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## CALIFORNIA CURRENT

All organisms in an ecosystem are connected and are all necessary for keeping the ecosystem healthy. 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 population dynamics. The ocean is always changing and the water is always moving. Sea temperature can change. A strong current may bring cold water 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 California Current is a particularly dynamic ecosystem (which means it can change a lot). Sardine and anchovy have been an important food source and source of income for California for over 100 years. They are also a very important part of the food web as you learned on Tuesday. Remember how many strings were attached to sardine and anchovy? For these reason, sardine and anchovy have been studied a lot. Scientists have realized that the balance of sardine and anchovy in the ecosystem is very linked to temperature. One species likes warm water and the other species likes cool water. Plot the data below to find out which species likes it hot and who likes it cool!

**Hint – put year along the X-axis. Label the Y-axis “tons of fish” and then plot both sardine and anchovy on one plot. On the next plot, put year on the x-axis again and temperature on the y-axis.**

Year	Tons of Sardine caught	Tons of Anchovy Caught	Temperature
1930	130	20	18
1935	120	20	17.5
1940	125	30	17.2
1945	110	35	17
1950	115	35	16.5
1955	100	40	16.3
1960	80	60	16.1
1965	45	75	16.2
1970	30	90	15.7
1975	30	115	16.2
1980	25	122	16.4



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Sharing your findings with your class:

- 1) Show your graph to the class
- 2) Explain to them that these two fish species like different temperature water. Which fish likes which temperature?
- 3) Would it be a good idea to fish for sardine in a cool year?