Tail of *Neocalanus copepod*, which travels hundreds of meters each day to feed on phytoplankton in surface waters by night and hide by day to avoid predation. Photo by Mary Wilcox Silver, UC Santa Cruz.

**Ocean Twilight Zone Important In Climate Change**

Manoa Professors David Karl and Robert Bidigare are part of a major study that has shed new light on the dim layer of the ocean called the “twilight zone”—where mysterious processes affect the ocean’s ability to absorb and store carbon dioxide accumulating in our atmosphere. The results were published in *Science*.

The study shows that carbon dioxide—taken up by photosynthesizing marine plants in the sunlit ocean surface layer—does not necessarily sink to the depths, where it is stored and prevented from re-entering the atmosphere as a greenhouse gas. Instead, carbon transported to the depths in sinking particles is often consumed by animals and bacteria and recycled in the twilight zone—100 to 1,000 meters below the surface—and never reaches the deep ocean.

Using new technology, the researchers found that only 20 percent of the total carbon in the ocean surface made it through the twilight zone off Hawai‘i, while 50 percent did in the northwest Pacific near Japan.


[http://www.hawaii.edu/cgi-bin/uhnews?20070426103207](http://www.hawaii.edu/cgi-bin/uhnews?20070426103207) (full story)