



Contents

Particle Flux in the South Atlantic

- Schlitzer R., R. Usbeck and G. Fischer
Inverse Modeling of Particulate Organic Carbon Fluxes in the South Atlantic 1-19
- Fischer G., G. Wefer, O. Romero, N. Dittert, V. Ratmeyer and B. Donner
Transfer of Particles into the Deep Atlantic and the Global Ocean:
Control of Nutrient Supply and Ballast Production 21-46
- Rutgers van der Loeff M.M., J. Friedrich, W. Geibert, C. Hanfland, H. Höltnen,
I. Vöge and H.J. Walter
Radionuclides as Tracers for Particle Flux and Transport of Water Masses
in the Atlantic Sector of the Southern Ocean 47-63
- Berkenheger I., A. Heuchert, S. de Silva and U. Fischer
Heterotrophic Particle-Associated Bacteria from the South Atlantic:
A Community of Marine Microorganisms with a High Organic Carbon Degradation Potential 65-79

Documentation of the Marine Environment in Microfossil Assemblages and Stable Isotopes

- Baumann K.-H., B. Böckel, B. Donner, S. Gerhardt, R. Henrich, A. Vink, A. Volbers,
H. Willems and K.A.F. Zonneveld
Contribution of Calcareous Plankton Groups to the Carbonate Budget
of South Atlantic Surface Sediments 81-99
- Vink A., K.-H. Baumann, B. Böckel, O. Esper, H. Kinkel, A. Volbers,
H. Willems and K.A.F. Zonneveld
Coccolithophorid and Dinoflagellate Synecology in the South and Equatorial Atlantic:
Improving the Paleoecological Significance of Phytoplanktonic Microfossils 101-120
- Mulitza S., B. Donner, G. Fischer, A. Paul, J. Pätzold, C. Rühlemann and M. Segl
The South Atlantic Oxygen Isotope Record of Planktic Foraminifera 121-142
- Holmes M.E., G. Lavik, G. Fischer and G. Wefer
Nitrogen Isotopes in Sinking Particles and Surface Sediments
in the Central and Southern Atlantic 143-165
- Müller P.J. and G. Fischer
C37-Alkenones as Paleotemperature Tool:
Fundamentals Based on Sediment Traps and Surface Sediments
from the South Atlantic Ocean 167-193



Schulte S., A. Benthien, N. Andersen, P.J. Müller, C. Rühlemann and R.R. Schneider
Stable Carbon Isotopic Composition of the C_{37.2} Alkenone:
A Proxy for CO_{2(aq)} Concentration in the Oceanic Surface Waters? 195-211

Physical Sedimentary Records of Paleoenvironmental and Depositional Conditions

Bleil U. and T. von Dobeneck
Late Quaternary Terrigenous Sedimentation in the Western Equatorial Atlantic:
South American versus African Provenance Discriminated by Magnetic Mineral Analyses 213-236

Funk J.A., T. von Dobeneck and A. Reitz
Integrated Rock Magnetic and Geochemical Quantification of Redoxmorphic
Iron Mineral Diagenesis in Late Quaternary Sediments from the Equatorial Atlantic 237-260

Schmieder F.
Magnetic Signals in Plio-Pleistocene Sediments of the South Atlantic:
Chronostratigraphic Usability and Paleoceanographic Implications 261-277

Uenzelmann-Neben G. and H. Miller
Congo Fan Neogene and Quaternary Sedimentation:
Interplay of Riverine and Current Induced Deposition 279-293

Source and Transport Signatures of the Terrigenous Sediment Fraction

Wagner T., M. Zabel, L. Dupont, J. Holtvoeth and C.J. Schubert
Terrigenous Signals in Sediments of the Low Latitude Atlantic -
Implications for Environmental Variations during the Late Quaternary:
Part I: Organic Carbon 295-322

Zabel M., T. Wagner and P. DeMenocal
Terrigenous Signals in Sediments of the Low Latitude Atlantic -
Indications to Environmental Variations during the Late Quaternary:
Part II: Lithogenic Matter 323-345

Frenz M., R. Höppner, J.-B. Stuu, T. Wagner and R. Henrich
Surface Sediment Bulk Geochemistry and Grain-Size Composition Related to the
Oceanic Circulation along the South American Continental Margin in the Southwest Atlantic 347-373

Diekmann B., D.K. Fütterer, H. Grobe, C.D. Hillenbrand, G. Kuhn, K. Michels,
R. Petschick and M. Pirrung
Terrigenous Sediment Supply in the Polar to Temperate South Atlantic:
Land-Ocean Links of Environmental Changes during the Late Quaternary 375-399



Early Diagenetic Processes and Preservation of Primary Signals

- Hensen C., K. Pfeifer, F. Wenzhöfer, A. Volbers, S. Schulz, J. Holstein,
O. Romero and K. Seiter
Fluxes at the Benthic Boundary Layer - A Global View from the South Atlantic 401-430
- Kasten S., M. Zabel, V. Heuer and C. Hensen
Processes and Signals of Non-Steady-State Diagenesis in Deep-Sea Sediments
and their Pore Waters 431-459
- Funk J.A., T. von Dobeneck, T. Wagner and S. Kasten
Late Quaternary Sedimentation and Early Diagenesis in the Equatorial Atlantic Ocean:
Patterns, Trends and Processes Deduced from Rock Magnetic and Geochemical Records 461-497

History of Upper Ocean Circulation

- Gersonde R., A. Abelmann, G. Cortese, S. Becquey, C. Bianchi, U. Brathauer,
H.-S. Niebler, U. Zielinski and J. Pätzold
The Late Pleistocene South Atlantic and Southern Ocean Surface -
A Summary of Time-Series Studies 499-529
- Schäfer-Neth C. and A. Paul
The Atlantic Ocean at the Last Glacial Maximum:
1. Objective Mapping of the GLAMAP Sea-Surface Conditions 531-548
- Paul A. and C. Schäfer-Neth
The Atlantic Ocean at the Last Glacial Maximum:
2. Reconstructing the Current Systems with a Global Ocean Model 549-583
- Schlotte R. and B. Grieger
Inverse Modeling of the Glacial Atlantic Circulation under Geostrophic Side Conditions 585-599
- Volbers A.N.A., H.-S. Niebler, J. Giraudeau, H. Schmidt and R. Henrich
Paleoceanographic Changes in the Northern Benguela Upwelling System
Over the Last 245.000 Years as Derived from Planktic Foraminifera Assemblages 601-622

History of Bottom and Deep Water Circulation

- Mackensen A. and L. Licari
Carbon Isotopes of Live Benthic Foraminifera from the South Atlantic:
Sensitivity to Bottom Water Carbonate Saturation State and Organic Matter Rain Rates 623-644



Henrich R., K.-H. Baumann, S. Gerhardt, M. Gröger and A. Volbers Carbonate Preservation in Deep and Intermediate Water Masses in the South Atlantic: Evaluation and Geological Record (a Review)	645-670
Bickert T. and A. Mackensen Last Glacial to Holocene Changes in South Atlantic Deep Water Circulation	671-693
Matthies M., T. Bickert and A. Paul Last Glacial $\delta^{13}\text{C}$ Distribution and Deep-Sea Circulation in the Atlantic Ocean: A Model - Data Comparison	695-722

