

## Seasonal control on *Emiliana huxleyi* coccolith calcification in the Aegean Sea (E Mediterranean)

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Morphometric analysis has been performed on *Emiliana huxleyi* coccoliths from different locations of the Aegean Sea (water and sediment trap samples). The modern Aegean Sea is one of the most oligotrophic parts in the eastern Mediterranean Sea and a major area for deep water formation (Zervakis *et al.*, 2000; Lykousis *et al.*, 2002).

A seasonal morphological variation has been observed in several *E. huxleyi* type A specimens, collected from discrete water samples in the Aegean Sea. The pattern revealed displays an increase in the size of coccoliths and coccospheres, including a thicker inner tube-cycle (INT) of the distal shield, during winter and early spring months, when the lowest SSTs (15-18°C) are occurring and higher HCO<sub>3</sub><sup>-</sup> concentrations have been recorded.

The morphology of *E. huxleyi* shows considerable variation associated with size increase and, more specifically, exhibiting overcalcified specimens.

Analogous highly-calcified specimens have been recorded during Holocene colder intervals, and have been considered to represent a primary feature of the Aegean Sea.

Our initial results hint at a possible link between higher bicarbonate ion concentration, lower temperatures and stronger coccolithophore calcification in the field.

Since a number of other factors such as nutrients and light intensity affect coccolithophore calcification, the above evidence still remains to be further investigated.

### References

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