



# 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

**Prof. Shaocai Yu** North Carolina State University, USA

## Editorial Board (According to Alphabet)

**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. Paolo Di Girolamo** Università degli Studi della Basilicata, Italy  
**Dr. Ke Du** University of Calgary, Canada  
**Dr. Jiwen Fan** Pacific Northwest National Laboratory, USA  
**Dr. Guobin Fu** CSIRO Land and Water, Australia  
**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. Ioannis Liritzis** University of the Aegean, Greece  
**Prof. Athanasios Nenes** Georgia Institute of Technology, USA  
**Prof. Junbom Park** Seoul National University, South Korea  
**Dr. Alessandro Pezzoli** Turin Polytechnic, Italy  
**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** George Mason University, USA  
**Prof. Fangqun Yu** State University of New York at Albany, USA  
**Prof. Qiang Zhang** Sun Yat-sen University, China

## Table of Contents

Volume 4    Number 4

October 2014

### **Trend Analysis of Drought in the Guinea and Sudano-Sahelian Climatic Zones of Northern Nigeria (1907-2006)**

T. O. Omonijo, E. C. Okogbue.....483

### **A Quantistic Interpretation of the Relationship between the Earth-Core and the Atmosphere**

S. Manzetti.....508

### **Snow Cover Area Estimation Using Radar and Optical Satellite Information**

A. P. Salcedo, M. G. Cogliati.....514

### **Spatial-Temporal Variations in January Temperature in Pakistan and their Possible Links with SLP and 500-hPa levels over the Period of 1950-2000: A Geographical Approach**

I. Ahmad, R. Ambreen, S. Sultan, Z. B. Sun, W. T. Deng.....524

### **Study of Weak Intensity Cyclones over Bay of Bengal Using WRF Model**

R. D. Kanase, P. S. Salvekar.....534

### **Detection of changes on temperature and precipitation features in Istanbul (Turkey)**

H. Turoğlu.....549

### **Temporal Variation of the Concentration of Carbon Monoxide in the Center West of Brazil**

A. de Souza, F. Aristones, G. B. M. Silva, W. A. Fernandes, C. Braga.....563

### **Trends in Vegetation Response to Drought in Sudano-Sahelian Part of Northern Nigeria**

B. B. Fabeku, E. C. Okogbue.....569

### **Assessment of the 2006-2012 Climatological Fields and Mesoscale Features from Regional Downscaling of CESM Data by WRF-Chem over Southeast Alaska**

N. Mölders, C. L. Bruyère, S. Gende, M. A. Pirhalla.....589

### **Integration of Climate Change into the Senior Secondary School Agricultural Science Curriculum in Nigeria**

M. E. Ikehi, F. O. Ifeanyieze, C. U. Ugwuoke.....614

### **Near-Field Variability of Residential Woodsmoke Concentrations**

T. L. Thatcher, T. W. Kirchstetter, S. H. Tan, C. J. Malejan, C. E. Ward.....622

### **Application of the Soft X-Ray TSI Advanced Aerosol Neutralizer to Aerosol Measurements Made by a Grimm SMPS**

A. Nicosia, F. Belosi, B. Vazquez.....636

<b>Greenhouse Gas Emissions: Contributions Made by Football Clubs in England</b>	
A. Dosumu, I. Colbeck, R. Bragg.....	642
<b>Does the Homogeneous Ice Nucleation Initiate in the Bulk Volume or at the Surface of Super-Cooled Water Droplets? A Review</b>	
G. Santachiara, F. Belosi.....	653
<b>An Analysis of the Cycles and Periodicities of Annual Rainfall over Awka Region, Nigeria</b>	
E. E. Ezenwaji, P. O. Phil-Eze, I. C. Enete, B. O. Osuiwu.....	665
<b>A Study of Human Thermal Comfort, Ozone and Respiratory Diseases in Children</b>	
A. de Souza, F. Aristone, L. Fernandes.....	672
<b>Thermal Flows in the Surface Atmosphere of the Riobamba City</b>	
A. Haro, C. Limaico, Y. Llosas.....	679
<b>Variation of Zonal Winds in the Upper Troposphere and Lower Stratosphere in Association with Deficient and Excess Indian Summer Monsoon Scenario</b>	
V. Madhu.....	685
<b>A Perspective of the Diurnal Aspect of Thermal Comfort in Nigeria</b>	
O. M. Eludoyin.....	696
<b>Impact of Climate Change on Aquatic Fauna of Economic Importance in Niger Delta, Nigeria</b>	
E. I. Elenwo, J. A. Akankali.....	710
<b>Regional Characteristics of Temperature Anomalies in Pakistan with Emphasis on Spatial Distribution at Decadal Scale: A Case Study of August (1950s-2000s)</b>	
I. Ahmad, R. Ambreen, S. Sultan, Z. B. Sun, M. Nawaz.....	721
<b>Late Twentieth-Century Warming and Variations in Cloud Cover</b>	
J. McLean.....	727
<b>Projecting Extreme Changes in Summer Rainfall in South America by the Middle of the 21st Century</b>	
P. A. M. Fonseca, J. A. P. Veiga, F. W. S. Correia, A. L. Brito, M. R. Queiroz, A. A. Lyra, S. C. Chou.....	743
<b>Convective Rainfall Systems in the La Plata Basin</b>	
A. J. P. Filho, R. E. Carbone, J. D. Tuttle.....	757

## **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: \$79 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 AND REUSE RIGHTS FOR THE FRONT MATTER OF THE JOURNAL:**

Copyright © 2014 by Scientific Research Publishing Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY).

<http://creativecommons.org/licenses/by/4.0/>

##### **COPYRIGHT FOR INDIVIDUAL PAPERS OF THE JOURNAL:**

Copyright © 2014 by author(s) and Scientific Research Publishing Inc.

##### **REUSE RIGHTS FOR INDIVIDUAL PAPERS:**

Note: At SCIRP authors can choose between CC BY and CC BY-NC. Please consult each paper for its reuse rights.

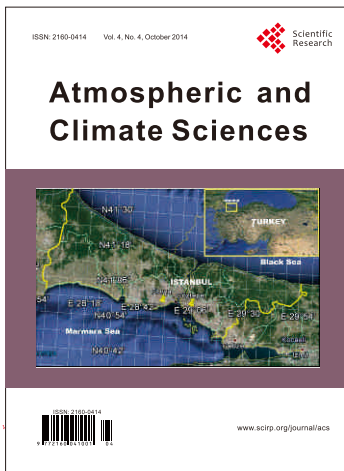
##### **DISCLAIMER OF LIABILITY**

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

Prof. Shaocai Yu

North Carolina State University, 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
- Cosmical 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)



## ***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 with its publication.

## ***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, worldwide, 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



**Scientific  
Research**

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

**Subscription: [sub@scirp.org](mailto:sub@scirp.org)**

**Advertisement: [service@scirp.org](mailto:service@scirp.org)**