The carbonate content of calcareous nannofossils is directly affected by seawater chemistry (Riebesell et al., 2004). One of the factors that affects seawater chemistry and coccolithophore calcification is global warming, as can be seen in present day oceans (Langer et al., 2006). Dissolution on the seabed and burn down are also characteristics of abyssal settings, which partially or completely remove coccoliths from deep-sea deposits (Colosimo et al., 2006). Similar processes and results have also been deduced for Eocene hyperthermal events, such as the PETM and ETM2 (Zachos et al., 2005). This study reports changes in coccolith carbonate mass from a hemipelagic setting (Gorrondatxe at 1500m paleodepth) during a minor Eocene hyperthermal event, namely the C21r-H6 event (47.44–47.32Ma). Image analysis techniques (Fuertes et al., 2014), which were used to decipher changes in the carbonate mass of selected calcareous nannofossil taxa, showed species-specific results. Chiasmolithus solitus lost 50% of its CaCO$_3$ mass during the C21r-H6 event, and many specimens also lost their crossed central bars. Reticulofenestra spp. (3–5μm) showed a similar pattern, but the amount of mass lost during the event was not as high as in Chiasmolithus solitus. Toweius pertusus, which was interpreted as reworked, mirrored Chiasmolithus solitus, showing that the CaCO$_3$ mass loss occurred on the seabed rather than in the water column. Previous to the hyperthermal event, all taxa show higher mass peaks. It can be concluded that the lysocline rose to a 1500m paleobathymetry in the Bay of Biscay during the C21r-H6 event. Formation of corrosive bottom water in the North Atlantic Ocean is regarded as responsible for the rise of the lysocline (Nunes & Norris, 2006).

References
Mass / area index in *Chiasmolithus solitus* (pg/μm²)

*Chiasmolithus solitus* without central cross (%)

Mass / area index in *Reticulofenestra* sp., 3-5μm (pg/μm²)

Mass / area index in *Toweius pertusus* (pg/μm²)

Direction and intensity of bottom waters in Gorrondatxe

- Normal Eocene bottom current from South to North Atlantic
- Reversed bottom current from North to South
- Normal Eocene bottom current from South to North Atlantic