
Deep-sea corals: their use as climate change indicators

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The need for climate change modeling is becoming a major issue, with the increasing concern of global warming. Within the past 15 years, the use of corals to measure changes in temperature has led to a new way of determining climate change. Corals record the surrounding seawater temperatures through element partitioning, i.e. Sr vs. Ca. Deep-sea corals record bottom water temperatures, which do not vary seasonally, thereby limiting the variations in temperature to long-term changes. The coral species *Flabellum alabastrum*, found along the Atlantic coast on the continental slope, can be analyzed for Sr/Ca ratios to calibrate bottom temperatures over the past 100 years on the slope. *Flabellum alabastrum* shows annual banding that can be individually analyzed using an electron microprobe. To ensure accuracy, several samples from the same area are compared in this study. Banding must be continuous, otherwise dissolution has occurred and records will be lost. In addition to recording temperature, deep-sea corals may also yield valuable information for the oil and gas sector. If the source of carbon is organic, the coral must be feeding on organic carbon, such as oil or gas from seeps in the ocean floor.
