Fish poop helps balance ocean's acid levels

WASHINGTON
The Associated Press
The ocean's delicate acid balance may be getting help from an unexpected source, fish poop. The increase in carbon dioxide in the atmosphere not only drives global warming, but also raises the amount of CO2 dissolved in ocean water, tending to make it more acid, potentially a threat to sea life.

Alkaline chemicals like calcium carbonate can help balance this acid. Scientists had thought the main source for this balancing chemical was the shells of marine plankton, but they were puzzled by the higher-than-expected amounts of carbonate in the top levels of the water.

Now researchers led by Rod W. Wilson of the University of Exeter in England report in the journal Science that marine fish contribute between 3 percent and 15 percent of total carbonate.

And the contribution may be even higher than that, say the researchers from the U.S., Canada and England.

They report that bony fish, a group that includes 90 percent of marine species, produce carbonate to dispose of the excess calcium they ingest in seawater. This forms into calcium carbonate crystals in the gut and the fish then simply excrete these "gut rocks."

The process is separate from digestion and production of feces, according to the researchers.

The team estimated the total mass of bony fish in the ocean at between 812 million tons and 2,050 million tons, which they said could produce around 110 million tons of calcium carbonate per year.

The carbonate produced by fish is soluble and dissolves in the upper sea water, while that from the plankton sinks to the bottom, the team noted.

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