

The Southeast Brazilian continental shelf's sea surface temperature record by Alkenones

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SST's variability pattern are recorded by biological processes of specific coccolitophorid's organisms (phytoplanktonic algae, mainly *Emiliana huxleyi* and *Geohyrocapsa oceanica*) and by the carbonate precipitation of foraminifera's tests. Those patterns may be preserved for thousands of years within the sea floor sediment column and it's study contributes to understand the past and present climate and to prognostic studies. *Emiliana huxleyi* are ubiquitous coccolitophorids in tropical to subarctic oceans and are responsible for the biosynthesis of alkenones. Alkenones are highly resilient molecules and may be found as trace compounds in the sea floor sediment. Their molecular structure ranges from 37 to 39 carbons, presenting bi-, tri- or tetra-unsaturations and the SST may be calculated through the alkenones unsaturation ratio (UK37 index). This study analyzed the SST data and SST based on UK37 on the Southeast Brazilian Continental Shelf (28°30'S - 49°00'W a 23°00'S 42°00'W) in order to know if the alkenones SST's assessment method may be used on the continental shelf. SST records products from worldwide research institutions such as NASA and NOAA and the results of the alkenones analysis performed in the Marine Organic Chemistry Laboratory of the Oceanographic Institute of São Paulo University were used. The results show that the SST obtained from the alkenone analysis is a valid assessment method for the Southeast Brazilian Continental Shelf. It was also possible to verify a seasonal pattern in the SST based on the UK37 index.