



Wikipedia

Coral Reef

All organisms in an ecosystem are connected and are all necessary for keeping the ecosystem healthy. Humans can disrupt this balance in an ecosystem. Activities like overfishing, hunting top predators or causing climate change and ocean acidification can break down the connections in an ecosystem .

Today, you will learn that natural changes in the environment can also impact the balance of organisms in an ecosystem. The ocean is always changing and the water is always moving. Sea temperature can change. A strong current may bring cold water or a new species in to an ecosystem. Just like seasons on land, things change seasonally in the ocean. Nutrients may be most abundant in the spring and phytoplankton will bloom just like plants do on land in the spring.

The coral reefs off of Moorea (in the middle of the Pacific about halfway between here and Australia) are a diverse ecosystem with little human impact. Starting in 2007, the sea star called “crown of thorns” (called COTs for short) had a population spike and increased in number dramatically. These sea stars eat coral. Can you imagine what happened to the coral reefs? Plot the data below to find out.

Hint: Put “Year” on the X-axis. Put # of COTs on the Y-axis. On the right side of the graph, make another Y-axis that says “% cover” and plot coral and algae.

Year	# COTS per 250m	% algal cover	% coral cover
2005	0	60	40
2006	0	60	40
2007	1	65	35
2008	5	70	20
2009	3	75	10
2010	0	90	5

Sharing your findings with the class:

- 1) Show the class your graph.
- 2) What happened to the coral as the COTS increased?
- 3) What happened to the algae?
- 4) What other information would you want to know to understand the full story?