

CONTENTS

WCRP CLIVAR/GEWEX Monsoon Panel Special Issue on Global and Regional Monsoons: State of the Art and Perspectives

- 1521 **Preface to the WCRP CLIVAR/GEWEX Monsoon Panel Special Issue on Global and Regional Monsoons: State of the Art and Perspectives**  
Annalisa CHERCHI, Satyaban Bishoyi RATNA, Rondrotiana BARIMALALA, Hiroshi G. TAKAHASHI, Pankaj KUMAR, Alice M GRIMM, Ruth CERZO-MOTA, and Suryachandra A RAO
- 1 **Advancing Asian Monsoon Climate Prediction under Global Change: Progress, Challenges, and Outlook**  
Bin WANG, Fei LIU, Renguang WU, Qinghua DING, Shaobo QIAO, Juan LI, Zhiwei WU, Keerthi SASIKUMAR, Jianping LI, Qing BAO, Haishan CHEN, and Yuhang XIANG
- 30 **The Observed and Projected Changes of Global Monsoons: Current Status and Future Perspectives**  
Tianjun ZHOU, Xiaolong CHEN, Wenxia ZHANG, Bo WU, Ziming CHEN, Jie JIANG, Xin HUANG, Shuai HU, Meng ZUO, Wenmin MAN, Lixia ZHANG, Zhun GUO, Pengfei LIN, and Lu WANG
- 59 **Modeling of Precipitation over Africa: Progress, Challenges, and Prospects**  
A. A. AKINSANOLA, C. N. WENHAJI, R. BARIMALALA, P-A MONERIE, R. D. DIXON, A. T. TAMOFFO, M. O. ADENIYI, V. ONGOMA, I. DIALLO, M. GUDOSHAVA, C. M. WAINWRIGHT, R. JAMES, K. C. SILVERIO, A. FAYE, S. S. NANGOMBE, M. W. POKAM, D. A. VONDOU, N. C. G. HART, I. PINTO, M. KILAVI, S. HAGOS, E. N. RAJAGOPAL, R. K. KOLLI, and S. JOSEPH
- 87 **Impacts of 1.5°C and 2.0°C Global Warming on the Onset, Cessation, and Length of the Rainy Season in Global Land Monsoon Regions**  
Thierry N. TAGUELA, Ibraheem RAJI, Akintomide A. AKINSANOLA, Priyanshi SINGHAI, Oluwafemi E. ADEYERI, Caroline M. WAINWRIGHT, and Rondrotiana BARIMALALA
- 103 **Differential Vegetation Feedback on the Global Land Monsoon System during the Mid-Holocene and Last Interglacial**  
Zhenqian WANG, Qiong ZHANG, Jie CHEN, and Zixuan HAN
- 1524 **Land-Surface Influences on Precipitation Characteristics in the Wet Asian Monsoon Regions: A Review Integrating High-Resolution Satellite Observations and Convection-Permitting Climate Modeling**  
Hiroshi G. TAKAHASHI, Shiori SUGIMOTO, Hatsuki FUJINAMI, and Tomonori SATO
- 1549 **Emerging Trends in the Climate Change Impact on Indian Summer Monsoon Rainfall**  
B. N. GOSWAMI, P. V. RAJESH, Subodh K. SAHA, Bijit K. BANERJEE, and Devabrat SHARMA
- 1574 **Why Was the Official Australian Monsoon Onset Unusually Late in 2024/25?**  
Tim COWAN, Rajashree NAHA, Hanh NGUYEN, Hanna HEIDEMANN, Sugata NARSEY, Matthew C. WHEELER, Corey ROBINSON, Chris LUCAS, Andrew G. MARSHALL, and Lin WANG
- 1587 **Disentangling Internal Variability and Forced Response in Global Land Monsoon Projection Uncertainty: Insights from Multi-Model Large Ensembles**  
Lu WANG, Xiaolong CHEN, Yan ZHAO, Yuqing LI, and Pengfei LIN

On the cover

The cover photo (Credit: Satyaban Bishoyi Ratna), captured during the peak monsoon season in August 2023 at Lavasa in the Western Ghats of India, illustrates the dynamic interplay of atmospheric processes, orography, and land-water interactions that characterize monsoon systems. Low clouds, persistent rainfall, and the lush green landscape reflect intense moisture transport and convective activity associated with the Indian summer monsoon. The Western Ghats, acting as a major orographic barrier, significantly enhance precipitation, shaping regional hydrology and sustaining ecosystems and livelihoods. This scene resonates with the themes of this Special Issue on "Global and Regional Monsoons: State of the Art and Perspectives".

# Advances in Atmospheric Sciences

大气科学进展(英文)

Volume 43 Number 8 August 2026



WCRP CLIVAR / GEWEX Monsoon Panel Special Issue on

## Global and Regional Monsoons: State of the Art and Perspectives



International Association of Meteorology  
and Atmospheric Sciences



Springer

**The special issue is now  
available on the website.  
Read the full issue here**