

UC SANTA BARBARA

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## **GRANDCHILDREN AND GLOBAL WARMING**

If you want to know what our grandchildren will see when they go scuba diving in the Santa Barbara Channel 50 years from now, just take a look off the coast of Baja California; that's what they will see -- a completely different mix of species, said Steve Gaines, director of the Marine Science Institute at the University of California, Santa Barbara.

"The distribution of species will slide toward the poles," said Gaines. Gaines, a co-author of the report, "Confronting Climate Change in California, Ecological Impacts on the Golden State," released today, drew a dramatic picture of the results of just a few degrees of temperature change in the years ahead. The report was published by the Union of Concerned Scientists and The Ecological Society of America.

"Many people think that an increase of 3 degrees is no big deal, they compare it to the larger changes from day to night, or day to day," said Gaines. "But we have clear evidence now that the changes in the last 25 to 50 years have had a major effect on tidepool invertebrates, fish and zooplankton.

"With an increase in ocean temperature you get a decrease in available nutrients, which changes the whole food chain," he said.

Besides changes in the general pattern of species distribution caused by climate change, Gaines mentioned that there is also an increase in extreme events like El

Nino. Changes at the bottom of the food chain caused by the warmer water temperature of El Nino have ramifications all the way up to marine mammals. "You end up with high mortality of baby seals on the Channel Islands, because their mothers can't get enough food," said Gaines.

"In some ways the impact in California is accentuated by the rich biodiversity of the state," he said. "But that makes the influences on our systems more complex."

Gaines emphasized the importance of planning for a warmer future. "For example, in setting aside a biological reserve we need to think about what the area will be like 50 years from now."

He noted the special role that Californians can play as events related to global climate change unfold. "These are globally-driven processes and California can't completely solve the problem, but we need to provide an example as we grapple with the social, biological and ecological conditions within the state."

Editors: For the main story see the release, "Global Warming Threatens State's Quality of Life." Photographs, graphics and maps are available. The report is online at [www.uscusa.org](http://www.uscusa.org).

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