

Cambios paleoceanográficos en el Mar de Amundsen, Antártica durante los últimos ~ 3700 years

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The Amundsen Sea Polynya, located off Western Antarctica Peninsula is the most productive polynya per area unit in Antarctica. A sediment core was collected from Amundsen Sea using a box corer onboard of Aaron icebreaker. The core ANA08-B33 was recovered at (73°16'S-114°56'W, water meter=827m, long core= 48cm) located near to Thwaites Ice Tongue. Geochemical analysis (trace metals) and opal contents were determined on core Ana08B-33. Overall, the diatom dominated the siliceous assemblages 97%, followed by silicoflagellates 2% and with a minor contribution of sponge spicules and radiolaria. The diatom content (valves g-1) and opal % show a high relationship $R^2=0.74$, $n=12$, $p<0.01$. Diatom assemblages were split into ecological groups: High nutrients, Open waters, sea-ice related diatom. The sea-ice related diatom dominated the diatom assemblages (*Fragilariopsis curta*, *F. cylindrus*, *Thalassiosira antarctica* (T1), 72%), followed by High nutrient (Ch resting spores, 19%), open water (*Fragilariopsis kerguelensis*, *Th. tumida*, 8%). The proxy of marine sea-ice based on the abundances of: $F.curta+F.cylindrus/F.kerguelensis$ reveals two contrasting periods the first one: between 0-22 cm, characterized by highest percentages of sea-ice related diatom with almost 2 fold concentration than the second period between 22-48 cm. We speculated that this change in sea-ice related diatom can be associated with changes on the extension of Amundsen Sea polynya related with intrusion of Circumpolar Deep water that carries warmer and rich waters and concomitant with a decrease of marine sea-ice.