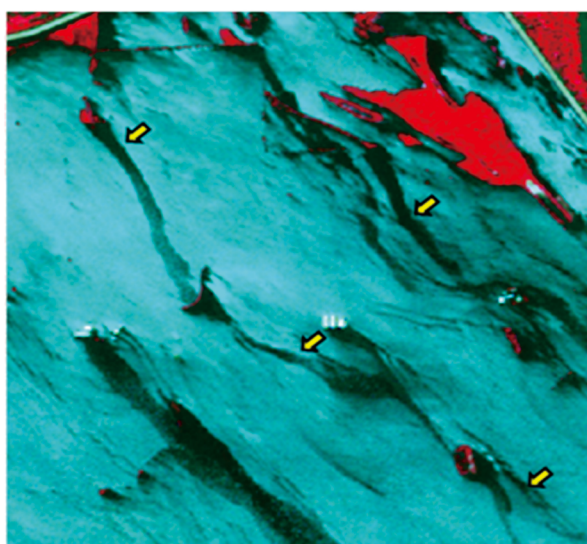
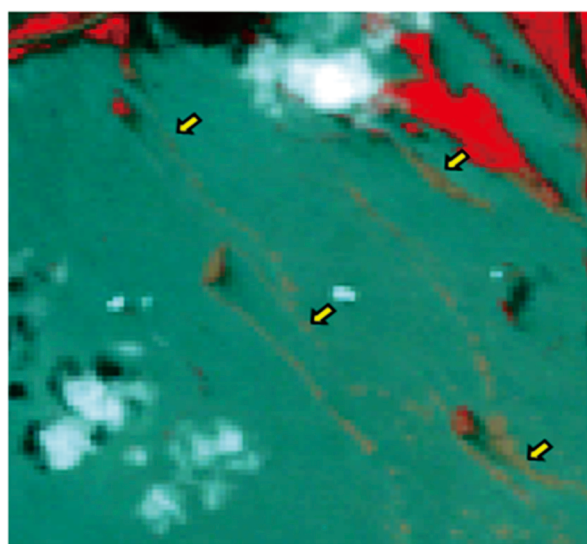


American Journal of Climate Change



ISSN: 2167-9495



Journal Editorial Board

ISSN: 2167-9495 (Print) ISSN: 2167-9509 (Online)

[Http://www.scirp.org/journal/ajcc](http://www.scirp.org/journal/ajcc)

Editors-in-Chief

Prof. John C. Moore

University of Lapland, Finland

Prof. Zhihua Zhang

Beijing Normal University, China

Editorial Board

Prof. James T. Anderson

West Virginia University, USA

Prof. Franco Biondi

University of Nevada, USA

Prof. Michael James C. Crabbe

University of Bedfordshire, UK

Prof. Steven Forman

University of Illinois at Chicago, USA

Dr. Aslak Grinsted

University of Copenhagen, Denmark

Prof. Donald Huisinigh

University of Tennessee, USA

Prof. Amithirigala Widhanelage Jayawardena

National Graduate Institute for Policy Studies, Japan

Dr. Svetlana Jevrejeva

National Oceanography Centre, UK

Prof. Ola M. Johannessen

University of Bergen, Norway

Prof. A. D. Karathanasis

University of Kentucky, USA

Prof. Larry S. Karp

University of California-Berkely, USA

Prof. Michael Laar

Lutheran University of Brazil, Brazil

Dr. Yuri Ya. Latypov

Russian Academy of Sciences, Russia

Prof. Monique Leclerc

University of Georgia, USA

Prof. María Dolores Ruiz Medina

University of Granada, Spain

Prof. Terrence Nathan

University of California at Davis, USA

Prof. Andreas Oberheitman

Rheinisch-Westfälisches Institut für Wirtschaftsforschung, Germany

Prof. Soon-Ung Park

Seoul National University, South Korea

Prof. Dan Partan

Boston University, USA

Prof. Robert V. Percival

University of Maryland, USA

Prof. Alpert Pinhas

Tel Aviv University, Israel

Prof. Veijo Allan Pohjola

Uppsala University, Sweden

Dr. Annette Rinke

Alfred Wegener Institute for Polar and Marine Research, Germany

Prof. Francisco J. Rodríguez-Tovar

University of Granada, Spain

Prof. Patrik Söderholm

Lulea University of Technology, Sweden

Dr. Olga N. Solomina

Russian Academy of Sciences, Russia

Prof. Robet W. Talbot

University of Houston, USA

Prof. Roberto Udisti

University of Florence, Italy

Prof. Qiang Zhang

Sun Yat-sen University, China

Dr. Thomas Zwinger

CSC—IT Center for Science Ltd., Finland

TABLE OF CONTENTS

Volume 2 Number 2

June 2013

Recent Extremes of Drought and Flooding in Amazonia: Vulnerabilities and Human Adaptation

J. A. Marengo, L. S. Borma, D. A. Rodriguez, P. Pinho, W. R. Soares, L. M. Alves.....87

Coral Reef Populations in the Caribbean: Is There a Case for Better Protection against Climate Change?

M. J. C. Crabbe.....97

Special Section on Hydrology, Water Resources and Environmental Hazards

Regional Climate Index for Floods and Droughts Using Canadian Climate Model (CGCM3.1)

N. El-Jabi, N. Turkkan, D. Caissie.....106

Three Dimensional Numerical Modeling of Flow and Pollutant Transport in a Flooding Area of 2008 US Midwest Flood

X. B. Chao, A. K. M. A. Hossain, Y. F. Jia.....116

Assessment of the Spatial Uncertainty of Nitrates in the Aquifers of the Campania Plain (Italy)

N. Diodato, L. Esposito, G. Bellocchi, L. Vernacchia, F. Fiorillo, F. M. Guadagno.....128

Global River Basin Modeling and Contaminant Transport

R. Bahadur, C. Ziemniak, D. E. Amstutz, W. B. Samuels.....138

Consistency of Hydrologic Relationships of a Paired Watershed Approach

H. Ssegane, D. M. Amatya, G. M. Chescheir, W. R. Skaggs, E. W. Tollner, J. E. Nettles.....147

Contrasting Historical and Recent Breakup Styles on the Meade River of Arctic Alaska in the Context of a Warming Climate

R. A. Beck, K. M. Hinkel, W. R. Eisner, D. Whiteman, C. D. Arp, R. Machida, C. Cuomo, H. X. Liu, C. Kim, A. J. Rettig,
C. Ivenso, B. Yang, Q. S. Wu, H. B. Su, S. J. Wang, K. Frey, J. D. Lenters, B. L. Potter.....165

The figure on the front cover is from the article published in *American Journal of Climate Change*, 2013, Vol. 2, No. 2, pp. 116-127 by Xiaobo Chao, A. K. M. Azad Hossain and Yafei Jia.

American Journal of Climate Change (AJCC)

Journal Information

SUBSCRIPTIONS

The *American Journal of Climate Change* (Online at Scientific Research Publishing, www.SciRP.org) is published quarterly by Scientific Research Publishing, Inc., USA.

Subscription rates:

Print: \$39 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: sub@scirp.org

SERVICES

Advertisements

Advertisement Sales Department, E-mail: service@scirp.org

Reprints (minimum quantity 100 copies)

Reprints Co-ordinator, Scientific Research Publishing, Inc., USA.

E-mail: sub@scirp.org

COPYRIGHT

Copyright©2013 Scientific Research Publishing, Inc.

All Rights Reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as described below, without the permission in writing of the Publisher.

Copying of articles is not permitted except for personal and internal use, to the extent permitted by national copyright law, or under the terms of a license issued by the national Reproduction Rights Organization.

Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

Statements and opinions expressed in the articles and communications are those of the individual contributors and not the statements and opinion of Scientific Research Publishing, Inc. We assume no responsibility or liability for any damage or injury to persons or property arising out of the use of any materials, instructions, methods or ideas contained herein. We expressly disclaim any implied warranties of merchantability or fitness for a particular purpose. If expert assistance is required, the services of a competent professional person should be sought.

PRODUCTION INFORMATION

For manuscripts that have been accepted for publication, please contact:

E-mail: ajcc@scirp.org



American Journal of Climate Change(AJCC)

ISSN: 2167-9495 (Print) ISSN: 2167-9509 (Online)
Http://www.scirp.org/journal/ajcc

American Journal of Climate Change (AJCC) is an international scientific journal dedicated to the publication of high-quality research articles, short communications and review papers on all aspects of climate change and related areas. The objectives of this journal are to chronicle the important publications in the rapidly growing field of climate change and to stimulate research in the area.

Subject Coverage

All manuscripts must be prepared in English, and are subject to a rigorous and fair peer-review process. Accepted papers will immediately appear online followed by printed hard copy. Topics to be covered by this journal include, but are not limited to the following fields:

- ◆ Advanced Statistical Tools and Methods in Climate Change
- ◆ Air Pollution and Climate Change
- ◆ Atmospheric and Marine Sciences
- ◆ Boundary-Layer Meteorology
- ◆ Climate and Earth System Modeling
- ◆ Climate Change Economics
- ◆ Climate Dynamics
- ◆ Climate Policy
- ◆ Earth Observation and Data Assimilation
- ◆ Environmental and Resource Science
- ◆ Global Change Ecology
- ◆ Hurricanes and Other Extreme Events
- ◆ Hydrology and Limnology
- ◆ Impacts of Climate Change on the Cryosphere
- ◆ Meteorology and Atmospheric Physics
- ◆ Natural and Anthropogenic Climate Forcing Attribution
- ◆ Numerical Methods in Climate Research
- ◆ Paleoclimate Analysis and Interpretation
- ◆ Remote Sensing & Geoinformatics
- ◆ Renewable Energy
- ◆ Sustainable Agriculture, Forestry, and Soil Science
- ◆ Sustainable Development
- ◆ Theoretical and Applied Climatology
- ◆ Volcanology

We are also interested in: 1) Short Reports—2-5 page papers where an author can either present an idea with theoretical background but has not yet completed the research needed for a complete paper or preliminary data; 2) Book Reviews—Comments and critiques.

Notes for Intending Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. Paper submission will be handled electronically through the website. All papers are refereed through a peer review process. For more details about the submissions, please access the website.

Website and E-Mail

<http://www.scirp.org/journal/ajcc>

E-mail: ajcc@scirp.org

What is SCIRP?

Scientific Research Publishing (SCIRP) is one of the largest Open Access journal publishers. It is currently publishing more than 200 open access, online, peer-reviewed journals covering a wide range of academic disciplines. SCIRP serves the worldwide academic communities and contributes to the progress and application of science, by delivering superior scientific publications and scientific information solution provider that enable advancement in scientific research.

What is Open Access?

All original research papers published by SCIRP are made freely and permanently accessible online immediately upon publication. To be able to provide open access journals, SCIRP defrays operation costs from authors and subscription charges only for its printed version. Open access publishing allows an immediate, world-wide, barrier-free, open access to the full text of research papers, which is in the best interests of the scientific community.

- High visibility for maximum global exposure with open access publishing model
- Rigorous peer review of research papers
- Prompt faster publication with less cost
- Guaranteed targeted, multidisciplinary audience



Website: <http://www.scirp.org>

Subscription: sub@scirp.org

Advertisement: service@scirp.org