I am honored to address the students, alumni and professional colleagues who have called the **Division of Science and Environmental Policy (SEP)** home. If you are an alum who graduated over 10 years ago, you would not recognize the place. The original ESSP degree spawned four very popular undergraduate degrees (Environmental Science (ESTP), Environmental Studies, Biology, and Marine Science). There is also a Master of Science in Applied Marine and Watershed Science now in its 9th year!

There were about 8 professors when I arrived in 2000. Next year we will add our 23rd professor! We also deeply depend upon the exceptional talent of about 40 lecturers and a support staff of about 15 dedicated comrades. The SEP crew now supports over 1000 majors, and serves a huge slice of the CSUMB science general education courses. Student enrollment is off the charts! We are busting at the seams!

I am finishing my second year as Division Chair. Before signing off, I have to shout out to the SEP team for providing world-class, hands-on, high-impact education that matters. While institutional progress may seem daunting at times, I am sincerely grateful for the many collegial shoulders that share the burdens and joys of institutional growth, especially to Vice Chair Sharon Anderson and Science College Dean Marsha Moroh.

I’m pleased to introduce the first “Annual” SEP newsletter by inviting you to read what others have written about recent events, about times gone by, and about the unparalleled energy and success of our current students and alumni.

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**Where do SEP students come from?**

Alumni! Please join us on [LinkedIn](https://www.linkedin.com/groups/CSUMB-Science-Environmental-Policy-Alumni-6629390)

https://www.linkedin.com/groups/CSUMB-Science-Environmental-Policy-Alumni-6629390

**Gift To Science!**

[https://donate.csumb.edu/sep](https://donate.csumb.edu/sep)

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**CHECK OUT SOME OF OUR RESEARCH OPPORTUNITIES!**

[https://csumb.edu/sep/research-partnerships](https://csumb.edu/sep/research-partnerships)

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**From the Chair**

Dwayne S. From the Chair
Dr. Bill Head was the Director of the world renowned Caribbean Marine Research Station (CMRS) on Lee Stocking Island in 1994 when he got the call to arms. CSU was starting a new campus on old Fort Ord land, and they needed a visionary leader to create and lead an innovative 21st Century science program. Building on his successes engaging undergraduates and high school students in meaningful marine research experiences at CMRS, Bill and a few early faculty created an impressive research-oriented science curriculum from scratch at CSUMB. Bill’s successes are now legend. Bill had eight months to design and implement the science program from scratch! Bill was an early architect of the Service Learning Program. He brought in the initial funding for the Recruitment in Science Education (RISE) afterschool science program and the vibrant Camp Sea Lab environmental summer program. He established and funded the James W. Rote Distinguished Professor of Marine Science and Policy to honor an early faculty member who passed away too soon. Bill was very active in creating programmatic support for meaningful, high-impact science research, including leveraging the Louis Stokes Alliance for Minority Participation (LSAMP) and McNair Scholars Programs through major grantsmanship. In total, Bill brought in over $16 million in external funding for a wide range of academic programs, and successfully raised private funds for the Chapman Academic Science Center that now houses all the science programs. As if that crown of accomplishment needed a jewel, one of Bill’s most significant programs is, of course, the incredibly vibrant and successful Undergraduate Research Opportunities Center (UROC), where rising stars can get the support they need to successfully compete for top Ph.D. programs across the country.

Bill is beloved by fellow faculty, students, and alumni for his undying energy, vision, and infectious passion for student success. When Bill received the CSUMB President’s Medal, past-President Harrison noted “He is a staunch defender of high academic standards that help create successful students.” Bill Head retired this year. He will be missed.—Doug

Bill Writes...

Dear SEP family,

This turkey has just retired and turned into an Emeritus. I’m not certain what it means yet to be retired or to be an Emeritus. I do know that I’m in the honeymoon phase because all I want to do is play beach volleyball, ski all the double black diamonds I can find, and put my soggy sneakers back on and go whitewater kayaking with my best bud Rick Starr. I know that I can’t keep that up forever, but I’m sure that my VW camper and I will have fun trying. And now that I have my first cell phone I can text you and send photos of my excursions! LOL!!

I’ll deeply miss the SEP family and I’d like to thank all of you for your friendship, support, and wisdom over the past 20 years. Yikes, has it really been 20 years? It seems like yesterday that I arrived as a founding faculty in January 1995. To get warmed up for the task of opening a full-fledged university in 7 ½ months, I took a few weeks off in mid-January to kayak waterfalls and Class IV-V rapids in Chile and Argentina. That warmed me up!

I’ll never forget how Steve Moore, ponytail and fanny pack, and I convinced the CSU Chancellor’s Office in fall 1995 that our proposed Earth Systems Science & Policy (ESSP) major was important and innovative. We made a great team and they loved our energy. And it helped that we had just received a grant from NASA to start an ESSP program.

I remember fondly the times the ESSP gang nourished me. For my 50th birthday they bought me a new pair...
of really fast alpine skis. I skied them so hard that I bent them into pretzels my second season. Then the gang got me a computer font of my penmanship. However, I had to submit a writing sample and the computer, of course, couldn’t read my writing.

It’s been glorious to see ESSP evolve into a robust SEP Division with nationally recognized faculty, majors, and students. And, as the parting Director of the Undergraduate Research Opportunities Center (UROC), it’s been an honor to work with you and SEP’s inspiring students. The UROC gang is looking forward to continue building a community with you.

I know I’m supposed to mellow when I retire and develop the wisdom to know when to make things happen, when to let things happen, and when not to worry about what happens. However, the reality is that I’ll always remain, as my dear friend Dean Marsha Moroh fittingly puts it, “a pit bull on the pant leg of opportunity.” Thank you for being my companions and my family.

With gratitude,

William D. Head, Ph.D.
Professor Emeritus
Division of Science and Environmental Policy
California State University, Monterey Bay

From the intertidal to the abyssal deep: students explore the vastness of the ocean through undergraduate research

Last year, Dr. Corey Garza established the Ocean Science Research Experiences for Undergraduates (REU) Program in the Monterey Bay Region—the first of its kind in the CSU system! This summer the 10-week program will have 11 students participate in rigorous undergraduate research under one of over 44 mentors from six world-class ocean science research facilities. The students can choose mentors from Cal State Monterey Bay, Hopkins Marine Station, Monterey Bay Aquarium Research Institute, Naval Postgraduate School, Moss Land-
**Focus on Adjunct Research Faculty**

**NASA research program at CSUMB**

Dr. Susan Alexander has been a CSUMB professor since shortly after the CSUMB doors opened. In addition to teaching Ecology courses, she is the Director of a long-term, collaborative research program between NASA Ames Research Center and CSUMB. In 2012 CSUMB was awarded a 10 year, multimillion dollar grant by NASA, as part of the Ames Research Center Cooperative Research in Earth Science and Technology. This 10 year commitment from NASA supports innovative research on important environmental and earth system science issues and strengthens the pipeline that provides CSUMB students and recent graduates with exciting opportunities in research, technology training, and career development. Three research highlights are described below.

**Dr. Robert Dahlgren** (Research Scientist and Adjunct Research Faculty in SEP) co-mentored a team of student interns on a swords-to-ploughshares project: Deconstructing military surplus unmanned airborne vehicle (UAV) drones and converting them into platforms capable of performing civilian environmental science. Surplus aircraft were dismantled for parts and reassembled into new “FrankenEye” aircraft using rapid prototyping techniques such as 3D printing, avionics based on open source software and low-cost autopilots. Repurposed military UAVs have been proven to be a safe, useful, and inexpensive tool for natural hazard and disaster response, wildlife reporting, environmental monitoring, volcanology, arctic science, and ocean science research.

**Forrest Melton and Lee Johnson** (Senior Scientists and Adjunct Research Faculty in SEP), use satellite data and surface sensor networks to better monitor agricultural water demand and drought impacts on agriculture throughout the Salinas and Central Valley regions. They are leading a team of students to conduct validation studies on 12 commercial farms. The end game will be web and mobile applications that allow growers to access real-time maps of crop water needs of a specific field. These high-tech tools may help growers use much less water and fertilizer to grow our food.

**Petr Votava** (Senior Scientist and Adjunct Research Faculty in SEP) and **Forrest Melton** are leading the NASA Earth Exchange (NEX), a collaboration platform for the Earth science community that integrates supercomputing resources with petabyte-scale data archives, research, tools, and knowledge sharing to address global environmental challenges. Following the tremendous public interest after the release of the NEX climate dataset, they have established OpenNEX – a partnership with Amazon, Inc. that facilitates access to Amazon’s cloud computing storage and resources that can potentially accommodate thousands of researchers, scientists and students. (https://nex.nasa.gov)

---Susan---
Dr. Alison Haupt

Alison Haupt has just joined the Marine Science faculty at CSUMB and is a kelp forest ecologist. She completed her PhD at Hopkins Marine Station where she used phylogeography to elucidate historic demographic processes as well as estimate contemporary patterns of larval dispersal and applied this information to management of fished marine species. After her PhD Alison took a policy fellowship with the West Coast Governors Alliance where she has worked with policy makers to integrate science and management of ocean and coastal resources. After working with the WCGA, she returned to academic research as a postdoc with Dr. Jarrett Byrnes at the University of Massachusetts Boston where she worked with kelp forests on the east and west coasts of the United States. Generally, Alison is interested in answering basic ecological questions to provide for better management and conservation of marine species in the face of anthropogenic stressors such as climate change, urbanization, and fishing pressure.

Dr. Timothy Miles

I graduated from Western Michigan University in Biology and Chemistry prior to pursuing my Ph.D. in Plant Pathology at Michigan State University. I am interested in many areas including aspects of microbiology, molecular biology, plant pathology, remote sensing and agriculture. Throughout my career I have focused on fungi and oomycete plant pathogens from a variety of perspectives such as the development of resistant cultivars, cultural and chemical practices, pathogen infection and pathogen detection using molecular new diagnostic tools. My Ph.D., focused on understanding the molecular and biochemical defenses in fruits in response to infection by Colletotrichum spp. This research highlighted several aspects of host resistance, including shifts in secondary metabolites, novel antimicrobial compounds, reactive oxygen species, defense genes, and other fruit physiological factors and gave new information about how these mechanisms interact. At CSUMB, I will be continuing my research projects on oomycetes with cooperators at the USDA-ARS in Salinas (America’s Salad Bowl) by involving undergraduate and graduate students in many aspects of the research. Furthermore, I will teach two courses, Plant Pathology and Systematic and Molecular Mycology which will help students be competitive for careers locally and nationally as well as put them into a good position to succeed in graduate and other professional programs.

Dr. Kerry Nickols

Dr. Kerry Nickols is an interdisciplinary marine scientist whose research integrates ecology and oceanography to study how coastal marine organisms are affected by anthropogenic influences. Kerry combines empirical measurements and models to conduct basic and applied research in the nearshore environment with implications for the management of Marine Protected Areas (MPAs).

Kerry received her B.S. in Earth and Planetary Science and Integrative Biology from the University of California Berkeley and her Ph.D. in Ecology from University of California, Davis, where she studied larval dispersal and nearshore oceanography at the Bodega Marine Laboratory. Just prior to joining the faculty at CSUMB, Kerry was a postdoctoral researcher at Stanford University’s Hopkins Marine Station where she developed new monitoring programs using physical and biological measures to establish background levels of variability in coastal kelp systems.

Kerry is currently developing a research program using ecological and oceanographic methods to understand mechanisms behind marine protected area mechanisms, and kelp forest responses to a changing environment. Through courses and one-on-one research mentoring, Kerry will involve students in hands-on, interdisciplinary research directed toward solving marine environmental problems.
Meet Our New Staff!

**Gabriela Alberola**

I first started working at CSU Monterey Bay as the Research Coordinator for Marc Los Huertos’ Biogeochemistry Lab in February of 2013. I transitioned to my current position as Student Services coordinator for the Applied Marine & Watershed Science Master of Science program in December of 2013, and I added coordination of the Sciences Internship Program to my role in August of 2014.

I have a Bachelor of Science degree in Environmental Biology from Panama City’s Universidad de Panamá, and a Master of Science degree in Coastal and Watershed Science and Policy from CSUMB.

As a proud CSUMB alumna, I am committed to inclusive excellence and high quality service, and I am thrilled to be a part of the wonderful CSUMB community.

**Maxine Chaney**

Wahoo! I am one of the newer SEP instructional support techs and have really had a great time jumping into some of the molecular biology and microbiology courses. Troubleshooting and revamping experiments is exciting for me and I’m glad to have the opportunity to positively affect the already strong curricula here at CSUMB. I have a strong background in many things molecular (nucleic acid & protein extraction/ purification/amplification/detection), physiological (marine mollusk & fish environmental tolerance), statistical and communicated. I have earned degrees from Oregon State University and University of Southern California, and worked for a few more organizations including Hopkins Marine Station – which drew me to Monterey Bay and California initially. I love living here with my husband and 3yr old son, where we all enjoy biking, hiking, gardening and cooking.

**Stefanie Kortman**

I am a native Californian and CSUMB SEP alumni who joined the Instructional Support Technician team in Fall 2014. I also helped develop a soil greenhouse gas (GHG) research program at the university, where I have continued to manage agriculture GHG research projects and mentor students for the past several years. I value working with farmers, researchers, and policy makers to help find solutions to mitigate GHG emissions while sustaining soil fertility and viable farm business. I have enjoyed being a student and staff in the SEP department because of the dedication to experiential and practical learning, and the small campus size and location. I appreciate the many meaningful relationships I have built with students, staff and faculty at CSUMB, and look forward to continuing building community here. I am also a mother of three boys and especially enjoy outdoor adventures with my family.

**Joanna Chu**

I primarily support the organismal biology classes. I started at the beginning of February and am really enjoying meeting and working with the other techs, faculty, and associated staff. I grew up in the bay area and attended UCSC, earning my B.S. in marine biology. After graduating, I began volunteering at the Steinhart Aquarium, where I would later become a full time member of the animal husbandry staff. I was involved with their groundbreaking project of attempting to grow out (rather than collect from the wild) the majority of the corals that would be displayed in their 200,000 gallon reef tank. In addition to the Steinhart, I previously worked at PISCO Intertidal (Long Marine Lab), Tenera Environmental (environmental consulting), and participated in volunteer work with whale sharks and manta rays in Mozambique. I look forward to meeting more members of the department and utilizing my animal husbandry experience to facilitate the expansion of our living specimen collection.
Meet Our New Staff! Cont.

**August Delforge**
Hi! I started as an SEP undergrad student in fall of 2009. After three different internship/research projects I finally graduated with an ESTP degree, but had separation anxiety so I came back to help develop an internship program for our science students. It’s been a great experience! While I was an undergraduate, participating in my first internship not only helped shape my academic interests, but also created a depth my background and technical skillset that I could not have gained in weekly classes. The connection between internships and undergraduate student success is apparent to the SEP department because we have had nothing but great support from the faculty and staff. We hope to keep the momentum going for the Sciences Internship Program and make everyone proud!

**Tera Farnsworth**
I began working for SEP in September, 2014. As a graduate of the SEP program, I was excited for the opportunity to come back and work for the department. After leaving CSUMB, I worked at Elkhorn Slough Safari as a Naturalist. I went back to school at the University of Washington to earn my M.Ed. in Science Education, participating in a year-long residency at IslandWood, an outdoor environmental education school for 4th-6th graders. My love for Monterey (and seeing the sun more than once a year) brought me back here. Upon my return, I did some teaching at the elementary school level and then ended up at UCSC managing the campus box office before making my way back to CSUMB. I learn something new here every day and am happy to be back and reconnect with the many people I worked with as a student and also meet the many new people who have joined the department.

**Crystal Chavez**
I served as an instructional support technician for two years before arriving at CSU Monterey Bay. I received my prior experience while working for the Department of Chemistry at UC Santa Barbara. Moving from Santa Barbara to the Division of Science & Environmental Policy (SEP) at Monterey Bay has allowed me to transfer over my skills and to be a part of a program that is flourishing. Joining a team as it experiences its largest influx of students has allowed me to establish myself and get my voice heard. SEP has given me the opportunity to continue working in an environment that I enjoy, alongside other technicians and instructors, all for the benefit of a student education. It is always exciting to see students learn and I get to witness that on a daily basis.

**Amy Pyle**
I was very excited to accept a position at CSUMB this past February, and look forward to being a part of a young, expanding university.
I grew up in Austin, Texas, and attended undergraduate (Texas A&M, B.S., Marine Biology) and graduate school (University of Texas, M.S., Marine Science) on the Texas coast. My graduate research focused on quantification and diurnal variability of nitrogen-fixation rates in several Diatom-Diazatroph Associations.

My professional background includes time spent as an Oceanographer, Endangered Species Observer and Lead Cultivation Technician for a company that grows algae for biodiesel and nutraceuticals.

I love running, surfing, swimming and all things related to the ocean (but there is a special place in my heart reserved for sharks and phytoplankton).

I have made science and education a fundamental part of my life, and because of this I am thrilled to be working at CSUMB in the Science and Environmental Policy Department.
Marine Science students use cutting edge bathymetry, marine robotics, towed sensors, and fish telemetry to foster regional and global sustainable fisheries. Environmental Science Technology and Policy students employ high-end geospatial technology, applied ecology, hydrology and resource management to train for a wide range of resource management careers. Environmental Studies students are broadly educated; they engage society in essential cultural dialogs around sustainable practices, environmental justice, and environmental education. Biology students are trained in laboratory and field practices focuses on professions in medicine and wildlife studies.

**Undergraduate Perspectives**

**Josh Smith: Marine Science**

My deep interest in marine ecology is a product of my extraordinary academic and research experiences at CSU Monterey Bay. I’ve collaborated with the fishing community on their declining catches, and communicated my research with scientists and stakeholders over challenging management regimes.

I learned to combine technology with ecology through my research at the Institute for Applied Marine Ecology (IFAME). Using remotely operated vehicle (ROV) video, I characterized demersal fish communities inside and outside of marine protected areas. I became fascinated by the power of ROVs – that I could glimpse into an unknown world, guided by a small video screen hundreds of meters above the seafloor.

These experiences have been the most influential portion of my development as a scientist, and shaped the lens through which I view the world. I am excited to embark on my next academic chapter as a fellowship-supported doctoral student at the University of California, Santa Cruz. —Josh

**Kaitlyn Sakiko Chow: Environmental Science & Japanese Minor**

I never dreamed that I would be where I am today researching cutting edge technology and assisting in the Watershed Geology Lab at California CSUMB. My research involves digitizing landscapes from Structure from Motion Photogrammetry, which uses aerial images taken from an Unmanned Aerial Vehicle (UAV) and a GoPro camera. Doug Smith and I are investigating the precision and accuracy of this technology with different variables that are used in Digital Elevation Model (DEM) creation such as lighting, camera elevation, lens types, and pattern of ground-truthing points. Everyday I am amazed at the capabilities of this technology for long term monitoring and am thankful for the experience.

Spring 2015 may be my final semester as an undergraduate at CSUMB, but it is not the end of my research. I plan on continuing my research on photogrammetric technology as a CSUMB Applied Marine and Watershed Science graduate student in Fall 2015. —Kaitlyn

**Stephanie Yee: Environmental Studies**

I have two homes, San Francisco, the place where I grew up, and CSUMB, where my perspective about the world expanded exponentially. I have always been interested animals and the environment, but through my courses and involvement with the campus community that interest developed into a passion. From the beginning, I was able to apply classroom lessons to making direct changes to our campus community and beyond. For example during my first year, with final paper on campus policy change I talked to Dining Services into creating a local foods program. I have also developed a deep appreciation of social justice and systems thinking. Through both the Sustainability Systems and Social & Environmental Justice class, I have come to understand the link between inequality among people and the degradation of our planet. It’s these deep structural problems and encouragement from faculty that motivate me to work towards a better future. —Stephanie
As graduation season approaches, we find ourselves celebrating the accomplishments of our students and reflecting on the growth of our program over the last 9 years. Launched in 2006, the AMWS program has an alumni class composed of 87 professionals who are leaving their mark as talented research scientists, analysts, resource managers, project directors, program coordinators, technicians, educators, and PhD students across the nation. Attesting to the strength and interdisciplinarity of our program, AMWS alumni are employed across diverse work sectors including government, non-profits, educational institutions, and private business. We’ve even managed to entice several to stay at CSUMB, where AMWS alumni work for their alma mater as programmatic development staff, science instructors and lecturers, and research technicians. Plus, many AMWS students contribute their skills to the Division’s Mission by working as research assistants, support staff, and teaching assistants while pursuing their degree.

The AMWS program is always on the move with exciting new endeavors and accomplishments. This year’s highlights include the creation of several long-term internship partnerships, the establishment of a tuition waiver program for teaching assistants, the arrival of 3 new faculty members, the launch of our new website, the publication of numerous scientific journal papers, and the awarding of new research grants and opportunities to our faculty and students.

And speaking of exciting, this Fall will mark our 10-year anniversary (check out our yearbook!). Congratulations to our 2015 graduates, and a very special welcome to our 10th cohort of new students in Fall ‘15.

—Susan and Gabby

Sean Windell: AMWS Student & Sea Grant Fellow

I began the AMWS program in Fall 2012, and am extremely grateful for the education, experiences, and friendships I have made while here. What I loved most about the program was the emphasis on applied science towards management and policy while working on my thesis. Within Corey Garza’s Marine Landscape Ecology Lab, I studied the importance of the intertidal habitat within a spiny lobster’s life-cycle and how the underlying landscape may be driving differences in the use of this habitat in Santa Catalina Island with the intent of informing future MPA design and management.

After completing all of my course work I was accepted into the California Sea Grant State Fellowship Program, which provides graduate students with the opportunity to gain direct work experience at the science and policy interface within a state or federal agency. I am currently working with the Delta Stewardship Council on salmon related issues while also completing my thesis. The AMWS program prepared me well to earn the Sea Grant Fellowship and to perform excellent work for the Council.

Presenting the Fall 2014 AMWS Gang!
2014-15 Awards & Honors

NSF Graduate Research Fellowships
Andrea Valdez (mentor: Dr. Aparna Sreenivasan)
Cristina Villalobos (mentor: Dr. Corey Garza)
Josh Smith (mentor: Dr. James Lindholm)
April Makukhov (mentor: Dr. Cheryl Logan)
Lydia Jennings (mentor: Dr. Raina Maier)

Provost’s Award for Exemplary Academic Achievement
Austin Kim

TRIBETA Student Research $ Awards
Elisabeth Carrillo (and poster award)
Austin Kim
Julio Martinez
Somair Taj

COAST Research $ Awards
Michael Esgro
April Makukhov
Evan Matthiasen
Scott Miller
Serena Thurston
April Woods

COAST Travel $ Awards
Winn McEnery
April Makukhov
Patrick Mulcahy
Ashley Quackenbush
Kelley Van Hees
Sean Windell

Goldwater Scholarship Honorable Mention
Emily King
Elizabeth Alger

Brown and Caldwell Minority Scholarship
Kaitlyn Chow

Unite4: Inspiration award
Real Food Challenge
Stephanie Yee

Alan Church Scholarship
Belinda Gomez

Professor and Mrs. Allen E. Fuhs Science Communication Scholarship
Grace Singer

Bob Curry Watershed Award
Brady Latham
Chelsea Neill

Rote-Strnad Scholarship from Elkhorn Slough Foundation
Michael Esgro

Garden Club of America Scholarship
Erin Coffey

Outstanding Student Award: Association for Women Geoscientists
Kaitlyn Chow

SACNAS Presentation Awards
Emily King
Alison Aceves
Briana Becerra

Watershed Institute: Water For Our Future Award
Megan Tang (9th grade student at York School)

Sanctuary Currents Symposium Poster Awards
Many SEP students displayed outstanding research. Winners are listed here. http://montereybay.noaa.gov/research/posterwards.html

Do Science Students Have Impact?
I am coauthoring a Marine Fisheries paper with NOAA colleagues and two CSUMB alumni. The paper documents collaborative research focusing on the impacts of San Clemente Dam removal in the Carmel Watershed. It was inspiring to see how many of our student and faculty research papers were cited in the reference section. To gauge the cumulative student contributions to this work, we drilled down to see how many student technical reports were referenced by the primary references, and so on. There were over 50 student coauthored technical reports, dating back to 1999, that ultimately fed data into the current paper!

Watershed Science student reports are archived in of the Watershed Institute and CCoWS publication series.

——Doug
How do we measure the success of a university program? With an “alumni meter.” We check in with the alumni to see if their time here helped them realize their career and personal goals. If we help people lead fulfilling lives, we are doing our jobs. As I read about specific alumni successes, and note the many and varied careers our alumni now enjoy, I sense that our alumni meter is pegged at the high end! This year we feature three alumni profiles: Mark Gleason, Pat Finch, and Jason Mansour.

**Alumni Profile: Mark Gleason**

After receiving my B.S. in Earth Systems, Science & Policy in 2005 I continued to work with Moss Landing Marine Lab in the Marine Pollution Studies Lab and as a commercial fisherman in California and Alaska for about another year. I then packed my truck and headed north to Seattle, Washington and enrolled at the University of Washington School of Marine Affairs to pursue a Master’s in Marine Affairs. During that stint in Seattle I managed to pick up the degree as well as the girlfriend who would ultimately become my wife. To illustrate what a small world it is, she actually ran Camp SEA Lab while I was at CSUMB. Despite us both being in the same place at the same time we never actually met. It took graduate school for that to happen!

After completing graduate school and finally hanging up my raingear after 13 years of commercial fishing, I was fortunate to be awarded a Sea Grant John A. Knauss Marine Policy Fellowship. As a Knauss Fellow I spent a year working in the U.S. Senate Committee on Commerce, Science, and Transportation. More specifically, I was posted to the Oceans, Atmosphere, Fisheries & Coast Guard Subcommittee. In essence, pretty much anything related to the oceans other than offshore energy and non-Coast Guard military issues needs to pass through the Committee first. So that includes confirmation hearings for NOAA Administrator, the NOAA budget, all fisheries issues, ocean acidification, harmful algal blooms, etc. Clearly that Committee is the place to be for fish geek policy wonks! Although Congress can be a frustrating place to work, I couldn’t have asked for a more thorough exposure to the suite of issues facing our oceans.

A year on Capitol Hill was enough and my wife and I were itching to get back to the West Coast. I worked for a little over a year in Seattle as the Government Affairs Liaison for a Seattle-based fishing company operating in Alaska. From there I moved on to my current job as the Executive Director of the Alaska Bering Sea Crabbers (ABSC), where I represent a little more than 70% of the crab fishermen in the Bering Sea. In my job at ABSC I handle all of their regulatory issues at the North Pacific Fishery Management Council and the Alaska Board of Fisheries. I’m the main representative with Executive Branch agencies including the Alaska Department of Fish & Game, the Alaska Seafood Marketing Institute, and the Washington Department of Fish & Wildlife at the State level. At the Federal level I deal with the National Marine Fisheries Service, the US Coast Guard, the Environmental Protection Agency, and the White House Council on Environmental Quality among others. I also deal with the Governor’s of both Alaska and Washington State on a pretty routine basis. I handle all of our issues in front of the US Congress and have been called upon to testify during hearings as well as provide Congressional briefings on a number of occasions. And finally, I represent the Crabbers at the international level as an advisor to the US Department of State. Moving away from the world of government, I’m also the point man with other fishing groups both in Alaska and around the country. And I handle all of the Crabbers’ dealings with members of the environmental community including Environmental Defense Fund (EDF), the Monterey Bay Aquarium Seafood Watch program, the Marine Stewardship Council (MSC), and others.

In closing, my job keeps me jumping to be sure! But I credit a lot of my success to my time at CSUMB. While I was here the ESSP program provided me with a diverse and rigorous curriculum. There was (and still is) a strong connection to the broader marine science community. This offered me the chance to learn about and participate in some of the most cutting-edge science being done anywhere. And as you all know, with a place as magical as Monterey Bay as the backdrop it’s hard not to be inspired to make a positive impact on the world’s oceans and the people who dependent on it!

—Mark
I came to CSUMB as a freshman in fall semester of 1996. Having spent most of my life to that point in Southern California, CSUMB was alluring for the change of climate, attitude, and the ‘interesting’ sounding curriculum. I came to CSUMB to focus on marine science, and quickly found that there was so much more to learn in so many other disciplines. Ultimately, I graduated having triple majored in ESTP, Mathematics, and Computer Science (CSIT)! This has turned out to be a good mix. I’ve since moved on to work for the Biospheric Sciences branch at NASA Ames Research Center where I am, in short, a ‘data enabler’. Specifically, I develop and support technologies to help earth, atmosphere, and oceans scientists collect remote sensing data from manned and unmanned aerial vehicles (UAVs).

My first assigned project was with the Wildfire Research and Application Partnership (http://geo.arc.nasa.gov/sge/WRAP/) working on the Western States Fire Mission (http://www.nasa.gov/centers/dryden/history/pastprojects/WSFM/index.html). An instrument developed at NASA Ames was affixed to NASA Ikhana unmanned aircraft and flown over wildfires during the summer and fall of the late 2000’s. I helped to develop an algorithm that would, in real time, use the data acquired by our instrument to map wildfires. I also helped with the communication system that would disseminate this information to incident commanders in the field allowing them to make near real time tactical decisions on how to best handle various fires. Eventually, we were able to move this technology to the forest service.

Other projects I have worked on include the real time mapping of NASA’s airborne assets (http://mts.nasa.gov), helping in the creation of hyperspectral imagers used for pipeline mapping, developing an embedded sun tracker for use with small UAVs used in atmospheric measurements, developing a communications and tracking system to be used with small UAVs, support and development of and one of my latest big projects has been the continued development and support of the satellite communications system on board two of NASA’s Global Hawk UAVs. These aircraft are being used for atmospheric science (https://espo.nasa.gov/home/attrex/content/ATTREX) and hurricane science (http://www.nasa.gov/mission_pages/hurricanes/missions/hs3/), helping some of the nations best scientists learn more about our environment.

Over the years and in support of these missions I’ve had the opportunity to work from home, from other NASA facilities all over the US, above the Arctic Circle, and even from Guam. Working for NASA is a rewarding experience, and my education at CSUMB is certainly what made it possible. Our missions often require collaboration among so many different scientists and engineers that I have no doubt that the multifaceted education I received at CSUMB has given me the unique background to better understand the people with whom I work.

—Pat
**ALUMNI Tag and Release**

*You came, you graduated, we followed!* Over 900 students have graduated from the various CSUMB science majors. We don’t know where ALL of you are, but we would love to keep following (from a distance..nothing too creepy)! If you are not listed here join the SEP LinkedIn page (below), and update your alumni profile with the link on the bottom right. Reach out to your old classmates! Reconnect! Keep your profiles updated!

Thor Anderson Biologist - Burleson Consulting, Inc.
Stephanie Aroche Environmental Education Assistant - City of Watsonville
Rose Ashbach Nature Connect Program Educator - Mearth
Cody Barnes Graduate Teaching Associate - Oklahoma State University
Yvette Becerra Project Coordinator - BuildingWise
Brittani Bholke Conservation Project Coordinator - San Mateo County Resource Conservation District
Crystal Birch Multiple Subject Instructor - Inglewood Unified School District
Jessica Blakely GIS/GPS Technician - Clean Lake
Jessica Caldeira Junior Inorganic Chemist - ICF Consulting Services
Lindsay Carr Attorney at Law - Law Offices of Lindsay Carr, Esq.
Jennifer Chilton Quality Assurance Specialist - MechanicNet Group Inc.
Cara Clark Wetland Scientist - Moss Landing Marine Laboratories
Sandy Connolly Principal - Measure To Improve, LLC
Patty Cubanski Watershed Scientist - Burleson Consulting
Adam Curtis Designer - Cen-Cal Fire Systems
Christina David Engineering Technician I - Marin County Stormwater Pollution Prevention Program
Monica Diaz Database Specialist - NOAA
Nicholas Donlou Purchaser - Backscatter Underwater Video & Photo
Bryan Escamilla Watershed Protection Lab Technician I - City of San Jose
Jonathan Frame Assistant Engineer - Northwest Hydraulic Consultants
Meghan Froli Project Director - FishWise
Monica Galligan Lecturer - CSUMB, Instructor - MIIS
Megan Gehrke Environmental Scientist - Ahtna Engineering Services, LLC
Elizabeth Geisler Coastal Region Environmental Coordinator - Granite Construction
Mark Gleason Executive Director - Alaska Bering Sea Crabbers
Mark Goin Fisheries Biologist - Pacific States Marine Fisheries Commission
Gina Hamilton Sr. Planner/Project Manager - EMC Planning Group
Katrina Hinke Environmental Scientist - D-Max Engineering, Inc.
Randy Holloway Technical Support - Clean Water Systems & Stores, Inc.
Marty Houston Registered Environmental Health Specialist - Local Government Association
Courtney Irwin Microbiology Technician - Silliker

**Update your CSUMB alumni info**

https://docs.google.com/a/csumb.edu/forms/d/1Q9r48K5EX4bcLgnRNtdJWWwEmEzO0m05zsBrnjql2WCQBbY/viewform

**Alumni! Please join us on LinkedIn!**

https://www.linkedin.com/groups/CSUMB-Science-Environmental-Policy-Alumni-6629390
<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Position/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natalie Jacuzzi</td>
<td>Environmental Scientist - California Department of Food and Agriculture</td>
</tr>
<tr>
<td>Tori Johnson</td>
<td>Instructor - Camp Highland Outdoor Science School</td>
</tr>
<tr>
<td>Shane Keefauver</td>
<td>Scientific Aide - California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>Stephanie Kister</td>
<td>Conservation Representative - Monterey Peninsula Water Management District</td>
</tr>
<tr>
<td>Donna Kline</td>
<td>Researcher - Moss Landing Marine Laboratories</td>
</tr>
<tr>
<td>Bryan Kreite</td>
<td>Vector Control Technician - County of Santa Cruz</td>
</tr>
<tr>
<td>Ruby Kwan</td>
<td>Assistant Project Coordinator - Golden Gate National Parks Conservancy</td>
</tr>
<tr>
<td>Casey Lanier</td>
<td>Habitat Restoration/Consulting - Wildscape Restoration, Inc.</td>
</tr>
<tr>
<td>Joy Larson</td>
<td>Research Program Manager - The Climate Corporation</td>
</tr>
<tr>
<td>Sheldon Leiker</td>
<td>Environmental Compliance Specialist - Granite Construction</td>
</tr>
<tr>
<td>Naomi London</td>
<td>Administrator - Fishbooks Pro</td>
</tr>
<tr>
<td>Jason Mansour</td>
<td>G-IV SP Hurricane Hunter Aircraft Commander</td>
</tr>
<tr>
<td>Corina Marks</td>
<td>Research and GIS Technician - Moss Landing Marine Laboratories</td>
</tr>
<tr>
<td>Peter Martin, Jr.</td>
<td>Senior Water Resources Specialist</td>
</tr>
<tr>
<td>Tad Masek</td>
<td>Research Associate - Naval Post Graduate School</td>
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<tr>
<td>James Mattson</td>
<td>Biology Teacher - PVUSD</td>
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<tr>
<td>Laura Mercado</td>
<td>Applied Research Technician - Monterey Bay Aquarium</td>
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<tr>
<td>Kristy Michie</td>
<td>Epidemiologist/Program Manager I - Monterey County Health Department</td>
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<tr>
<td>Matthew Michie</td>
<td>Steelhead Fisheries Biologist - California Department of Fish and Wildlife</td>
</tr>
<tr>
<td>Dana Morey</td>
<td>Environmental Specialist II/Supervisor - Morongo Band of Mission Indians</td>
</tr>
<tr>
<td>Flower Moye</td>
<td>Scientific Diving Assistant - CSUMB</td>
</tr>
<tr>
<td>Alyssa Nally</td>
<td>Zero Waste Week Intern - NOAA Office of National Marine Sanctuaries</td>
</tr>
<tr>
<td>Adam Newman</td>
<td>Research Technician - Moss Landing Marine Laboratories, Marine Pollution Studies Lab</td>
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<tr>
<td>Colin Nicol</td>
<td>Lab Assistant - NOAA South West Fisheries Science Center</td>
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<tr>
<td>Kathy Nitayangkul</td>
<td>Land Surveyor - Polaris Consulting</td>
</tr>
<tr>
<td>Louie Okamoto</td>
<td>RISE Program Coordinator - CSUMB</td>
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<tr>
<td>Daniel Ontiveros</td>
<td>Weed Crew Intern - Bureau of Land Management</td>
</tr>
<tr>
<td>Alexis Osgood</td>
<td>Biology &amp; Conceptual Biology Teacher - El Toro High School, Lake Forest, CA</td>
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<tr>
<td>Emily Paddock</td>
<td>Water Resources Manager - Driscoll's</td>
</tr>
<tr>
<td>Beth Pardieck</td>
<td>Program Coordinator - CSU Council on Ocean Affairs, Science and Technology (COAST)</td>
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<tr>
<td>Mary Patyten</td>
<td>Research Writer - California Department of Fish and Wildlife</td>
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<tr>
<td>Mucho Pefok</td>
<td>Survey Technician - Whitson Engineers</td>
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<tr>
<td>Samuel Peirce</td>
<td>EHR Implementation and Support Analyst - PracticeSuite Inc.</td>
</tr>
<tr>
<td>Polly Perkins</td>
<td>Student Design Trainee - San Francisco Public Utilities Commission</td>
</tr>
<tr>
<td>Claudia Pineda Tibbs</td>
<td>Senior Bilingual Education Communications Specialist - Monterey Bay Aquarium</td>
</tr>
<tr>
<td>Kirk Post</td>
<td>Field Research Scientist - NASA, CSUMB</td>
</tr>
<tr>
<td>Bobby Quinonez</td>
<td>Administrative Support Coordinator at UROC - CSUMB</td>
</tr>
<tr>
<td>Julianne Rhodes</td>
<td>Environmental Consultant - City of Salinas</td>
</tr>
<tr>
<td>Jessica Riggin</td>
<td>Marine Fauna Observer - Polarcus</td>
</tr>
<tr>
<td>Alex Rios</td>
<td>Research Tech - Sakata</td>
</tr>
<tr>
<td>Markus Rosales</td>
<td>Pharmacy Intern - CVS Health</td>
</tr>
<tr>
<td>Carolyn Rosevelt</td>
<td>Research Technician - NASA Ames Research Center</td>
</tr>
<tr>
<td>Nick Sardrpour</td>
<td>California Sea Grant Fellow with the Ocean Protection Council</td>
</tr>
<tr>
<td>Amber Schat</td>
<td>Environmental Service Specialist - City of San Jose</td>
</tr>
</tbody>
</table>
Jason Mansour earned his B.S. in Earth Systems Science & Policy (currently known as ESTP) in 2003 and accepted a direct commission into the National Oceanic and Atmospheric Administration (NOAA) Corps. After serving on-board the 215 ft NOAA Ship Miller Freeman conducting fishery research in the Bering Sea and Gulf of Alaska, Jason earned his wings in 2006 and began flying environmental intelligence missions with the DHC-6 Twin Otter aircraft.

During these flights, scientific objectives included aerial marine mammal surveys, coastal mapping photography and air chemistry sampling. After a staff assignment to the Under Secretary of Commerce for Oceans and Atmosphere, Jason returned to the NOAA Aircraft Operations Center at MacDill AFB in Tampa, FL to fly the G-IV hurricane hunter high altitude reconnaissance aircraft. He takes great pride in applying the scientific methods obtained during this undergraduate education at CSU Monterey Bay with the unique considerations of operational assignments. In 2014 he married his beautiful wife Berit and they currently reside in Saint Petersburg, Florida where he enjoys cycling, fly fishing and surfing.

—Jason
Dear SEP Alumni,

I hope you have enjoyed reading about some of the exciting things going on here in the Division of Science & Environmental Policy. Science is a very dynamic field, with new discoveries constantly changing what we know. That’s why it’s important to have students learn not just in the classroom, but to apply what they’re learning in the lab or field, hopefully making discoveries of their own.

Combined with our small class sizes and faculty mentors, this approach gives students a solid grounding of scientific knowledge and practical research skills to begin a career after graduation, or continue their studies in a graduate program.

Because science relies on the gathering and analysis of data, there are extra costs associated with a science degree that don’t apply to other majors. And State funds do not cover some of the high-end equipment needed to maintain the high standards we’ve built into our curriculum. Field studies, cutting edge technology, opportunities to present research at conferences – all of these are vital parts of the student experience.

Also, as you well remember, science disciplines demand students spend more time outside of class studying or doing research than many non-science majors. With many CSUMB students paying for all or part of their education, having to choose between working or studying is not an uncommon dilemma. Scholarships can relieve some of the financial pressure and give students more time to focus on learning.

Student research, scholarships, conferences – these are some of the areas that are not covered by tuition and the State budget. **We ask that you consider making a gift to the Division of Science & Environmental Policy to help us provide a superior education.** You can direct your gift to a particular area, or you can allow us to add it to the SEP general fund, allowing us to use it where and when it is most needed.

Wherever you choose to direct your gift, it will enhance the education of today’s CSUMB science students, increasing the quality of their experience and the value of every CSUMB degree – including yours! Click [here](#) to give online, or print and return the donation form on the next page of the newsletter.

Thank you for your contribution!

Sincerely,

Doug Smith
Chair, Division of Science and Environmental Policy
Division of Science and Environmental Policy
2015 Annual Fund Appeal

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On behalf of SEP students, thank you for your support!