

1. Record Nr.	UNISA996208494403316
Autore	Gordon Howard R.
Titolo	Remote assessment of ocean color for interpretation of satellite visible imagery : a review // Howard R. Gordon, Andre Y. Morel
Pubbl/distr/stampa	New York : , : Springer-Verlag, , [1983] ©1983
ISBN	1-118-66370-5 1-4684-6280-6
Edizione	[1st ed. 1983.]
Descrizione fisica	1 online resource (114 p.)
Collana	Lecture Notes on Coastal and Estuarine Studies ; ; Volume 4
Disciplina	551.4601
Soggetti	Ocean color Optical oceanography - Remote sensing Colors - Analysis
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 (pages 103-114).
Nota di contenuto	I. Introduction -- II. The Physics of Ocean Color Remote Sensing -- A. Irradiance Ratio and Upwelling Subsurface Radiance -- B. Atmospheric Effects -- III. In — Water Algorithms -- A. The Phytoplankton Pigment Algorithms -- B. The 'K' Algorithms -- C. The Seston Algorithms -- D. The Analytic Algorithm -- E. Relationship Between the Algorithms -- IV. Atmospheric Correction -- V. Application of The Algorithms to CZCS Imagery -- VI. Summary and Conclusions -- VII. Appendix I: The Coastal Zone Color Scanner (CZCS) -- VIII. Appendix II: Recent Developments -- A. Clear Water Radiance Concept -- B. Accuracy of Pigment Estimates -- C. Applications -- IX. References.
Sommario/riassunto	Since the pioneering work of Clarke et al. (1970) it has been known that chlorophyll a (or. more generally. pigments) contained in phytoplankton in near-surface waters produced systematic variations in the color of the ocean which could be observed from aircraft. As a direct result of this work. NASA developed the Coastal Zone Color Scanner (CZCS). which was launched on Nimbus-G (now Nimbus-7) in October 1978. (A short description of the CZCS is provided in Appendix I. ) Shortly before launch. at the IUCRM Colloquium on Passive Radiometry of the Ocean (June 1978). a working group on water color

measurements was formed to assess water color remote sensing at that time. A report (Morel and Gordon, 1980) was prepared which summarized the state-of-the-art of the algorithms for atmospheric correction, and phytoplankton pigment and seston retrieval, and which included recommendations concerning the design of next generation sensors. The water color session of the COSPAR/SCOR/IUCRM Symposium 'Oceanography from Space' held in Venice (May 1980, i. e. •• in the post-launch period) provided the opportunity for a reassessment of the state-of-the-art after having gained some experience in the analysis of the initial CZCS imagery. Such an assessment is the purpose of this review paper, which will begin with an outline of the basic physics of water color remote sensing and the fundamentals of atmospheric corrections. The present state of the constituent retrieval and atmospheric correction algorithms will then be critically assessed.

---