Salil Mahajan
Scientist
Oak Ridge National Laboratory, Computer Science and Mathematics Division
Phone: (865) 574-9534
Email: mahajans@ornl.gov

Education and Training

2008	Texas A&M University, Atmospheric Sciences, PhD
2004	Texas A&M University, Atmospheric Sciences, MS
	Indian Institute of Technology, Architecture, B. Arch. (honors)

Research and Professional Experience

2010-Present	R&D Associate/Climate Computational Scientist. Oak Ridge National Laboratory, Oak Ridge, TN.
2008-2010	Postdoctoral Research Associate/Visiting Research Scientist. Atmospheric and Oceanic Sciences Program, Princeton University/Geophysical Fluid Dynamics Laboratory.
2003-2008	Graduate Research Assistant. Department of Atmospheric Sciences, Texas A&M University, College Station, TX.
Summer 2007	Graduate Research Fellow. Oak Ridge Center for Advanced Studies/Computer Science and Mathematics Division, Oak Ridge National Laboratory, Oak Ridge, TN.
Summer 2005	Collaborative Researcher. National Center for Atmospheric Research, Boulder, CO.

Research Interests: Climate dynamics, internal climate variability, decadal/multidecadal variability, air-sea interactions; climate extremes, regional climate change; tropospheric aerosols and their impacts

Technical Skills: Scientific Codes: NCAR-CCM3, NCAR-CCSM3, NCAR-CESM1.0, GFDL-CM2.1; High Performance Computing: MPI, OpenMP; IDL, MATLAB, R, C, Fortran

Publications

1. Mahajan S., F. M. Hoffman, W. W. Hargrove, S. W. Christensen, and R. T. Mills. (2011): A cluster analysis approach to comparing Atmospheric Radiation Measurement (ARM) Data and Global Climate Model (GCM) Simulations, Journal of Geophysical Research (in preparation)
2. Mahajan S., G. R. North, R. Saravanan, M. G. Genton (2011): Statistical Analysis of the Trends in Monthly Heavy Precipitation over the US, Climate Dynamics (in press), doi: 10.1007/s00382-011-1091-4.
3. Mahajan S., R. Zhang and T. L. Delworth (2011): Impact of Atlantic Meridional Overturning Circulation (AMOC) variability on Arctic Climate, Journal of Climate (accepted).
4. Mahajan S., R. Saravanan, P. Chang (2011): The Role of the Wind-Evaporation-Sea Surface Temperature (WES) Feedback as a Thermodynamic Pathway for the Equator-ward Propagation of High Latitude Sea-Ice Induced Cold Anomalies, Journal of Climate, 24, 1350-1361.
5. Mahajan S., R. Zhang, T. L. Delworth, A. Rosati, S. Zhang, and Y-S. Chang (2011): Predicting the Atlantic Meridional Overturning Circulation using subsurface and surface fingerprints, Deep Sea Research Part II: Topical Studies in Oceanography (in press), doi:10.1016/j.dsr2.2010.10.067.
6. Mahajan S., R. Saravanan, P. Chang (2010): Free and forced variability of tropical Atlantic: Role of the Wind-Evaporation-Sea surface temperature (WES) feedback, Journal of Climate, 23, 5958-5977.
7. Mahajan S., R. Saravanan, P. Chang (2009): The role of the Wind-Evaporation-Sea surface temperature (WES) feedback in air-sea coupled tropical variability, Atmospheric Research, 94, 19-36.
8. Wu, Q., S. Mahajan, K. P. Bowman, and P. Chang (2008): Atmospheric response to Atlantic tropical instability waves in CAM3, Journal of Geophysical Research, 113, D15125.
9. Hoffman, F. M., W. W. Hargrove, R. T. Mills, S. Mahajan, D. J. Erickson, and R. J. Oglesby (2008):

Multivariate Spatio-Temporal Clustering (MSTC) as a Data Mining Tool for Environmental Applications. Miquel Snchez-Marr, Javier Bjar, Joaquim Comas, Andrea E. Rizzoli, Giorgio Guariso (Eds.), Proceedings of the iEMSs Fourth Biennial Meeting: International Congress on Environmental Modeling and Software (iEMSs 2008).

Presentations (invited seminars)

1. Impacts of Direct and Semi-direct Effects of Aerosols on the Climate System, Texas A&M University, College Station, April 2011.
2. Free and Forced Tropical Climate Variability: Thermodynamic Air-sea Interactions, King Abdullah University of Science and Technology (KAUST), Jeddah, April 2010.
3. Free and Forced Tropical Climate Variability: Thermodynamic Air-sea Interactions, Los Alamos National Laboratory (LANL), Los Alamos, April 2010.
4. Free and Forced Tropical Climate Variability: Thermodynamic Air-sea Interactions, Oak Ridge National Laboratory (ORNL), Oak Ridge, March 2010.
5. Free and Forced Tropical Climate Variability: Thermodynamic Air-sea Interactions, Center for Ocean-Land-Atmosphere (COLA), Calverton, March 2010.
6. Free and Forced Tropical Climate Variability: Thermodynamic Air-sea Interactions, University of Texas, Austin, March 2010.
7. Climate Impacts of Wind-Evaporation-Sea Surface Temperature (WES) Feedback, Atmospheric Ocean Sciences Program, Geophysical Fluid Dynamics Laboratory (GFDL)/ Princeton University, May 2008.
8. Role of Wind-Evaporation-Sea Surface Temperature (WES) Feedback in tropical climate variability, Department of Earth System Science, University of California, Irvine, May 2008.
9. Global Climate Models: As Physical Tools and their Validation, Carnegie Institution for Science, Stanford University, April 2008.
10. A cluster analysis approach to comparing Atmospheric Radiation Measurement (ARM) and Global Climate Model (GCM) Results: Computational Earth Sciences, Oak Ridge National Laboratory (ORNL), August 2007.

Synergistic Activities

1. Reviewer: *Journal of Climate, Journal of Geophysical Research-Atmosphere*
2. Member: American Meteorological Society, American Geophysical Union

Awards and Honors

1. Travel Grant, The Eighth Workshop on Decadal Climate Variability, St. Michaels, October 2009
2. Travel Grant, North Symposium: Climate, Satellites and Statistics, College Station, June 2009
3. First Prize, Peoples' Choice Awards at the ARM Science Team Meeting in Norfolk, Virginia (2008)
4. Awarded Summer Fellowship at Oak Ridge national Laboratory under ORCAS, 2007
5. First Prize, Student Research Week, Texas A&M University, 2006
6. Travel Scholarship for NCAR-IMAGe Workshop III: Stochastic and Statistical Parameterization of Unresolved Features in the Atmosphere and Upper Ocean, Boulder, 2006
7. Travel Scholarship, Graduate Climate Conference, Seattle, 2006, 2007
8. AUF Fellow, College of Geosciences, Texas A&M University, 2003-04

Graduate and Postdoctoral Advisors

Doctoral Advisor: R. Saravanan
Graduate Advisor: Gerald R. North