**Lesson 3C:** Cascading impacts

Lesson Objectives:

1. Students will use real data to compare ocean acidification data between bare areas and areas with eelgrass at an ANeMoNe site.
2. Students will discuss differences between sites and hypothesize how this may impact organisms in the area.

Relevant NGSS Standards

1. MS-LS2-1. Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.
   1. Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources
2. MS-LS2-4. Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
   1. Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.

Powerpoint:

* 1. Review why we care about ocean acidification
     1. How does it impact organisms that live in the ocean?
  2. Activity: Graphing pH in different zones (MS-LS2-1, MS-LS2-3)
     1. Using real data from ANeMoNe
     2. Graphing pH in bare and eelgrass areas
  3. Overview of graph (go over meaning of axises, trend lines, etc.)
  4. Discussion:
     1. What does this graph tell you about pH levels in Fidalgo Bay?
     2. How do you think organisms in each of these areas might be impacted differently?
     3. Do you think the differences between pH levels in Bare areas and the Eelgrass areas are enough to impact the other organisms living there?