI professionals with adequate support and resources

Box 4. Faculty Cohorts

In September 2021, the University of California Berkeley, hired five new faculty members from different U.S. states, academic disciplines and backgrounds to address the global issues of climate equity and environmental justice – as part of six interdisciplinary faculty cluster-hires. [Learn more here](#)

2.2 Ensure support for mutually beneficial accountability

Recommendations:

- Measure accountability in actions to demonstrate meaningful progress and provide baseline information needed to continually improve DEI efforts and programs (see example in Box 5)
- Create systems to safely report incidents without consequence for the reporter
- Establish a system to share best practices from across academic institutions and include basic standards of institutional-based support (e.g. access to healthcare, liveable wages, etc.)
 - Ensure an inclusive and transparent onboarding and mentorship process is conducted for incoming students
 - Require mandatory and regular DEI trainings for faculty and staff, and [positionality](#) trainings, especially for those in power
- Rethink decision-making processes in recognition of power dynamics
 - Include students, postdocs, and assistant professors in hiring committees and recognize their input as a training opportunity to gain a better understanding of academic practices
 - Diversify hiring/review committees, include DEI professionals by providing them with decision-making agency

Box 5. The American Association for the Advancement of Science (AAAS) STEM Equity Achievement (SEA) Change program.

The SEA Change program aims to improve the institutional inequities and diversity barriers that persist in STEM higher education (science, technology, education, mathematics, and medicine) through a proven self-assessment process to effect sustainable change. By becoming SEA Change members, higher education institutions get access to the Sea Change three main pillars of progress through their own systemic transformation activities. To date, the California Institute of Technology and all ten campuses of the University of California have become SEA Change members. Notably, the UC Davis and UC Irvine received the SEA Change Institutional Bronze Award after completing a thorough self-assessment of their institution's policies, procedures, and climate and developing a narrative demonstrating understanding of the underlying issues contributing to their institution-specific DEI challenges and an action plan to address those challenges. Learn more about the SEA Change program [here](#).



Strategy 3: Foster Community & Connection in the Coastal and Ocean Sciences

Roundtable participants highlighted the need for more opportunities to build community and connect with each other, with change agents and DEI leaders in the coastal and ocean science community, and identified this roundtable series as an example of such venues. Participants indicated personal relief in knowing that other like-minded individuals are working to make their communities more inclusive, equitable and welcoming, while expressing appreciation for the opportunity to learn from each other's experiences. Participants also emphasized the importance of connecting students (including K-12), recent graduates, and early-career to professional development opportunities and effective mentorship. Participants underscored the need to provide adequate training and resources to mentors and supervisors, while ensuring diverse representation of identities, backgrounds and experiences in these positions of leadership. Here, we identify ways to leverage the extensive network of California's colleges and universities, as well as the tight-knit community of coastal and ocean science professionals to create a supportive and inclusive network to foster the next generation of coastal and ocean leaders.

3.1 Expand access to immersive professional development opportunities for students and early career professionals

Recommendations:

- Further expand access to opportunities for K-12 students - passion for the coast and ocean is often developed at an early age; however, the coastal and ocean sciences are often not well represented in grade school curricula, and physical access to these environments can also be challenging, which may create a disparity among young students and their awareness of coastal and ocean science careers
- Build-in more internship and professional experiences into undergraduate and graduate coastal and ocean science programs to provide practical skills and networking opportunities with potential employers early in a student's career path
- Connect students and early-career to professional development opportunities, mentorship and resources (see examples in Box 6.)
 - Develop shared resources including relevant universities, programs, professional development and funding opportunities related to the coastal and ocean sciences to help current and prospective students navigate the numerous ocean science career pathways
 - Build strong and vibrant relationships between academic institutions and non-academic employers to better illuminate opportunities for students and early-career professionals, as well as increase the diversity of applicants for potential employers.
- Hire programmatic support (within and outside of academia) to support faculty members in their DEI efforts, as they are often at capacity with research and teaching duties

Box 6. A non-exhaustive list, collated during the convening of the roundtable series, of immersive and professional development opportunities for students and early career professionals in California:

- **The Ocean Discovery Institute** provides science opportunities and experiences, mentoring, and tools for success to build belief, achievement, and leadership in underserved young people from kid to career. The Ocean Discovery Institute reaches 6,000 students a year in San Diego, CA. Learn more about the Ocean Discovery Institute approach and model [here](#).
- **The Geo-Futures program** is a conference-based program that engages with, and provides educational resources for, students interested in pursuing a career in the geosciences (Atmospheric, Earth, Ocean, and Polar Science). Set within the annual Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Conference, the program provides participants with mentoring before, during, and after their experience at SACNAS and helps them develop a sense of identity and community within the geosciences. Learn more about the Geo-Futures Program [here](#).
- **The American Geophysical Union (AGU) Bridge Program** aims to increase opportunities for students from historically marginalized populations to obtain graduate degrees by creating a network of peers, mentors (domestic and international), and advisers to support them before, during, and after graduate school. Students will obtain an AGU membership along with access to AGU programs, scholarships, and grant opportunities. Learn more about the AGU Bridge Program [here](#).
- **California Sea Grant** offers fellowship opportunities in research, natural resource management, and marine policy that allow graduate students to explore their interests and broaden their experience. Policy fellowships include: 1) the California State Fellowship; 2) the John A. Knauss Marine Policy Fellowship; and 3) the Coastal Management and Digital Coast Fellowship. Research fellowships include the 1) Delta Science Fellowship and the 2) NOAA Fisheries - Sea Grant Fellowship. Finally, extension and communication fellowships include the 1) the California Sea Grant Extension Fellowship; and the 2) Science Communication Fellowship. Learn more about the California Sea Grant fellowship opportunities [here](#).
- **The Roger Arliner Young (RAY) Fellowship Program** aims to increase and facilitate conservation, energy efficiency, and renewable energy-related career pathways for emerging leaders of color. The RAY Fellowship Program is a two-year paid fellowship designed to equip recent college graduates with the tools, experiences, support, and community they need to become leaders in the conservation and clean energy sectors—one that, fully represents, includes, and is led by the diverse communities, perspectives, and experiences of the United State. Learn more about the RAY Fellowship program [here](#).

3.2 Illuminate and celebrate diverse career paths to coastal and ocean sciences

Recommendations:

- Expand the definition and expectation of a scientist in coastal and ocean sciences
 - Incorporate humanities and social sciences when training the next generation of scientists
 - Make connections between student’s cultural traditions, interests and goals to their education curriculum and career opportunities
- Value diverse career paths when hiring within the coastal and ocean science community
 - Value diverse skill sets and elevate personal passions and diverse identities
 - Consider place-based importance for communities in California and needs for developing careers that are linked to such places
 - Value knowledge and experience acquired outside of traditional professional paths
- Elevate diverse background, career paths, and identities in career panels and career fairs
- Invest in outreach efforts to K-12 students to bring awareness of prerequisites to enter a career in coastal and ocean sciences and financial considerations of a career in this field
- Increase exposure to families and family-structures, especially of historically excluded students, to integrate them in the STEM field



3.3 Foster connections and community building across institutions, sectors, and levels in California

Recommendations:

- Build coalitions between community colleges, four-year academic institutions and non-academic institutions to foster relationship building and collaboration (see Box 7)
 - Increase programmatic capacity at academic institutions, especially at the department level to foster meaningful relationship building and outreach activities
 - Support California’s transfer pathway from community colleges to four-year institutions and expand cross-institutional opportunities
 - Collaborate with affinity organizations and professional societies to connect with historically excluded students and early career professionals
 - Build equitable research partnerships between Research Institutions (R1) and primarily teaching and/or undergraduate institutions, especially minority-serving institutions (MSIs).
- Create venues that foster a community of practice to support the advancement of DEI values in the coastal and ocean science community
 - Recognize the strong desire and need for community building when leading DEI efforts (within and outside of academia)
 - Continue to provide venues for efforts like this roundtable series to occur, and provide relief and support for members of the coastal and ocean science community advancing DEI efforts in their own institutions
 - Create and support a network of agents of change in California’s universities, community colleges, non-profits, state agencies, private companies to cultivate spaces for candid conversation, to seek support, provide feedback and review of DEI progress and encourage relationship building
- Value building relationships with local communities and community-led science in academic research and make coastal and ocean sciences more culturally relevant
 - Seek equitable and non-extractive collaboration with communities
 - Elevate issues faced by local communities in academic research and curriculum

Box 7. Examples of programs and initiatives shared during the roundtable series that foster connection and community building in California

- **The NSF Diverse Ocean science Community through Collaboration program (DOCC)** aims to provide a model for how Minority Serving Institutions (MSIs) and Tier 1 Research Institutions (R1s) can reframe how they collaborate and engage in research to address the challenges of the 21st century. DOCC prepares participants to engage in grant development that authentically considers issues around how Diversity, Equity and Inclusion (DEI) integrate into research. DOCC also trains participants to approach NSF grant development through the lens of their respective institution and how to integrate the strengths of MSI and R1s into novel NSF proposals. Learn more about the DOCC program [here](#).
- **The Scripps Geosciences Educational Opportunities (Scripps-GEO) program** connects undergraduate students currently enrolled in San Diego-based community colleges with research experiences at Scripps in an effort to give them more experience and knowledge in the field of geosciences. Community colleges participating in this program include Mesa College, San Diego City College, Mira Costa College, Southwestern College, and Miramar College. Learn more about the Scripps-GEO program [here](#).



3.4 Strengthen and expand higher education mentoring networks across levels and institutions for prospective students, enrolled students, and early-career professionals

Recommendations:

- Ensure mentorship networks are learner-directed and include peer-to-peer mentoring across experience levels and institutions
- Make programs financially sustainable for the long-term to reduce the service burden on faculty and university staff members to sustain the programs in the long-term
- Ensure mentors and mentees include members from outside of academia (e.g. private and non-profit sector) to foster collaboration between academia and industry
- Provide opportunities for mentorship to occur across academic institutions
- Ensure diverse representation of backgrounds, expertise and identities in mentors. And provide mentors with resources to be trained and advance their knowledge of DEI
- Recognize mentors role and value by including mentorship experience as professional development and elevate it in promotion and raise processes

Box 8. Mentoring Physical Oceanography Women to Increase Retention (MPOWIR)

MPOWIR is a community-based program that provides mentoring to physical oceanographers from late graduate school through their early careers. The goal of MPOWIR is to make mentoring opportunities for junior physical oceanographers universally available and of higher quality by expanding the reach of mentoring opportunities beyond individual home institutions. An impact [study](#) of MPOWIR over the years demonstrated that the program positively impacted various aspects of the participant's professional growth. This includes efforts to obtain their current position, exposure to professional development skills, broadening their professional network, mentoring on work and family balance, performance in current position, and raising awareness of mentoring in career development. The study shows that overall MPOWIR participants are moving up the career ranks to tenure-track and research positions, with high rates of retention at the post-PhD transition. Lessons learned and best practices illuminated by this study could serve as a resource for other current or future coastal and ocean science mentoring programs. Learn more about MPOWIR [here](#).





Conclusion

We aim for the strategies and recommendations outlined in this report to serve as a catalyst for taking action to increase DEI in the coastal and ocean sciences and to grow the community of leaders engaged in these efforts. We recognize that these strategies are neither comprehensive nor sufficient to alleviate every challenge faced by historically excluded groups or remove all barriers for advancing DEI in the coastal and ocean sciences. We commit to continue contributing to the strategies and recommendations outlined in this report, as well as expand the community of individuals and organizations we have engaged with through this initiative. While California's tight-knit coastal and ocean science community allowed for effective community building and innovation during the roundtable series, these strategies and recommendations can and should be applied beyond any single science community within and outside of California. We encourage the roundtable series participants and others to continue taking action toward lasting institutional and culture change and building a more inclusive and equitable future by leaning on the recommendations outlined above, and drawing on the resources elevated in this report.



Appendices

Appendix A. Roundtable events participant lists

Career Pathways Development Roundtable

December 6-7, 2021

Keiara Auzenne, UC San Diego

Dr. Jun Bando, California Council on Science and Technology

Megan Bassett, Monterey Bay Aquarium Research Institute

Dr. Nick Burnett, UC Davis

Dr. Laura Good, CSU Monterey Bay

Dr. Krista Kamer, CSU Council on Ocean Affairs, Science and Technology

Maddie Kennedy, National Oceanic and Atmospheric Administration

Kristen Koch, National Oceanic and Atmospheric Administration

Alyssa Leadingham, CSU Monterey Bay

Alie LeBeau, Aquarium of the Pacific

Dr. George Matsumoto, Monterey Bay Aquarium Research Institute

Robert Mazurek, California Marine Sanctuary Foundation

Dr. Jenny O, CSU East Bay

Adam Paganini, San Francisco State University

Dr. Sherry Palacios, CSU Monterey Bay

Melissa Pitkin, Point Blue

Maria Rodriguez, California Ocean Protection Council

Sumi Selvaraj, California Coastal Commission

Dr. Theresa Talley, California Sea Grant

Dr. Anna Zivian, Ocean Conservancy

Faculty Perspective Roundtable

December 16-17, 2021

Dr. Paul Barber, UC Los Angeles

Dr. Anya Brown, UC Davis

Dr. Jennifer Burnaford, CSU Fullerton

Marra DeGraff, Sac City College/Folsom Lake College

Dr. Petra Dekens, San Francisco State University

Dr. Maya deVries, San José State University

Dr. Dawn Goley, Humboldt State University.

Dr. Rick Grosberg, UC Davis

Dr. Alison Haupt, CSU Monterey Bay

Dr. Mark Henderson, Humboldt State University

Dr. Tessa Hill, UC Davis

Dr. Carole Hom, UC Davis

Dr. Krista Kamer, CSU Council on Ocean Affairs, Science and Technology

Dr. Anne Kapuscinski, UC Santa Cruz

Dr. Carly Kenkel, University of Southern California

Dr. Florybeth La Valle, Pepperdine University

Dr. Sami Maalouf, CSU Northridge

Joe Mueller, College of Marin

Dr. Kerry Nickols, CSU Northridge

Dr. Karina Nielsen, San Francisco State University (formerly, now Oregon Sea Grant)

Dr. Christina Pasparakis, UC Davis

Dr. Alexis Pasulka, California Polytechnic State University, San Luis Obispo

Dr. Craig Strang, UC Berkeley

Dr. Drew Talley, University of San Diego

Dr. Richelle Tanner, Chapman University

Dr. Amy Wagner, CSU Sacramento

Student & Postdoc Experience Roundtable

January 6-7, 2022

John Amiel Flores, UC Los Angeles
Robert Dellinger, CSU Northridge
Natalya Evans, University of Southern California
Ariel Heyman, CSU Fullerton
Mehak Jain, San Francisco State University
Julissa Larios, Occidental College
Erin de Leon Sanchez, UC Santa Barbara
Shuting Liu, UC Santa Barbara
Tina Nguyen, University of Southern California
Dr. Camille Pagniello, UC San Diego

Jacqueline Rajerison, UC Davis
Hali Rederer, CSU Sacramento
Edward Richards, UC Santa Cruz
Nathan Shapiro, CSU Long Beach
Priya Shukla, UC Davis
Vivian Sieu, CSU Fullerton
Krti Tallam, Stanford University
Taylor Trivino, CSU Monterey Bay
Z Zenobia, Humboldt State University
Meghan Zulian, UC Davis

Funders Roundtable

April 6-7, 2022

Dr. Amalia Almada, University of Southern California Sea Grant
Parwana Ayub, Maxwell/Hanrahan Foundation
Dr. Angela Bednarek, The Pew Charitable Trusts
Caitlin Chiang, Gordon and Betty Moore Foundation
Dr. Lisa Clough, National Science Foundation
Dr. Daniel Denecke, National Science Foundation
Jenn Eckerle, California Ocean Protection Council
Dr. Lorelle Espinoza, Alfred P. Sloan Foundation
Dr. Mark Gold, California Ocean Protection Council
Phyllis Grifman, University of Southern California Sea Grant
Dr. Lian Guo, California Sea Grant
Charlotte Hudson, The Pew Charitable Trusts - Lenfest Ocean Program
Jasmin John, National Oceanic and Atmospheric Administration
Dr. Brandon Jones, National Science Foundation
Dr. Jon Kaye, Gordon and Betty Moore Foundation
Christy Kehoe, National Oceanic and Atmospheric Administration

Dr. Krista Kamer, CSU Council on Ocean Affairs, Science and Technology
Lonyx Landry, California Polytechnic State Humboldt - Indian Natural Resources, Science, & Engineering Program
George Liles, National Oceanic and Atmospheric Administration
Dr. Kate Lowry, Science Philanthropy Alliance
Catalina Martinez, National Oceanic and Atmospheric Administration
Dr. Rebecca Martone, UN Ocean Decade Regional Collaborative Center for North East Pacific (Tula Foundation)
Rebecca Ng, Vulcan LLC / Paul G. Allen Family Foundation
Dr. Shauna Oh, California Sea Grant
Liz Parissenti, Resources Legacy Fund
Kathryn Sheps, UN Ocean Decade Regional Collaborative Center for North East Pacific (Tula Foundation)
Dr. Leila Sievanen, UC Office of the President
Tanya Torres, California Sea Grant



Appendix B. Example agenda structure used during the convening of the roundtable events.

Activity prompts and questions were adapted to resonate with each audience.

Day 1:

10:00 Introduction/Overview of the Day

10:20 Purposeful Connecting - In breakout rooms in groups of 2-3 answer the following the prompt

Prompt: What is meaningful, impactful or purposeful about being here today to connect and co-create around Inclusion, Equity and Diversity, in our workplaces, our institutions, and our ocean & coastal science community? For you? For your work? For the broader ocean & coastal science community? What's been in the way of that?

10:45 Co-Creating Guiding Principles - Reflect on the following prompts, then in breakout rooms in groups of 5-6 share your answers. An OST staff will help with facilitation and note-taking.

Prompts:

- *Part One - Where have you seen collaboration across differences at its best - either at your workplace, institution etc or in your community? What's a specific example of a team coming together, either formally or informally, ideally one you were a part of, to collaborate, solve a problem or innovate together? A specific story or example.*
- *Part Two - What are the 1-2 success factors for why that worked so well.*

11:35 Future Visions - Reflect on the prompt, then were sent to breakout rooms in groups of 5-6 to share your answers. An OST staff will help with facilitation and note-taking.

Prompt: Envision we have made California's ocean and coastal sciences more inclusive, welcoming, culturally relevant, and equitable. You and your organization/institution/company have become an example of how to elevate the success of historically excluded students by supporting their career development while expanding opportunities for equity and inclusion in the ocean science community.

12:40 Closing of Day 1

Day 2:

10:00 Introduction/Overview of the Day

10:10 Purposeful Connecting/Day 1 Review - In breakout rooms in groups of 2-3 answer the following the prompt.

Prompt: Looking back at what we did yesterday, perhaps glancing at your notes or workbook, what's the one thing that stands out the most to you? Perhaps it was something you learned, an insight you had, a connection you made; the single most impactful thing from our time together.

10:20 Break

10:40 Taking our Visions Deeper - Opportunity Areas [Part 1] - Participants will be presented three Opportunity Areas, which are developed by OST staff and the facilitation team after convening Day 1 by theming and synthesizing the top ideas and visions shared during the "Future Vision" activity on Day 1. Each Opportunity Area presentation will also include reflection prompts to guide participants. After reflecting on each Opportunity Area, participants will be invited to share their thoughts in plenary. All thoughts and ideas were captured on Padlets, which were used in the following activity.

11:25 Break

11:35 Taking our Visions Deeper - Opportunity Area [Part 2] - Participants will sign up to further dive into one of the Opportunity Areas, then in breakout rooms in groups of 5-6 will further elaborate on their reflections initiated in the previous activity. An OST staff will help with facilitation and note-taking. Each group will share their answers in plenary.

12:35 Learning and Takeaways Activity - In breakout rooms in groups of 2-3 answer the following prompt

Prompt: Reflect on your biggest insights, ah-ha's, learnings and the actions you'd like to take as a result. What's something that you can do NOW [before our Jan meeting] to put these into practice?

