

1. Record Nr.	UNINA9910817301103321
Titolo	Applications of analytical chemistry to oceanic carbon cycle studies // Committee on Oceanic Carbon, Ocean Studies Board, Commission on Geosciences, Environment, and Resources, National Research Council
Pubbl/distr/stampa	Washington, D.C. : , : National Academy Press, , 1993
ISBN	1-280-19597-5 9786610195978 0-309-59832-X 0-585-08554-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (viii, 85 pages) : illustrations
Disciplina	551.46
Soggetti	Chemical oceanography Analytical chemistry Carbon cycle (Biogeochemistry)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references (p. 81-85).
Nota di contenuto	Applications of Analytical Chemistry to Oceanic Carbon Cycle Studies -- Copyright -- Acknowledgments -- Contents -- Summary -- SUMMARY OF RECOMMENDATIONS -- The Federal Government's Role -- The Role of Academic Scientists -- Introduction -- NEED FOR NEW APPLICATIONS OF ANALYTICAL CHEMISTRY TO OCEANOGRAPHY -- Oceanographic Measurements -- PRIORITY ANALYTES -- Priority 1 - Quantifying the Anthropogenic Carbon Input -- Priority 2a - Understanding the Biological Pump -- Priority 2b - Tracing Water Masses -- Priority 3 - Other Analytes of Interest -- PRESENT STATUS OF MEASUREMENTS -- Aircraft and Satellites -- THE IDEAL IN SITU SENSOR -- Technologies for Chemical Measurements -- MASS SPECTROMETRY (FENN ET AL., 1990) -- ELECTROCHEMICAL TECHNIQUES -- Potentiometry (Buck, 1984) -- Constant Potential Techniques at Steady State -- Pulse Voltammetry (Osteryoung, 1988 -- Osteryoung and O'Dea, 1986) -- Stripping Voltammetry (Zirino, 1981 -- Shuman and Martin-Goldberg, 1984 -- Van der Berg, 1989) -- Coulometry (Bard and Faulkner, 1980) -- SPECTROPHOTOMETRY --

Absorbance -- Infrared -- Luminescence -- Raman -- Fiber Optics (Wolfbeis, 1991 -- Angel, 1987 -- Seitz, 1988) -- Refractive Index (Eisenberg, 1965 -- Yeung, 1986) -- PIEZOELECTRIC MASS SENSORS (ALDER AND MCCALLUM, 1983 -- CAREY AND KOWALSKI, 1986 -- THOMPSON ET AL., 1986 -- WARD AND BUTTRY, 1990) -- NEW CHEMISTRY -- Immunochemistry -- Polymers and New Materials -- RECOGNITION CHEMISTRY (DOBLER, 1981 -- LEHN, 1985 -- IZATT AND CHRISTENSEN, 1987) -- Chromatography and Electrophoresis (Ewing et al., 1989 -- Pimental and Coonrod, 1987) -- Flow Injection Analysis and Continuous Flow Analysis -- Robotics (Hurst and Mortimer, 1987) -- Chemometrics -- Communications -- Recommendations and Implementation -- THE FEDERAL GOVERNMENT'S ROLE -- Research and Development Needed -- Standards and Calibration. Resources for Instrument Development -- THE ROLE OF ACADEMIC SCIENTISTS -- Priority Setting by the Oceanographic Community -- Education and Training -- References.

Sommario/riassunto

National Academy Press, based in Washington, D.C., features the full text of the 1993 book entitled "Applications of Analytical Chemistry to Oceanic Carbon Cycle Studies," (ISBN 0-309-04928-8) compiled by the Committee on Oceanic Carbon of the Commission on Geosciences, Environment, and Resources of the National Research Council. This report discusses state of the art measurement technologies using analytical chemistry that can be applied to ocean measurement.
