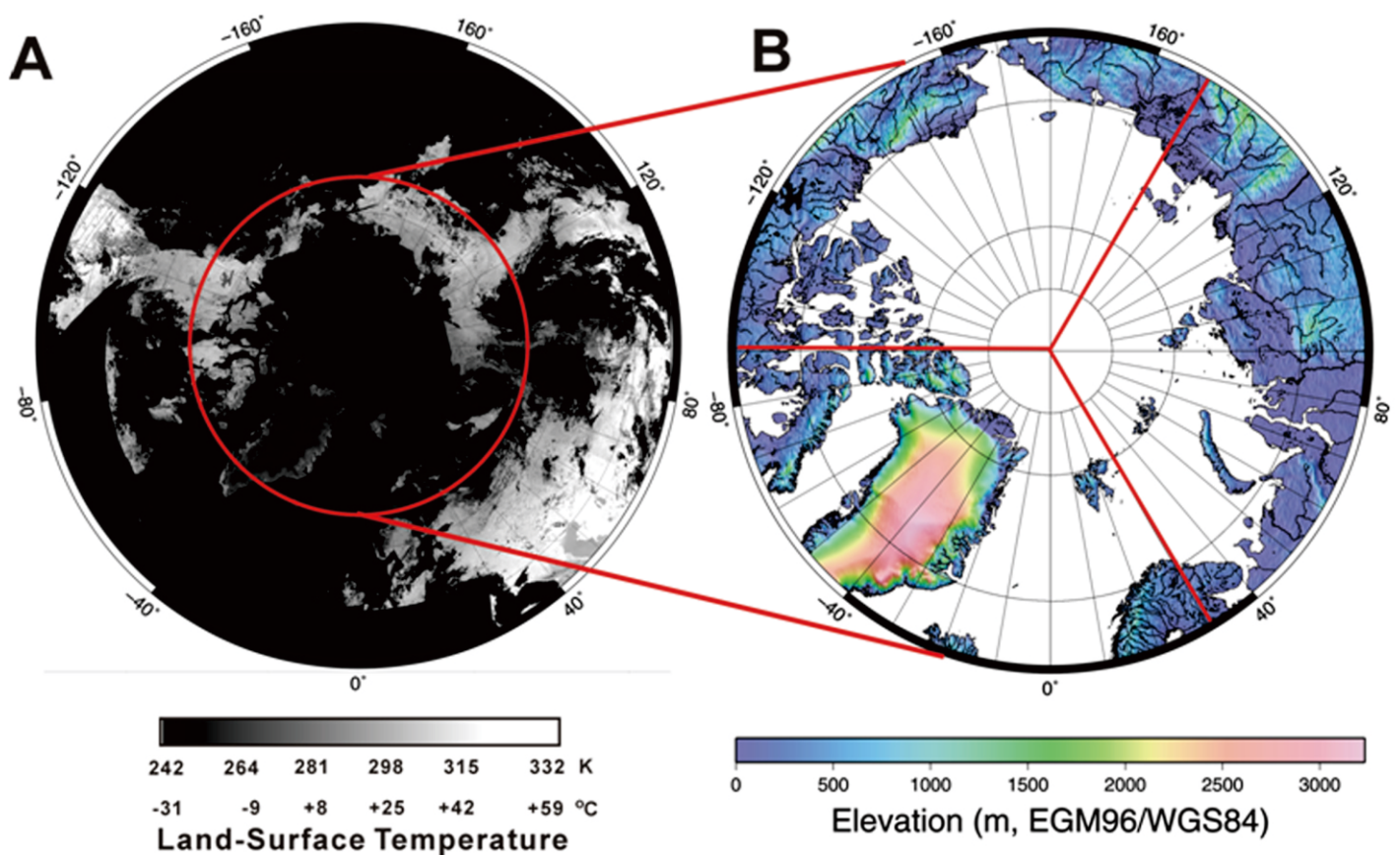




# Atmospheric and Climate Sciences



ISSN: 2160-0414



# JOURNAL EDITORIAL BOARD

ISSN 2160-0414 (Print) ISSN 2160-0422 (Online)

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

---

## Editor in Chief

**Dr. Shaocai Yu** U.S. Environmental Protection Agency, USA

## Editorial Board (According to Alphabet)

**Prof. Viney P. Aneja** North Carolina State University, USA  
**Dr. Jørgen Brandt** Aarhus University, Denmark  
**Prof. Chak K. Chan** Hong Kong University of Science and Technology, China  
**Prof. Yoon-Seok Chang** Pohang University of Science and Technology, South Korea  
**Dr. Ke Du** Chinese Academy of Sciences, China  
**Dr. Jiwen Fan** Pacific Northwest National Laboratory, USA  
**Dr. Guobin Fu** CSIRO Land and Water, Australia  
**Dr. Paolo Di Girolamo** Università degli Studi della Basilicata, Italy  
**Dr. Andreas Hofzumahaus** Institute of Energy and Climate Research, Germany  
**Dr. Daniel A. Knopf** Stony Brook University, USA  
**Dr. Yanqing Lian** University of Illinois, USA  
**Prof. Athanasios Nenes** Georgia Institute of Technology, USA  
**Prof. Junbom Park** Seoul National University, South Korea  
**Dr. Alessandro Pezzoli** Turin Polytechnic, Italy  
**Prof. Nicole Riemer** University of Illinois at Urbana-Champaign, USA  
**Dr. Rajib Shaw** Kyoto University, Japan  
**Prof. Daniel Tong** US NOAA Air Resources Laboratory, USA  
**Dr. Krishna Prasad Vadrevu** University of Maryland, USA  
**Prof. Julian X. L. Wang** US NOAA Air Resources Laboratory, USA  
**Prof. Tijian Wang** Nanjing University, China  
**Dr. Jianjun Xu** University of Arizona, USA  
**Prof. Fangqun Yu** State University of New York at Albany, USA  
**Prof. Qiang Zhang** Sun Yat-sen University, China

## Guest Reviewer

**Dujuan Kang**

## TABLE OF CONTENTS

Volume 3 Number 1

January 2013

<b>Contrasting Vertical Structure of Recent Arctic Warming in Different Data Sets</b>	
I. Esau, V. Alexeev, I. Repina, S. Sorokina.....	1
<b>The Use of Greenhouse Gases as Climate Proxy Data in Interpreting Climatic Variability</b>	
O. E. Ogunsola, E. O. Oladiran.....	6
<b>An Investigation of the Factors Affecting the Ozone Concentrations in an Urban Environment</b>	
A. Sfetsos, D. Vlachogiannis, N. Gounaris.....	11
<b>Understanding of the Fate of Atmospheric Pollutants Using a Process Analysis Tool in a 3-D Regional Air Quality Model at a Fine Grid Scale</b>	
Y. Zhang, S.-Y. Wu.....	18
<b>Climate Change Associated with Global Teleconnections, Volcanic Eruptions, and the Arctic's Snow-Ice Albedo in Godthab, Greenland</b>	
A. Penner, J. Binyamin.....	31
<b>Performance Evaluation of Four Commercial Optical Particle Counters</b>	
F. Belosi, G. Santachiara, F. Prodi.....	41
<b>Influence of Solar Cycle Variations on Solar Spectral Radiation</b>	
U. A. Rahoma, R. Helal.....	47
<b>MODIS-Derived Arctic Land-Surface Temperature Trends</b>	
R. R. Muskett.....	55
<b>Preliminary Results of a Data Assimilation System</b>	
S. Federico.....	61
<b>Mesoscale Numerical Study of Quasi-Stationary Convective System over Jeddah in November 2009</b>	
M. Haggag, H. El-Badry.....	73
<b>Atmospheric Trajectory and Chemical Transport Modelling for Elevated Ozone Events in Denmark</b>	
A. Mahura, R. Nuterman, I. Petrova, B. Amstrup.....	87
<b>Characterizing PM<sub>2.5</sub> Pollution of a Subtropical Metropolitan Area in China</b>	
G. J. Sun, L. Yao, L. Jiao, Y. Shi, Q. Y. Zhang, M. N. Tao, G. R. Shan, Y. He.....	100
<b>Seasonal Variations of the Surface Fluxes and Surface Parameters over the Loess Plateau in China</b>	
W. Li, T. Hiyama, N. Kobayashi.....	111
<b>Dynamics and Diurnal Variations of Surface Radiation Budget over Agricultural Crops Located in Sudanian Climate</b>	
B. Kounouhewa, O. Mamadou, G. K. N'Gobi, C. N. Awanou.....	121
<b>Climate Variation and Malaria Prevalence in Warri Metropolis</b>	
S. I. Efe, C. O. Ojoh.....	132
<b>On the Chain Length and Rate of Ozone Depletion in the Main Stratospheric Cycles</b>	
I. Larin.....	141
<b>Diagnostic Study of a Severe Thunderstorm over Jeddah</b>	
A. K. AL-Khalaf, H. A. Basset.....	150

---

The figure on the front cover is from the article published in Atmospheric and Climate Sciences, 2013, Vol. 3, No. 1, pp. 55-60 by Reginald R. Muskett.

# **Atmospheric and Climate Sciences (ACS)**

## **Journal Information**

### **SUBSCRIPTIONS**

The *Atmospheric and Climate Sciences* (Online at Scientific Research Publishing, [www.SciRP.org](http://www.SciRP.org)) is published quarterly by Scientific Research Publishing, Inc., USA.

#### **Subscription rates:**

Print: \$59 per issue.

To subscribe, please contact Journals Subscriptions Department, E-mail: [sub@scirp.org](mailto:sub@scirp.org)

### **SERVICES**

#### **Advertisements**

Advertisement Sales Department, E-mail: [service@scirp.org](mailto:service@scirp.org)

#### **Reprints (minimum quantity 100 copies)**

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

E-mail: [sub@scirp.org](mailto: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.

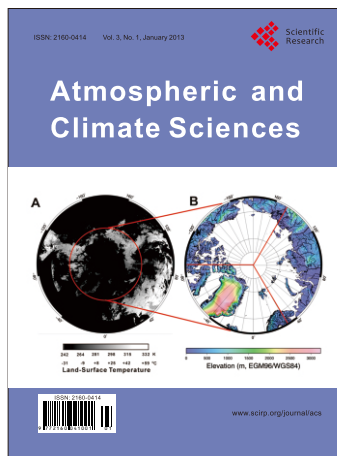
Requests for permission for other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works or for resale, and other enquiries should be addressed to the Publisher.

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: [acs@scirp.org](mailto:acs@scirp.org)



# Atmospheric and Climate Sciences (ACS)

ISSN 2160-0414 (Print) ISSN 2160-0422 (Online)

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

## Editor-in-Chief

Dr. Shaocai Yu

U.S. Environmental Protection Agency, USA

## Subject Coverage

This journal invites original research and review papers that address the following issues. Topics of interest include, but are not limited to:

**ACS** aims to rapidly publish original scientific papers in all the fields of applied and/or climate atmospheric science. It covers the latest achievements and developments in the applied climate and atmospheric sciences, including but not limited to the following scopes as well as the theoretical and practical aspects of these disciplines:

- Agricultural climatology
- Air chemistry and the boundary layer, clouds and weather modification
- Air quality, atmosphere & health
- Applied meteorology
- Atmospheric acoustics, electricity, optics, physics, radiation and sounding
- Atmospheric and oceanic physics
- Atmospheric and solar-terrestrial physics
- Atmospheric chemistry
- Atmospheric environment
- Aviation climatology
- Biometeorology
- Building climatology and forestry climatology
- Climate change and broadcast meteorology
- Climate dynamics and variability
- Climate policy
- Clouds and precipitation physics
- Cosmic meteorology
- Dendroclimatology
- Dynamics of atmospheres and ocean
- Hydrology, oceans and atmosphere
- Hydrometeorology
- Marine meteorology and meteorology-associated geophysics
- Medical meteorology and medical climatology
- Meteorological, climatological and atmospheric environmental issues
- Navigation climatology
- Phenology and paleoclimatology
- Polar meteorology
- Radar meteorology and radio meteorology
- Remote sensing
- Satellite meteorology and synoptic meteorology
- Theoretical and applied climatology
- Tropical meteorology
- Weather systems, numerical weather prediction

We are also interested in short papers (letters) that clearly address a specific problem, and short survey or position papers that sketch the results or problems on a specific topic. Authors of selected short papers would be invited to write a regular paper on the same topic for future issues of the **ACS**.

## 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/acs>

E-mail: [acs@scirp.org](mailto:acs@scirp.org)