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Williams, David N. Thomas and Colin S. Reynolds

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Altri autori (Persone) WilliamsPeter J. leB

ThomasDavid N <1962-> (David Neville)

ReynoldsColin S

NielsenE. Steemann <1907-1989.> (Einer Steemann)

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Acknowledgements; Chapter 1 A Biography of Einer Steemann Nielsen: the Man and his Science; Chapter 2 History of the Study of Plankton Productivity; Chapter 3 Physiology and Biochemistry of Photosynthesis

and Algal Carbon Acquisition; Chapter 4 Approaches to the

Measurement of Plankton Production; Chapter 5 Supply and Uptake of Inorganic Nutrients; Chapter 6 Variability of Plankton and Plankton Processes on the Mesoscale; Chapter 7 Assessment of Primary

Production at the Global Scale

Chapter 8 On the Interannual Variability in Phytoplankton Production in

FreshwatersChapter 9 Sustained and Aperiodic Variability in Organic Matter Production and Phototrophic Microbial Community Structure in the North Pacific Subtropical Gyre; Chapter 10 Regional-scale Influences on the Long-term Dynamics of Lake Plankton; Chapter 11 Ecosystem Function and Degradation; Chapter 12 On the Evolution of the Carbon Cycle; Chapter 13 Marine Productivity: Footprints of the Past and Steps into the Future; Appendix Steemann Nielsen's Publications; Index

## Sommario/riassunto

This landmark publication takes the 50th anniversary of the publication of the seminal paper by the Danish scientist, Einer Steemann Nielsen, as an occasion to assess the development, present state and future of the major aspects in freshwater and marine plankton productivity. Each chapter of this important work has been written by internationally-acknowledged experts in the subject, and the whole has been carefully drawn together and edited to provide a book that is an essential tool and reference for all aquatic scientists. The book takes ascending temporal and spatial size scale as it