

KaiCun Wang

CONTACT INFORMATION

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RESEARCH INTERESTS

- Global terrestrial evaporation climatology
- Evaporation, urbanization, and global warming
- Estimation of surface net radiation
- Satellite land surface characteristics climatology

EDUCATION

Sep. 2001 – Jun. 2004 Department of Atmospheric Science, Peking University, Beijing, China
Ph. D. in Atmospheric Science
Sep. 1998 - Jul. 2001 Department of Atmospheric Science, Lanzhou University, Lanzhou, China
M. Sc. in Atmospheric Science
Sep. 1994 - Jul. 1998 Department of Atmospheric Science, Lanzhou University, Lanzhou, China
B. Sc. in Atmospheric Science

PROFESSIONAL EXPERIENCE

July 2006- Now, Research Associate, Department of Geography, University of Maryland, College Park, USA.
May 2005- November 2005, Visiting Scientist, Earth System Science Inter-discipline Center, University of Maryland, College Park, USA.
June 2004- Now, Assistant Researcher, Institute of Atmospheric Physics, Chinese Academy of Science, Beijing, China

PUBLICATIONS

International Publications

1. **Wang, K.**, J. Liu, X. Zhou, M. Sparrow, M. Ma, et al. (2004). Validation of the MODIS global land surface albedo product using ground measurements in a semidesert region on the Tibetan Plateau. *Journal of Geophysical Research*, 109, D05107, doi: 10.1029/2003JD004229.
2. **Wang, K.**, X. Zhou, J. Liu and M. Sparrow (2005). Estimating surface solar radiation over complex terrain using moderate-resolution satellite sensor data. *International Journal of*

- Remote Sensing*, 26(1), 47-58.
3. **Wang, K.**, Z. Wan, P. Wang, M. Sparrow, J. Liu, et al. (2005). Estimation of land surface upwelling long wave radiation and broadband emissivity using MODIS LST products. *Journal of Geophysics Research*, 110, D11109, doi: 10.1029/2004JD005566.
 4. **Wang, K.**, P. Wang, J. Liu, M. Sparrow, S. Haginoya, et al. (2005). Variation of surface albedo and soil thermal parameters with soil moisture content at a semi-desert site on the western Tibetan Plateau. *Boundary-Layer Meteorology*, 116(1), 117-129.
 5. **Wang, K.**, J. Liu, Z. Wan, P. Wang, M. Sparrow et al. (2005). Preliminary accuracy assessment of MODIS land surface temperature products at a semi-desert site, *Proc. SPIE*, Vol. 5832, p. 452-460.
 6. **Wang, K.**, Z. Li and M. Cribb (2006). Estimation of Evaporative Fraction from a Combination of Day and Night Land Surface Temperatures and NDVI: A New Method to Determine the Priestly-Taylor Parameter. *Remote Sensing of Environment*, 102, 293-305.
 7. **Wang, K.**, Z. Wan, P. Wang, J. Liu, and M. Sparrow (2007). Evaluation and Improvement of the MODIS Land Surface Temperature/Emissivity Products Using Ground-based Measurements at a Semi-desert Site on the Western Tibetan Plateau. *International Journal of Remote Sensing*, 28, 2549-2565.
 8. **Wang, K.**, J. Wang, P. Wang, M. Sparrow, H. Chen, et al. (2007). Influences of Urbanization on Surface Characteristics from MODIS: A Case Study for Beijing Metropolitan. *Journal of Geophysical Research*, 112, D22S06, Doi:10.1029/2006JD007997.
 9. **Wang, K.**, P. Wang, Z. Li, M. Sparrow, and M. Cribb (2007). A simple method to estimate evapotranspiration from a combination of net radiation, vegetation indices and temperatures. *Journal of Geophysical Research*, 112, D15107, DOI: 10.1029/2006JD008351.
 10. Zheng, T., S. Liang, and **K. Wang** (2007). Estimation of incident Photosynthetically Active Radiation from GOES visible imagery. *Journal of Applied Meteorology and Climatology*, in press.
 11. Liang, S. T. Zheng, D. Wang, **K. Wang**, R. Liu, S. C. Tsay, S. Running, J. Townshend (2007). Mapping High-Resolution Incident Photosynthetically Active Radiation over Land from Polar-Orbiting and Geostationary Satellite Data, *Photogrammetric Engineering and Remote Sensing*, in press.
 12. **Wang, K.**, and S. Liang (2007). An improved method for estimating global evapotranspiration based on satellite determination of surface net radiation, vegetation index, temperature, and soil moisture. *Journal of Hydrometeorology*, in press.
 13. **Wang, K.**, S. Liang, D. Wang, T. Zheng (2007). Simultaneous estimation of surface photosynthetically active radiation and albedo from GOES, *Remote Sensing of Environment*, in press.
 14. **Wang, K.**, W. Wang and S. Liang (2007). Global Land surface broadband emissivity from Aqua/Terra MODIS, *IEEE Transactions on Geoscience and Remote Sensing*, under review.
 15. **Wang, K.**, R. E. Dickinson, and S. Liang (2007). Observational evidence of influence of clouds and aerosols on terrestrial carbon uptake and evaporation. *Science*, under review.
 16. **Wang, K.**, M. Wild, R. E. Dickinson, and S. Liang (2007). Increase of global terrestrial evaporation from 1982 to 2002. *Nature*, under review.
 17. **Wang, K.**, R. E. Dickinson, and S. Liang (2007). What is the current global runoff trend? (Comment on "Projected increase in continental runoff due to plant responses to increasing carbon dioxide. *Nature* 448, 1037-1041 (2007).). *Nature*, under review.

Publications in Chinese (with English abstract)

1. **Wang, K.**, C. Chen, and N. Guo (2003). Corrections to NOAA/AVHRR reflectance and NDVI and error analysis. *Journal of Applied Meteorological Science*, 14(2), 165-175.
2. **Wang, K.**, C. Chen, L. Zhang, and W. Zhang (2004). Observational analysis on the characteristics of boundary layer and the advection over transition region between urban and rural area. *Plateau Meteorology*, 23(4), 529-533.
3. **Wang, K.**, W. Li, and L. Bai. (2004). Characteristics of change and transport of aerosols in the middle and upper troposphere and stratosphere over Indian Ocean and China in 1984-2000. *Journal of Applied Meteorological Science*, 15(2), 32-40.
4. **Wang, K.**, X. Zhou, and J. Liu (2004). The effects of terrain on the computed surface solar short-wave radiation. *Chinese Journal of Atmospheric Science*, 28(4), 625-633.
5. **Wang, K.**, J. Liu, and X. Zhou (2004). Using MODIS satellite data retrieves surface albedo under clear sky over China area and its characteristics analysis. *Chinese Journal of Atmospheric Science*, 28(6), 941-949.
6. **Wang, K.**, X. Zhou, W. Li, J. Liu, and P. Wang. (2005) Using satellite remotely sensed data to retrieve sensible and latent heat flux: a review. *Advance in Earth Sciences*, 20(1), 42-48.
7. Qi, D., P. Zhao, Q. Tu, **K. Wang** (2006). Numerical simulation of the run-off scheme in the RegCM2. *Journal of Nanjing Institute of Meteorology*, 29(6), 601-608.
8. Yang, J., H. Chen, **K. Wang**, and Z. Wang (2006). Analysis of surface albedo distribution and variation over Beijing region by using the MODIS data. *Remote Sensing Technique and Application*, 21(5), 403-406.
9. Wang, J., **K. Wang**, P. Wang (2007). Urban heat (cool) island over Beijing from MODIS land surface temperature. *Journal of Remote Sensing*, 11(3), 330-339.
10. **Wang, K.**, J. Wang, and P. Wang (2006). The accuracy of MODIS surface albedo over urban area and its algorithm improvement : a case study for Beijing. *Chinese Journal of Atmospheric Sciences*, in press.
11. Wang, J., **K. Wang**, P. Wang (2006). A three dimensional model for calculating surface reflectance and albedo over urban area. *Chinese Journal of Atmospheric Sciences*, in press.

ADDITIONAL INFORMATION

Reviewer for the following international journals: Agricultural and Forest Meteorology, IEEE Transactions on Geoscience and Remote Sensing, International Journal of Remote Sensing, Journal of Applied Meteorology and Climatology, Photogrammetric Engineering and Remote Sensing, Remote Sensing of Environment, Sensor.