

Sample 10-day Residential Summer Camp Agenda

GOALS

1. Provide an opportunity to **design and conduct a short project** to investigate a topic or issue of interest within the geosciences. (They will select and work with a dataset that interests them from a range of options provided, to identify trends in the data and communicate their findings.)
2. **Build data literacy skills** through contextualized field and lab experiences analyzing real world phenomena. (By the end of the summer camp, high school students and mentors will have a more nuanced understanding of data use in the geosciences, will be able to orient to, interpret, and synthesize data, and will have increased science and data identities.)
3. **Build relationships** between the high school students and their near-peer undergraduate mentors.
4. Showcase **who does geosciences** and how they do it. (Throughout the summer camp, high school students and mentors will make numerous field excursions to meet with local scientists and experience and understand how data is collected.)

[Day 1](#)

[Day 2](#)

[Day 3](#)

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Key for agenda below:

Green text = activity purpose

Purple text = mentor role (*Note: Some mentor activities are listed as optional as our mentors indicated that they needed optional down time. These are all activities that do not require active leadership from the mentors. This allowed our mentors to create a break rotation with each other.*)

Blue text = Field trip site

Bolded items in Materials column = items the participants are responsible for bringing

Orange text = Student research project groups

Red text = Graduate student support

Day 1 Sunday 6/25 (low tide 10:10 a.m.)

Goals:

- **Camp Introductions**, campers introduced to their peers, mentors, program staff, the camp goals and agenda, their own goals, and are oriented to the University campus.
- **Develop skills to explore a habitat**

TIME	ACTIVITY	MATERIALS
9:00	Pick up students from District Office, Watsonville	packed lunches
9:15 - 10:00	Drive to Natural Bridges State Beach , 2531 W Cliff Dr, Santa Cruz, CA 95060.	Wear shoes you can get wet (we have backup Boots)
10:00 - 10:15	Bonding Activity: find 2 people with 3 things in common (buddies for Safety at Beach)	Notebooks Pencils
10:15- 11:00	<p>Organism scavenger hunt Purpose: Building observation skills and looking for patterns Mentors join a group of 3 and participate alongside. Pre-exploration discussion: Access prior knowledge about tides; define intertidal. What do you notice in the environment that may make it challenging to survive here? What strategies do you think organisms might have to help them survive? What organisms are you expecting to see? When we're out, let's look for strategies that different organisms have to address these challenges. (Use identification sheets so they start getting to know names of organisms)</p>	LiMPETS ID sheet (based on organisms monitored at Natural Bridges)
11:00	<p>Guided Activity - I notice, I wonder, It reminds me of Purpose: Practice connecting observations and questions Mentors: no leadership, engage with the group 2 Groups Combine: Share some initial noticings and wonderings. Observations in an ecosystem: Organism mapping beach profile Purpose: Create a visualization of observation data Whole group intertidal profile - each group shares out observations, instructor asks for additional evidence (especially related to spatial distribution of organisms). Instructor draws and refines intertidal profile on whiteboard as students share out. Small groups discuss: Mentors: facilitate small group conversations What questions do you have about intertidal organisms and</p>	Mini White Board Markers

	where they are found? How would we answer these questions? Students Share out (instructor help to narrow in on a few questions that we know could be answered with LiMPETS data)	
12:00	Picnic Lunch (from home)	
12:45	Drive to UCSC Lab Mentors and students: Check into dorms	
1:15	Evaluator Pre-Surveys	Chromebooks
2:00	Mentor Activity: Campus tour End at dorms	
5:00	Return and settle in	
5:45	Walk to Dinner at Dining Hall	
7:00	Evening Activities <ul style="list-style-type: none"> ● Human Bingo icebreaker ● Whole Group activity: Cup Stacking Challenge ● Turn and talk - did we do science today? What made it sciency? (open-ended discussion) ● Whole Group activity: Agenda walkthrough 	Human Bingo sheets Cup stacking challenge: <ul style="list-style-type: none"> ● Solo cups ● Rubber bands ● Pipe cleaners or string Agendas

Day 2 Monday 6/26 (low tide 10:47 a.m.)		
Goals: <ul style="list-style-type: none"> ● Introduce the data literacy framework, create claims with reasoning and evidence from our collected data ● Map understanding of climate change concepts, discuss our connections to environmental issues and solutions 		
7:15	Breakfast in Dining Hall	
8:45	At dorms - check clothing/gear/notebooks	Notebooks Pencils Boots
9:00	LiMPETS protocol Purpose: learn a sampling protocol for collecting one type of organism monitoring data Mentors join a small group of students - to facilitate the protocol and support group dynamics <u>Introduce LiMPETS</u> - a method to collect data to support identification of patterns of organism populations spatially and over time. (<u>methods</u>) Lay out transects, demonstrate the protocol Create 6 groups of 3 with 1 mentor (deliberate mixing) Practice run - 2 groups with same image poster compare findings, discuss inaccuracies of practice	ID Sheets Data sheets Clipboards Pencils Tapes Quadrats Image posters
10:00	Drive to <u>Natural Bridges</u>	
10:30-11:45	Group Activity: <u>LiMPETS</u> Purpose: collect data using a sampling protocol Mentors work with same group - facilitating the task protocol and group dynamics (Optional Individual activity for anyone who finishes before time is up): <u>Sit spot</u> with notebooks→ more focused noticing and wondering - what's here, how do organisms survive/interact here, what are the effects of humans, how could we understand this place better?)	Boots Notebooks Pencils
11:45	Drive to UCSC	
12:00	Lunch at Dining Hall	
1:15	Walk to lab	

<p>1:30</p>	<p>Making sense of our data</p> <p>Purpose: use data as evidence to make a claim about a pattern/relationship in the intertidal, using the data literacy framework</p> <p>Mentors work with same group - facilitating the task and supporting 3 levels of engagement with data, prompting students with questions from the handout</p> <p>Instructors present a data table - tracking 2 organisms and the amount of bare rock on a vertical profile at Natural Bridges. Share the data presented in a data visualization (graph). Ask students to make sense of the graph with their group and mentors. Whole group share out: What did you do to make sense of the graph? Was there an order to what you did? - (Instructors capture on a 3 column table—record what they did in 3 columns: orient, interpret, synthesize— basically organizing their thoughts for them)</p> <p>Present 3 levels of Engagement handout</p> <p>Share transect data among groups: 0 3 6 9 12 15m on each transect (have groups enter their data into a shared google sheet, or lay out their data on a table for groups to take photos)</p> <p>Small groups and mentor:</p> <p>Mentors: support group creating a data visualization with the data</p> <p>Orientation: teams make a data visualization/line graph from the whole group’s data - 2 organism populations (consider all information you have about these 2, how might they be connected?) across the transect profile?</p> <p>Interpretation: what patterns do you see in the data?</p> <p>Synthesis: make inferences, discuss causation and correlation, strength of data - relational/spatial</p> <p>Mentors: prepare group to share their data visualizations and how they are making sense of the data with the whole group</p> <p>Small groups share out: What are the patterns, hypotheses about correlations, and what data they would need to feel more confident?</p> <p>Groups ask questions of each other, make suggestions for how they might test each others’ hypotheses.</p>	<p>LiMPETS Data Graph handout</p> <p>3 Levels of Engagement handout</p> <p>Use mentor computers</p>
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<p>2:45</p>	<p>More evidence is stronger: Looking at long term data from LiMPETS</p> <p>Purpose: Examine a claim with additional long term data to consider the value of more evidence</p> <p>Mentors: facilitate small groups to access the long term data sets and compare</p> <p>How could we be more sure? Need more data https://rockyintertidal.limpets.org/app/data/vt https://rockyintertidal.limpets.org/app/graph/graphs</p> <p>Groups go online to look up their organisms over time at Natural Bridges.</p> <p>Students discuss how their graph data compares to long term data—quick share out of things they found interesting or surprising.</p> <p>Summary: LiMPETS was set up to monitor change of intertidal organisms. Among other areas, scientists have measured and tracked population changes in organisms as water temperatures have increased. This data is measuring a local effect of global climate change.</p>	
<p>3:15</p>	<p>Break</p>	
<p>3:30</p>	<p>What are the causes and effects and solutions of global climate change?</p> <p>Climate Collage (be sure to connect to LiMPETS and include blue carbon)</p> <p>Purpose: Access and make visible prior knowledge of climate change effects and the processes causing them.</p> <p>Mentors: Facilitate small groups mapping out their own understanding of how the different cards are connected.</p> <p>Form a small Climate Collage Group (same group for project drawdown activity and reflection activities); Complete the Climate Collage activity as per training, including students sharing their big takeaways from their collages.</p> <p>Summary: Over the next few days we will be visiting researchers and scientists collecting data to understand some of these environmental problems and address them with solutions. We will continue to add to our Climate Collages after each new experience to help us make connections.</p> <p>Provide a quick overview of the relationship between geosciences and climate change causes, effects, and solutions (<i>*Our scientist provided this overview</i>)</p> <p>Post Climate collages on walls as reference for the remainder of camp.</p>	<p>Do outside</p> <p>CC cards Poster paper Markers tape</p>

4:45	Daily reflection Where do you see data in your life? What connections do you make between the climate collage you made and your community?	Notebook
4:55	Free time	
5:45	Dinner at College 9	
After dinner	Beach with bonfire until sunset	beach games

Day 3 Tuesday 6/27

Goals:

- Explore the connections between data and the research questions we ask.
- Define geosciences and explore how they are relevant to each of us and our communities.
- Consider how we apply geosciences data to address environmental issues.

7:15	Breakfast	Pick up pack out lunch
9:15	Drive to Año Nuevo	
10:00	<p>Natural history and Geosciences Purpose: See how elephant seal research data and research questions are connected. Mentors - optional attendance (this is a chance for mentors to take a break if needed)</p> <p><i>*Our community science partner led this field trip. He began with a brief overview of elephant seal life history and some of the research methods they use at the site. Students observed elephant seals at the research site, beginning with an I notice/I wonder/It reminds me of protocol. Our partner answered many of their questions regarding how scientists might figure something out, but left questions regarding what they had figured out with regards to migration patterns unanswered so that students could address them by looking at the data later on.</i></p>	<p>Notebooks Pens Binoculars</p>
12:00	Picnic lunch at Año Nuevo	
12:45	Drive to UCSC lab	
1:30	<p><u>Helium sticks</u> Purpose: Bonding activity - mix the groups Mentors - 1 in each group</p>	Newspaper dowels
1:45	<p>Making sense of data Reflections on Año Nuevo Research Purpose: Articulate connections between data collection and research questions This is the second time we are looking at data to make sense of it (1st was our own data—LIMPETS). Graduate student presents a research question (e.g.,</p>	Año Nuevo data sets

	<p>do all elephant seals at Año Nuevo follow the same migration paths?). Show the data that helps answer the question and how to input that data into CODAP to visualize it. Model using 3 Levels of Engagement with Data to answer the question using the data visualization. Send small groups off to work with different data sets to answer different questions. (<i>Here is a sample of the activity that our graduate student used</i>)</p> <p>Mentors: facilitate small group conversations to:</p> <ol style="list-style-type: none"> (1) Identify a research question your group would be interested in answering. (2) Why is this interesting or relevant to you? How is it relevant to the elephant seals? (3) What sort of data would help answer this research question? (4) Guide students through 3 levels of engagement. Can you make a claim about the data? How sure can you be? What other data would support this claim? <p>If time remains, have each group share out very briefly.</p>	
<p>2:30</p>	<p>An exemplar climate change solution research project</p> <p>Purpose: Share an example of having a research question and the process of identifying which data can answer a question.</p> <p>Mentors: share research projects you are engaged in/ interested in. Why is it relevant to you? (you'll come back to this another time—just a quick intro of examples from people the students know)</p> <p><i>*In our case, one of our research students was working on a blue carbon project, which connected well to the example we use in the Project Drawdown Environmental/ Climate Solutions activity that follows.</i></p>	
<p>3:00</p>	<p>Break</p>	

<p>3:30</p>	<p>What research questions are relevant to you? Purpose: Make connections between issues that are individually relevant, the questions we ask and the data we would need Mentors: Facilitate small group conversations around relevant environmental issues Introduce purpose of activity. Small group conversations (3 students and a mentor, not same groups as Climate Collage). <ol style="list-style-type: none"> 1. Individuals identify a local climate / environmental / human resources (e.g., food and water) issue that concerns them. 2. One person shares their issue (model with an example - flooding in our area). 3. Each group member shares a related question connected to the focal issue, such as- do predictions show that precipitation patterns will continue like they were this year? What happened to all the water? 4. Second person shares their issue→ repeat step 3 5. Repeat steps 2-4 for remaining group members 6. Whole group share out of topics they discussed (not recap of discussions) 7. Create a whole group poster of all the topics/issues that were raised→may use these later to spark research project topics </p>	<p>Do in lab or outside if WiFi works (depending on wind)</p>
<p>4:15</p>	<p>Environmental/Climate Solutions Jigsaw from <u>Project Drawdown</u>* Purpose: Introduce evaluated climate change solutions and show connections to Climate Collage activity. Share: Climate change solutions exist. Climate change is real but not so daunting if we are working together on solving the issues. E.g., our graduate student’s research on blue carbon* is one solution happening now. (Resource: Blue carbon info and video) https://www.elkhornslough.org/tidal-marsh-restoration-receives-grant/ Mentors - join your Climate Collage group to facilitate the task of selecting and researching a solution and answering the questions below in order to present to the group. Get into Climate Collage groups Share: Based on conversations yesterday about climate change, we got to the point of wondering how we can</p>	<p>Do in lab or outside if WiFi works (depending on wind)</p> <p>Climate collage posters, tape, index cards, markers, chromebooks</p>

	<p>reduce the cause of climate change. This is another area of geosciences, and over the next few days we will be exploring more about solutions to climate and environmental issues</p> <p>Individually - Each member share a climate change solution that interests you/ you know about</p> <p>Small groups Visit Project Drawdown website: https://drawdown.org/solutions - pick one of the examples</p> <p>Find out:</p> <ul style="list-style-type: none"> ● What is the problem this solution is trying to solve? ● What is the method (how)? ● Where could it be used? ● Based on what you have read, would you recommend it as a solution? ● Where does it fit on your climate collage—add a card for the solution? <p>Small groups present</p>	
5:15	Free time	
5:45	Dinner at College 9	
6:45	<p>2 mentors share their life stories (e.g., where you grew up, about your family, your interests in and out of school as a child/teen/now, how you chose your college, favorite activities to do with friends at college, something that surprised you about college)</p> <p><u>Gyotaku</u></p> <p>Free time, games</p>	<p>Screen for sharing mentor slides</p> <p>24 tote bags</p>

Day 4 Wednesday 6/28

Goals:

- **Identify what data local community science partners and UCSC researchers are collecting to monitor and understand environmental and social problems and solutions.**
- **Define geosciences, and discuss examples of college courses and careers.**

7:15	Breakfast	Pick up lunch
8:45 - 9:45	Drive to Elkhorn Slough NERR	Notebooks
9:45	<p>Climate Change Solution: Land Use (Protection and restoration) Purpose: An example of a climate change solution in the Federal system, protecting and monitoring wetlands, with education outreach efforts. Mentors: no active leadership - optional Presentation from Education Director</p> <p><i>Note: The community science partner shared about her career pathway and the work happening at the NERR site, including research and outreach activities.</i></p>	
10:30	<p>Drive to graduate student's Eddy Covariance site at Yampah/Hester (Marsh restoration and blue carbon) Purpose: Put into context what data collection looks like and challenges Mentors: no active leadership - optional <i>Make sure we add this field trip to Climate Collage next time we're in lab</i></p>	
11:45	Picnic Lunch	
12:30	Drive to UCSC	
1:30	<p>What are Geosciences? Purpose: Build understanding of what is geosciences and introduce college and career applications Mentors: no active leadership- optional Share an overview of geosciences fields of study - include some examples of careers and college majors. Connect to learning Earth science in school as a familiar context for teens.</p>	
2:00	Climate Change Solution: sustainable food systems	

	<p>Academic Geosciences Research and its real-world applications UCSC Agroecology farm tour Purpose: Understand how a climate change solution is researched. Make connections between geosciences research and real world applications. Mentors: no active leadership <i>Make sure we add this field trip to Climate Collage next time we're in lab</i></p> <p><i>Note: Our community science partner shared about his career pathway and about organic farming techniques the Agroecology Center was piloting to support strawberry farming. Due to our location and program demographics, several of our teens had family members working in the strawberry fields with health impacted by pesticide application. The community science partner helped students connect this field trip back to their community and personal experiences.</i></p>	
<p>4:15</p>	<p>Debrief and Reflection Activity Purpose: Surface ideas students have about geosciences and environmental and climate issues and solutions Mentors: no active leadership Journal and then Debrief: What stood out for you about the research and places we've visited so far? How are geosciences related to you and your community? How are geosciences related to what you learn in school? What are some geosciences-related careers that surprised you? What did you hear about any of the scientists' career pathways so far that you have found interesting or surprising?</p>	
<p>4:45</p>	<p>Climate Change Solutions Map Climate Collage revisit Purpose: Connect solutions to climate change causes and effects Mentors: facilitate Climate Collage groups to add connections In Climate Collage groups, students reflect on AM field trip to Elkhorn Slough and PM visit to UCSC labs and make connections to their Climate Collage mapping of causes and effects of climate change to the solutions being researched</p>	<p>If too long a day, 15 mins is set aside tomorrow</p>

5:00	Free time	
5:45	Dinner at College 9	
After dinner	Boardwalk	

Day 5 Thursday 6/29

Goals:

- Find out what data local community science partners are collecting to monitor and understand environmental and social problems and solutions.
- Consider the role of data in shining a light on environmental problems and possible solutions.
- Identify personally relevant issues to research.
- Consider the strength of evidence (Quantity, quality and source).

7:15	Breakfast	Collect lunch
9:00	Drive to Watsonville Wastewater (500 Clearwater Ln, Watsonville, CA 95076) 45 mins	
10:00	<p>Geosciences In the Community Purpose: Experience a local institution working to address water-related issues, such as water demands, salt water intrusion. Mentors: no active leadership, optional <i>The Wastewater Division protects public health and the environment, and serves as the first line of defense in protecting the Monterey Bay's precious water quality. The tour will include the water treatment process, how the data they collect is used.</i> <i>Climate Change Solutions: Connecting purple pipes and groundwater</i></p>	<p>Closed toe shoes Long pants Notebooks Pens</p>
12:00	Picnic Lunch	
12:30	Drive back to UCSC Book store	
2:30	Place field trips from today onto the Climate Collage (in Climate Collage groups)	
3:00	Break	
3:30	<p>Student Research Project groups Purpose: Discuss locally relevant climate/environmental issues. Create research groups based on common interests (refer back to poster with topics generated on Day 3, add if needed) Mentors: Once students have formed groups, join a group and facilitate a conversation that narrows in on a few research questions and the kinds of data needed to help better understand the problem and</p>	<p>While students visit posters (step 1), staff write list of topics on the board</p>

	<p>solutions</p> <p><i>Groups of no more than 3 students plus a mentor→ more than one group can tackle the same topic</i></p> <p>Introduce: We have learned about local groups that use geosciences to research:</p> <p>Climate change solutions: Water use - City of Watsonville - ground water and saltwater intrusion, water recycling, flooding</p> <p>Climate change solutions: Land use - Elkhorn Slough - restoration, protection, blue carbon, Año Nuevo - organism habitat use</p> <p>Climate change solutions: Sustainable food systems - UCSC labs, Moss Landing</p> <p>Climate change and Air quality: Indoor air quality, black mold, mentor research projects</p> <p>Climate change solutions: Alternative energy sources- Verdagy, Moss Landing Aquaculture (coming up)</p> <p>Form research groups:</p> <ol style="list-style-type: none"> 1. 20 minutes: students read questions/topics posters from Tuesday and think about topics that are personally interesting 2. Students write the 2 topics they are most interested in and their name on a post-it. 3. Staff collect cards and put students in groups (while students have a snack or game break) 4. Students get into assigned interest groups 5. Mentors join each group 6. With mentor: Each Small group brainstorms - local environmental issue and a research question (jamboard) 	
4:00	<p>Looking at Evidence</p> <p>Purpose: Clarify the role of data and how to make a claim. Make the connection between the 3 levels of engagement with data and making a claim</p> <p>Mentors: participate as mentor-only group</p> <p>Introduce importance of evidence. Any project needs to be supported with evidence. (Quantity, Quality, and source)</p> <p>Put students in random groups (bonding):</p> <p>Task #1 to sort Evaluating evidence cards and discuss per instructions; Task #2 to sort Sources of evidence cards and discuss per instructions.</p> <p>Task #3 Share that discussion about projects need to be supported by evidence, while also addressing counter-evidence. Discuss how this connects back to 3</p>	<p>Evidence cards</p> <p>Source cards</p> <p>3 Levels of Engagement handout</p>

	Levels of Engagement with Data.	
4:45	Daily Reflection We're half way through camp, what does it all mean to you? What seems important? What do you have questions about?	
5:00	Free time	
5:45	Dinner	
After dinner	2 mentor life stories Electrolysis: https://www.education.com/science-fair/article/water-electrolysis/	Lounge For each group of 4 students: 9V battery 2 wires 2 metal push pins, tablespoon of table salt Book of matches 2 small test tubes
8:00	SAT Prep with Let's Get Ready	

Day 6 Friday 6/30

Goals:

- Deepen understanding of how data informs solutions to climate/environmental issues.
- Learn more about engineering as a college and career pathway.

7:15	Breakfast	Collect lunch
8:45	<p>What is science - mystery tubes at dorms Purpose: To build a common understanding of the process of science to support interpretation of Verdagy experience. Mentors: participate in a mentor-only group</p>	<p>For every four students: Mystery Tube Laminated how science works poster Dry erase marker</p>
9:30	<p>Drive to Verdagy (11500 Dolan Rd, Moss Landing, CA 95039)</p>	
10:30	<p>Climate Change Solution: Alternative energy source (Geosciences use-oriented research–tour Verdagy) Purpose: Learn more about engineering in geosciences and how it is being used to find a solution to increasing atmospheric CO2 Mentors: no active leadership, optional <i>Verdagy is driving down the cost and energy needed to generate hydrogen for industry. We engineer and manufacture innovative electrolyzers that scale to gigawatt production facilities.</i></p>	
12:00	Picnic Lunch	
1:00	<p>Drive to Moss Landing Aquaculture Facility 7722 Sandholdt Rd, Moss Landing, CA 95039</p>	
1:15	<p>Climate Change Solution: Mitigation Research Tour Moss Landing Aquaculture Facility Purpose: Learn more about geosciences research projects seeking solutions to causes of climate change Mentors: no active leadership, optional <i>Moss Landing Marine Laboratories, is a consortium of seven CSU campuses administered by San José State University.</i></p>	

2:30	Drive to UCSC labs	
3:30	Break	
4:00	<p>Reflection Activity (Climate Collage groups) Purpose: Make sense of and make personal connections to climate change solutions Mentors: Add today's field trips to Climate Collage What are 2 things that you noticed today? What are two things you are wondering about? In what ways did the research topics you learned about today connect to you, your community?</p> <p>In what ways did the field sites today connect to the Climate Collage?</p>	Notebooks
5:00	Free time	
5:45	Dinner	
After dinner	<p>2 mentor life stories Free time and laundry</p>	Detergent

Day 7 Saturday 7/1		
Goals: <ul style="list-style-type: none"> • Consider ways a fun activity can support a local wildlife refuge. • Consider the role of data evidence when presenting an environmental issue 		
7:15	Breakfast	Pick up Lunch
9:15	Depart for Moss Landing Kayak , 2390 Highway 1, Moss Landing, CA takes 45 mins!	Shoes that can get wet Windbreaker Bring spare clothes
10:30	Kayak - (30 min prep, 1.5 hr kayak)	\$ tip for guides
12:30	Picnic Lunch	
1:00	Drive to Dorms —break when back	
2:00	Walk to lab	
2:10	<p>Using data to tell a story about an issue and solutions (In Project groups)</p> <p>Purpose: Introduce the ArcGIS StoryMaps format. Consider the role of data not just as evidence but in shining a light on an environmental problem</p> <p>Mentors: facilitate their small group to summarize how data was used in a high school student's StoryMaps research project.</p> <ol style="list-style-type: none"> 1. Small groups read through: https://storymaps.arcgis.com/stories/abb3a64d72f544c4b912700c641f2d2d - Environmental Racism in Oakland. 2. Mentor facilitates discussion: What is the problem being shared? How was data used as evidence? 3. Mentors: facilitate their small group Use https://ejscreen.epa.gov/mapper/ to explore EJ data in the Watsonville area. How does some of this data influence the story you want to tell, if at all? <p>Groups share out</p>	
3:00	Break	

<p>3:30</p>	<p>Project Time (Project groups) Purpose: Identify data sets that will support the data research project question Mentors: brainstorm with students the kinds of data that will help them present the issue and possible solutions they have selected as their data research project. Gracie cannot find new data sets after today. Groups brainstorm their data set needs - exploring the sets shared with them and communicating with the project graduate student about other data needs.</p>	<p>Computers</p>
<p>4:45</p>	<p>Free time</p>	
<p>5:45</p>	<p>Dinner</p>	
<p>After dinner</p>	<p>Night - Star gazing if it's a clear night</p>	

Day 8 Sunday 7/2		
Goals: <ul style="list-style-type: none"> • Identify the components of a compelling data research project, using StoryMaps • Work on own data research projects with support from mentors and leaders 		
7:15	Breakfast	
9:00	Walk to Lab	
9:15	Bonding Activity	
9:45	<p>Project Time (Project groups) Purpose: Identify components of a compelling story Mentors: support your group with identifying important parts of a data research project Look at more StoryMap examples besides Oakland example https://storymaps.arcgis.com/stories Identify the pieces of the stories (Intro, background,....) Review Data research projects should be: -easy to follow -colorful -have pictures to illustrate the phenomenon and your community -have easy to read data visualizations (or at least something to help with interpretation) Data research projects should include: -The phenomenon/issue -Why do you care? Why were you interested in it? How is it relevant to you/your community? -What science information do we need to understand the phenomenon, e.g., cause and effect relationships? -Show data -Share patterns you see in the data and your hypotheses for what those patterns mean, e.g., cause and effect relationships. -How sure are you about your hypotheses? How could you be more sure? What other research would you want to do? What other questions would you want to ask? -What do you want your community to know? (Resource: Guidelines for creating a StoryMap)</p>	Computer Lab
10:15	<p>Project Time (Project groups) Mentors: support your group</p>	
12:00	Lunch in cafeteria	

1:15	Walk/drive to Campus Bookstore	
2:15	Walk to Lab	Computers
2:30	Giving a data research presentation Guest Presenter - Tamara Pico	
3:30	Break	
3:45	Project Time	
5:00	Free Time	
5:45	Dinner	
After dinner	game night/free night	

Day 9 Monday 7/3 (5.23AM -1.56 LT)

Goals:

- **Complete data research projects.**
- **Learn about Marine Science Education.**
- **Make connections between DIG CAMP activities and learning.**

7:15	Breakfast	
9:00	Leave for Lab	
9:30	<p>Project Time Purpose: Finalize and Practice Student Research Projects in lecture hall Mentors: support groups to complete their projects and practice how it will be presented Send Zoom link and directions to families for tomorrow</p>	
12:00	Lunch at UCSC	
1:00	Drive to Seymour Center	
1:30	<p>Marine Science Education tour (30 mins) Purpose: Explain marine science education and connection to research Mentors - optional attendance</p>	
3:00	Drive to UCSC	
3:30	<p>Focus groups and feedback - External evaluator Mentors: Load van with camp materials Students work in small groups to co-design follow up days</p>	
4:30	Free time	
5:45	Dinner	
After dinner	Beach Bonfire	

Day 10 Tuesday 7/4

Goals:

- **Present data research projects**
- **Share appreciations**

7:15	Breakfast	
9:00	Load vans with luggage and check out of dorms	
10:00	Meet at Lecture Hall Presentations <i>Parents can Zoom in or come in person</i>	
11:30	DIG Program Surveys For students and mentors	
12:00	Lunch at UCSC	
1:00	Appreciation circle near the dining hall Say Goodbye to mentors	
1:30	Depart for PVUSD	
2:00	Pick up	