

BROWN UNIVERSITY CURRICULUM VITAE

WARREN L. PRELL

Henry L. Doherty Professor

Department of Geological Sciences

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1. Warren L Prell
Henry L. Doherty Professor of Oceanography

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3. EDUCATION

B.A. Hanover College, 1966

Honors: Department Honors in Geology, Hanover College, Alumni Award, Phi Eta Sigma (Scholastic Honor)

Ph.D. Columbia University, 1974

Topic: Late Pleistocene Sedimentary, Faunal and Temperature History of the Colombia Basin, Caribbean Sea

M.A. Brown University (ad eundem), 1981

4. PROFESSIONAL APPOINTMENTS

2005-2008 Chair, Department of Geological Sciences

1990- Henry L. Doherty Chair in Oceanography, Department of Geological Sciences, Brown University, Providence, RI

1989- Professor, Department of Geological Sciences, Brown University

1989-1993 Chair, Department of Geological Sciences

1982-1989 Associate Professor, Department of Geological Sciences

1980-1981 Associate Professor (Research), Department of Geological Sciences

1975-1980 Assistant Professor (Research), Department of Geological Sciences

1973-1975 Director of Oceanographic and Geologic Programs, New York State Energy Research and Development Authority, New York City:

Related Professional Experience

2002-2004 Chair of US Science Advisory Committee to the Joint Oceanographic Incorporated and US Science Support Program.

1999 Co-Chief Scientist, Ocean Drilling Program Leg 184 (South China Sea)

1995 Co-Chief Scientist, TN 047 JGOFS Arabian Sea Process Study, RV T. Thompson, Arabian Sea, May, Muscat-Muscat

1994 Co-Chief Scientist, TN 041 JGOFS Arabian Sea Process Study, RV T. Thompson, Arabian Sea, October, Muscat-Muscat

1993-94 Visiting Professor, College of Oceanic and Atmospheric Sciences, Oregon State University

1987 Chief Scientist, NSF Ocean Drilling Program Leg 117, Arabian Sea, Indian Ocean

1986 Chief Scientist, Arabian Sea Monsoon Expedition, on R/V Robert C. Conrad

1985 Visiting Assoc. Prof., Center for Climate Research, U. Wisconsin, Madison

1985 Distinguished Visiting Prof., Quaternary Res. Center, U. Washington, Seattle

1979 Co-Chief Scientist, Deep Sea Drilling Program Leg 68, on Glomar Challenger

1978-81 Acting Director of CLIMAP Program

1977 Co-Chief Scientist, Cruise V34-07 to Indian Ocean, on R/V Vema
 1971 Scientist (Sedimentologist), Deep Sea Drilling Project Leg 15, Glomar Challenger
 1967 Geologist, R/V Eastward, E8-67

5. Completed Research, Scholarship

a. Books/Monographs

- Prell, W.L., and Gardner, J.V., eds., 1982. *Initial Reports of the Deep Sea Drilling Project*, vol. 68, Washington, DC (U.S. Government Printing Office), 495 p.
- Curry, J.R., Prell, W.L., and Weissel, J.K., 1984. *Conveners and Editors' Report on Future Scientific Drilling in the Indian Ocean*, 250 p.
- Prell, W.L., Niitsuma, N., et al. (eds.), 1989. *Proc. ODP, Init. Repts.*, 117, College Station, TX (Ocean Drilling Program), 1236 p.
- Prell, W.L., Niitsuma, N., et al. (eds.), 1991. *Proceedings ODP, Scientific Results 117*, College Station, TX (Ocean Drilling Program), 638 pages.
- Summerhayes, C.P., Prell, W.L., and K.C. Emeis (eds.), 1992. *Evolution of upwelling systems since the Early Miocene*. Geological Society Special Publication No. 64, London, 519 p.
- Prell, W.L., (ed), 1996, GE111 Class Report, Oceanography of the Hundred Acre Cove Estuary System, ~ 100p.
- Prell, W.L., (ed), 1997, GE111 Class Report, Oceanography of the Palmer/Warren River Estuary System, ~ 100p.
- Prell, Warren L., Pinxian Wang (Co-Chief Scientists) and Peter Blum (Staff Scientist), 1998. Leg 184 Scientific Prospectus: South China Sea, Ocean Drilling Program, Scientific Prospectus NO. 84, Texas A&M University Research Park, 1000 Discovery Drive, College Station, Texas 77845-9547, U.S.A.
- Pinxian Wang, Prell, Warren L. (Co-Chief Scientists) and Peter Blum (Staff Scientist), 1999. LEG 184 PRELIMINARY REPORT (11 February – 12 April 1999), OCEAN DRILLING PROGRAM, preliminary report NO. 84, Texas A&M University Research Park, 1000 Discovery Drive, College Station, Texas 77845-9547, U.S.A., 102 p.
- Prell, W.L., (ed), 1999, GE111 Class Report, Oceanography of the hundred Acre Cove-Warren River Estuary System, ~ 100p. ed W
- Prell, W. L., Wang, P., Blum, P., and Rea, D. (Eds.), 2003, Proc. ODP, Sci. Results, 184, Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA
- Clemens, S., Wang, P., and Prell (Eds), 2003, Marine Geology, V201, 1-3, Special Issue: Asian Monsoons and Global Linkages on Milankovitch and Sub-Milankovitch Time Scales
- Prell, W.L., (ed), 2006, GE111 Class Report on *Estuarine Oceanography of Narragansett Bay*, 188p.

b. Chapters in Books

- Prell, W. and Kutzbach, 1997, The Impact of Tibet-Himalayan Elevation on the Sensitivity of the Monsoon Climate System to Changes in Solar Radiation, in *Tectonic Uplift and Climate Change*, pp. 171-201, Plenum Press, New York
- Kutzbach, J., Ruddiman, W., and Prell, W., 1997, Possible Effects of Cenozoic Uplift and CO₂ Lowering on Global and Regional Hydrology, in *Tectonic Uplift and Climate Change*, pp. 149-170, Plenum Press, New York
- Ruddiman, W. and Prell, W., 1997, Introduction to the Uplift- Climate Connection, in *Tectonic Uplift and Climate Change*, pp. 3-15, Plenum Press, New York
- Ruddiman, W., Raymo, M., and Prell, W., and Kutzbach, J., 1997, The Uplift-Climate Connection: A Synthesis, in *Tectonic Uplift and Climate Change*, pp. 471-515, Plenum Press, New York

Saarman, E., Prell, W., Murray, D., Deacutis, C., 2008, Chapter 11: Summer bottom water dissolved oxygen in Upper Narragansett Bay in *Science for Ecosystem-based Estuarine Management: Narragansett Bay in the 21st Century*, Desbonnet & Costa-Pierce (eds.), Springer Series In Environmental Management.

c. Refereed Journal Articles (past year in bold)

- Edgar, N.T., Saunders, J.B., et al., 1973. Initial Reports of the Deep Sea Drilling Project, v.XV, Washington (U.S. Government Printing Office). Participated in reports on Sites 151, 152, 153, and 154.
- Hill, D., McIlroy, W., and Prell, W., 1975. Cost-effective design and operation of an oceanographic research program for offshore nuclear plant siting: Offshore Technology Conference Paper No. OTC 2397, p. 603-608.
- Prell, W.L., and Hays, J.D., 1976. Late Pleistocene faunal and temperature patterns of the Colombia Basin, Caribbean Sea. In: (Cline, R.M., and Hays, J.D., eds.) *Investigation of Late Quaternary Paleoceanography and Paleoclimatology*, GSA Memoir 145, p. 201-220.
- Prell, W.L., Gardner, J.V., Be, A.W.H., and Hays, J.D., 1976. Equatorial Atlantic and Caribbean faunas, temperatures, and circulation: Interglacial versus glacial. In: (Cline, R.M., and Hays, J.D., eds.) *Investigation of Late Quaternary Paleoceanography and Paleoclimatology*, GSA Memoir 145, p. 247-266.
- McIntyre, A., Kipp, N.G., Be, A.W.H., Crowley, T.J., Kellogg, T., Gardner, J.V., Prell, W.L., and Ruddiman, W.F., 1976. The glacial North Atlantic 18,000 years ago: A CLIMAP reconstruction. In: (Cline, R.M., and Hays, J.D., eds.) *Investigation of Late Quaternary Paleoceanography and Paleoclimatology*, GSA Memoir 145, p. 43-76.
- CLIMAP Project Members, 1976. The surface of the Ice-Age Earth. *Science* **191**:1131-1137.
- Prell, W.L., 1977. Winnowing of Recent and Late Quaternary deep-sea sediments: Colombia Basin, Caribbean Sea. *J. Sedimentary Petrology* **47**:1583-1592.
- Prell, W.L., 1978. Upper Quaternary sediments of the Colombia Basin: Spatial and stratigraphic variation, *GSA Bulletin* **89**:1241-1255.
- Prell, W.L., and Damuth, J.E., 1978. The climate-related diachronous disappearance of *Pulleniatina obliquiloculata* in late Quaternary sediments of the Atlantic and Caribbean. *Marine Micropaleontology* **3**:267-277.
- Prell, W.L., 1979. Glacial/interglacial variability of monsoonal upwelling: Western Arabian Sea. In: *Evolution of Planetary Atmospheres and Climatology of the Earth*, Centre Nationales d'Etudes Spatiales, Nice, France, p. 149-156.
- Prell, W.L., Hutson, W.H., and Williams, D.F., 1979. The subtropical convergence and late Quaternary circulation in the southern Indian Ocean. *Marine Micropaleontology* **4**:225-234.
- Prell, W.L., and Hutson, W.H., 1979. Zonal temperature-anomaly maps of Indian Ocean surface waters: Modern and Ice-Age patterns. *Science* **206**:54-456.
- Prell, W.L., Hutson, W.H., Williams, D.F., Be, A.W.H., Geitzenauer, K., and Molfino, B., 1980. Surface circulation of the Indian Ocean during the last glacial maximum: Approximately 18,000 yr BP. *Quaternary Research* **14**:309-336.
- Prell, W.L., Gardner, J.V., et al., 1980. Hydraulic piston coring of Late Neogene and Quaternary sections in the Caribbean and equatorial Pacific: Preliminary results of DSDP Leg 68. *GSA Bulletin, Part I*, **91**:433-444.
- Hutson, W.H., and Prell, W.L., 1980. A paleoecological transfer function, FI-2, for Indian Ocean planktonic foraminifera. *J. Paleontology* **54**:381-399.
- Prell, W.L., and Curry, W.B., 1981. Faunal and isotopic indices of the Southwest Monsoon upwelling, Arabian Sea. *Oceanologica Acta* **4**:91-98.

- CLIMAP Project Members, 1981. Seasonal reconstruction of the Earth's surface at the last glacial maximum. GSA Map and Chart Series No.36. 21 p.
- Moore, Jr., T.C., Hutson, W.H., Kipp, N., Hays J.D., Prell, W. L., Thompson, P., and Boden, G., 1981. The Biology of the Ice Age Ocean. *Palaeogeography, Palaeoclimatology, Palaeoecology* **35**:357-370.
- Prell, W.L., and Streeter, H.F., 1982. Temporal and spatial patterns of monsoonal upwelling along Arabia: A modern analogue for the interpretation of Quaternary SST anomalies. *J. Marine Research* **40**:143-155.
- Prell, W.L., 1982. Reply to comments by P.J. Webster and N.A. Streten regarding "Surface Circulation of the Indian Ocean During the Last Glacial Maximum Approximately 18,000 YBP". *Quaternary Research* **7**:128-131.
- Prell, W.L., 1982. Oxygen and carbon isotope stratigraphy for the Quaternary of Hole 502B: Evidence for two modes of isotopic variability. In: (Prell, W.L., Gardner, J.V., et al. eds.) *Initial Reports of the Deep Sea Drilling Project*, vol. 68, Washington, DC (U.S. Government Printing Office), p. 453-464.
- Prell, W.L., Gardner, J.V., et al., 1982. Colombia Basin, western Caribbean Sea, Site 502. In: (Prell, W.L., Gardner, J.V., et al. eds.) *Initial Reports of the Deep Sea Drilling Project*, vol. 68, Washington, DC (U.S. Government Printing Office), p. 15-162.
- Prell, W.L., Gardner, J.V., et al., 1982. Eastern equatorial Pacific, Site 503. In: (Prell, W.L., Gardner, J.V., et al. eds.) *Initial Reports of the Deep Sea Drilling Project*, vol. 68, Washington, DC (U.S. Government Printing Office), p. 163-292.
- Swann, D., and Prell, W.L., 1983. *The geohydrology of Barrington, Rhode Island*. Rhode Island Statewide Planning Program, 61 p.
- Prell, W.L., 1984. Monsoonal climate of the Arabian Sea during the late Quaternary: A response to changing solar radiation. In: (Berger, A., and Imbrie, J. eds.) *Milankovitch and Climate*, D. Reidel Publ. Co., Dordrecht, Holland, p. 349-366.
- Start, G.G., and Prell, W.L., 1984. Evidence for two Pleistocene climatic modes: Data from DSDP Site 502. In: (Berger, A., and Nicholis, eds.) *New Perspectives in Climate Modelling, Developments in Atmospheric Sciences*, Elsevier, Holland, p. 3-22.
- Howard, W.R., and Prell, W.L., 1984. A comparison of radiolarian and foraminiferal paleoecology in the Southern Indian Ocean: New evidence for the interhemispheric timing of climatic change. *Quaternary Research* **21**:244-263.
- Prell, W.L., 1984. Variation of monsoonal upwelling: A response to changing solar radiation. In: (Hansen and Takahashi, eds.) *Climate Processes: Sensitivity to Solar Irradiance and CO₂*, Fourth Ewing Symposium, AGU, Washington, DC, p. 48-57.
- Duplessy, J.C., Shackleton, N.J., Matthews, R.K., Prell, W.L., Ruddiman, W.R., Caralp, M., and Henry, C., 1984. The Carbon-13 record of benthic foraminifera in the last interglacial ocean: Implications for the carbon cycle and the global deep water circulation. *Quaternary Research* **21**:225-243.
- CLIMAP members, 1984. The last interglacial ocean. *Quaternary Research* **21**:123-224.
- Cullen, J.L., and Prell, W.L., 1984. Planktonic foraminifera of the northern Indian Ocean: Distribution and preservation in surface sediments. *Marine Micropaleontology* **9**:1-52.
- Imbrie, J., Hays, J.D., Martinson, D.G., McIntyre, A., Mix, A.C., Morley, J.J., Pisias, N.G., Prell, W.L., and Shackleton, N.J., 1984. The orbital theory of Pleistocene climate: Support from a revised chronology of the marine $\delta^{18}\text{O}$ record. In: (Berger, A., et al. eds.) *Milankovitch and Climate*, D. Reidel Publishing Company, Part I, p. 269-305.
- Pisias, N.G., Martinson, D.G., Moore, Jr., T.C., Shackleton, N.J., Prell, W., Hays, J.D., and Boden, G., 1984. High resolution stratigraphic correlation of benthic oxygen isotopic records spanning the last 300,000 years. *Marine Geology* **56**:119-136.

- Prell, W.L., 1984. Covariance patterns of foraminiferal $d^{18}O$: An evaluation of Pliocene ice volume changes near 3.2 million years ago. *Science* **226**:692-694.
- Pisias, N.G., and Prell, W.L., 1985. High resolution carbonate records from the hydraulic piston cored section of Site 572. In: (Meyer, L., Theyer, F., et al. eds.) *Initial Reports of the Deep Sea Drilling Project*, vol. 85, Washington, DC (U.S. Government Printing Office), p. 711-722.
- Prell, W.L., 1985. Pliocene stable isotope and carbonate stratigraphy (Holes 572C and 573A): Paleoceanographic data bearing on the question of Pliocene glaciation. In: (Mayer, L., Theyer, F., et al. eds.) *Initial Reports of the Deep Sea Drilling Project*, vol. 85, Washington, DC (U.S. Government Printing Office), p. 723-734.
- Prell, W.L., 1985. The stability of low-latitude sea-surface temperatures: An evaluation of the CLIMAP reconstruction with emphasis on the positive SST anomalies. U.S. Dept of Energy, Office of Energy Research, TRO25 (U.S. Government Printing Office), 60 p.
- Peterson, L.C., and Prell, W.L., 1985. Carbonate preservation and rates of climatic change: An 800 KYR record from the Indian Ocean. In: (Sundquist, E.T., and Broecker, W.S. eds.) *The Carbon Cycle and Atmospheric CO₂: Natural Variations Archean to Present*, Geophysical Monograph 32, AGU, p. 251-269.
- Peterson, L.C., and Prell, W.L., 1985. Carbonate dissolution in recent sediments of the eastern equatorial Indian Ocean: Preservation patterns and carbonate loss above the lysocline. *Marine Geology* **64**:59-290.
- Prell, W.L., Imbrie, J., Martinson, D.G., Morley, J.J., Pisias, N.G., Shackleton, N.J., and Streeter, H.F., 1986. Graphic correlation of oxygen isotope stratigraphy: Application to the late Quaternary. *Paleoceanography* **1(2)**:137-162.
- Prell, W.L., and Van Campo, E., 1986. Coherent response of Arabian Sea upwelling and pollen transport to late Quaternary monsoonal winds. *Nature* **23**:526-528.
- Clemens, S.C., Prell, W.L., and Howard, W.R., 1987. Retrospective dry bulk density estimates from southeast Indian Ocean sediments: Comparison of water loss and chloride-ion methods. *Marine Geology* **6**:57-69.
- Prell, W.L., 1987. Climatic Changes: Sea-level changes and mass wasting. In: (Folger, D.W., and Hathaway, J.C. eds.) *Conference on Continental Margin Mass Wasting and Pleistocene Sea-Level Changes*, USGS Circular No. 961, p. 61-69.
- Prell, W.L., and Kutzbach, J.E., 1987. Monsoon variability over the past 150,000 years. *J. Geophys. Res.* **92**:8411-8425.
- Prell, W.L., Niitsuma, N., Emeis, K., and Shipboard Participants, 1987. *Leg 117 Preliminary Report. Ocean Drilling Program Report*, 40 p.
- COHMAP Members, 1988. Major climatic changes of the last 18,000 years: Observations and Model Simulations. *Science* **241**:1043-1052.
- Prell, W.L., 1988. Climate data and events on orbital time scales. In: (Rea, D. ed.) *Status of Paleoclimatic Research: An Excerpt from the April 1987 NSF Climate Dynamics Workshop on Data-Model Interactions*. *Bull. Amer. Meteorological Soc.* **69**:390-395.
- Prell, W.L., Niitsuma, N., Emeis, K., and Shipboard Participants, 1988. ODP Leg 117: Milankovitch and Monsoons. *Nature* **331**:663-664.
- Prell, W.L., Niitsuma, N., Emeis, K., and Shipboard Participants, 1988. Leg 117 finds mountains, monsoons. *Geotimes* **3**:13-16.
- DuBois, L.G., and Prell, W.L., 1988. Effects of carbonate dissolution on the radiocarbon age structure of sediment mixed layers. *Deep-Sea Research* **35(12)**:1875-1885.
- Mountain, G.S., and Prell, W.L., 1989. Geophysical Reconnaissance Survey for ODP Leg 117 in the Northwest Indian Ocean. In: (Prell, W. L. and Niitsuma, N., et al. eds.) *Proc. ODP, Init. Repts., 117*, College Station, TX (Ocean Drilling Program), p. 51-64.

- Farrell, J., and Prell, W.L., 1989. Climatic change and CaCO₃ preservation: An 800,000 year bathymetric reconstruction from the central equatorial Pacific Ocean. *Paleoceanography* **4**:447-466.
- Anderson, D.M., Prell, W.L., and Barratt, N.J., 1989. Estimates of sea surface temperature in the Coral Sea at the Last Glacial Maximum. *Paleoceanography* **4**:615-678.
- Ruddiman, W.F., Prell, W.L., and Raymo, M.E., 1989. History of Late Cenozoic uplift in southeast Asia and the American Southwest: Rationale for general circulation experiments. *J. Geophys. Res. Atmospheres* **94**:18,379-18,391.
- Kutzbach, J.E., Guetter, P.J., Ruddiman, W.F., and Prell, W.L., 1989. The sensitivity of climate to Late Cenozoic uplift in southeast Asia and the American Southwest: Numerical experiments. *J. Geophys. Res. Atmospheres* **94**:18,393-18,407.
- Prell, W.L., et al., 1990. Neogene tectonics and sedimentation of the SE Oman Continental Margin: Results from ODP Leg 117. In: (Robertson, A.H.F., Searle, M.P., and Ries, A.C. eds.) *The Geology and Tectonics of the Oman Region*, Special Publication of the Geological Society, p. 745-756.
- Mountain, G.S., and Prell, W.L., 1990. A multiphase plate tectonic history of the southeast continental margin of Oman. In: (Robertson, A.H.F., Searle, M.P., and Ries, A.C. eds.) *The Geology and Tectonics of the Oman Region*, Special Publication of the Geological Society, p. 725-744.
- Clemens, S.C., and Prell, W.L., 1990. Late Pleistocene variability of Arabian Sea summer-monsoon winds and dust source-area aridity: An eolian record from the lithogenic component of deep-sea sediments. *Paleoceanography* **5**:109-145.
- Luther, M.W., O'Brien, J.J., and Prell, W.L., 1990. Variability in upwelling fields in the northwestern Indian Ocean over the past 18,000 Years; 1. Model Experiments. *Paleoceanography* **5**:433-446.
- Prell, W.L., Marvil, R.E., Luther, M.E., O'Brien, J.J., 1990. Variability in upwelling fields in the northwestern Indian Ocean; 2. Data-model comparison at 9,000 years B.P. *Paleoceanography* **5**:447-457.
- Van Campo, E., Duplessy, J.C., Prell, W.L., and Barratt, N., 1990. Comparison of terrestrial and marine temperature estimates for the past 135 kyr off southeast Africa: A test for GCM simulations of palaeoclimate. *Nature* **348**:209-212.
- Anderson, D.M., and Prell, W.L., 1991. Coastal upwelling gradient during the late Pleistocene. In: (Prell, W.L., Niitsuma, N., et al. eds.) *Proc. ODP, Scientific Results 117*, College Station, TX (Ocean Drilling Project), p. 265-276.
- Clemens, S.C., and Prell, W.L., 1991. One million year record of summer-monsoon winds and continental aridity from the Owen Ridge (Site 722), northwest Arabian Sea. In: (Prell, W.L., Niitsuma, N., et al. eds.) *Proc. ODP, Scientific Results 117*, College Station, TX (Ocean Drilling Program), p. 365-388.
- Murray, D.W., and Prell, W.L., 1991. Pliocene to Pleistocene variations in calcium carbonate, organic carbon, and opal on the Owen Ridge, northern Arabian Sea. In: (Prell, W.L., Niitsuma, N., et al. eds.) *Proc. ODP, Scientific Results 117*, College Station, TX (Ocean Drilling Program), p. 343-363.
- Prell, W.L., 1991. Paleoceanographic Aspects of the Arabian Sea Upwelling. In: (Smith, S.L., et al. eds.) *U.S. JGOFS: Arabian Sea Process Study*, U.S. JGOFS Planning Report No. 13, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts, 164 pp.
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- Farrell, J.W., and Prell, W.L., 1991. Pacific CaCO₃ preservation and $\delta^{18}\text{O}$ since 4 Ma: Paleoceanic and paleoclimatic implications/ *Paleoceanography* **6**(4):485-498.

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- Brock, J.C., McClain, C.R., Anderson, D.M., Prell, W.L., and Hay, W.W., 1992. Southwest monsoon circulation and environments of recent planktonic foraminifera in the Northwestern Arabian Sea. *Paleoceanography* **7**: 799-813.
- DeMenocal, P.B., Oppo, D.W., Fairbanks, R.G., and Prell, W.L., 1992. Pleistocene variations in North Atlantic intermediate water $\delta^{13}\text{C}$: Implications for ocean circulation and atmospheric CO_2 . *Paleoceanography* **7**:229-250.
- Howard, W.R., and Prell, W.L., 1992. Late Quaternary surface circulation of the southern Indian Ocean and its relationship to orbital variations. *Paleoceanography* **7**:79-118.
- Anderson, D.M., Brock, J.C., and Prell, W.L., 1992. Physical upwelling processes, upper ocean environment, and the sediment record of the southwest monsoon. In: (Summerhayes, C.P., Prell, W.L., Emeis, K.C. eds.) *Evolution of Upwelling Systems Since the Early Miocene*, Geological Society Special Publication No. 64, London, p. 121-129.
- Murray, D.W., and Prell, W.L., 1992. Late Pliocene and Pleistocene climatic oscillations and monsoon upwelling recorded in sediments from the Owen Ridge, northwest Arabian Sea. In: (Summerhayes, C.P., Prell, W.L., Emeis, K.C. eds.) *Evolution of Upwelling Systems Since the Early Miocene*, Geological Society Special Publication No. 64, London, p. 301-321.
- Summerhayes, C.P., Prell, W.L., and K.C. Emeis, 1992. Evolution of upwelling systems since the Early Miocene. In: (Summerhayes, C.P., Prell, W.L., Emeis, K.C. eds.) *Evolution of Upwelling Systems Since the Early Miocene*, Geological Society Special Publication No. 64, London, p. 1-5.
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- Prell, W.L., Murray, D.W., Clemens, S.C. and Anderson, D.W., 1992. Evolution and variability of the Indian Ocean summer monsoon: Evidence from the western Arabian Sea drilling program. In: *The Indian Ocean: A Synthesis of Results from the Ocean Drilling Program*, Geophysical Monograph 70, American Geophysical Union, pp. 447-469.

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- Clemens, S. and Prell, W., 2003, A 350,000 Year Summer-Monsoon Multi-Proxy Stack from the Owen Ridge, Northern Arabian Sea, Marine Geology V201, 1-3, Special Issue on Asian Monsoons and Global Linkages on Milankovitch and Sub-Milankovitch Time Scales, p 35-52.
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- Liu W., Huang Y., An Z., Clemens S., Li L., Prell W., and Ning Y., 2005, Summer monsoon intensity controls C4/C3 plant abundance during the last 35 ka in the Chinese Loess Plateau: carbon isotope evidence from bulk organic matter and individual leaf waxes, *Palaeogeography, Palaeoclimatology, Palaecology*, 220, 243.
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- Nie, J., King, J., Liu, Z., Clemens, S., Prell, W., Fang, X., 2008, Surface-water freshening: A cause for the onset of North Pacific stratification from 2.75 Ma onward?, *Global and Planetary Change*, 64 (1-2), 49-52.
- Clemens, S.C., Prell, W.L., and Sun, Y., 2008 in review, Orbital-scale timing and mechanisms driving Indo-Asian summer monsoons: Reinterpreting speleothem $d^{18}O$, *Nature*.
- Chen, G.-S., Z. Liu, J. Kutzbach, S. C. Clemens, and W. L. Prell, Modeling the evolutionary response of Asian Monsoon to obliquity forcing in a coupled GCM, *Climate Dynamics, in preparation*, 2009.

d. Non-refereed journal articles

e. Book Reviews

f. Abstracts

- Prell, W., Murray, D., Saarman, E., Heggie, K., Altabet, M., (2004). A surface sediment array to monitor how geochemical gradients are related to hypoxic conditions in upper Narragansett Bay, RI., EMAP Symposium, May 3-7 Newport RI.
- Deacutis, C.F., Prell, W., Murray, D., Saarman, E., Korhun, L., (2004). Targeted monitoring for dissolved oxygen: mapping the extent of hypoxia in Narragansett Bay, RI., EMAP Symposium, May 3-7 Newport RI.
- Huang Y., Clemens S., Liu W., Wang Y., Prell W., 2004, A 10 million year, high-resolution record of C4 and C3 plant evolution from Arabian Sea ODP site 722, Fall AGU

g. Invited lectures

- Over the years, I have not kept a list of all dates, places, and titles. During the past several years I gave the following:
- Invited lecture Narragansett Bay to new Brown faculty, Bristol, RI, Oct., 6, 2000
- Invited lectures at Tonji University, Shanghai, PRC on climate modeling of the Asian Monsoon, spectral analysis of paleoceanographic data, and interpretation of paleotemperature and isotopic data, Nov 6-13, 2000.
- Invited lecture on Modern and Ancient Monsoons at the Department of Marine Sciences, University of Connecticut, March, 2001
- Invited presentation at the Leg 184 Post Cruise Meeting in Beijing, PRC, May, 2001.
- Invited keynote lecture, meeting on Human Dimensions and Natural Processes in Environmental Change The Institute of Earth Environments, Chinese Academy of Sciences, Xian P.R. China, May, 2001
- Invited lecture at U.S. JGOFS Synthesis and Modeling Project (SMP) Workshop on Marine Calcification. June, 2001.
- Invited keynote lecture at AGU Chapman Conference on Continent-Ocean Interactions within the East Asian Marginal Seas
- Invited speaker RI Sea Grant Symposium - State of Science Knowledge on Nutrients in Narragansett Bay November 2004,

6. Research in Progress

My research continues to focus on both global-scale paleoceanography and local-scale estuarine oceanography. My global-scale paleoceanographic research seeks to understand the evolution of the Cenozoic climate-ocean system and especially the evolution of the Indian-Asian monsoon system and how it is forced by interaction between regional tectonic conditions and orbital forcing, and inter-hemisphere ocean feedbacks. I am also initiating studies of global-scale biodiversity in planktonic foraminifera and hope to combine that with microbial-scale biodiversity in conjunction with MBL researchers. Given this broad goal, my research strategy combines a mix

of theory, data collection, and data analysis, all directed toward understanding the ocean's response to major changes in climate and physical boundary conditions. Recent efforts have included the study of changes on both the modern annual cycle and on geologic time scales.

My estuarine oceanography research seeks to understand the recent and past environmental history of Narragansett Bay. Specific studies have utilized our collection of over 400 surface sediment samples to identify and document the sediment size and elemental composition trends in Narragansett Bay, to measure and evaluate the populations of benthic foraminifers as environmental indicators, and to understand the distribution and causes of hypoxic (low dissolved oxygen) waters in Narragansett Bay. These more recent research efforts are now producing results and grant opportunities

7. SERVICE

(i) SERVICE TO THE UNIVERSITY (current participation in bold)

Chair, Department of Geological Sciences 2005-2008

Organizer, Brown – MBL – NBEP Workshop on Nitrogen cycling and isotopes in Narragansett Bay, January 2009

Brown representative to UCAR, University Consortium for Atmospheric Research

Faculty Advisor to Brown Women's Soccer Team - current

Organizer, Wayland Collegium on Stable Isotope Systems As Recorders Of The History And Process Of Environmental Change,

Member, Environmental Sciences Curriculum Committee, 1994-2004

Brown University Research Council 1998-2003

Member, Executive Committee, Center for Environmental Studies, 1995-2003

New Faculty lecture on Narragansett Bay, Oct. 2000

Commencement Forum, 1997, Understanding Estuaries: An Oceanography Class Project

Chair, Steering Committee for Environmental Science Research Program, 1994-97

Chair, Department of Geological Sciences, 1989-1993

Departmental Chair's Agenda Committee, 1992-1993

Lecturer at Boston kickoff of Campaign Brown- The Rising Generation, 1993

Member, Advisory Board, WISE (Women in Science and Engineering), 1991-92

Member, Board of Environmental Studies, 1991-92

Member, Ad hoc Committee on Indirect Costs, 1991-92

Member, Executive Committee, Center for Environmental Studies, 1980-1983

Lecturer in Brown's Continuing College

Undergraduate Advisor for Geology-Biology concentration: 1977-1984, 1987-1989

Organizer, Careers Day for Geological Sciences: 1978-1983

Member of *ad hoc* Committee to review establishment of a Center for Fluid Mechanics, Turbulence and Computation, 1988

Co-organizer of symposium in honor of John Imbrie, "Climate Systems on Orbital Time Scales: How Does the Milankovitch Mechanism Work?" held at Brown University, June 1990.

(ii) SERVICE TO THE PROFESSION

WORKSHOP AND MEETINGS ACTIVITIES

Coastal Hypoxia Research program workshops

Paleo Model Intercomparison Project (PMIP) meeting in Estes Park 2008

NSF workshop Synthesizing Transient Evolution of Climate of the last 21-kyr (STEC-21)" at Madison, Wisconsin, 2008

Participant in S4/ECI Conference, Impacts of Disaster: Comparing Ecological and Social Resilience, 3/2006, Brown University

Participant in ECI/Global Environmental Program Conference, Frontiers of Environmental Change Research: Climate Change Drivers, Impacts, and Policy, 9/2005, Brown University

RI Sea Grant Symposium - State of Science Knowledge on Nutrients in Narragansett Bay November 2004, invited speaker

USSAC meeting July 2004, Washington D.C.

CICOR Fellows meeting May 2004 Woods Hole MA

IODP Scientific Planning Committee Meeting March 2004, Washington D.C.

USSAC meeting, January 2004, Portland Oregon

SPC meeting September 2003, Sapporo Japan

USSAC meeting, July 2003, Bermuda

JOI/USSAC workshop on IODP Drilling of the Indian Ocean Fan Systems, July 2003

JOI/USSAC workshop on Geophysical Site Characterization and Needs (GEOSCAN), June 2003

IODP International management meeting, May 2003, Austin Texas

JOI/USSAC workshop on IODP Education Programs, May 2003

SCICOM/iPC meeting, March 2003, Austin Texas

AGU, USSAC chair presentation, December, 2002, San Francisco

AGU Chapman Conference participant and co-editor, San Diego, CA, November 2002

GSA, USSAC Chair presentation, Denver, CO, October 2002

USSAC meeting, February 2003, St. Petersburg Florida

USSAC meeting, July 2002, San Francisco CA

CUSP meeting, co-chair, Washington, DC, June 2002

MESH steering committee meeting, Washington D.C., June 2002

USSAC meeting, February 2002, Chapel Hill, NC

MESH meeting, San Francisco, December, 2001

Co-Organizer of AGU Union Session, Milankovitch and Climate: Twenty-Five Years Later, American Geophysical Union Fall Meeting, December, 2001.

USSAC meeting Seattle, Washington, July, 2001

Invited participant to TEMPO (Testing Earth System Models with Paleoenvironmental Observations) meeting on climate reconstruction, Boulder, Colorado, July, 2001

MESH meeting, June 2001, Washington DC at NSF

Invited participant U.S. JGOFS Synthesis and Modeling Project (SMP) Workshop on Marine Calcification. June, 2001.

Organizer, Post Cruise Meeting for ODP Leg 184, Beijing, PRC, May, 2001

Invited participant in symposia on Human Dimensions and Natural Processes in Environmental Change The Institute of Earth Environments, Chinese Academy of Sciences, Xian P.R. China, May, 2001

ODP Co-Chief Review Meeting, Washington D.C., April, 2001

USSAC Meeting, Gainesville, Florida, January 2001

Invited participant to EPILOG (Environmental Processes of the Ice Age: Land, Oceans, Glaciers) workshop on Ice Sheets and Sea Level of the Last Glacial Maximum: Timberline Oregon, October, 2000

Participant in workshop on Stable Isotopes in Ecology, University of Utah, Salt Lake city, June 10-20, 2000

Intergovernmental Oceanographic Commission, International GODAR Review Conference, NOAA, Silver Springs Md. The Importance of Global Oceanographic Databases for Paleoceanographic Research, 1999

Invited Participant to COMPLEX meeting (Committee on multiple platform exploration), NSF-JOIDES, Vancouver, BC., 1999

JGOFS Arabian Sea Workshop, Durham, NH, Seasonal variations of planktonic foraminifera during the monsoon, 1998
 PaleoModel Intercomparison Project, Livermore, Ca, Reconstruction of the Sea Surface Temperature at the Last Glacial Maximum, 1998
 Variability of the Austral-Asian Monsoon Workshop, St. Michael's Md., Paleoceanographic variability and evolution of the Asian Monsoon System, 1998
 Co-organizer and Participant, MESH Workshop on "Marine aspects of Earth System History (MESH) Proxy Development Workshop, 1995
 Participant, NAS/INQUA Workshop on drafting "The Earth's Dynamic Surface: Environmental Change and Society", 1994
 Invited speaker, JOIDES/JAMSTEC workshop "Ocean Drilling in the 21st Century- Scientific Visions and Technological Opportunities", Koyto, Japan
 Invited speaker, JAMSTEC workshop "Material Cycles in the Ocean", Yokosuka, Japan
 Participant, NSF Marine Earth System History Workshop, 1993
 JOI/USSAC Distinguished Lecture Series, 1992-93
 Co-organizer of conference, "Evolution of Upwelling Systems Since the Early Miocene," held at the London Geological Society, September 1990
 Member, COSOD (Conference on Scientific Ocean Drilling), Consultant to Working Group on Global Environmental Changes, 1986
 Chair, Kerguelen Working Group, Ocean Drilling Program, 1986
 Co-organizer of symposium, "Paleoceanography of Cenozoic Oceans," Second International Congress on Paleoceanography, WHOI, 1986
 Organizer of workshop on Future Scientific Drilling in the Indian Ocean held at Lamont-Doherty Geological Observatory, June 5-7, 1984.
 Organizer and Co-Chairman of symposium, "Paleoclimates," First International Conference on Paleoceanography, Zurich, Switzerland, 1983
 Organizer (with J. C. Duplessy) of a joint U.S.-France symposium, "Paleoclimatic Reconstruction of the Northern Atlantic and Indian Oceans and Adjacent Continents over the Past 500,000 Years," Gif-sur-Yvette, France, 1980
 Co-Chair of symposium "CLIMAP: Progress in Understanding Quaternary Climatic Change," Geological Society of America Annual Meeting, San Diego, CA, 1979

EDITORIAL ACTIVITIES

Prell, W. L., Wang, P., Blum, P., and Rea, D. (Eds.), 2003, Proc. ODP, Sci. Results, 184, Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA
 Clemens, S., Wang, P., and W. Prell, Preface, 2003, Marine Geology, V201, Special Issue on Asian Monsoons and Global Linkages on Milankovitch and Sub-Milankovitch Time Scales
 Co-Chief Scientist and Editor for *Leg 184, Initial Reports, Ocean Drilling Program*
 Associate Editor, *Journal of Geophysical Research - Oceans*, AGU 1986-1989
 Associate Editor, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 1986-1995
 Co-Chief Scientist and Editor for *Leg 117, Ocean Drilling Program*
 American Geophysical Union Editor's Citation for Excellence in Refereeing, 1990
 Co-Editor, *Evolution of Upwelling Systems Since the Early Miocene*, 1991
 Review approximately 10 papers and 20 proposals each year

ADVISORY ACTIVITIES

**Member, Save the Bay Program and Policy Committee, 2007-
 Scientific Advisor to Save Bristol Harbor**

Member of the Asian Monsoon and Cenozoic Tectonic History Detailed Planning Group (DPG) appointed by the IODP Science Planning Committee (SPC), 2008

Member, Woods Hole Oceanographic Institution, external tenure review committee 2008-2009

Member, *Ad hoc* committee to Columbia University Provost, Alan Brinkley, for the consideration of a senior tenure position in the Department of Earth and Environmental Sciences at Columbia University, 10/31/2006

Member, Woods Hole Oceanographic Institution, external tenure review committee 1/2006

Fellow, Cooperative Institute for Climate and Ocean Research, A Joint Institute of the Woods Hole Oceanographic Institution and the National Oceanic and Atmospheric Administration, 2000-

Chair, United States Science Advisory Committee (USSAC) to the JOI/United States Science Support Program of the Ocean Drilling Program, 2001-2004

Member, Committee of Visitors for NSF review of Marine Geosciences Section, June 2003

Member, external review committee for Duke University, Division of Earth and Ocean Sciences in the Nicholas School of the Environment and Earth Sciences, February 2003

Member, Advisory Council of the Department of Geological & Geophysical Sciences, Princeton University, 2000-

Member, Nominating Committee, AGU Oceans Section, 2001-2003

Member, MESH Steering Committee for NSF Marine Earth System History, 1993-2003

Member of Steering Committee of EPILOG (Environmental Processes of the Ice Age: Land, Ocean, & Glaciers) an international program to understand past climates, 1998-

Member of External Tenure Review Committee, 2000, Woods Hole Oceanographic Institution

Member of External Review Committee for the Graduate Program in the College of Atmospheric and Oceanic Sciences, Oregon State University, 1997

Member of Advisory Committee, Paleoclimate Modeling Intercomparison Project (PMIP), an international project endorsed by the International Geosphere-Biosphere Program and the World Climate Research Program, 1996-

Member of the Editorial Search Committee, American Geophysical Union, JGR-Oceans

Member of External Tenure Review Committee, 1997, 1998, 1999, Woods Hole Oceanographic Institute

Invited Member to NSF meeting on needs for an Ocean Data Assimilation Center as part of the World Ocean Circulation Experiment (WOCE), February 1997

Member, Advisory Council of the Department of Geological & Geophysical Sciences, Princeton University, 1995-1999

Member, JOIDES-ODP Ocean History Panel, 1994-1997

Member, MESH Steering Committee for NSF Marine Earth System History, 1993-

Member, NAS/U.S. National Committee for INQUA (International Union for Quaternary Research), 1992-1996

Member, NSF Review Panel, The Geologic Record of Global Change, 1990-1991

Counselor for AMQUA, American Quaternary Association, elected 1990-1993

Chair, Oversight Review Panel for NSF Ocean Drilling Program, 1989.

Member, Ocean Sciences Board (NRC) Committee on Oceans' Role in Global Change, 1989-1993

Liaison Member to Advisory Committee for Earth Sciences, NSF, 1988-1990

Member, Advisory Committee for the Atmospheric Sciences, NSF, 1987-1990

Member, Narragansett Bay Project, Scientific and Academic Advisory Committee, 1986

Member, NOAA Review Panel, National Academy of Science, Ocean Studies Board, 1986.

Member of Indian Ocean Panel, Ocean Drilling Program, 1983-1988

Member, NSF Review Panel, JOI Proposal for Management of Ocean Drilling Program, 1984.
 Member, NSF Review Panel for Submarine Geology and Geophysics, Ocean Sciences
 Program, 1980-1982

(iii) SERVICE TO THE COMMUNITY

CoastWeeks 2006: A Celebration of the Coast, 9/27/06, Dissolved Oxygen in Narragansett Bay:
 Status and Implications, Sponsored by: R.I. Coastal Resources Management Council
 Rhode Island Sea Grant College Program

Save the Bay, 6/07/06, Summary of Summer-Season Dissolved Oxygen in the Bottom Waters
 of Upper Narragansett Bay, The Insomniacs

Member Steering Committee of Runnins River Task Force 1995-

Participant in DEM study of Dissolved Oxygen in Narragansett Bay, 1999-

Advisor to Save The Bay, 1999-

Chair, Pastor/Staff Parish Relations committee, Barrington United Methodist Church

Participant in DEM dye study of flushing in the Runnins River, August, 1999

Appointed to Conservation Commission, Barrington, RI 1981-1988; Chair 1982-1986

Appointed to Planning Board of Barrington, RI 1988-1989

Barrington Youth Soccer Association, Coach

8. ACADEMIC HONORS

2002 Hanover College Alumni Achievement Award for distinguished professional service

Profiled in One Hundred Points of Light: A History of SCIENCE at Hanover College by
 Stanley M.Totten, Hanover College, 325 p., 2007.

**Inducted a Fellow of the *American Geophysical Union*, May 29, 2008 “For
 pioneering contributions to the understanding of paleomonsoons and
 glacial-interglacial climates using observations and models”.**

9. TEACHING/EDUCATIONAL ACTIVITY (over last 5 years)

Course offerings

2001-F	Geol. Sci. 111, Estuarine Oceanography	(19)
2001-F	Geol. Sci. 112, Paleoceanography	(12)
2002-S	Geol. Sci. 007, Introduction to Oceanography	(24)
2002-F	Geol. Sci. 111, Estuarine Oceanography	(8)
2003-S	Geol. Sci. 110, Global Descriptive Physical Oceanography	(7)
2003-F	Geol. Sci. 111, Estuarine Oceanography	(11)
2004-S	Geol. Sci. 292, Paleoceanography Seminar	(5)
2004-F	Geol. Sci. 111, Estuarine Oceanography	(10)
2005-S	Geol. Sci. 007, Introduction to Oceanography	(69)
2005-S	Geol. Sci. 110, Global Descriptive Physical Oceanography	(9)
2005-F	Geol. Sci. 111, Estuarine Oceanography	(9)
2006-S	Chair duties	
2007-F	Geol. Sci. 111, Estuarine Oceanography	(4)
2007-S	Chair Duties	
2008-F	Sabbatical	

Ph.D. THESIS SUPERVISION

- Cullen, J., 1984, Climatic variation in the northern Indian Ocean: Analysis of the distribution, geology, and preservation of planktonic foraminifera in Late Quaternary sediments, Brown University Ph.D. Thesis, 312p.
- Peterson, L., 1984, Late Quaternary deep-water paleoceanography of the eastern equatorial Indian Ocean: Evidence from benthic foraminifera, carbonate dissolution, and stable isotopes, Brown University Ph.D. Thesis, 429p
- Dowsett, H., 1988, A biochronological model for correlation of Pliocene marine sequences: Application of the graphic correlation method, Brown University Ph.D. Thesis, 315p
- Clemens, S., 1990, Quaternary variability of Indian Ocean monsoon winds and climate, Brown University Ph.D. Thesis, 317p
- Anderson, D., 1991, Foraminifer evidence of monsoon upwelling off Oman during Late Pleistocene, Brown University Ph.D. Thesis, 291p
- Farrell, J., 1991, Late Neogene paleoceanography of the central equatorial Pacific: Evidence from carbonate preservation and stable isotopes, Brown University Ph.D. Thesis, 508p
- Howard, W., 1992, Late Quaternary paleoceanography of the southern ocean, Brown University Ph.D. Thesis, 345p
- DuBois, Lisa, 1993, Glacial-Holocene Carbonate Preservation History from Equatorial Atlantic Sediment Cores: Paleoceanographic Implications, Brown University Ph.D. Thesis, 273p
- Chen, Jijie, 1994, Benthic Foraminiferal Isotope Composition: Implications for late Neogene-Quaternary Paleoceanography of the Indian Ocean, , Brown University Ph.D. Thesis, 492p.
- Chen, Min-Te, 1994, Late Quaternary Paleoceanography of the Equatorial Indo-Pacific: A Quantitative Analysis Based on Marine Micropaleontological Data, , Brown University Ph.D. Thesis, 342p.
- Oslick, Jeffrey Sheldon, 1998, Reconstructing Hydrographic Gradients and the Carbon Isotopic Composition of Surface Waters using Multiple Species of Planktonic Foraminifera, Brown University Ph.D. Thesis, 210p.
- Trend Staid, Melissa Anne, 1999, Sea-Surface Temperature and Near-Surface Hydrology at the Last Glacial Maximum: A Reconstruction using the Modern Analog Technique, Brown University Ph.D. Thesis, 319p.
- McKenna, Vicki, Spring 2000, *Globoquadrina truncatulinoide* As An Indicator Of Change In The Permanent Thermocline Of The Glacial Arabian Sea, Brown University Ph.D.
- Donnelly, Jeffrey P., 2000, Sedimentary records of late Holocene salt marsh development, storms and sea levels in the northeastern United States, Brown University Ph.D.
- Zabielski, Victor, 2001, Influence of the intermediate waters on the modern and past circulation and ventilation of the northern Arabian Sea.

Currently serving on the following research/thesis committees:

Luo-Ducklow student MBL,

MASTER'S THESIS SUPERVISION

- 1980 Moll, J., Fluctuation in aridity and trade wind intensity as indicated by eolian material from deep-sea cores off northwestern Australia
- 1980 Peterson, L., Major change in Atlantic deep and bottom waters 700,000 years ago: Benthonic foraminiferal evidence from the South Atlantic
- 1982 Start, G., Isotopic and carbonate evidence for two climatic modes in the Quaternary
- 1982 Szumakow, L., Neogene radiolarian stratigraphy of the eastern equatorial Indian Ocean
- 1984 Marvil, R., Paleoceanographic evidence for an intensified Indian summer monsoon at 9,000 yr. BP
- 1985 DuBois, L., Effects of carbonate dissolution on the age structure of deep sea sediments
- 1985 Howard, W., Fluctuation of the subtropical convergence zone: A spectral analysis of carbonate budget and sea surface temperatures
- 1986 Farrell, J., Reconstruction of fluctuations in the Pacific carbonate dissolution gradient: A 4.0 million year record
- 1986 Clemens, S., Dry bulk density estimates from the southeast Indian Ocean sediments: Comparison of water loss and chloride-ion methods
- 1987 Breynaert, R., Paleoceanography of the Indonesian seas
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