Kahru, M., Brown, C.W. (ed.): **Monitoring Algal Blooms: New Techniques for Detecting Large-Scale Environmental Change.** - Springer-Verlag, Berlin - Heidelberg - New York 1997. ISBN 3-540-63188-7. 177 pp.; USD 99.95, DM 148.00, öS 1 080.40, sFr 135.00, GBP 57.00.

Seventeen contributors from four countries prepared seven chapters of the reviewed book. Majority of chapters deal with the Advanced Very High Resolution Radiometry (AVHRR). This technology was originally designed for meteorological and land applications, not for use as a sensor of ocean or water colour. The method is not sensitive in the red and near infrared, and thus it cannot effectively separate various fields of absorption (*e.g.*, phytoplankton blooms). Its sensitivity is well suited for looking at river plumes, turbid estuaries, and other similar water body features. This technology permits a better interpretation of field data under rapidly varying conditions.

Coastal Zone Colour Scanner (CZCS), Ocean Colour and Temperature Scanner (OCTS), and several similar (SeaWifs) and improved (MODIS, MERIS) sensors are now developed or constructed for mapping the water colour. A down-looking multiband optical radiometer, whose output can be interpreted in terms of backseatler by suspended particles, chlorophyll fluorescence, can be used to give concentrations of near-surface phytoplankton and suspended material.

The real cyanobacterial bloom actually starts before the accumulations appear at the surface and therefore it remains undetected by AVHRR Imagine. However, CZCS, OCTS, and further water colour satellites could probably detect it. This ability, I hope, may be used as an early warning detection system in the near future. Phytoplankton species composition is an important parameter in monitoring programs as it informs about eutrophication effects and possible blooms proliferation. As an implication for monitoring, the results published in the book emphasize the importance of an appropriate sampling strategy which takes into account the spatial scales of the main processes that regulate plankton growth. Despite the uncertainties in the interpretation of AVHRR images, this technology provides during cloud-free periods a helpful information about the regional coverage of the water blooms surface, especially when the information is verified by field measurements. Such combination seems to be useful. Field sampling is precise, but satellite images give information on spatial distribution and changes. Another method for the monitoring of algal blooms described in this book uses detectors for water temperature, salinity, pH, and *in vivo* fluorescence which give signal every 10 s. Detectors are affixed on the ferry and the interval of 10 s corresponds to approximately 100 m in the ferry running distance. Routes of the ferry cross the gradient from coastal to oligotrophic seas to detect the extent of anthropogenic effects and provide a time series of long-term duration.

Chapter 6 demonstrates the ability of moored equipment to detect phytoplankton blooms by measuring changes in the absorption properties of the water column. Such data may inform about development and decay of blooms and, together with modelling, they can be used to assess the physiological state of phytoplankton and inform on the species succession.

Although the book demonstrates only some new technologies for detection of large-scale environmental changes, I am sure that a broad spectrum of readers will find a lot of captivating, valuable information and stimuli in it.

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