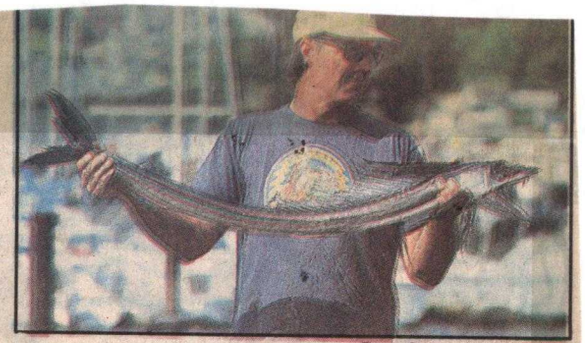
EL NIÑO

Weather pattern leaves a legacy of disruption



Dan Coyro/Sentinel file

Lancetfish appeared from ocean's deeps.

By JOHN ROBINSON
Sentinel staff writer

SANTA CRUZ — The warm ocean waters and fogless summer days of El Niño may be ending, scientists say, but the weather pattern's legacy continues in a lack of ocean food and starving sea lions.

Last year, a breakdown in wind patterns, which stir up nutrient-rich ocean water and fuel the food chain, resulted in the death of thousands of sea lions along the California coast.

This year, the winds are returning, but the food chain has yet to recover, according to scientists who say fish populations appear smaller than normal.

"So far the feeling is there aren't a lot of young fish even though food (source) condition is good,' " said Frank Schwing, an oceanographer with the federal Pacific Fisheries Environmental Group.

"It may be residual from last year's El Niño when the adults were in such poor condition that they couldn't reproduce effectively this spring. It could take another year to recover."

For the second year, scores of gaunt, yearling sea lions have begun appearing on local beaches and offshore rocks. Young sea lions normally stay in the Channel Islands off Santa Barbara, but a lack of food has caused them to move north in an often futile search for survival.

Please see EL NIÑO — A3

Bill Lovelov/Sentinel

Windsurfers like these off West Cliff Drive are taking advantage of strong winds that have returned to the area this spring

El Niño

Continued from Page A1

"We're receiving an unusual amount of mammals, much as last year," said Denize Springer, spokeswoman for the Marine Mammal Center in Sausalito, which treats injured and sick sea mammals. "We're seeing lots of starving sea lions along our whole range, from Oregon to San Luis Obispo."

Already this year the center has taken in 194 animals, including five taken this week from Santa Cruz County. Last year they took in 794 animals, of which 457 were sea lions. Of the sea lions, 266 died. The rest were returned to the sea.

Exactly why the sea lions have been starving is debated among scientists, but most seem to think it is connected with El Niño, and a shutdown of the local food chain.

"The carrying capacity of the environment changes with a prolonged El Niño or drought," said Lance Morgan, a biologist with the marine mammal center. "The warm water associated with El Niño never quite dissipated and there are a lot of young sea lions who went through a tough winter and are now coming up here."

Scientists, however, are encouraged by a period of strong spring winds, which tore through the north Santa Cruz coast with near gale force over the past three weeks.

For the first time in two years, cold ocean water from deep under the surface has been rising to the top as part of a process called "upwelling."

"Even though the upwelling is late this year, it appears normal," said David VenTresca, a marine biologist with the state Department of Fish and Game. "Last year, there was no upwelling for a long period. We've had plankton blooms due to the increased upwelling this month. And even though some fish, like the salmon they are catching are very skinny, the normal food chain is getting started. It's just a little late this year."

Upwelling and the northwest winds, which typically come each spring and summer afternoon, are considered the engine that drives the food chain. As the cold deep water rises, it brings nutrients into the sunlight, causing plankton blooms, which in turn are eaten by slightly larger creatures and so on up the food chain.

The upwelled water is about 50 degrees, 10 degrees colder then the surface water. It forms pools or tongues of cold water about which the food production of the sea soars.

The return of heavy upwelling also was marked by the rare appearance of several longnosed lancetfish found recently along local beaches. The fish, normally a deep water dweller, is marked by its monstrous-looking teeth, turquoise eyes and fin like a sailfish.

This year, five of the odd fish were reported found on California beaches, three locally and two near Fort Bragg north of San Francisco.

That is the largest number of lancetfish to appear in memory, according to biologists.

During El Nino years, the ocean warms, causing a disruption and weakening of wind patterns, including the northwest winds typical to local waters. The warm oceans can strengthen winter storms and El Nino years are often marked by heavy rains and big waves.

The recent El Niño began during the winter of 1990-91. Whether it has died is uncertain, according to meteorologists, who note the ocean has large areas that remain warmer than normal.

"There is another occurrence or continuation of the warm phase some call El Niño," said Russell Martin, a meteorologist with the national Climate Analysis Center in Washington D.C. "It is a little less than last year but still going on to some extent. ... It is a little bit unusual."

Whether the El Niño will return or slowly die is not known, Martin said.

Often the El Niño begins off Peru, where a warming of the ocean affects trade winds near the equator and eventually wind patterns over the entire western Pacific.

The weather phenomenon was named by fishermen in Peru, who noticed the changes near Christmas time, and therefore named El Nino — "The Child," in honor of Jesus Christ.

It is a cruel weather child, however, as in Peru it marks a crash of the fish populations and hard times for fishermen. Currently the waters off Peru are about one degree warmer then normal. In years of strong El Niños the temperatures are usually about three degrees warmer then usual.

"The temperatures off Peru are a bit warmer than normal," Martin said. "The are also warmer than normal out in regions along the equator, but not as warm as last year."

Locally, the change in El Niño will not have a great effect upon the weather, but a cooling of the ocean can mean more fog.

"A greater temperature difference (between land and sea) can create a deeper marine layer (of fog)," said Eric Oglesby, a forecaster with the National Weather Service in Redwood City. "It can increase its stability, which means it will stay ashore longer."

Whether the weather patterns of strong afternoon winds will continue and whether El Nino will fade away remains to be seen. But for now, scientists say, the ocean winds and food production appear to be returning to normal.