



National Center for Ecological Analysis and Synthesis

Director: Ben Halpern

Annual Report

Fiscal Year 2022-2023

University of California, Santa Barbara

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MISSION STATEMENT

NCEAS's mission is to accelerate scientific discoveries that will enhance our understanding of the world and benefit people and nature, as well as to transform the scientific culture to be more open, efficient, and collaborative.

OVERVIEW

The National Center for Ecological Analysis and Synthesis (NCEAS) is an independent research center of UC Santa Barbara with a global network and impact. We conduct transformational science focused on informing solutions that will allow people and nature to thrive. Established in 1995, NCEAS has pioneered the movement toward scientific collaboration, openness, and synthesis in ecology and environmental science, and has helped build a community of scientists around it.

We achieve **our mission**, stated above, through the following:

- **Enabling collaborations** between the brightest minds in the environmental sciences
- **Conducting breakthrough science** that is grounded in big-picture thinking
- **Improving analyses** through computing innovations that increase the usability of data
- **Partnering** with agencies and organizations that can help put the science to action
- **Training and inspiring** generations of scientists to practice synthesis and open science

Our approach to science is solutions-oriented and enables discoveries at larger scales and faster speeds, making them well positioned to inform environmental policy and management. The approach focuses on synthesis, leverages collaboration, and embraces and practices open science.

Environmental challenges are complex and their solutions require diverse perspectives and sets of expertise. In recognition of this, we convene multidisciplinary teams of academic and non-academic researchers from all over the world into working groups who, over the course of one to two years, tackle “wicked” questions collaboratively, an approach NCEAS first innovated and institutions around the world now emulate. These teams do not collect new data, but synthesize and analyze existing data from many

sources to uncover new and often big-picture insights that can inform policy and management. Given our focus on accessible and reproducible data, we catalyze discovery and scientific culture to be more open.

Our approach also centers on building **partnerships** with other research institutions, nonprofits, and government agencies, helping expand capacity for synthesis within these organizations and translate the science into solutions. For example, we operate the Gulf Ecosystem Initiative, a partnership with the NOAA RESTORE program and engage in long-term partnerships with nonprofits such as The Nature Conservancy (TNC), along with private corporations like Microsoft and Universities around the world.

Our approach informs the four pillars of **our work**: research, data science, training, and community engagement.

We lead synthesis and analytical research initiatives and projects that tackle big questions that would be difficult to answer with other scientific approaches. A few current examples of these pillars include:

- With a \$5 million grant from Google.org, we have partnered with Woodwell Climate Research Center to support the development of a new, open-access resource that will use satellite data and artificial intelligence (AI) technology to make it possible to track Arctic permafrost thaw in near real-time for the first time.
- We lead the Ocean Health Index, a program that systematically assesses the health of the world's oceans annually for 220 coastal nations and territories, as well as at smaller regional scales. This program also prioritizes open and transparent methods for reproducible research, sharing code and providing training and support for independent groups interested in leading their own OHI assessments.
- We recently launched the Western Wildfire Resilience Index (WWRI) that will calculate resilience scores for human-ecological communities in the western regions of the US and Canada to inform decision-makers when crafting wildfire preparedness, response, and recovery policies.

We also create innovative solutions for managing and analyzing environmental data, such as the following:

- Through our KNB Data Repository, we make thousands of environmental datasets – generated at NCEAS and elsewhere – publicly and freely available, allowing researchers to store their own data and access data from thousands of others, ultimately making science more transparent and reproducible.
- In partnership with DataONE and NOAA’s National Center for Environmental Information, we run the Arctic Data Center to make available all data, software, and other research products associated with NSF-funded science in the Arctic for the sake of reproducibility.

Finally, we train early-career and established researchers from around the world in best practices for open science and data management, especially with an application to synthesis research. Examples of this work include the following:

- Our [Learning Hub](#) is our knowledge-sharing community where, through trainings and resources, environmental researchers can learn the latest data science skills and technologies, enabling their science to inform solutions more quickly and effectively.
- We serve as a host institution for postdoctoral researchers, which typically support working groups, giving them experience coordinating research teams and designing their own synthesis research projects.
- In partnership with UCSB’s Bren School of Environmental Science and Management we host the Master of Environmental Data Science (MEDS) Program, a degree program preparing students for a career advancing solutions to environmental problems through data science.

NCEAS operates in downtown Santa Barbara in a facility that provides visiting researchers the physical and mental space for creativity and collaboration – important ingredients that foster the level of scientific output for which NCEAS is known. At the same time, NCEAS maintains strong ties to campus. Many working groups include UCSB faculty or researchers, and we employ and train a large cadre of UCSB graduate students in data management, scientific programming, and science communications.

In addition, the Center supports a community of resident researchers that concentrate on synthesis science or the development of computational approaches and tools to support synthesis science. NCEAS staff provides logistical and technical support, training, and outreach services to increase the productivity and impact of our researchers and working groups.

NCEAS has had an incredible year of growth across all four pillars of our work: research, data science, training, and community engagement. This has been an especially fruitful year of expansion in our partnerships, initiatives, and members of the community, including newly established partnerships with Google.org, NASA's Jet Propulsion Laboratory (JPL), the Carnegie Institute, Woodwell Climate Research Institute, and US Geologic Service (USGS). We have also launched two exciting new working group initiatives called [Morpho](#) and the [Gulf Ecosystem Initiative](#), in partnership with the Moore Foundation and the NOAA Restore Program, respectively. Growing and diversifying the Environmental Data Science community remains a core driving force at NCEAS, and we have made great strides in this area through an array of innovative activities, including environmental data science and communication trainings, the launch of an annual Environmental Data Science Summit, our Artist in Residence Program, and the creation of a new full-time position focused on community engagement and diversity, equity, inclusion, and justice, among many others.

Over the course of the last year NCEAS secured over \$8.3 million dollars in new awards and administered 22 different funded programs. We also welcomed over 800 external participants through our trainings, meetings, working groups, and other activities and projects. Across these projects we produced over 60 publications and received national and international media attention for our groundbreaking synthesis science and data science training. This year marked the 28th year of leadership in synthesis research, data science, training, and community support at NCEAS.

Below we offer highlights on NCEAS' growth and sustainability organized around our four pillars of work.

Research

In 2022/2023, NCEAS incubated and launched two new working group initiatives aimed at bringing together groups of experts from government agencies, NGOs, tribes, and academia to develop and accelerate science in the service of management solutions. The [Morpho Initiative](#) aims to support scientific results that can inform solutions to urgent issues facing our changing planet - from wildfires to biodiversity loss and climate change - while advancing workforce development skills. The [Gulf Ecosystem Initiative](#) is a partnership with the NOAA RESTORE to bring working groups of scientists and decision makers together to collaborate to solve pressing questions across the Gulf of Mexico.

In 2023 we awarded our first two [Gulf Ecosystem Initiative](#) grants to groups focusing on fisheries in the Gulf region. Dr. Holden Harris of the NOAA Southeast Fisheries Science Center and University of Miami Cooperative Marine and Atmospheric Studies is leading one working group focusing on offshore wind development and fisheries. Dr. Christopher Biggs, a marine scientist at the University of Texas at Austin, heads the other working group and is focusing on severe weather impacts on fisheries in two expansive Gulf ecosystems: the Mission-Aransas estuary and the Galveston Bay, both in Texas. We also welcomed three postdoctoral fellows, Shayna Sura, Ray Czaja and Mai Fung who will be conducting their own work and supporting the work of the working groups. [Read more](#) to learn about the projects and postdocs.

With the [Morpho Initiative](#), we have welcomed a total of five working groups. In its inaugural year, [two transdisciplinary working groups](#) were chosen for funding that exemplified Morpho's mission of using synthesis for applied environmental science. The first tackles a longstanding mystery in wildfires: Do prescribed burns really work? The second, looks at an ecological enigma: 75% of grassland bird species are declining - how can we conserve what we have left? In addition to our inaugural groups we recently welcomed three new working groups. Dr. Aaron Eger at the University of New South Wales is leading a group to determine the best locations for protecting and restoring kelp forests while minimizing personal conflicts and maximizing local benefits. Moving from the ocean to the land, another group led by PhD candidate Christopher Biggs from UC Riverside aims to help the pollinator population by encouraging native planting for landscaping, a task that first requires detangling the complexities of plant-insect interactions, identifying species that maximally support an ecosystem. This year we also held a special call for wildfire in west themed proposals and we welcomed research scientist Jill Johnstone from University of Alaska Fairbanks who is leading a working group focusing on developing innovations for more sustainable practices for fuel breaks in Northern US and Canada by synthesizing and evaluating community practices. [Read more](#) to learn about the projects.

Additionally, with \$2.1 million of support from the Moore Foundation, NCEAS launched the development of The Western Wildfire Resilience Index (WWRI) that will measure and communicate wildfire resilience at the community level. This project will calculate index scores for human-ecological communities in the western regions of the US and Canada to inform decision-makers when crafting wildfire preparedness, response, and recovery policies. WWRI index scores will be displayed with a transparent, user-friendly interface so that decision-makers, resource managers, and

property owners will be able to see which factors are driving the index score of any given area. WWRI is expected to launch in 2025.

NCEAS has also begun an exciting new partnership with NASA's Jet Propulsion Laboratory (JPL) and the Carnegie Institute, called the Conservation Foundry. This partnership is focused on the intersection of biodiversity science and data science and aims to connect new technologies, like sensor networks, remote sensing, citizen science and indigenous knowledge, with the monitoring, assessment, and ultimately prediction of biodiversity change at local to global scales. Through a series of initial workshops in 2024 funded by NSF we will launch this partnership, reviewing the conceptual and technical challenges that are just out of reach, but tantalizingly close, that if addressed would accelerate and transform biodiversity science and associated applications in conservation and management.

Our diverse set of partnerships continue to make significant progress towards our shared NCEAS mission and substantial contributions to the scientific and informatics communities. Other research program highlights include:

- The hub of scientific synthesis, education, and outreach activities for the Long Term Ecological Research Network, our [LTER Network Office \(LNO\)](#) continued to support [synthesis working groups](#) with NCEAS-based data analysts, a model which has been transformative, helping working groups to use more reproducible analytical approaches, ensuring their assembled data remains accessible, and speeding the trajectory to publications. The LNO also launched a new, shorter form of working group (Scientific Peers Advancing -Research Collaboration - SPARC), which funds a single meeting to either test the feasibility of an idea or to provide a final boost to an ongoing project that has only allowed for virtual collaboration.
- Our **California MPA Decadal Review** working group led a synthesis science effort contributing to the findings for the California Fish & Game Commission's first Decadal Review of the Marine Protected Area (MPA) Network in California which consists of 124 MPAs. The group developed a framework for measuring recreational, educational, and scientific engagement across the California MPA Network and published the resulting paper, led by working group member Christopher Free (UCSB), in [People and Nature](#). The group also assessed the potential for MPAs to contribute to resilience during ocean heatwaves and found that MPAs did not facilitate resistance or recovery, yet they were not originally designed to do so. This study was published in [Global Change Biology](#) and led by Joshua Smith while he was a postdoctoral researcher at NCEAS. The group is

wrapping up their research on how fisheries and habitat are impacted by MPAs with papers expected in the coming year.

- [SeaSketch](#) launched a new version of its software as a free and open-source application. The application (www.seasketch.org) and documentation (<https://github.com/seasketch/next>) are available online. The team has given presentations about this new version to approximately two dozen audiences including an audience of 300 people at the World Bank in DC. Additionally, this year the SeaSketch team supported Marine Spatial Planning efforts in The Maldives, The Azores, Federated States of Micronesia, Samoa, Fiji, Tonga, Vanuatu, Brazil, Bermuda, Belize and Norway.
- This year marks the 12th annual global [Ocean Health Index](#) assessment. The overall global index score did not fluctuate much while the regions with the highest scores tend to be uninhabited, or low human population, islands, although New Zealand, Portugal, Ecuador, Brazil, and the United Arab Emirates also have relatively high scores. Regions with lower scores tend to be in Africa, the Middle East, and parts of Asia. Since 2018, the Ocean Health Index has been calculated by OHI fellows. The Ocean Health Index Global Fellowship was created to familiarize a small group of early-career data scientists with the inner workings of the OHI. With the objective of calculating OHI scores, the fellows dive into the theory, tools, and workflows employed by the larger team to ensure openness, transparency, and reproducibility. While fellows gain valuable experience and build useful skills, they also contribute fresh eyes and new perspectives that help the OHI to continually grow and innovate. This program is an integral part of what the Ocean Health Index has accomplished thus far and what it is today.

Data Science (Cyberinformatics)

NCEAS continues to be a change leader in Environmental Cyberinformatics/Data Science. As a home to NSF's [Arctic Data Center](#), the [Permafrost Discovery Gateway](#), [DataONE](#), and the [Knowledge Network for Biocomplexity \(KNB\)](#), NCEAS is not only a gathering place for environmental data science, but also a leader in moving this community towards new and exciting innovations.

- With a new \$5 million grant from Google.org, we have partnered with Woodwell Climate Research Center to expand the groundbreaking work we have been doing in the Arctic over the last few years with the [Arctic Data Center](#) and the [Permafrost Discovery Gateway](#). This new partnership will support the development of an innovative, open-access resource that will use satellite data and artificial intelligence (AI) technology to make it possible to

track Arctic permafrost thaw in near real-time for the first time. To date, real-time analysis of permafrost thaw has been out of reach due to the limitations of remote sensing and satellite imagery analysis. This new resource—an expansion of the [Permafrost Discovery Gateway](#)—will use AI technology to streamline the data analysis process and make it easier to rapidly identify patterns and trends in permafrost thaw datasets that will be essential to informing climate mitigation and adaptation strategies.

- The NSF Funded [Arctic Data Center \(ADC\)](#) has now collected and processes over 41TB of data sourced from NSF funded projects across the Arctic. In addition to our support of the Arctic community through data management, training, and archiving, a special focus over the last year has been increased collaboration with the [Interagency Arctic Research Policy Committee \(IARPC\)](#) and the [Exchange for Local Observations and Knowledge of the Arctic \(ELOKA\)](#). ELOKA fosters collaboration between resident Arctic experts and visiting researchers to facilitate the collection, preservation, exchange, and use of local observations and Indigenous knowledge of the Arctic. The ADC has been able to support ELOKA in their mission to provide data management and user support to Indigenous communities to ensure their data and knowledge are managed, visualized, and shared in an ethical manner in order to work toward information and data sovereignty for Arctic residents.
- The [Permafrost Discovery Gateway](#) released the first ever pan-Arctic environmental datasets around ice-wedge polygons and Arctic communities. These data assets will be crucial for understanding which Arctic communities are at risk of the negative impacts of climate change in the Arctic, among other analysis.
- [DataONE](#) onboarded 10 new repositories and is in the process of adding even more new partners to the data network. Likewise the network has now collected over **900k datasets** and on track to collecting over 1M in 2024!

Training

The NCEAS [Learning Hub](#) marked an accelerated year of growth. We hired two new full time data science trainers, and developed new courses, curricula, and partnerships. The Learning Hub supports environmental scientists throughout their data science journey, teaching cutting-edge data science curriculum, facilitating collaborative learning, and promoting best practices in open science. We empower data scientists to more efficiently answer environmental questions.

Over the course of the last year the Learning Hub hosted ~45 days of trainings to over 100 diverse people across our various programs and working group initiatives. We

established new training partnerships with USGS, the Smithsonian Institute, UCSB's Office of Research, and the UCSB Library, while growing our training program in partnership with the Delta Stewardship Council.

Our flagship [coreR](#) course was a major focus for us this year. coreR is a five-day immersion in R programming for environmental data science where researchers gain experience with essential data science tools and best practices to increase their capacity as collaborators, reproducible coders, and open scientists. The team updated and advanced the curriculum and increased the number and diversity of people enrolled in the course. Over the years we have seen how this course can be transformational to scientists' careers, as they are given the tools and confidence to embrace fundamental data science techniques that make their science more collaborative, open, reproducible, and efficient (core). For example, participant Lina Capece noted "I've had experience with R, but haven't felt confident or empowered until this course. The NCEAS fellowship allowed really critical career growth". And Zephyr Girard reflected that "The coreR course helped me gain confidence with coding in R and reading code in general! In one week, I learned the fundamentals that would have taken months to teach myself".

Here at NCEAS we also recognize barriers to data science remain and we are committed to advancing diversity and equity among course participants. To address the financial barrier of registration and travel costs, we offer a Director's Scholarship for the coreR Course which includes a tuition waiver plus reimbursement for travel, lodging, and per diem for each in-person course. One recent recipients highlighted the importance of this program for building a more diverse and inclusive environmental data science community:

"The coreR course was very diverse, which is quite a triumph in environmental science and coding, and I think that's a direct result of the Director's scholarship. It makes a big difference for the experience women of color have while visiting institutions and taking part in courses like this."

- Maya Almaraz

2022/2023 marked a turning point in the growth and sustainability of our Learning Hub. As we look towards the future we see this core strength of NCEAS becoming an even more transformational and fundamental driver of change across the Environmental Data Science Community. We are committed to supporting the community at-large to increase their technical skills while continuing to lead a cultural evolution towards more open, inclusive, and reproducible data science practices. We

expect this pillar of NCEAS to become an even more influential center of gravity for our efforts over the next year.

Community Engagement

NCEAS was also able to quantitatively and qualitatively expand and diversify our community this year in new and innovative ways. In particular, in February 2023 we hosted the first annual Environmental Data Science Summit, focused on “Harnessing Diversity in Environmental Data Science.” The theme challenged individuals and groups to think deeply about barriers and identify concrete steps that could be taken on short time scales to increase the diversity of the EDS community. These reflections relied on collaboration among diverse members of the environmental data science community: from graduate students to research center directors, communicators to postdocs, librarians to industry scientists - all perspectives are critical in advancing the field. By the end of the two-day, in-person conference, the 100+ participants coalesced on ten ideas, forming focus groups that are still actively working on achieving their desired outcomes. You can read about one participant’s experience of the summit in Dr. Ruth Oliver’s blog post entitled [“Kickstarting a community of practice at the Environmental Data Science Summit”](#).

One notable and high-profile deliverable from the 2023 Summit is the [Santa Barbara Charter](#), a document created by a breakout group that wanted to address core values of the local data science community and recommendations for growing their network in an inclusive way. Since its publication, the SB Charter has been supported by over 125 individual signatures and endorsed by organizations like [AGU](#) (Advancing Earth and Space Sciences), [ESA](#) (Ecological Society of America), [ESIP](#) (Federation of Earth Science Information Partners), and many others.

The [LTER LNO](#) also kicked off the year with our triennial [All Scientists' Meeting](#) -- a gathering of 650 LTER researchers and associates. The in-person event was especially welcome after 2 and a half years of COVID isolation. It also included, for the second time, a cohort of 20 amazing undergraduate researchers who presented their science, engaged in working groups, and built their professional networks, while having a great time. A related [photo contest](#) generated some friendly competition and an exceptional new visual resource for the network. Additionally, we expanded the family of related LTER grants to include one focused on [research experiences for middle-and high-school teachers](#) and one on understanding the motivations, approaches and strategies for [public engagement with science at LTER](#) sites. In Summer of 2023, we launched a new [LTER Community Forum](#) for discussion of LTER-related initiatives,

resources, best practices, and opportunities. The forum is open (and searchable) to all, but users must join in order to post or follow specific topics.

We also expanded our [Artist in Residence \(AiR\)](#) program this year by welcoming two new artists and a partnership with the Santa Barbara Center for Art, Science and Technology ([SBCAST](#)), which supports Artist/Scientist/Technologist collaborations to encourage new fusion models of interaction for design, development and research. AiR 2023 Artists Leila Yousefi (muralist) and Bonnie Peterson (embroidered textiles & maps) were in residence over the summer working with our researchers to inspire new art installations throughout our building. NCEAS also joined downtown Santa Barbara's first Thursday art walk tradition with a public event on the evening of September 7th. Hundreds of visitors came to our transformed third floor to see expansive murals by Leila Youssefi and interactive maps by Bonnie Peterson – impressive environmentally inspired products from their immersive summer long residency. Their pieces illustrate how art and science can intersect to solve society's ecological issues, from ocean acidification to invasive species to climate change. You can read more about our [inspiring 2023 artists here](#).

Envisioning the Future

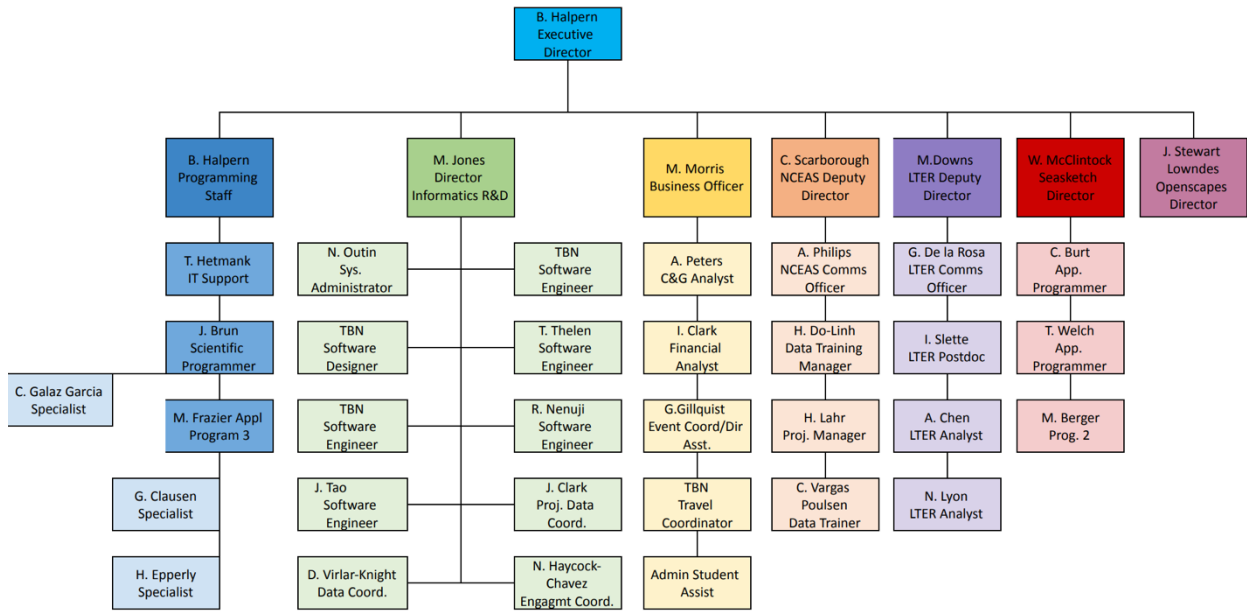
Overall, NCEAS' five-year plan and trajectory remains unchanged and strong. Looking ahead we anticipate the coming year to be marked with additional growth, especially in our Training and Community Engagement pillars, and continued scientific and cyberinfrastructure productivity. Heading into my eighth year as the Director of NCEAS I continue to be in awe of the progress the Center and the community at large are making in welcoming and diversifying new researchers, methodologies, and innovations. I am more grateful than ever to be a member of this community and thank the Center staff and researchers for the work they tirelessly do to keep this place at the forefront of the environmental data science world. I would also like to thank the Office of Research for its deep commitment to NCEAS, and all of our partners and funders in these endeavors, including the Zegar Family Foundation, the Gordon and Betty Moore Foundation, the David and Lucile Packard Foundation, the National Philanthropic Trust, the National Science Foundation, Google.org, the Waitt Foundation, Conservation International, Microsoft, National Geographic, NASA, BOEM, our partners at The Nature Conservancy, the Point Conception Institute, NOAA RESTORE, the Delta Stewardship Council, USGS, the Carnegie Institute, NASA JPL, and our many other Universities and contributors for their support. I also want to acknowledge and thank the State of California and the leadership of UC Santa Barbara for their continued support of and commitment to NCEAS.



Ben Halpern, Executive Director
National Center for Ecological Analysis and Synthesis (NCEAS)

PEOPLE OF NCEAS

ORGANIZATION CHART



ADVISORY COMMITTEE

- Cherie Briggs, Committee Chair, EEMB
- Kelly Caylor, Geography, Bren
- Krzysztof Janowicz, Geography
- Kyle Lewis, Technology Management Program
- Marko Peljhan, Media Arts and Technology
- Leah Stokes, Political Science
- Rich Wolski, Computer Science

Ex-Officio Members:

- Ben Halpern, Director, NCEAS

ADMINISTRATIVE STAFF

- Michelle Morris, Business Officer
- Courtney Scarborough, Deputy Director
- Ana Peters, Contracts & Grants Analyst
- Isabel Clark, Financial Analyst
- Ginger Gillquist, Event Coordinator/Director's Assistant

TECHNICAL STAFF

- Madeline Berger, Analyst
- Jenna Braun, Analyst
- Julien Brun, Scientific Programmer
- Chad Burt, Applications Programmer
- Melanie Frazier, Scientific Programmer
- Thomas Hetmank, Programmer/Analyst
- Matt Jones, Director of Research & Development NCEAS Data Science
- Jasmin Lai, Data Systems Analyst
- Bryce Mecum, Science Software Engineer
- Peter Menzies, Analyst
- Neil Nathan, Analyst
- Rushiraj Nenuji, Software Engineer
- Nicolas Outin, System Administrator
- Mark Schildhauer, Center Associate
- Peter Slaughter, Software Engineer

- Jing Tao, Software Engineer
- Thomas Thelen, Software Engineer
- Daphne Virlar-Knight, Analyst
- Lauren Walker, Software Designer
- Tim Welch, Software Engineer

UC SANTA BARBARA	
Research Division	
Statistical Summary	
Department	
:	NCEA
Fiscal Year:	2023
Personnel engaged in research (head count):	
Faculty	4
Professional Researchers <i>(including Visiting)</i>	7
Project Scientists	3
Specialists	9
Postdoctoral Scholars	3
Postgraduate Researchers	0
Graduate Students	2
Undergraduate Students	13
Technical & Research Staff	12
Total	53
Participation from outside UCSB (head count): <u>optional</u>	
Academics (without Salary Academic Visitors)	3
Other (specify)	
Total	3
Unit Operational Staff (# of FTE):	
Administrative	7
Computing	22
Technical & Service <i>(e.g. recharge personnel, lab manager)</i>	0
Programmatic Staff	0
Total	29
Sponsored Research:	

Number of Principal Investigators*	6
Proposals submitted (#)	26
Proposals submitted (\$ value)	29,730,772
Awards issued (#)	22
Awards issued (\$ value)	8,345,950.00
Extramural awards administered during year (#)**	22
Extramural awards administered during year (\$ value)**	22,183,951.00
Costshare funds managed during year (\$ value)**	
Awarding agencies dealt with (#)****	15
Other Projects & Programs:	
Seminars, symposia, workshops sponsored (#)	30
Other projects administered (#)****	3
Other projects administered (\$ value)*****	217,170.12
Intramural support administered (\$ value)**	650851.86
Budget & Space:	
Total base budget for the year	560035
Total assigned square footage in ORU	7526

PRINCIPAL INVESTIGATORS

Amber Budden	Center Associate	National Center for Ecological Analysis and Synthesis
Jennifer Caselle	Associate Research Biologist	Marine Science Institute
Frank Davis	LTER Network Office Executive Director	National Center for Ecological Analysis and Synthesis
Benjamin Halpern	Professor	Bren School
Matthew Jones	Director of Informatics, Research, and Development	National Center for Ecological Analysis and Synthesis

Carrie Kappel	Researcher	National Center for Ecological Analysis and Synthesis
Christopher Lortie	Researcher	National Center for Ecological Analysis and Synthesis
Julia Stewart Lowndes	Project Scientist	National Center for Ecological Analysis and Synthesis
William McClintock	Project Scientist	Marine Science Institute
Todd Oakley	Researcher	Ecology, Evolution, and Marine Biology
Mark Schildhauer	CNT V	National Center for Ecological Analysis and Synthesis

POSTDOCTORAL FELLOWS, GRADUATE AND UNDERGRADUATE STUDENTS

Postdoctoral Fellows

- Caitlin Fong
- Ingrid Slette
- Joshua Smith

Graduate Students

- Alessandra Vidal Meza
- Cori Lopazanski
- Erika Egg
- Casey O'Hara

Undergraduate Students

- Hannah Malak

- Chris Kracha
- Ranna Zahabi
- Ankita Pattnaik
- Rylee Pupa
- Anum Damani
- Anurag Rao
- Nandita Raghuraman

EXTERNAL PARTICIPATION

ACTIVITY	LAST	FIRST	INSTITUTION
Advancing Arctic research and education through data preservation and reuse at the Arctic Data Center	Bliss	Angela	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Brown	Eloise	University of Alaska
	Clark	S. Jeanette	University of California, Santa Barbara
	Cohen	Juliet	University of California, Santa Barbara
	Csik	Samantha	University of California, Santa Barbara
	Daniel	Laurie	Alaska Bioworks
	Del Vecchio	Joanmarie	Dartmouth College
	Do-Linh	Halina	University of California, Santa Barbara
	Durova	Aleksandra	Massachusetts Institute of Technology
	Ezukanma	Izuchukwu	University of Florida
	Filimonova	Nadezhda	University of Massachusetts
	Gaffrey	Clare	Clarkson University
	Garcia-Eidell	Cynthia	National Oceanic and Atmospheric Administration (NOAA)
	Gaspord	Cameron	California Polytechnic State University
	Gill	Prem	Cambridge University
	Grafton	Daniel	University of California, Santa Barbara
	Groves	Sabrina	University of Maryland
	Hannam	Michael	National Park Service
	Hardy	Stacie	National Oceanic and Atmospheric Administration (NOAA)
	Hassan	Arafat	State University of New Jersey, Rutgers
Haycock-Chavez	Natasha	University of California, Santa Barbara	

	Helder	Noelle	University of Alaska Fairbanks
	Jafarov	Elchin	Woodwell Climate Research Center
	Jones	Matthew	University of California, Santa Barbara
	Junge	Karen	University of Washington
	Kandel	Rajesh	Vanderbilt University
	Kapsar	Kelly	Michigan State University
	Kuye	Akintunde	Polar Impacts
	Lamphere	Jenna	Texas A and M University
	Lee	Michael	Montana State University
	Li	Xueke	Brown University
	Marks	Althea	University of California, Santa Barbara
	Marshall	Leah	Northern Arizona University
	Massicote	Phillipe	Laval University
	Maxwell	Emily	University of Alaska
	McQuhae	Ethan	Brigham Young University
	Merkel	Heike	University of Alaska
	Molodtsov	Sergey	University of Pennsylvania
	Moore	Kent	University of Toronto
	Nyman	Elizabeth	Texas A and M University
	Ovitz	Kimberly	University of Manitoba
	Ravelo	Alexandra	University of Alaska
	Reid	Benjamin	University of New Brunswick
	Rick	Brianna	Colorado State University
	Sainsbury	Robert	
	Sanchez Urrea	Maria	Institut de Ciencies del Mar
	Siddiqui	Sabena	Oregon State University
	Sikand	Monika	Bronx Community College
	Sutherland	Emma	University of Manitoba
	Tedesche	Molly	University of Alaska, Fairbanks
	Truffer	Martin	University of Alaska, Fairbanks
	Vargas Poulsen	Camila	University of California, Santa Barbara
	Virlar-Knight	Daphne	University of California, Santa Barbara
	Webb	Elizabeth	University of Florida
	Zhu	Xun	University of North Dakota
California MPA Network	Anderson	Clarissa	University of California, San Diego
Decadal Assessment	Carr	Mark	University of California, Santa Cruz

	Claudet	Joachim	Centre National de la Recherche Scientifique (CNRS)
	Dugan	Jenifer	University of California, Santa Barbara
	Eurich	Jacob	Environmental Defense Fund
	Francis	Tessa	University of Washington, Tacoma
	Gill	David	Duke University
	Hamilton	Scott	San Jose State University
	Kaschner	Kristin	University of Freiburg
	Lopazanski	Cori	University of California, Santa Barbara
	Mouillot	David	University of Montpellier II
	Nickols	Kerry	California State University, Northridge
	Raimondi	Peter	University of California, Santa Cruz
	Smith	Joshua	University of California, Santa Barbara
	Starr	Rick	University of California Sea Grant Extension Program
	Zeigler	Shelby	San Jose State University
CoreR Course	Almaraz	Maya	University of California, Davis
	Capece	Lena	University of California Santa Barbara
	Closek	Collin	Hopkins Marine Station
	Flynn	Ted	California Department of Water Resources
	Mohr	Michelle	California State University, Dominguez Hills
	Perez Rojas	Yulissa	University of California Merced
	Quintana	Anastasia	University of California, Santa Barbara
	Reyes	Clarissa	University of California Tehama County
	Zahabi	Ranna	University of California, Santa Barbara
Environmental justice implications of food's environmental footprint	Allison	Edward	University of Washington
	Clawson	Gage	University of California, Santa Barbara
	DeCesaro	Joe	University of California - Santa Barbara
	Epperly	Haley	University of California, Santa Barbara
	Frazier	Melanie	University of California, Santa Barbara
	Froehlich	Halley	University of California, Santa Barbara
	Gephart	Jessica	American University
	Hicks	Christina	Lancaster University
	Nash	Kirsty	University of Tasmania
LTER Network Communications Office All Scientists Meeting	Adams	Jamee	University of California, San Diego
	Ajowele	Joshua	University of Wyoming
	Alber	Merryl	University of Georgia
	Anderson	Maggie	University of Minnesota

Anderson	Elsa	Chicago Botanic Garden
Aranda	Natalie	University of Colorado, Boulder
Asrari	Hasti	Arizona State University
Avolio	Meghan	Johns Hopkins University
Baez	Noelia	University of Puerto Rico
Bahauddin	Daniel	University of Minnesota
Baker	Nameer	Michigan State University
Baldwin	Kara	Illinois State University
Band	Adalena	Eckerd College
Barbeau	Katherine	University of San Diego
Basu	Nandita	University of Waterloo
Baur	Lauren	University of New Mexico
Beaulieu	Stace	Woods Hole Oceanographic Institution
Bell	Thomas	Woods Hole Oceanographic Institution
Bell	David	USDA Forest Service
Bent	Shovanna	Woods Hole Oceanographic Institution
Berkowitz	Alan	Cary Institute of Ecosystem Studies
Berlinger	Carina	Harvard University
Bestelmeyer	Stephanie	Asombro Institute for Science Education
Betts	Matthew	Oregon State University
Blumenthal	Noah	Miami University
Boelman	Natalie	Columbia University
Bohm	Sven	Michigan State University
Boose	Emery	Harvard University
Borbmeier	Abigail	Brigham Young University
Bowen	Jennifer	Northeastern University
Brickley	Annette	Woods Hole Oceanographic Institution
Brown	Jeff	Arizona State University
Brown	Savanna	Harvard University
Brun	Julien	University of California, Santa Barbara
Bruner	Alicia	Cornell University
Budroe	Hannah	University of California, San Diego
Buhman	Madeline	Arizona State University
Butt	Jenn	Miami University
Capone	Dante	University of California, San Diego
Caselle	Jennifer	University of California, Santa Barbara
Castillo Cieza	Alejandra	Wellesley College
Castorani	Max	University of Virginia
Caughman	Liliana	Arizona State University

	Cavanaugh	Kyle	University of California, Los Angeles
	Chari	Nikhil	Harvard University
	Chen	Xiating	University of Minnesota
	Chen	Angel	University of California, Santa Barbara
	Childers	Daniel	Arizona State University
	Clark	Stephanie	Michigan State University
	Clark	Isabel	University of California, Santa Barbara
	Cochrane	Madeline	University of Montana
	Conrad-Rooney	Emma	Boston University
	Conte	Ludivine	University of California, Santa Cruz
	D\@cima	Moira	University of California, San Diego
	da Silva	Vinicius	University of Minnesota
	Davis	Frank	University of California, Santa Barbara
	de la Rosa	Gabriel	University of California, Santa Barbara
	Delgado	Isabel	NULL
	Detmer	Raine	University of California, Santa Barbara
	Devlin	Shawn	University of Montana
	Diaz	Julia	University of California, San Diego
	Dietze	Michael	Boston University
	DiGregerio	Lina	Oregon State University
	Dobkowski	Jason	University of Michigan
	Donnachie	Evan	Brown University
	Doolittle	Cole	Marquette University
	Dornan	Natalie	University of California Santa Cruz
	Downing	Jason	University of Alaska, Fairbanks
	Downs	Martha	University of California, Santa Barbara
	Duarte	Krista	NULL
	Duncan	Jonathan	Penn State University
	Dunton	Kenneth	University of Texas, Austin
	Duquette	Cameron	New Mexico State University
	Earl	Stevan	Long Term Ecological Research (LTER)/Central Arizona-Phoenix (CAP)
	Eichhorst	Kim	University of New Mexico
	Eisenberg	Cristina	Oregon State University
	Elmendorf	Sarah	National Ecological Observatory Network, Inc. (NEON)
	Emery	Kyle	University of California, Los Angeles
	Emery	Nancy	University of Colorado, Boulder

	Emond	Alexandra	NULL
	Epstein	Hannah	Oregon State University
	Estrella-Luna	Neenah	NULL
	Ferrari	Nina	Oregon State University
	Fiechter	Jerome	University of California Santa Cruz
	Frants	Marina	University of California, San Diego
	Fraser	Daniel	University of Texas at Austin
	Frazier	Amy	Arizona State University
	Gaiser	Evelyn	Florida International University
	Gangrade	Shailja	University of California, San Diego
	Gann	Daniel	Florida International University
	Garvey	Sarah	Boston University
	Gavenus	Katie	Center for Alaskan Coastal Studies
	Gerrish	Gretchen	University of Wisconsin, Madison
	Giblin	Anne	The Ecosystems Center
	Gillquist	Ginger	University of California, Santa Barbara
	Gomez	Jesus	Vanderbilt University
	Gonzalez Peralta	Airy	University of Colorado, Boulder
	Gooseff	Michael	University of Colorado, Boulder
	Goralnik	Lissy	Michigan State University
	Granville	Kayleigh	University of Virginia
	Gries	Corinna	University of Wisconsin, Madison
	Griffin	Kevin	Columbia University
	Groff	Luke	University of Virginia
	Groffman	Peter	City University of New York (CUNY)
	Guimaraes	Beatriz	Florida International University
	Guti/©rrez	Pablo	University of Puerto Rico
	Haddad	Nicholas	Michigan State University
	Haight	Jeffrey	Arizona State University
	Hall	Kristofer	University of New Mexico
	Hallmark	Alesia	University of New Mexico
	Halpern	Benjamin	University of California, Santa Barbara
	Hammond	Reilly	NULL
	Hanan	Niall	New Mexico State University
	Hanson	Paul	University of Wisconsin
	Haukos	Jill	Kansas State University
	Henn	Jonathan	University of Colorado, Boulder
	Hennon	Gwenn	University of Alaska, Fairbanks

Hernandez	Dan	Carleton College
Hersey	April	NULL
Hinkle	Katharine	Harvard University
Hladik	Christine	Georgia Southern University
Hobbie	Sarah	University of Minnesota, Twin Cities
Hopcroft	Russell	University of Alaska, Fairbanks
Hsieh	Hsun-Yi	Michigan State University
Hunter-Thomson	Kristin	Dataspire
Isbell	Forest	University of Minnesota
James	W. Ryan	Florida International University
Jankowski	Kathijo	US Geological Survey (USGS)
Jay	Katya	University of Colorado, Boulder
John	Christian	University of California, Davis
Johnson	Chad	Arizona State University
Kabat	Lauren	Florida International University
Kamener	Gabe	Florida International University
Kaveh	Shayan	University of California, Santa Barbara
Kelly	Tom	University of Alaska, Fairbanks
Kemmerling	Lindsey	Michigan State University
Kibler	Krystyn	University of Wisconsin, Madison
Kim	Brian	Virginia Institute of Marine Science
Klasic	Meghan	University of Minnesota
Kling	George	NULL
Kochmaruk	Raisa	Hubbard Brook Research Foundation
Kominoski	John	Florida International University
Kopecky	Kai	University of California, Santa Barbara
Krone	Anne	Oregon State University
Krumbholdz	Hillary	University of California, Santa Barbara
Kuhn	Amanda	Arizona State University
Lamb-Wotton	Lucas	Florida International University
Lany	Nina	Michigan State University
Laundre	James	Marine Biological Laboratory
Lawrence	Jade	University of New Mexico
Lee	Steven	Stanford University
Leigh	Mary Beth	University of Alaska, Fairbanks
Leihsing	Thomas	Arkansas State University
Leon	Miguel	University of New Hampshire

	Leonard	Lisa	Ohio Wesleyan University
	Lesser	Justin	The University of Vermont
	Liang	Maowei	university of minnesota twin cities
	Lichtenwalner	Sage	Rutgers University
	Llopiz	Joel	Woods Hole Oceanographic Institution
	Lottig	Noah	University of Wisconsin
	Lowman	Heili	University of Nevada, Reno
	Luo	Yiqi	Northern Arizona University
	Lyon	Nick	University of California, Santa Barbara
	Mack	Michelle	Northern Arizona University
	Marek-Spartz	Mary	University of Minnesota
	Marrec	Pierre	University of Rhode Island
	Martin	Tvisha	Michigan State University
	Martin	Mary	University of New Hampshire
	Maurer	Gregory	New Mexico State University
	Mauritz-Tozer	Marguerite	University of Texas, El Paso
	McDonald	Adriene	University of California, Santa Barbara
	McGlathery	Karen	University of Virginia
	McKnight	Diane	University of Colorado, Boulder
	McNellis	Risa	Marine Biological Laboratory
	Mejia	Giselle	City University of New York (CUNY)
	Menninger	Holly	University of Maryland, College Park
	Messenger	Sarah	Marine Biological Laboratory
	Michaud	Kristen	University of California, Santa Barbara
	Miller	Scott	Florida State University
	Miller	Cassie	University of New Mexico
	Miller	Robert	Marine Science Institute, UCSB, Santa Barbara, California, USA
	Miller	Thomas	Rice University
	Mishra	Deepak	University of Georgia
	Moeller	Holly	University of California, Santa Barbara
	Moffatt	Carlos	University of Delaware
	Montgomery	Rebecca	University of Minnesota
	Morreale	Luca	Boston University
	Morrison	Amanda	Arctic LTER Education Representative
	Muratore	Thomas	University of New Hampshire
	Muscarella	Mario	University of Alaska, Fairbanks

	Neat	Abigail	Oregon State University
	Nelson	James	University of Louisiana, Lafayette
	Nelson	Michael Paul	Oregon State University
	Nelson	Jimmy	University of Louisiana at Lafayette
	Nguyen	An	University of Texas
	Nieland	Matt	Kansas State University
	Nippert	Jesse	Kansas State University
	Nytch	Christopher	University of Puerto Rico
	O'Connell	Kari	Oregon State University
	O'Connell	Jessica	University of Georgia
	O'Hara	Megan	Western Washington University
	Oehm	Nicholas	Florida International University
	Ollinger	Scott	University of New Hampshire
	Olson	Kristin	University of Alaska, Fairbanks
	Ortega	Emily	University of Alaska, Fairbanks
	Ortega	Jaimie	Oregon State University
	Ortiz	David	University of Wisconsin, Madison
	Osenberg	Craig	University of Georgia
	Paquette	Jillian	Davidson College
	Park	Maria	University of Minnesota
	Pasquarella	Valerie	Harvard University
	Patton	Mariah	University of New Mexico
	Payandeh	Ali Reza	University of California, Santa Barbara
	Pennings	Steven	University of Houston
	Perez Castro	Hennecys	Syracuse University
	Perry	Danielle	Mass Audubon Endicott Sanctuary
	Peterson	Sasha	University of Texas, El Paso
	Phillips	Alexandra	University of California, Santa Barbara
	Pic $\sqrt{\geq}n$	Monique	Luquillo Critical Zone Observatory
	Pongnon	Rasheed	Virginia Tech
	Popson	Devon	Miami University
	Porter	John	University of Virginia
	Power	Sarah	Virginia Polytechnic Institute and State University
	Puig-Santana	Alessandra	Florida International University
	Ramsey	Luke	Arizona State University
	Rapp	Claire	Ohio State University
	Rassweiler	Andrew	University of California, Santa Barbara
	Ratajczak	Zak	University of Virginia

Ray	Chris	University of Colorado, Boulder
Rec	Abigail	University of Vermont
Reddy	Satyatejas	NULL
Reidenbach	Matthew	University of Virginia
Reister	Isaac	University of Alaska, Fairbanks
Remillard	Suzanne	Oregon State University
Renzi	Julianna	University of California, Santa Barbara
Reynebeau	Emily	University of New Mexico
Rieb	Emma	University of Michigan
Robeson	Audrey	University of Minnesota
Robinson	David	University of New Mexico
Ropati	Charitie	Columbia University
Roy	Sarah	Michigan State University
Rudgers	Jennifer	University of New Mexico
Rugge	Mike	Florida International University
Ryan	Christopher	City University of New York (CUNY)
Rynearson	Tatiana	University of Rhode Island
Salvatore	Mark	Northern Arizona University
Sanders	Aquanette	University of Texas at Austin
Santos	Miraflor	Woods Hole Oceanographic Institution
Sapp	Adam	University of Georgia
Schalles	John	Creighton University
Schmitt	Russell	University of California, Santa Barbara
Schofield	Oscar	State University of New Jersey, Rutgers
Schroeder	Ryan	New Mexico State University
Schultheis	Elizabeth	Michigan State University
Schultheis	Sam	Miami University
Seabloom	Eric	University of Minnesota
See	Craig	University of Minnesota
Segura	Catalina	Oregon State University
Serocki	Eleanor	Michigan Technological University
Silber	Katy	Kansas State University
Simmons	Beth	
Slette	Ingrid	University of California, Santa Barbara
Smith	Dustin	University of Hawaii, Hilo
Soria	Rashell	University of Texas at Austin
Soriano	Lacey	Florida International University
Sosik	Heidi	Woods Hole Oceanographic Institution
Soss	Madeleine	New Mexico State University

	Sparrow	Elena	University of Alaska, Fairbanks
	Spasojevic	Marko	University of California, Irvine
	Spera	Alina	University of Texas, El Paso
	Spivak	Amanda	University of Georgia
	Sprunger	Christine	Michigan State University
	Stanley	Emily	University of Wisconsin
	Steinberg	Deborah	Virginia Institute of Marine Science
	Strickland	Bradley	Virginia Institute of Marine Science
	Stukel	Mike	Florida State University
	Sullivan	Pamela	Oregon State University
	Sutton	Madison	Marquette University
	Szojka	Megan	University of Wyoming
	Tarr	Kayla	Arizona State University
	Tedford	Kinsey	University of Virginia
	Terry	Rosalie	University of North Carolina, Greensboro
	Thomas	Maya	Virginia Institute of Marine Science
	Thompson	Jonathan	Harvard University
	Torres	Ralf	University of California, San Diego
	Tumber-Davila	Joe	Harvard University
	Turner	Chris	Axiom Data Science
	Turner	Jessica	University of Wisconsin, Madison
	Van Mooy	Benjamin	Woods Hole Oceanographic Institution
	Varghese	Stephanie	California State University, Los Angeles
	Vega	Mariely	North Carolina State University
	Vega-Thurber	Rebecca	Oregon State University
	Vito	Chris	Arizona State University
	Walker	Rebecca	University of Minnesota
	Walker	Xanthe	Northern Arizona University
	Walsh	Kasey	Rutgers University
	Wang	Xin	University of Delaware
	Wang	Lu	University of Massachusetts
	Washington	Brittany	NULL
	Whelan	Cristina	BioTECH Magnet High School
	White	Mack	Florida International University
	Whiteaker	Tim	University of Texas, Austin
	Whitney	Christopher	University of New Hampshire
	Wieder	William	University of Colorado, Boulder

	Wilcots	Megan	University of Minnesota
	Wilkinson	Grace	University of Wisconsin, Madison
	Wilson	Anthony	University of California, San Diego
	Wolf	Lorelei	Harvard University
	Xia	Yang	Kansas State University
	Young	Moriah	Michigan State University
	Zaret	Max	University of Minnesota
	Zhang	Aiyin	Clark University
	Zhou	Yu	Northern Arizona University
	Zimmerman	Jess	University of Puerto Rico, Rio Piedras Campus
	Zinnert	Julie	Virginia Commonwealth University
	Zukswert	Jenna	State University of New York (SUNY), College of Environmental Science and Forestry
LTER: Ecological Metagenome-derived Reference Genomes and Traits (EMERGENT)	Abs	Elsa	University of California, Irvine
	Bandopadhyay	Sreejata	Michigan State University
	Blanchard	Jeffrey	University of Massachusetts, Amherst
	Brandao Gontijo	Julia	Universidade de Sao Paulo
	Broderick	Caitlin	Kansas State University
	Clum	Alicia	University of California, Berkeley
	Cross	Hugh	National Ecological Observatory Network, Inc. (NEON)
	Eloe-Fadrosh	Emiley	Lawrence Berkeley National Laboratory
	Evans	Sarah	Michigan State University
	Fairbanks	Dawson	University of Arizona
	Gallery	Rachel	University of Arizona
	Howe	Adina	Iowa State University
	Jones	Jennifer	Michigan State University
	Kinkel	Linda	University of Minnesota
	Lajtha	Kate	Oregon State University
	McDermott	Jason	Pacific Northwest National Laboratory
	O'Brien	Margaret	University of California, Santa Barbara
	Pett-Ridge	Jennifer	Lawrence Livermore National Laboratory
	Record	Sydne	Bryn Mawr College
	Rodrigues	Jorge	University of California, Davis
Rodriguez-Reillo	William	Harvard Medical School	

	Shade	Ashley	Michigan State University
	Shek	Katherine	University of New Hampshire
	Stanish	Lee	National Ecological Observatory Network, Inc. (NEON)
	Takacs-Vesbach	Cristina	University of New Mexico
	Vilsaint	Danaiijah	Bryn Mawr College
	Winston	Anthony	Pacific Northwest National Laboratory
LTER: Ecosystem Transitions: Increased Variability and Regime Shifts	Aguirre	Beatriz	Cornell University
	Bell-Dereske	Lukas	Czech Academy of Sciences
	Chung	Anny	University of Georgia
	Dudney	Joan	University of California
	Farah	Hanan	University of Minnesota
	Fukami	Tadashi	Stanford University
	Gherardi	Laureano	University of California, Berkeley
	Hallett	Lauren	University of Oregon
	Hoover	David	US Department of Agriculture (USDA)
	Meyer	Kate	Carleton College
	Portales-Reyes	Maria Cristina	Saint Louis University
	Suding	Katharine	University of Colorado, Boulder
	Watkins	Carmen	University of Oregon
LTER: Fire and Aridland Streams Quantifying Interactive Effects of Fire and Precipitation Regimes on Catchment Biogeochemistry of Aridlands	Cale	Ashley	University of Nevada, Reno
	Dong	Xiaoli	University of California, Davis
	Gaines-Sewell	Leah	Long Term Ecological Research (LTER)/Central Arizona-Phoenix (CAP)
	Grabow	Julia	Arizona State University
	Grimm	Nancy	Arizona State University
	Hanan	Erin	University of Nevada, Reno
	Harms	Tamara	University of Alaska, Fairbanks
	Melack	John	University of California, Santa Barbara
	Reinhold	Ann	Montana State University
Webster	Alex	University of New Mexico	
LTER: From poles to tropics: A multi-biome synthesis investigating the controls on river Si exports	Abbott	Benjamin	University of Brighton
	Bush	Sidney	Oregon State University
	Carey	Joanna	Babson College
	Deegan	Linda	Marine Biological Laboratory
	Heindel	Ruth	Kenyon
	Johnson	Keira	Oregon State University

	Jones	Jeremy	University of Alaska, Fairbanks
	Julian	Paul	Sanibel-Captiva Conservation Foundation
	Kortelainen	Pirkko	Finnish Environment Institute
	Laudon	Hjalmar	
	McDowell	William	University of New Hampshire
	Poste	Amanda	Norwegian Institute for Water Research
	Raike	Antti	
	Sethna	Lienne	Indiana University
	Shogren	Arial	Michigan State University
	Thomas	Patrick	Carl von Ossietzky University Oldenburg
	Wollheim	Wilfred	University of New Hampshire
	Wymore	Adam	University of New Hampshire
LTER: Identifying environmental drivers of plant reproduction across LTER sites	Barton	Jessica	DePaul University
	Chaudhary	Bala	Dartmouth College
	Cleavitt	Natalie	Cornell University
	Crone	Elizabeth	Tufts University
	Greene	David	Humboldt State University
	Holland	Penelope	University of York
	Johnstone	Jill	University of Saskatchewan
	Koenig	Walt	Cornell University
	LaMontagne	Jalene	DePaul University
	Macias	Diana	University of New Mexico
	Nigro	Katherine	Colorado State University
	Pearse	Ian	Fort Collins Science Center, USGS
	Redmond	Miranda	Colorado State University
	Satake	Akiko	Princeton University
	Schulze	Mark	Oregon State University
Snell	Rebecca	Ohio University	
LTER:A global synthesis of multi-year drought effects on terrestrial ecosystems	Chen	Anping	Colorado State University
	Collins	Scott	University of New Mexico
	Dukes	Jeffrey	Purdue University
	Felton	Andrew	Montana State University
	Hayden	Meghan	University of Colorado Boulder
	Holdrege	Martin	Utah State University
	Knapp	Alan	Colorado State University
	Komatsu	Kimberly	University of North Carolina
	Limbu	Smriti	Johns Hopkins University
Munson	Seth	US Geological Survey (USGS)	

	Ohlert	Timothy	Colorado State University
	Phillips	Richard	Indiana University
	Sala	Osvaldo	Arizona State University
	Smith	Melinda	Colorado State University
	Wilfahrt	Peter	University of Minnesota
	Wilkins	Kate	Denver Zoo at City Park
CI: Climate change impacts on MPA	Boerder	Kristina	Conservation International
	Cheung	William	University of British Columbia
	Costello	Mark	Nord University
	Couture	Jessica	University of California, Santa Barbara
	Lambert	Jonathan	Conservation International
	Lawlor	Jake	McGill University
	Pidgeon	Emily	Conservation International
	Reygondeau	Gabriel	University of British Columbia
	Rotjan	Randi	Boston University
	Sunday	Jennifer	McGill University
CI/UCSB Meeting	Bone	Jennifer	University of California, Santa Barbara
	Brenes	Carlos	NULL
	Clemence	Michaela	University of California, Santa Barbara
	Costedoat	Sebastien	NULL
	Free	Christopher	University of California, Santa Barbara
	Gaines	Steven	University of California, Santa Barbara
	Heilmayr	Robert	University of California, Santa Barbara
	Hole	Dave	Moore Center for Science
	Jack	Kelsey	University of California Santa Barbara
	Kittinger	John	Stanford University
	Klinger	Dane	Stanford University
	Lahr	Heather	University of California, Santa Barbara
	Lovell	Annie	University of California Santa Barbara
	McDonald	Gavin	University of California, Santa Barbara
	Morales	Isaac-Brito	Ocean Fronts and Climate
	Raynor	Jen	UW - Madison
	Underwood	Katherine	NULL
	Vermeer	Lotus	University of California, Santa Barbara
White	Gracie	NULL	
Community Environmental Council (CEC) Meeting	Chiacos	Michael	Community Environmental Council (CEC)
	Diaz-Correa	Alhan	Community Environmental Council (CEC)
	Eads	Nicole	Community Environmental Council (CEC)
	Fry	Elizabeth	Community Environmental Council (CEC)

	Gomez Fontaine	Melissa	Community Environmental Council (CEC)
	Gray	Cameron	Community Environmental Council (CEC)
	Hall	Jillian	Community Environmental Council (CEC)
	Hernandez	Jennifer	Community Environmental Council (CEC)
	Hernandez	Joseph	Community Environmental Council (CEC)
	Hooper	Siena	Community Environmental Council (CEC)
	Johnson	Em	Community Environmental Council (CEC)
	King	Kathi	Community Environmental Council (CEC)
	McGuire	Natalie	Community Environmental Council (CEC)
	Price	Jean-Marie	Community Environmental Council (CEC)
	Rico	Ana	Community Environmental Council (CEC)
	Rizo	Alexis	Community Environmental Council (CEC)
	Sarrassat	Michael	Community Environmental Council (CEC)
	Sykes	Trace	Community Environmental Council (CEC)
	Taylor	Molly	Community Environmental Council (CEC)
	Weiss	Kristen	Community Environmental Council (CEC)
	Wright	Sigrid	Community Environmental Council (CEC)
	Kopp	Emily	Community Environmental Council (CEC)
	Pellow	David	Community Environmental Council (CEC)
	Ramirez	Roshell	Community Environmental Council (CEC)
	Relis	Paul	Community Environmental Council (CEC)
Conservation International Spatial Planning Workshop	Brock	Cameryn	University of California, Santa Barbara
	Chamberlain	Catherine	Conservation International
	Enquist	Brian	University of Arizona
	Hannah	Lee	Conservation International
	Johnson	Justin	University of Minnesota
	Kennedy	Christina	The Nature Conservancy
	Larsen	Ashley	University of California, Berkeley
	Loyola	Rafael	International Institute for Sustainability- Rio
	Marquet	Pablo	Pontificia Universidad Cat/≥lica de Chile
	McManus	Nick	University of California, Santa Barbara
	Roehrdanz	Patrick	University of California, Santa Barbara
	Roopsind	Anand	Boise State University
	Salemi	Colette	University of Victoria
	Schuster	Richard	Nature Conservatory of Canada
	Williams	David	University of Leeds
Wu	Grace	University of California, Santa Barbara	

NASA SHIFT Campaign	Ade	Christiana	University of California Merced
	Allen	Jean	University of California, Santa Barbara
	Angel	Yoseline	NASA Goddard Space Flight Center
	Boving	Indra	University of California, Santa Barbara
	Braghiere	Renato	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Brodrick	Phil	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Byrd	Kristin	US Geological Survey (USGS)
	Carberry	Luke	University of California, Santa Barbara
	Cavanaugh	Kate	University of California, Los Angeles
	Cavender-Bares	Jeannine	University of Minnesota, Twin Cities
	Cawse-Nicholson	Kerry	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Chadwick	Dana	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Close	Ann	White Buffalo Land Trust
	Currey	Bryce	NASA Goddard Space Flight Center
	Easterday	Kelly	The Nature Conservancy
	Eckert	Regina	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Gierarch	Michelle	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Grant	Katie	University of Southern California
	Hestir	Erin	University of California Merced
	Jhatro	Aarushi	White Buffalo Land Trust
	Johnson	Marie	University of Montana
	Kappel	Carrie	University of California, Santa Barbara
	Kerr	Kelly	University of California, Santa Barbara
	Kibler	Chris	University of California, Santa Barbara
	Klope	Margaret	University of California, Santa Barbara
	Kokaly	Ray	US Geological Survey (USGS)
	Lee	Christine	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)

	Leiker	Sophia	University of California, Santa Barbara
	Lorenzoni	Laura	NASA Headquarters
	Love-Anderegg	Leander	University of California, Santa Barbara
	Lovegreen	Piper	University of California, Santa Barbara
	Luis	Kelly	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Luvall	Jeff	NASA Goddard Space Flight Center
	Maguire	Andy	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	McMahon	Conor	University of California, Santa Barbara
	Miller	Charles	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Miner	Kimberley	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Myers	Dana	University of California, Santa Barbara
	Nickles	Cassandra	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Nidziko	Nick	University of California, Santa Barbara
	Ochoa	Francisco	University of California, Los Angeles
	Ocon	Jon	University of California, Los Angeles
	Ongjocco	Anna	University of California, Los Angeles
	Ordway	Elsa	Stanford University
	Owens	Caroline	University of California, Santa Barbara
	Pavlick	Ryan	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Queally	Natalie	University of Wisconsin, Madison
	Raiho	Ann	NASA Goddard Space Flight Center
	Reynolds	Mark	The Nature Conservancy
	Roberts	Dar	University of California, Santa Barbara
	Saiki	Clare	University of California, Santa Barbara
	Schimel	David	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Schneider	Fabian	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)

	Scott	Joel	NASA Headquarters
	Silva	Germ ^o n	University of California, Santa Barbara
	Snyder	Jordan	University of California, Santa Barbara
	Thompson	David	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Thornton	Michele	Oak Ridge National Laboratory
	Townsend	Phil	University of Wisconsin, Madison
	Trugman	Anna	University of California, Santa Barbara
	Turner	Woody	National Aeronautics and Space Administration (NASA)
	Tye	Cecily	University of California, Santa Barbara
	Vinod	Nidhi	University of California, Los Angeles
	Wong	Corisa	Jet Propulsion Laboratory of the National Aeronautics and Space Administration (NASA)
	Zheng	Ting	University of Wisconsin, Madison
	Zumdahl	Kristen	University of California, Santa Barbara
NOAA IEA Meeting	Andrews	Kelly	National Oceanic and Atmospheric Administration (NOAA)
	Aydin	Kerim	NOAA, Alaska Fisheries Science Center
	Blake	Suzana	National Oceanic and Atmospheric Administration (NOAA)
	Bograd	Steven	NOAA, Southwest Fisheries Science Center
	Brown	Jennifer	University of California, Santa Cruz
	Caldow	Chris	National Oceanic and Atmospheric Administration (NOAA)
	Cross	Scott	National Oceanic and Atmospheric Administration (NOAA)
	DePiper	Geret	National Oceanic and Atmospheric Administration (NOAA)
	Dorfman	Dan	The Nature Conservancy
	Frietag	Amy	National Oceanic and Atmospheric Administration (NOAA)
	Harvey	Christopher	National Oceanic and Atmospheric Administration (NOAA)
	Hazen	Elliot	University of California, Santa Cruz
	Holsman	Kirstin	University of Washington
	Hunsicker	Mary	National Oceanic and Atmospheric Administration (NOAA)

Ingram	Becky	National Oceanic and Atmospheric Administration (NOAA)
Kasperski	Stephen	NOAA, National Marine Fisheries Service (NMFS)
Kelble	Chris	National Oceanic and Atmospheric Administration (NOAA)
Klajbor	Willem	National Oceanic and Atmospheric Administration (NOAA)
Large	Scott	National Oceanic and Atmospheric Administration (NOAA)
Lindsay	Josh	National Oceanic and Atmospheric Administration (NOAA)
Link	Jason	NOAA, National Marine Fisheries Service (NMFS)
Lucey	Sean	National Oceanic and Atmospheric Administration (NOAA)
Monaco	Mark	National Oceanic and Atmospheric Administration (NOAA)
Montenero	Kelly	National Oceanic and Atmospheric Administration (NOAA)
Moss	Jamal	NOAA, Alaska Fisheries Science Center
Norman	Karma	National Oceanic and Atmospheric Administration (NOAA)
Oakes	Stephanie	National Oceanic and Atmospheric Administration (NOAA)
Osgood	Kenric	National Oceanic and Atmospheric Administration (NOAA)
Perng	Lansing	California State University, Northridge
Ranganathan	Jai	University of California, Santa Barbara
Reum	Jonathan	National Oceanic and Atmospheric Administration (NOAA)
Samhuri	Jameal	NOAA, National Marine Fisheries Service (NMFS)
Selgrath	Jennifer	University of British Columbia
Smith	Catherine	National Oceanic and Atmospheric Administration (NOAA)
Whitehouse	George	National Oceanic and Atmospheric Administration (NOAA)
Williams	Greg	National Oceanic and Atmospheric Administration (NOAA)

	Wise	Sarah	National Oceanic and Atmospheric Administration (NOAA)
PCI Board Meeting	Bell	Michael	The Nature Conservancy
	Caylor	Kelly	University of California, Santa Barbara
	Dangermond	Jack	Environmental Systems Research Institute (ESRI)
	Dangermond	Laura	Environmental Systems Research Institute (ESRI)
	Lin	Karin	The Nature Conservancy
	Nelson	Trisalyn	University of California, Santa Barbara
	Spangrud	Damian	Environmental Systems Research Institute (ESRI)
	Sweeney	Michael	The Nature Conservancy
	Zegar	Charles	Zegar Family Foundation
Morpho: Grassland Birds	Bennett	Drew	University of Wyoming
	Boyd-Valandra	Emily	Rose Bud Souix Tribe
	Carlson	John	US Fish and Wildlife Service (FWS)
	Chu	Miyoko	Cornell University
	Giocomo	Jim	American Bird Conservancy
	Holland	Katie	Road2Recovery
	Latimer	Chris	Bird Conservancy of the Rockies
	Olimb	Sarah	World Wildlife Fund
	Rangwala	Imtiaz	University of Colorado, Denver
	Rashford	Ben	University of Wyoming
	Robinson	Barry	Environment Climate Change Canada
	Rodewald	Amanda	Cornell University
	Ross	Beth	US Fish &&& Wildlife Service R2
Ruvalcaba	Irene	Universidad Autonoma de Nueva Leon	
Ryder	Brandt	Bird Conservancy of the Rockies	
Twidwell	Dirac	Natural Resource Conservation Service	
Environmental Data Science Summit	Abbasi	Eeman	University of Pennsylvania
	Albino Hegeman	Melissa	New York State Department of Environmental Conservation
	Aoki	Lillian	University of Oregon
	Ayers	David	University of California, Davis
	Azadpour	Elmera	US Geological Survey (USGS)
	Bailey	Allison	Sound Gis

	Bailey-Steinitz	Ronnie	University of California, Santa Barbara
	Balch	Jennifer	University of Colorado
	Bardales Cruz	Michelle	University of Central Florida
	Biscupski	Maeve	University of Iowa
	Blake	Rachael	National Socio-Environmental Synthesis Center (SESYNC)
	Bledsoe	Ellen	University of Arizona
	Blondin	Hannah	Hopkins Marine Station
	Breckheimer	Ian	Rocky Mountain Biological Laboratory
	Brown	Renee	University of New Mexico
	Budden	Amber	University of California, Santa Barbara
	Castillo	Maria	Massachusetts Institute of Technology
	Cawley	Kaelin	Nayional Ecological Observatory Network
	Chapman	Melissa	University of California, Berkeley
	Christie	Matt	University of Wisconsin-Madison
	Davies	Neil	University of California, Berkeley
	Deardorff	Emily	San Diego State University
	Dedrick	Allison	Stanford University
	Dovciak	Martin	State University of New York (SUNY), College of Environmental Science and Forestry
	Emery	Nathan	University of California, Santa Barbara
	Ettinger	Ailene	The Nature Conservancy
	Euskirchen	Susanne	University of Alaska, Fairbanks
	Florian	Christopher	National Ecological Observatory Network, Inc. (NEON)
	Fong	Caitlin	University of California, Santa Barbara
	Fredston-Hermann	Alexa	State University of New Jersey, Rutgers
	Freeman	Patrick	Conservation Science Partners Inc.
	Freilich	Mara	University of San Diego
	Galaz-Garcia	Carmen	University of California, Santa Barbara
	Gerber	Leah	Arizona State University
	Gillespie	Lauren	Stanford University
	Gownaris	Natasha	Gettysburg College
	Grinstead	Ashley	NASA
	Guan	Weihe	Harvard University

Gubbins	Nicholas	Colorado State University
Hakkenberg	Chris	Northern Arizona University
Hass	Bridget	National Ecological Observatory Network, Inc. (NEON)
Haulsee	Danielle	Stanford University
Haupt	Alison	CSU Monterey Bay
Heberlein	Evan	Cornell University
Hilton	Annette	University of California, Santa Barbara
Holder	Anna	California State Water Resources Control Board, Office of Information Management and Analysis
Hondula	Kelly	Arizona State University
Hulshof	Catherine	Virginia Commonwealth University
Johnston	Myfanwy	Cramer Fish Sciences
Jouzi	Zeynab	Cornell University
Keitt	Timothy	University of Texas, Austin
Keyes	Aislyn	University of Colorado, Boulder
King	Rachel	Smithsonian Environmental Research Center
Leung	Melanie	University of California, Los Angeles
Lindborg	Analise	Integral Consulting Inc
Lortie	Christopher	York University
Martinez	Ciera	University of California, Berkeley
Marupaka	Vaasuki Marupaka	University of Florida
Montgomery	Jamie	University of California, Santa Barbara
Moser	Sarah	Los Alamos National Laboratory
Murphy	Erin	Arizona State University
Nagy	Chelsea	University of Colorado, Boulder
Nisi	Anna	University of Washington
Oliver	Ruth	University of California, Santa Barbara
Ortiz	Luis	George Mason University
Pagniello	Camille	Stanford University
Pradhan	Kavya	University of Washington
Raisle	Megan	Environmental Data & Governance Initiative
Rakotoarivony	Ny Aina	Oklahoma State University
Rogers	Matthew	University of Washington
Ross	Noam	EcoHealth Alliance

	Saia	Sheila	North Carolina State University
	Sambado	Samantha	University of California, Santa Barbara
	Scarborough	Courtney	University of California, Santa Barbara
	Scott	Dorris	Data Curation Network
	Shanley	Lea	International Computer Science Institute
	Shingledecker	Susan	Earth Science Information Partners (ESIP)
	Simonis	Juniper	Dapper Stats
	Sleckman	Margaux	US Geological Survey (USGS)
	Stewart Lowndes	Julia	University of California, Santa Barbara
	Tallam	Krti	Stanford University
	Tigchelaar	Michelle	Stanford University
	Todd-Brown	Kathe	University of Florida
	Tuff	Ty	University of Colorado, Boulder
	Vera	Lourdes	State University of New York (SUNY), Buffalo
	Wasser	Leah	pyOpenSci
	Waugh	Jazzmine	University of Washington
	White	Caitlin	University of Colorado, Boulder
	White Eyes	Justina	Oglala Lakota College
	Whitmire	Amanda	Stanford University
	Wilkes	Lexi	University of Massachusetts-Boston
	Wilkin	Joanna	Tracking California
	Willi	Kathryn	Colorado State University
	Wing	Kate	Intertidal Agency
	Wolkovich	Elizabeth	University of British Columbia
	Wright	Dawn	Environmental Systems Research Institute (ESRI)
	Yang	Wenxin	University of Arizona
	Yellow Thunder	Elisha	South Dakota State University
	Zimmerman	Naupaka	University of San Francisco
	Zoll	Deidre	University of Texas at Austin
Socioeconomic assessments: enhancing and evaluating the value of Earth observations for informing decisions	Baez Schon	Mabel	World Wildlife Fund (WWF)
	Baltezar	Priscilla	Massachusetts Institute of Technology
	Chaplin-Kramer	Becky	World Wildlife Fund (WWF)
	Cheng	Samantha	World Wildlife Fund (WWF)
	Conran	Joe	NOAA, National Ocean Service (NOS)

	Echeverri	Ale	Stanford University
	Galford	Gillian	University of Vermont
	Gould	Rachelle	University of Vermont
	Griffin	Rob	NASA SERVIR
	Kuwayama	Yusuke	Resources for the Future
	Lonsdorf	Eric	Emory University
	McClain	Shanna	Nasa
	O'Hara	Casey	University of California, Santa Barbara
	Polasky	Stephen	University of Minnesota
	Sharp	Rich	Spring
	Singh	Gerald	University of Victoria
	Straub	Crista	US Geological Survey (USGS)
	Tennant	Liz	Cornell University
	Zhao	Jiaying	University of British Columbia

ACADEMIC PROJECTS: WORKING GROUPS, MEETINGS, TRAININGS

NAME	ACTIVITY TYPE	START	END
Conservation International Spatial Planning Workshop	Meeting	8/29/2022	8/31/2022
NASA SHIFT Campaign	Meeting	9/13/2022	9/14/2022
2022 LTER All Scientists Meeting	Meeting	9/19/2022	9/23/2022
Community Environmental Council (CEC) Meeting	Meeting	10/28/2022	10/28/2022
CDL Dryad meeting	Meeting	11/9/2022	11/10/2022
CI: Climate change impacts on MPA	Meeting	1/23/2023	1/26/2023
Environmental Data Science Summit	Meeting	2/7/2023	2/8/2023
Community Environmental Council (CEC) Staff Training	Meeting	3/2/2023	3/2/2023
PCI Board Meeting	Meeting	3/16/2023	3/16/2023
NOAA Meeting	Meeting	5/1/2023	5/5/2023
LTER Science Council Meeting	Meeting	5/10/2023	5/12/2023
CI/UCSB Meeting	Meeting	6/13/2023	6/14/2023
ADC Training	Training Workshop	9/19/2022	9/23/2022
ADC Training	Training Workshop	1/30/2023	2/3/2023
ADC Training	Training Workshop	3/27/2023	3/31/2023
CoreR Course	Training Workshop	4/3/2023	4/7/2023
LTER: EMERGENT	Working Group	9/28/2022	9/30/2022
LTER: Plant Reproductive Drivers	Working Group	10/3/2022	10/6/2022
LTER: Drought Global Synthesis	Working Group	10/10/2022	10/13/2022
California MPA Network Decadal Assessment	Working Group	10/17/2022	10/20/2022

Food Equity	Working Group	10/24/2022	10/27/2022
LTER: River Si Exports	Working Group	10/31/2022	11/3/2022
LTER: Transitions	Working Group	11/14/2022	11/17/2022
LTER: EMERGENT	Working Group	4/10/2023	4/12/2023
LTER: Drought Global Synthesis	Working Group	5/8/2023	5/11/2023
Morpho: Grassland Birds	Working Group	5/15/2023	5/17/2023
LTER: Fire and Aridland Streams	Working Group	5/15/2023	5/18/2023
Earth Observations	Working Group	5/16/2023	5/19/2023
LTER: River Si Exports	Working Group	5/22/2023	5/25/2023
Food Equity	Working Group	6/5/2023	6/8/2023

PUBLICATIONS

Journal Articles

Austin, Kremen; Heilmayr, Robert; Benedict, Jason J; Burns, David; Eggen, Michael ; Grantham, Hedley; Greenbury, Aida; Hill, Jane; Jenkins, Clinton; Luskin, Matthew; Manurung, Timer; Vang Rasmussen, Laura; Rosoman, Grant ; Rudorff, Bernardo; Satar, Musnanda; Smith, Charlotte; Carlson, Kimberly. 2021.Mapping and Monitoring Zero-Deforestation Commitments. *BioScience*.
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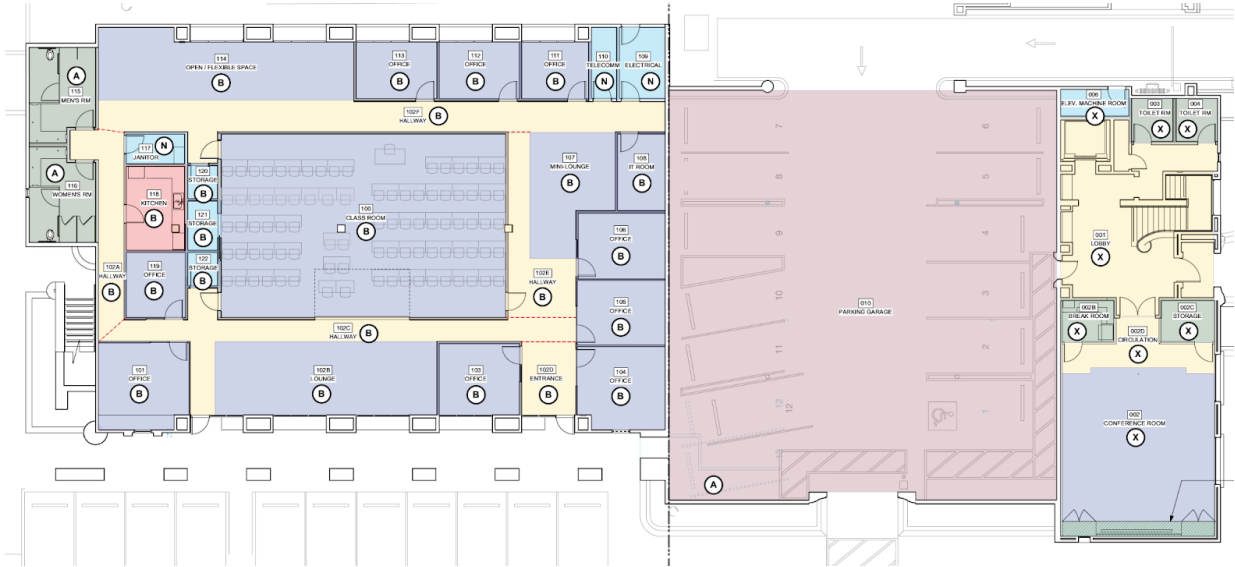
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NCEAS is located at 1021 Anacapa Street, Santa Barbara, CA 93101-5504, approximately 8.5 miles from the main UC Santa Barbara campus.

1021 Anacapa Layout:



First floor layout. NCEAS occupies the entire main suite of the first floor to the left of the parking garage, including 9 offices, a large classroom, two lounges, and two restrooms.



Third floor plan. NCEAS occupies the entire third floor of the building, including 19 offices, three conference rooms, four restrooms, and a large outdoor terrace.