



In the spring of 1997, marine biologists and palaeoceanographers participated in a special session of the meeting of the European Union of Geoscientists at Strasbourg. The aim of the special session was to present and discuss new results on the transfer of material from the surface ocean to the ocean floor.

The release of particles from the surface zone to the ocean's interior is related to biological processes, such as the formation of larger particles by fecal pellet production and aggregate formation. During settling, particles are subject to repackaging, dissolution, and decay. Furthermore, lateral supply of matter from land and shelves has to be considered, as well as down slope transport, and dissolution and decomposition of material at the sea floor and in the sediment.

This Special Issue covers sedimentation of particles in its broadest sense, from methodology over general flux data and microfossil assemblages in the surface ocean to geochemical and isotopic composition of carbonates, organic matter and opal as well as degradation processes at the sediment-water-interface. The results improve our knowledge of the global marine carbon cycle and of the use of proxies for palaeoceanographic reconstructions.

Jeremy R. Young and Patrizia Ziveri -- Calculation of coccolith volume and its use in calibration of carbonate flux estimates -- 1679-1700

Anna-B. v. Gyldenfeldt, Jörn Carstens and Jens Meincke -- Estimation of the catchment area of a sediment trap by means of current meters and foraminiferal tests -- 1701-1717

Harald A. Andrulleit -- Dissolution-affected coccolithophore fluxes in the central Greenland Sea (1994/1995) -- 1719-1742

K.-H. Baumann, H. Andrulleit and C. Samtleben -- Coccolithophores in the Nordic Seas: comparison of living communities with surface sediment assemblages -- 1743-1772

Dierk Hebbeln -- Flux of ice-rafted detritus from sea ice in the Fram Strait -- 1773-1790

D. Bauch, J. Carstens, G. Wefer and J. Thiede -- The imprint of anthropogenic CO<sub>2</sub> in the Arctic Ocean: evidence from planktic <sup>13</sup>C data from water column and sediment surfaces -- 1791-1808

Ralf Schiebel and Christoph Hemleben -- Interannual variability of planktic foraminiferal populations and test flux in the eastern North Atlantic Ocean (JGOFS) -- 1809-1852

Patrizia Ziveri, Alexandra T.C. Broerse, Jan E. van Hinte, Peter Westbroek and Susumu Honjo -- The fate of coccoliths at 48°N 21°W, Northeastern Atlantic -- 1853-1875

Alexandra T.C. Broerse, Patrizia Ziveri, Jan E. van Hinte and Susumu Honjo -- Coccolithophore export production, species composition, and coccolith-CaCO<sub>3</sub> fluxes in the NE Atlantic (34°N 21°W and 48°N 21°W) -- 1877-1905

Ali T. Haidar, Hans R. Thierstein and Werner G. Deuser -- Calcareous phytoplankton standing stocks, fluxes and accumulation in Holocene sediments off Bermuda (N. Atlantic) -- 1907-1938

O.E. Romero, G. Fischer, C.B. Lange and G. Wefer -- Siliceous phytoplankton of the western equatorial Atlantic: sediment traps and surface sediments -- 1939-1959

G. Fischer, V. Ratmeyer and G. Wefer -- Organic carbon fluxes in the Atlantic and the Southern Ocean: relationship to primary production compiled from satellite radiometer data -- 1961-1997

Jacques Giraudeau, Geoffrey W. Bailey and Claude Pujol -- A high-resolution time-series analyses of particle fluxes in the Northern Benguela coastal upwelling system: carbonate record of changes in biogenic production and particle transfer processes -- 1999-2028

Christian Hensen, Matthias Zabel and Horst D. Schulz -- A comparison of benthic nutrient fluxes from deep-sea sediments off Namibia and Argentina -- 2029-2050

R.S. Lampitt, P.P. Newton, T.D. Jickells, J. Thomson and P. King -- Near-bottom particle flux in the abyssal northeast Atlantic -- 2051-2071

P. Ziveri and R.C. Thunell -- Coccolithophore export production in Guaymas Basin, Gulf of California: response to climate forcing -- 2073-2100

Dierk Hebbeln, Margarita Marchant and Gerold Wefer -- Seasonal variations of the particle flux in the Peru-Chile current at 30°S under 'normal' and El Niño conditions -- 2101-2128

Alan E.S. Kemp, Jennifer Pike, Richard B. Pearce and Carina B. Lange -- The "Fall dump" - a new perspective on the role of a "shade flora" in the annual cycle of diatom production and export flux -- 2129-2154

Tim Rixen, Birgit Haake and Venugopalan Ittekkot -- Sedimentation in the western Arabian Sea the role of coastal and open-ocean upwelling -- 2155-2178

A.T.C. Broerse, G.-J.A. Brummer and J.E. Van Hinte -- Coccolithophore export production in response to monsoonal upwelling off Somalia (northwestern Indian Ocean) -- 2179-2205

S.M.-H. Conan and G.J.A. Brummer -- Fluxes of planktic foraminifera in response to monsoonal upwelling on the Somalia Basin margin -- 2207-2227

Karin A.F. Zonneveld and GeertJan A. Brummer -- (Palaeo-)ecological significance, transport and preservation of organic-walled dinoflagellate cysts in the Somali Basin, NW Arabian Sea -- 2229-2256

L.Y. Alleman, B. Hamelin, A.J. Véron, J-C. Miquel and S. Heussner -- Lead sources and transfer in the coastal Mediterranean: evidence from stable lead isotopes in marine particles -- 2257-2279