

Antarctic vegetation and climate dynamics during the Eocene: new data from the Wilkes Land margin

**Lineth Contreras¹, Jörg Pross¹, James Bendle², Stefan Schouten³,
Peter Bijl⁴, Ursula Röhl⁵, Lisa Tauxe⁶, Catherine Stickley⁷,
Steven Bohaty⁸, Henk Brinkhuis⁴, Carlota Escutia⁹, Adam Klaus¹⁰
and IODP Expedition 318 Science Party**

¹ Institute of Geosciences, Goethe University Frankfurt.

² Department of Geographical and Earth Sciences, University of Glasgow.

³ Royal Netherlands Institute for Sea Research.

⁴ Institute of Environmental Biology, Faculty of Science, Utrecht University.

⁵ Center for Marine Environmental Sciences, University of Bremen.

⁶ Scripps Institution of Oceanography, University of California, San Diego.

⁷ Department of Geology, University of Tromsø, Tromsø, Norway.

⁸ National Oceanography Center, University of Southampton.

⁹ Instituto Andaluz de Ciencias de la Tierra, Universidad de Granada.

¹⁰ Integrated Ocean Drilling Program, Texas A&M University, College Station.

During IODP Expedition 318 (January–March 2010, Wellington to Hobart), ~2000 m of Eocene to Quaternary sediments were recovered from the Antarctic (Wilkes Land) margin, documenting the evolution of this margin from an ice-free “greenhouse Antarctica” to the present-day icehouse environment. Based on a bio- and magnetostratigraphically dated, late early to early middle Eocene record recovered at Site U1356, we have carried out palynological and organic geochemical analyses in order to gain insights into the terrestrial environmental dynamics on Antarctica under peak greenhouse conditions.

Our preliminary palynological indicate that the vegetation along the Wilkes Land margin was highly diverse and contains thermophilous elements that today are widely distributed in the subtropics; along with our organic geochemical results, their presence suggests warm conditions at least in the coastal lowlands of the Wilkes Land margin. At the same time, taxa that today are typical for cool temperate settings are consistently present.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Berichte der Geologischen Bundesanstalt](#)

Jahr/Year: 2011

Band/Volume: [85](#)

Autor(en)/Author(s): Contreras Lineth, diverse

Artikel/Article: [Antarctic vegetation and climate dynamics during the eocene: new data from the Wilkes Land margin 57](#)