PROCEEDINGS OF SPIE

Remote Sensing of the Open and Coastal Ocean and Inland Waters

Robert J. Frouin Hiroshi Murakami Editors

24–25 September 2018 Honolulu, Hawaii, United States

Sponsored by SPIE

Cosponsored by

NASA—National Aeronautics and Space Administration (United States)
RADI—Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (China)
State Key Laboratory of Remote Sensing Science, Chinese Academy of Sciences (China)
Ministry of Earth Sciences (India)

Cooperating Organizations

University of Hawai'i at Mānoa (United States)

JAXA—Japan Aerospace Exploration Agency (Japan)

NICT—National Institute of Information and Communications Technology (Japan)

ISRO—Indian Space Research Organization (India)

ESSO—Earth System Science Organization (India)

Published by SPIE

Volume 10778

The papers 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. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers 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 these proceedings:

Author(s), "Title of Paper," in Remote Sensing of the Open and Coastal Ocean and Inland Waters, edited by Robert J. Frouin, Hiroshi Murakami, Proceedings of SPIE Vol. 10778 (SPIE, Bellingham, WA, 2018) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510621312

ISBN: 9781510621329 (electronic)

Published by

SPIF

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

Copyright © 2018, 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/18/\$18.00.

Printed in the United States of America Vm7 i ffUb 5 ggc WJUhY gĕ ₺ Wži bXYf "JW bgY 'Zfca 'GD-9.

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



Paper Numbering: Proceedings of SPIE follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five 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.

Contents

v Author

- vii Symposium Committees
- ix Conference Committee

SESSION 1	ALGORITHM DEVELOPMENT AND EVALUATION: RADIATIVE TRANSFER MODELING I
10778 03	Remote sensing-based estimation of seagrass percent cover and LAI for above ground carbon sequestration mapping [10778-2]
10778 04	Application potential of GF-4 satellite images for water body extraction [10778-3]
10778 05	Estimating GOCI daily PAR and validation [10778-4]
10778 06	Estimating photosynthetically available radiation at the ocean surface from EPIC/DSCOVR data [10778-5]
SESSION 2	ALGORITHM DEVELOPMENT AND EVALUATION: RADIATIVE TRANSFER MODELING II
10778 0A	Adequacy of semi-analytical water reflectance models in ocean-color remote sensing [10778-9]
10778 0C	Theoretical aspects and operational results of physical deterministic sea surface temperature retrieval [10778-11]
SESSION 3	UTULTATION OF BEAACTE SENSING DATA IN SCIENTIFIC (SOCIETAL ADDUCATIONS I
2E33ION 3	UTILIZATION OF REMOTE SENSING DATA IN SCIENTIFIC/SOCIETAL APPLICATIONS I
10778 0D	GCOM-C/SGLI capability for coastal observation (Invited Paper) [10778-12]
10778 OE	Sentinel-2 MSI and Sentinel-3 OLCI consistent ocean colour products using POLYMER [10778-13]
10778 OF	Machine-learning regression for coral reef percentage cover mapping [10778-15]
10778 0G	The estimation of surface flow velocity for Indonesian flow (ITF) using Himawari-8 SST data [10778-16]

10778 OH	Assessment of eutrophication using remotely sensed chlorophyll-a in the Northwest Pacific region [10778-17]
10778 01	Features of airborne lidar surveys in clear ocean waters using Coastal Zone Mapping and Imaging Lidar (CZMIL) [10778-18]
SESSION 4	UTILIZATION OF REMOTE SENSING DATA IN SCIENTIFIC/SOCIETAL APPLICATIONS II
10778 OJ	Satellite-based seagrass mapping in Korean coastal waters [10778-20]
10778 OK	Rain-derived particles and CDOM distribution along the east coast of New Caledonia [10778-22]
10778 OL	Sun-glint imagery of Landsat 8 for ocean surface waves [10778-23]
10778 OM	Estimating floodwater depths from flood inundation maps and topography [10778-24]
	POSTER SESSION
10778 ON	High-resolution chlorophyll-a ocean color products estimation in turbid estuary and clear open sea waters of the north South China Sea with Landsat-8 OLI [10778-19]
10778 OP	Simulation of non-stationary sea clutter based on DSP [10778-27]
10778 OR	Extraction of marine debris in the Sea of Japan using satellite images [10778-29]
10778 0V	Geostatistical approach for meteo-oceanographic variables evaluation at the Brazilian coast [10778-37]
10778 OW	Specifying algorithm uncertainties in satellite-derived PAR products [10778-38]