Cluster 3 has gotten their feet wet and started swimming through Week 1. Our first week has been full of introduction to laboratory procedures, our projects and understanding climate change. Cluster 3 is honored to work under the guidance of Dr. Skip Pomeroy on atmospheric chemistry and aerosols as well as Dr. Ngai Chin Lai with oceanography. Below are student comments as they dive deep into the program:

“On our first day, we got to tour the pelagic invertebrate and fish collections at the Scripps Institute of Oceanography after meeting Doctor Lai. Then, we came back to UCSD to hear an interesting lecture from Doctor Pomeroy regarding the physics and chemistry behind climate change science. Overall it was a great introduction to COSMOS” - Mira K

“On Tuesday, we attended a discovery lecture on flexible electronics, and what the possibilities are with them, followed by science communications, where we began work on our essays on ethics. After lunch, we broke into groups and picked topics for our final projects, and then viewed the movie, “Merchants of Doubt.” - Emily I

“On Wednesday morning, we went down to the Scripps Institute of Oceanography to have a lesson with Dr. Lai and explore the tide pools on the beach. As we walked down the pier we were able to see many marine animals from the area. Then, Dr. Pomeroy gave us a lecture on the albedo of different places on Earth, and what that means for the atmosphere.” - Emilie O

“On Thursday we learned how to access the library resources. Then we worked on our essays and finished our labs. We ended the day with project time where we got to start our projects.” - Justin D.

On Friday we will be visiting the Birch Aquarium where we will be evaluating evolutionary relationships between different type of aquatic organisms. Stay tuned next week to hear more!
Hello from Cluster 3! We can’t believe that the program is halfway over already. We have started on our projects, written our ethics essays and learned to navigate the campus. Here is what we have done since last time you’ve heard from us.

“This past Friday, our cluster started off our morning with guest lecturer Stephen Mayfield. He discussed his work on molecular genetics in green algae, and on the production of protein and biofuel molecules using algae as a production platform. After the lecture, we got to spend the rest of the day exploring Birch Aquarium, learning and trying to identify the various parts of a fish with Dr. Lai!” - Lena J

“On Monday, Cluster 3 started off the week with many exciting activities. Starting our day off at Scripps Institute of Oceanography, we walked down to the beach and saw the tide pools and the many different sea life living in this environment. After our time at Scripps ended, we headed back to UCSD to listen to a lecture given by Mario Molina, a Nobel Peace Prize winner for his work in Chemistry and the role he played in discovering the effects of CFCs on Earth’s Ozone layer!! We ended our day with an interesting lab dealing with releasing carbon dioxide from cartridges and observing the effect this had on the temperature change.” - Ella S.

“On Tuesday, we attended a discovery lecture on the uses of robots in our everyday lives, followed by science communications where we continued working on our ethics essays. After lunch, we split into our project groups and continued collecting data and designing experiments relating to our projects.” - Shreya K.

‘On Wednesday, we went on a field trip, arriving first at the Hubbs Fish Hatchery, a fishery aiming to cultivate and monitor white seabass at different stages of their life. Though we had to step in disinfectant every time we entered a new room, we were able to see both adult reproductive fish as well as juveniles and every fish that were only days old. Next, we attended the Batiquitos Lagoon to learn about the diversity in the type of habitat and how each species’ traits are adapted to the marshy and varied conditions of the lagoon. There, some of us took samples of the water, and we tested its dissolved oxygen level and temperature.” - Courtney L.

“On Thursday morning, we went to a presentation session where professors of different clusters educated us on what their groups were doing and learning. Afterwards, Cluster 3 spent a lot of time peer reviewing and writing our ethics essays. After lunch, our cluster divided into our project groups to continue our research for our final presentations.” - Maddie L.

On Friday we will be running labs focused on aerosol creation and interactions in the morning. In the afternoon, the students will be at SIO to dissect fish.
Greetings from Cluster 3! Our third week has flown by quicker than we could have imagined. We are currently designing our presentations for our projects and working hard to prepare for our talks next week! This week we will be applying our knowledge of global climate change to ocean acidification. Here are some insights to our busy week:

“Last Friday, our cluster went down to Scripps institution of Oceanography to witness a fish dissection with Dr. Lai. He brought us down to the pier to watch him dissect three different fish and discuss their underlying characteristics for survival. Lai incorporated different tunas I personally didn’t recognize, a feeling shared with other people in my cluster shared.” Suli V.

“On Monday, we had lectures with both Professor Lai and Pomeroy. In the morning, we went down to Scripps to learn about analogous structures and convergent evolution with Prof. Lai. Then we got our gloves dirty and dissected a shark to identify organs like the heart and the gallbladder. After lunch, we went up to NSB to learn about molecular orbitals and radical interaction with pi bonds with Prof. Skip. For the lab, we reacted the aromatic compounds in an orange peel with ozone to see how secondary aerosols form. We also played with molecular models to see the reaction mechanism of secondary aerosols.” - James C

“On Tuesday, we went to Peterson Hall and listened to a lecture about artificial intelligence. In the afternoon, my group went down to Scripps Institute of Oceanography and worked with Sarah and Dr. Lai to finalize our data for our project.” -- Ashley C

“We can’t wait to see you next week to present our projects to faculty, families, and friends!”

“On Wednesday, we went to Scripps and dissected a rat in order to make comparisons of the swell shark dissection. We then went to the Natural Science Building and made a coulometers, a device to determine electron charge. In the afternoon, Cosmos spent late afternoon at La Jolla Shores beach.” -- Ximena V

“On Thursday, we went to cluster exploration in the morning where professors from other clusters shared with us what their cluster did and are going to do within these 4 weeks. Through these presentations, we were able to have a better understanding of the other clusters. After cluster exploration, we had science communication where we had time to get into our project groups to work on our final project. Further on in the day, Cluster 3 split up into project groups where some went to SIO and others stayed in NSB to continue working on our final project with help from the professors, the teacher fellow, and also the teacher assistants.” -- Claire C
It’s hard to believe that we are just a few days from the end of COSMOS. I am very proud of Cluster 3’s progress over the past few weeks. Many of us started the program with a limited knowledge of oceanography and atmospheric chemistry. We have been able to absorb a lot of knowledge from our amazing faculty and TA’s. Now, we each are experts in our projects!

“Last Friday, our cluster went to the Natural Sciences Building and used coulometry to titrate seawater solutions in the chem lab. In the afternoon, we went to the Scripps Institute of Oceanography. We visited the deep sea invertebrate collection and saw specimens of different animals that lived on the seafloor, such as yeti crabs and giant tube worms. Afterwards, we spent the rest of the afternoon on the beach, studying sand crabs and swimming in the ocean.” -- Grace M

“On Monday we got to go to Scripps pier where we examine the waters near the end of the pier. We took water samples at depth, took plankton samples and we even got to fish in order to see what is living near the end of the pier. It really fun and interesting to see what lives below the surface.” -- Ryan C

“On Tuesday, we attended a lecture by David T Pride, he lectured about microbes within the human body and how they are related to one another. After that we went to science communications where we worked on our final projects. Then half of us went to SIO to work more on our projects and composed many graphs with all of our data we had been collecting since week two for our presentations with the help of Dr. Lai.” -- Rachel L

“We have worked really hard on our projects, presented to cluster 6 and can’t wait to share all that we have done with our families and professors.” -- Eleanor H

“Wednesday, the start of a new month and the end of an old month, we ventured to Scripps Institute of Oceanography for one last time, when we arrived Dr. Lai beckoned us inside with an eye-opening lecture on evolution, and oceanography. Secondly, we partook in a quiz of sorts in which we won prizes such as eye drops, hair ties, and fossils, but the real prize was in our minds all along. We smelled like fish when we went to lunch, after dissecting Frogs, Mackerels, and Crabs to compare and identify the anatomy, but we feasted just the same, and in the evening, we worked with our mentors on perfecting our presentations for our audience, and ourselves. No tea time today, it was just time to work until...the gas leaked, but who leaked the gas? We will never know.” -- Ella B

“Today [Thursday] we cleaned up the lab that we had been using for the past few weeks. It was a bitter-sweet experience, working together as a cluster for what was probably the very last time. Afterwards, we split back up into groups to put the finishing touches on our final projects.” -- Leon Z

“We have worked really hard on our projects, presented to cluster 6 and can’t wait to share all that we have done with our families and professors.” -- Eleanor H