

PROCEEDINGS OF SPIE

Ocean Remote Sensing: Methods and Applications

Robert J. Frouin
Editor

2 August 2009
San Diego, California, United States

Sponsored and Published by
SPIE

Volume 7459

Proceedings of SPIE, 0277-786X, v. 7459

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

The papers included in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. The papers published in these proceedings reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from this book:

Author(s), "Title of Paper," in *Ocean Remote Sensing: Methods and Applications*, edited by Robert J. Frouin, Proceedings of SPIE Vol. 7459 (SPIE, Bellingham, WA, 2009) Article CID Number.

ISSN 0277-786X
ISBN 9780819477491

Published by

SPIE

P.O. Box 10, Bellingham, Washington 98227-0010 USA
Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445
SPIE.org

Copyright © 2009, Society of Photo-Optical Instrumentation Engineers

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/09/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.

SPIE 
Digital Library

SPIDigitalLibrary.org

Paper Numbering: Proceedings of SPIE follow an e-First publication model, with papers published first online and then in print and on CD-ROM. Papers are published as they are submitted and meet publication criteria. A unique, consistent, permanent citation identifier (CID) number is assigned to each article at the time of the first publication. Utilization of CIDs allows articles to be fully citable as soon they are published online, and connects the same identifier to all online, print, and electronic versions of the publication. SPIE uses a six-digit CID article numbering system in which:

- The first four digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc.

The CID number appears on each page of the manuscript. The complete citation is used on the first page, and an abbreviated version on subsequent pages. Numbers in the index correspond to the last two digits of the six-digit CID number.

Contents

vii *Conference Committee*

SESSION 1 ATMOSPHERIC CORRECTION OF OCEAN COLOR IMAGERY

- 7459 03 **Influence of thin cirrus clouds on ocean color products** [7459-03]
G. Meister, Futuretech Corp. (United States); B. A. Franz, C. R. McClain, NASA Goddard Space Flight Ctr. (United States)
- 7459 04 **Assessment of 412nm bio-optical reflectance estimator for use in atmospheric correction** [7459-04]
B. Gross, M. Vargas, J. Zhou, A. Gilerson, F. Moshary, S. Ahmed, The City College of New York (United States)
- 7459 05 **Noise and model uncertainties in ocean color remote sensing** [7459-05]
R. Frouin, Univ. of California, San Diego (United States); B. Pelletier, CNRS, Univ. Montpellier II (France)
- 7459 06 **Environmental effects in ocean color remote sensing** [7459-06]
R. Frouin, Scripps Institution of Oceanography (United States); P.-Y. Deschamps, Scripps Institution of Oceanography (United States) and HYGEOS (France); F. Steinmetz, HYGEOS (France)

SESSION 2 MODELING AND INVERSION OF MARINE OPTICAL PROPERTIES

- 7459 09 **Inversion of inherent optical properties of water using artificial neural network techniques for coastal water** [7459-08]
I. Ioannou, J. Zhou, A. Gilerson, B. Gross, F. Moshary, S. Ahmed, The City College of New York (United States)
- 7459 0A **IOP from reflectance measurements to obtain the K_d coefficient: application to the Gabon and Congo coastal waters** [7459-09]
M. Schmeltz, J.-M. Froidefond, OASU-EPOC, CNRS, Univ. Bordeaux 1 (France); F. Jourdain, SHOM (France); N. Martiny, OASU-EPOC, CNRS, Univ. Bordeaux 1 (France)
- 7459 0B **Evaluation of solar stimulated CDOM fluorescence and its impact on the closure of remote sensing reflectance** [7459-10]
J. Zhou, A. Tonizzo, I. Ioannou, S. Hlaing, A. Gilerson, B. Gross, F. Moshary, S. Ahmed, The City College of New York (United States)

SESSION 3 APPLICATIONS FROM EXISTING SATELLITE MISSIONS

- 7459 OD **A cross-calibrated multiple platform ocean surface wind data set** [7459-12]
R. Atlas, NOAA (United States); R. N. Hoffman, Atmospheric and Environmental Research, Inc. (United States); J. Ardizzone, NASA Goddard Space Flight Ctr. (United States)
- 7459 OE **Satellite observation and model simulation of water turbidity in the Chesapeake Bay** [7459-13]
X. Liu, NOAA/NESDIS/Ctr. for Satellite Applications and Research (United States) and SP Systems Inc. (United States); M. Wang, NOAA/NESDIS/Ctr. for Satellite Applications and Research (United States); W. Shi, NOAA/NESDIS/Ctr. for Satellite Applications and Research (United States) and CIRA at Colorado State Univ. (United States)
- 7459 OF **Spectral variability of airborne ocean color data linked to variations in lidar backscattering profiles** [7459-25]
M. A. Montes-Hugo, Mississippi State Univ. (United States) and U.S. Naval Research Lab. (United States); R. Gould, U.S. Naval Research Lab. (United States); Z. Lee, Mississippi State Univ. (United States); R. Arnone, D. Gray, U.S. Naval Research Lab. (United States); J. Churnside, NOAA (United States)
- 7459 OG **Ocean color response to an episode of heavy rainfall in the lagoon of New Caledonia** [7459-15]
C. Dupouy, Ctr. IRD de Nouméa (New Caledonia) and Univ. de la Méditerranée (France); R. Frouin, Scripps Institution of Oceanography (United States); R. Röttgers, GKSS (Germany); J. Neveux, Univ. Pierre et Marie Curie, Paris VI (France); F. Gallois, J.-Y. Panché, Ctr. IRD de Nouméa (United States); P. Gerard, Ctr. IRD de Nouméa (France); C. Fontana, Univ. de la Méditerranée (United States); C. Pinazo, Univ. de la Méditerranée (France); S. Ouillon, Institut de Recherche pour le Développement (New Caledonia); A. Minghelli-Roman, LSEET, CNRS (France)

SESSION 4 NEW SENSORS AND MEASUREMENT CONCEPTS

- 7459 OH **Development of the GOCI data processing system and establishment of Korea Ocean Satellite Center** [7459-16]
Y.-H. Ahn, S. Cho, H.-J. Han, C.-S. Yang, Korea Ocean Research and Development Institute (Korea, Republic of)
- 7459 OI **Prelaunch characterization of the Geostationary Ocean Color Imager** [7459-17]
S. Cho, Y.-H. Ahn, H.-J. Han, J.-H. Ryu, Korea Ocean Research and Development Institute (Korea, Republic of)
- 7459 ON **Beyond the first optical depth: fusing optical data from ocean color imagery and gliders** [7459-24]
M. A. Montes-Hugo, Mississippi State Univ. (United States) and U.S. Naval Research Lab. (United States); R. Gould, R. Arnone, U.S. Naval Research Lab. (United States); H. Ducklow, The Ecosystems Ctr. (United States); K. Carder, D. English, Univ. of South Florida (United States); O. Schofield, J. Kerfoot, Rutgers Univ. (United States)

POSTER SESSION

- 7459 00 **Deep-water chlorophyll concentration global time series fluctuation** [7459-22]
T. Holden, D. Sunil, E. Cheung, D. Cotten, D. Klarberg, G. Tremberger, Jr., T. Nasar, J. Taylor,
P. Marchese, T. Cheung, CUNY Queensborough Community College (United States)

Author Index

Conference Committee

Conference Chair

Robert J. Frouin, Scripps Institution of Oceanography (United States)

Program Track Chair

Allen H.-L. Huang, University of Wisconsin, Madison (United States)

Session Chairs

- 1 Atmospheric Correction of Ocean Color Imagery
Robert J. Frouin, Scripps Institution of Oceanography (United States)
- 2 Modeling and Inversion of Marine Optical Properties
Hubert Loisel, Université du Littoral Côte d'Opale (France)
- 3 Applications from Existing Satellite Missions
Robert J. Frouin, University of California, San Diego (United States)
- 4 New Sensors and Measurement Concepts
Seongick Cho, Korea Ocean Research and Development Institute
(Korea, Republic of)

