ANOMALOUS CALCareous Nannofossil RECORD AT CA. 2.5 MA. IN ODP SITE 1090 (SOUTH ATLANTIC)

Anne-Marie Ballegeer, A.M.1, Flores, J.A.1, Sierro, F.J.1 and Gersonde, R.2

1 Departamento de Geología, Universidad de Salamanca. 37008 - Salamanca, España
2 Alfred Wegener Institut für Polar- und Meeresforschung, Postfach 120161, D-27515 Bremerhaven, Germany
amballegeer@usal.es

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We present new quantitative data concerning calcareous nannofossils (CN) in ODP site 1090, were a well-preserved assemblage typical for the SAZ is recorded between 3.2 and 1.8 Ma. We distinguished three intervals: Interval I (3.2-2.8 Ma) is characterized by the low abundance of C. pelagicus, indicating higher SST and a smaller ice-volume. Interval II (2.8-2.3 Ma) shows a dominance of C. pelagicus in glacial periods and small reticulofenestrids (SR) during interglacials. An overall increasing relative abundance of C. pelagicus starting around 2.7 Ma responds to the start of the NHG, suggesting that the Subantarctic surface waters cooled during the climate reorganization. We point out an anomaly close to MIS 97. The absolute abundance of SR is 10 times higher than any other interglacial stage of II. This fact could be related to the Eltanin impact (~2.5 Ma), and in our record might be related with an increase in productivity. We explore the possibility that large quantities of dust in the atmosphere caused by the shock wave of the impact could have brought micro-nutrients into the area allowing higher CN productivity. Interval III, (2.3-1.8 Ma), is defined by a higher abundance of very small Gephyrocapsa.