

Dr. Zhong Liu

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Education:

The Ohio State University, Columbus, OH, PhD, Atmospheric Sciences (David Bromwich)

South Dakota School of Mines and Technology, SD, MS, Meteorology (Paul Smith)

Shandong College of Oceanography, China, BS, Marine Meteorology

Appointments (In reverse chronological order):

- Research Professor, CSISS, George Mason University, 9/2009-present
- Research Associate Professor, CEOSR, George Mason University, 8/2007-8/2009
- Senior Research Scientist, CEOSR, George Mason University, 7/1999-7/2007
- Senior Research Scientist, Smart, Inc., 7/1997-6/1999
- Research Associate, The Ohio State University, 10/1995-6/1997

Honors & Professional Memberships:

- NASA Group Achievement Award for Innovative Multi-mission Data Services (2009)
- NASA Group Achievement Award for Earth Science Data Search, Exploration and Access Implement Team (Giovanni and Mirador) (2009)
- NASA GSFC Robert H. Goddard Honor Award for Engineering (2008)
- NASA GSFC Robert H. Goddard Honor Award for Outreach (2008)
- Quarterly Customer Service Excellence Award from NASA GSFC (2001)
- Customer Service Excellence Award from NASA GSFC (2001)
- Antarctic Service Medal issued by National Science Foundation
- Antarctic Service Medal issued by U.S. Navy
- Member of American Meteorological Society
- Member of American Geophysical Union

Selected Recent Publications (*out of 103*)

Book Chapters:

Liu, Z., D. Ostrenga, W. Teng and S. Kempler (2014) Developing online visualization and analysis services for NASA satellite-derived global precipitation products during the Big Geospatial Data era. Chapter 5 In: *Big GeoSpatial Data*, Taylor & Francis, 89-114

Liu, Z., J. Acker, 2010, Monitoring Oysters Using Remote Sensing Data and Services: a Case Study of the Apalachicola River and Bay Watershed during Recent Droughts, in Theme: Fisheries and Aquaculture, *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management (2010)*, EU PRESPO and IOCCG, Jesus Morales,

- Venetia Stuart, Trevor Platt and Shubha Sathyendranath, editors, pp. 3-20 (available: <http://www.ioccg.org/handbook.html>)
- Acker, J., Z. Liu, 2010, Remote-sensing case study of the Chesapeake Bay region during drought (2002) and flood (2003) years, in Theme: Air/Water Quality, *Handbook of Satellite Remote Sensing Image Interpretation: Applications for Marine Living Resources Conservation and Management (2010)*, EU PRESPO and IOCCG, Jesus Morales, Venetia Stuart, Trevor Platt and Shubha Sathyendranath, editors, pp. 187-205 (available: <http://www.ioccg.org/handbook.html>)
- Liu, Z., S. Kempler, W. Teng, H. Rui, L. S. Chiu, and L. Milich, 2010, Global Agriculture Information System and its Applications, in Other Applications, *Advanced Geoinformation Science*, Yang, C., D. Wong, Q. Miao, and R. Yang, editors, pp.353-361, CRC Press, Taylor & Francis.
- Liu, Z., H. Rui, W. Teng, L. Chiu, G. Leptoukh and G. Vicente, 2007. Online Visualization and Analysis: A New Avenue to Use Satellite Data for Weather, Climate and Interdisciplinary Research and Applications. A book chapter for EURAINSAT by Kluwer Academic Publishers, 549-558.
- Vicente, G. and the GES DAAC Hydrology Data Support Team, 2007. Data Availability for Scientists and Operational Users. A book chapter for EURAINSAT by Kluwer Academic Publishers, 49-58.

Referral Publications:

- Liu, Z. D. Ostrenga, W. Teng, S. Kempler, and L. Milich, 2014, Developing GIOVANNI-based online prototypes to intercompare TRMM-related global gridded-precipitation products, *Computers and Geosciences*, [Volume 66](#), May 2014, Pages 168-181
- Liu, Z. D. Ostrenga, W. Teng and S. Kempler, 2012, Tropical Rainfall Measuring Mission (TRMM) Precipitation Data Services for Research and Applications, *Bulletin of the American Meteorological Society*(BAMS), doi: <http://dx.doi.org/10.1175/BAMS-D-11-00152.1>
- Liu, Z. D. Ostrenga and G. Leptoukh, 2011, Online Visualization and Analysis of Global Half-hourly Pixel-Resolution Infrared Dataset, *Bulletin of the American Meteorological Society*, Vol. 92, No. 4, 429-432.
- Liu, Z., H. Rui, W.L. Teng, L.S. Chiu, G.G. Leptoukh, and S. Kempler, 2009, Developing an Online Information System Prototype for Global Satellite Precipitation Algorithm Validation and Intercomparison. *Journal of Applied Meteorology and Climatology-IPWG Special Issue*, Vol. 48, No. 12, 2581-2589
- Chiu, L.S. Z. Liu, J. Vongsaard, S. Morain, A. Budge, P. Neville, and C. Bales, 2006, Comparison of TRMM and Water District Rain Rates over New Mexico, *ADVANCES IN ATMOSPHERIC SCIENCES*, VOL. 23, NO. 1, 1-13.

Dr. Zhong Liu is a member of the NASA GES DISC Data Science Team to provide users support for TRMM and other global precipitation data sets. Over the years, Dr. Liu has been developing technologies for fast and easy access of NASA high volume data products. He was the lead developer for the NOAA/NESDIS Interactive Multi-sensor Snow and Ice Mapping System (IMS) project. He initiated and developed the

TRMM Online Visualization and Analysis System (TOVAS), the very first instance of the NASA Goddard Giovanni family, and has been the lead developer since then. He has been the lead developer of the Hurricane Data Analysis Tool (HDAT) in the GES DISC Hurricane Portal. He is the principal investigator for “Integrate IPWG Validation Algorithms into TRMM Online Visualization and Analysis System (TOVAS)” and was a co-investigator of “Integrating NASA Earth Science Enterprise Data into Global Agricultural Decision Support Systems” and the lead developer of the global agriculture information system. His specialties are 1) remote sensing applications; 2) interdisciplinary research; and 3) TRMM and GPM data support.