

Contents



List of contributors vii

Preface ix

- 1 Enhanced UV radiation – a new problem for the marine environment** 1
Robert F. Whitehead, Stephen J. de Mora and Serge Demers
- 2 UV physics and optics** 35
Susana B. Díaz, John H. Morrow and Charles R. Booth
- 3 Spectral weighting functions for quantifying effects of UV radiation in marine ecosystems** 72
Patrick J. Neale
- 4 Marine photochemistry and its impact on carbon cycling** 101
Kenneth Mopper and David J. Kieber
- 5 Photochemical production of biological substrates** 130
David J. Kieber
- 6 Mechanisms of UV damage to aquatic organisms** 149
Warwick F. Vincent and Patrick J. Neale
- 7 Strategies for the minimisation of UV-induced damage** 177
Suzanne Roy

Cambridge University Press

978-0-521-63218-8 - The Effects of UV Radiation in the Marine Environment

Edited by Stephen De Mora, Serge Demers and Maria Vernet

Table of Contents

[More information](#)

vi **Contents**

- 8 UV radiation effects on heterotrophic bacterioplankton and viruses in marine ecosystems** 206
Wade H. Jeffrey, Jason P. Kase and Steven W. Wilhelm
- 9 Effects of UV radiation on the physiology and ecology of marine phytoplankton** 237
Maria Vernet
- 10 Impact of solar UV radiation on zooplankton and fish** 279
Horacio E. Zagarese and Craig E. Williamson
- 11 Implications of UV radiation for the food web structure and consequences on the carbon flow** 310
Behzad J. Mostajir, Serge Demers, Stephen J. de Mora, Robert P. Bukata and John H. Jerome
- Index* 321