



Upper Quaternary bio-magnetostratigraphy from Chatham Rise (SW Pacific Ocean): a framework for paleoceanographic interpretation

M. Cobianchi (1), C. Lupi (1), V. Luciani (2), F. Florindo (3), A. Venuti (3,4) and P. Zerba (2)

(1) Dipartimento di Scienze della Terra, Università degli Studi di Pavia, Italy, (2) Dipartimento di Scienze Geologiche e Paleontologiche, Università degli Studi di Ferrara, Italy, (3) Istituto Nazionale di Geofisica e Vulcanologia, Italy, (4) Università degli Studi di Siena, Italy

Core MD97-2114 (42°22.32'S; 171°20.42'W) was cored on a submarine ridge, the Chatham Rise, east of New Zealand, at 1,935 m water depth. Analyses of the core are carried out in the framework of the BIOCLIP (Biological productivity and climate system interactions in the Quaternary Oceans) scientific Project aimed to highlight the response and relationships between calcareous microfossils and climatic fluctuations during the Quaternary. Quantitative analyses have been carried out on calcareous nannofossil and planktonic foraminiferal assemblages to improve the biostratigraphy of the Quaternary oceanic succession from the Southwestern Pacific Ocean. Core MD97-2114 covers a stratigraphic interval spanning the late Early Pleistocene (calcareous nannofossil NN19e sub-Zone) to the Upper Late Pleistocene (calcareous nannofossil NN21 Zone). The Brunhes-Matuyama boundary (0.780 Ma) and the Jaramillo sub-chron (0.990-1.070 Ma) have been identified, indicating that the studied core contains a sedimentary record of the past c. 1.1 Myr, with a sedimentation rates in the order of 2.6 cm/kyr. The nannofossil assemblages are abundant and well-preserved as well as the foraminifers, documenting a strong biogenic carbonate production. The study of this core provides a good opportunity to analyse the changes in the microfossil assemblages during the Quaternary climatic phases and to trace the position of the oceanic fronts and currents of this region, placed which is under the influence of the Deep Western Boundary Current (DWBC).