

Curriculum Vitae

Menglin Jin, Ph.D.

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POSITION

2006 – Associate Research Scientist, NASA GSFC, affiliated with University of Maryland, College Park

2003 – Visiting Scientist of NASA Goddard Space Flight Center, Lab of Atmospheric Science

2000 – 2005 Assistant Research Scientist, Department of Atmospheric & Oceanic Science, University of Maryland, College Park

RESEARCH EXPERIENCE

Land surface/atmosphere remote sensing, Global climate change, radiation, vegetation and land use impacts on climate, Global/land surface modeling, Land Urban system simulation, aerosol-clouds-rainfall interaction

Human interaction with environment

Data management information system (MIS).

EDUCATION

1999 Ph.D., Department of Atmospheric Science, University of Arizona, USA
Advised by Prof. Robert E. Dickinson

1995 M.S., Department of Atmospheric Science, University of Arizona, USA

1993 M.S., Institute of Atmospheric Physics, Academia Sinica, P.R. China

1989 B.S., Department of Atmospheric Dynamics, Nanjing University,
P. R. China

CURRENT FUNDING

- **NSF funding 2007-2010:** "Assess Global and Regional Land Surface Skin Temperature Variations: Uncertainties, Mechanisms, and Differences from 2m Surface Air Temperature", **PI**, total **\$420K** for three years
- **NASA funding 2005-2007:** "Is Surface Warming over Greenland and Antarctica in the Past Two Decades? – A Study Using MODIS and NCAR Atmosphere-Land Surface Model", **PI**, funded by NASA Cryospheric Sciences Program, total \$50K
- **NASA funding** "Improving the Representation of Land in Climate Models by Application of EOS Observations ", Co-I, (PI –R. E. Dickinson) by NASA EOSIDS, 2004-2006, total \$180K for UMCP component
- **NASA** "Urban land cover changes on local and regional rainfall", Co-PI, (PI- J. M. Shepherd), by NASA TRMM Program, 2007-2009, total \$150K for three years
- **DOD funding** "Urban Aerosol Effects on Surface Energy Budget", collaborative PI, DOD 2007-2009. total \$110K for 2 years

MEDIA HITS (selected from over 60 media hits)

1. NASA Top News: “New Yorkers' Work Week Clouds Air With Tiny Particles, Study Finds”, http://www.nasa.gov/centers/goddard/news/topstory/2005/ny_air.html, February 13, 2006
 2. NASA NEWS: “Satellite Act as Thermometers in Space”
http://www.nasa.gov/home/hqnews/2004/apr/HQ_04121_thermometers.html
 3. NASA Top Story: “Satellite Act as Thermometers in Space, Show Earth Has a Fever”
<http://www.gsfc.nasa.gov/topstory/2004/0315skintemp.html>
 4. CNN: “Urban heat, pollution found to mess up weather” Thursday, December 16, 2003
<http://www.cnn.com/2003/TECH/science/12/16/urban.climate.ap/index.html>
 5. ABC: “Heat, Pollution changing precipitation” December, 13, 2003
http://abcnews.go.com/wire/US/ap20031213_41.html
- and many others

DOCUMENTAIRES

Interviewed, "Thick City Smog Viewed from Space," Weather Channel, produced by Heidi Cullen, February 16, 2006.

PROFESSIONAL SERVICE

Reviewer for *Journal of Climate*, *Journal of Geophysical Research - Atmospheres*, *JGR-Ocean*, *Journal of Applied Meteorology*, *Remote Sensing Environment*, *Journal of Hydrometeorology*, *International Journal of Remote Sensing*, *IEEE Transactions on Geoscience and Remote Sensing*

Proposal Reviewer for NASA, NSF

Committee, 2006 AAG Tellers Committee

Convener and Chair of the Union session: “*Human-induced climate changes linked to urbanization: From observation to modeling*” for the AGU Fall Meeting, San Francisco, CA, 2003

Chair, *Maryland Climate Change Committee*, for Department of Meteorology and Maryland State Industry Stakeholder 2003-2004

Convener and Chair of the AMS Hydrological Session session: “*Land Surface Modeling*” for the AMS annual Meeting, San Diego, CA, 2005

Board member of Chinese-American Oceanic and Atmospheric Association (COAA) 2005-2006

Member, NCAR Climate System Model Land Working Group, 2001-present

Member, NASA GSFC unified land surface model working group

PROFESSIONAL MEMBERSHIP

American Geophysical Union (AGU)

American Meteorological Society (AMS)

Association of American Geographers (AAG)

REFEREED PUBLICATIONS (leading-authored only)

18. Jin, M. and Keith Oleson 2007: Greenland Height Validation Using ICESat remote sensing observations. Submitted.
17. Jin, M. and J. M. Shepherd, 2007: Urban aerosol effects on east China and off China Sea: Land vs. Ocean. Submitted.

16. Jin, M., 2006: MODIS observed seasonal and interannual variations of atmospheric conditions associated with hydrological cycle over Tibetan Plateau, *Geophys. Res. Lett.*, 33, L19707, doi:10.1029/2006GL026713.
15. Jin, M. and S. Liang, 2006: Improving Land Surface Emissivity Parameter of Land Surface Model in GCM. *J. of Climate*, **19**, 2867-2881.
14. Jin, M., 2006: Land Impacts on Rainfall, Clouds, and Water Vapor at Continental Scale. *Submitted to J. of Climate*
13. Jin, M. J. M. Shepherd, and Christa Peters-Lidard, 2006: Development of A Parameterization For Simulating the Urban Temperature Hazard Using Satellite Observations In Climate Model. *Journal of Natural Hazards, DOI 10.1007/S11069-007-91176-2.*
12. Jin, M, R. E. Dickinson, and D-L. Zhang, 2005: The footprint of urban areas on global climate as characterized by MODIS. *Journal of Climate*, vol. 18, No. 10, pages 1551-1565
11. Jin, M., J. M. Shepherd, M. D. King, 2005: Urban aerosols and their interaction with clouds and rainfall: A case study for New York and Houston. *J. Geophysical Research*, 110, D10S20, doi:10.1029/2004JD005081.
10. Jin, M. and J. M. Shepherd, 2005: On including urban landscape in land surface model – How can satellite data help? *Bull. AMS*, vol 86, No. 5, 681-689. 10.
9. Jin, M., 2004: Analyzing Skin Temperature variations from long-term AVHRR *Bulletin of the American Meteorological Society*, vol 85, No. 4, 587-600.
8. Jin, M. and R. E. Treadon, 2003: Correcting Orbit Drift Effects of AVHRR on Skin Temperature Measurements *International Journal of Remote Sensing*, **DOI:** 10.1080/0143116031000095943
7. Jin, M. and R. E. Dickinson 2002: New Observational Evidence for Global Warming from Satellite Data *Geophysica. Research Letter*, **29(10)**, 10.1029/2001GL013833.
6. Jin, M. and D-L. Zhang, 2002: Changes and interactions between skin temperature and leaf area index in summer 1981-1998. *Meteorology and Atmospheric Physics*, **80**, 117-129.
5. Jin, M. and R. E. Dickinson 2000: A Generalized algorithm for retrieving cloudy sky skin temperature from satellite thermal infrared radiances. *Journal of Geophysical Research*, **D22**, 27,037-27,047
4. Jin, M., 2000: Interpolation of surface radiation temperature measured from polar orbiting satellites to a diurnal cycle. Part 2: Cloudy-pixel Treatment. *Journal of Geophysical Research*, **105, D3**, 4061-4076.
3. Jin, M., 1999: Interpolation of surface radiation temperature measured from polar orbiting satellites to a diurnal cycle. **Ph.D. Dissertation**, University of Arizona, Tucson, 243pp. [Available from the University of Arizona Library]

2. Jin, M. and R. E. Dickinson, 1999:
Interpolation of surface radiation temperature measured from polar orbiting satellites to a diurnal cycle. Part 1: Without Clouds.
Journal of Geophysical Research, **104**, 2105-2116.
1. Jin, M., R.E. Dickinson, and A. M. Vogelmann, 1997:
A Comparison of CCM2/BATS Skin Temperature and Surface-Air Temperature with Satellite and Surface Observations.
Journal of Climate, **10**, 1505-1524.

PAPER as co-author

- J. M. Shepherd and M. Jin 2007: Sensor for urban rainfall monitoring. To be submitted to Journal of Sensor
- J. M. Shepherd and M. Jin, 2004: Summary on urban heat island effect. Published on *EOS*, June.
- Zhou, L, R. E. Dickinson, M. Jin et. al., 2003: A sensitivity study of climate and energy balance simulations with use of satellite derived emissivity data over Northern Africa and the Arabian Peninsula. *J. Geophys. Res.*, **108**(D24), 4795, doi:so.1029/2003JD004083.
- Zhou, L., R. E. Dickinson, M. Jin et. al., 2003: Relations between albedos and emissivities from MODIS and ASTER data over North African Desert. *Geophys. Res. Lett.*, **30**(20), 2026, doi:10/1029/2003GL018069.

INVITED TALKS

8. University of Massa., Lowell, EEAS, April 20, 2007: “Urban aerosol effects”.
7. University of Wisconsin - Madison, Department of Atmospheric and Oceanic Sciences, seminar “Land surface climate change and its mechanisms using satellite observations and GCM simulations”. November 30, 2005.
6. University of East Carolina, Department of Geography, seminar “Land surface climate change and its mechanisms using satellite observations and GCM simulations”. November 18, 2005.
5. COAA spring workshop “Urbanization effects from space”, College Park, MD, April 2005
4. NOAA NCEP Seminar “Using MODIS Emissivity to Improve Land-Surface Variations in GCM”, May 2004
3. University of New York, Stony Brook, Center for Marine Science, Seminar on “Detect and Simulate Land-Surface Warming”, October 22, 2004
2. NASA GSFC Climate and Radiation branch Seminar “Global and regional land surface skin temperature variations”, April 20, 2003
1. NOAA NESIDS Seminar “Skin Temperature Variations from AVHRR”, October 14 2002

CONFERENCE PAPERS

27. Jin, M. R. F. Adler, And J. M. Shepherd, 2007: Urban aerosol effects on rainfall over China: Land vs. Ocean. 79 AMS annual meeting, Jan. 14-18, 2007, San Antonio, TX.
26. Jin, M, R. E. Dickinson, K. Oleson, 2006: Compare cold land simulation in NCAR CCSM with MODIS observations. MODIS science meeting, Baltimore, MD, January 4-6, 2005.
25. Jin, M. and M. King, 2006: Land impacts on clouds, rainfall, and water vapor. Oral presentation, MODIS science meeting, Baltimore, MD, January 4-6, 2005.
24. Jin, M. and J. M. Shepherd, 2005: Using TRMM and MODIS observations to Simulate Urban Effects. PMM science workshop, CA, Dec. 12-14, 2005
23. Jin, M. and R. E. Dickinson, 2005: Global and regional land surface skin temperature variations. IAMAS2005 conference, Beijing, June 2-12.
22. Jin, M. and M. D. King, 2005: Land-Sea contrast in clouds, rainfall, and water vapor. GEWEX conference 2005, Orange County, CA, June 16-20.
21. Jin, M. 2005: How emissivity affects land surface weather and climate simulation. College Park, MD. COAA Spring Workshop, April 16.
20. Jin, M. and C. Peters-Lidard, 2005: Simulating urbanization in NCAR CLM. Oral presentation at AMS annual meeting, Jan. 12-16.
19. Jin, M., R. E. Dickinson, and K. Olson, 2004: Snow Simulations in CCSM3. NASA snow workshop, Greenbelt, MD, Nov. 16-17.
18. Jin, M. and J. M. Shepherd, and M. King, 2004: Urban aerosols and its variations with clouds and rainfall: A case study for Houston and New York. Chinese COAA workshop, Beijing, P.R. China, June 28-July 2.
17. Jin, M. and C. Peters-Lidard, 2004: Using MODIS observation in simulating urban in NCAR CLM. Chinese COAA workshop, Beijing, P. R. China, June 28- July 2.
16. Jin, M. J. M. Shepherd, and M. King, 2004: Urban Clouds-Aerosol-Rainfall Interactions. AERONET workshop, Spain, May 9-14.
15. Jin, M. and C. Peters-Lidard, 2003: Simulate urban-induced climate change via EOS observation and NCAR CLM, AGU Fall Meeting, San Fransico, USA, December.
14. Jin, M. and R. E. Dickinson, 2003: Urban-induced climate variations detected from MODIS. 30th International Symposium on Remote Sensing of Environment, Honolulu, Hawaii, USA. November
13. Jin, M. 2003: Improve emissivity parameter in land surface model using MODIS observations: New results. NCAR annual meeting, Breckenridge, CO, USA. June
12. Jin, M. 2003: The importance of emissivity in land surface model NCAR and working group meeting, Boulder, CO, USA. February.
11. Jin, M. and R. E. Dickinson 2002: Satellite-observed urban variations over the globe. AGU fall meeting, San Francisco, USA. December.
10. Jin, M. 2002: Using AVHRR skin temperature to detect global and regional variations. AMS meeting, January, Orlando, USA. February.
9. Jin, M. 2002: How to simulate urban climate: observations. NCAR annual meeting, Breckenridge, CO, USA. June.
8. Jin, M. 2002: Using MODIS skin temperature to validate land surface model. NCAR land working group meeting, Boulder, CO, USA, March.

6. Jin, M. and E. Kalnay 2001:
Satellite Skin Temperature Diurnal Cycle and its use on Land Climate Study.
Spring American Geophysical Union Conference, Boston, USA. May 28 - June 2.
5. Jin, M. and E. Kalnay 2000:
Using AVHRR observations to detect global warming. Spring American
Geophysical Union Conference, Washington, D. C. USA. , May28 - June 2.
4. Dickinson, R.E., K. J. Schaudt, J.C. Morrill and M. Jin 1997b: Incorporation of
BOREAL forest ecosystem description into climate modeling framework. Final
report to National Aeronautics and Space Administration, Project Number NAG-
5-2310.
3. Dickinson, R. E., K. J. Schaudt, J. Morrill, and M. Jin, 1997c: A BOREAS Study:
Incorporation of BOREAL Forest Ecosystem Description into Climate Modeling
Framework. BOREAS Conference, March 17-22, 1997, Canada.
2. Jin, M., R. E. Dickinson and X. Zeng, 1996: A dataset of land surface temperature
diurnal cycle from MODIS data and CCM/BATS. The International Land Surface
Temperature Workshop, Santa Barbara, USA. September 17-20.
1. Jin, M. and R. E. Dickinson, 1995: A Study of Surface Skin Temperature. American
Geophysical Union Conference, San Francisco, USA. December 15-20.

Postdoc Fellow Supervision

Liqing Tian (June 2007 - Present)

Graduate Students Supervision

Nabeel Keblawi (September 2004 – January 2006)

Yimin Chen (September 2003-January 2004)

Undergraduate Student Supervision

Krista Romita (Summer 2007, NASA Summer Intern)

Xin Hu (January 2007-August 2007)