

RESUME
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Education:

- Ph. D., September 1996---July 2002, Atmospheric Science Program at University of California, Davis, California. Majored in Atmospheric Science, degree obtained in June 2003.
- M. S., September 1988---June 1991, Chinese Academy of Meteorological Science, Beijing, People's Republic of China. Majored in Applied Meteorology, degree obtained in July 1991.
- B. S., September 1984---June 1988, Department of Geophysics at Peking University, Beijing, People's Republic of China. Majored in Meteorology, degree obtained in July 1988.

Research interests:

- CO₂, energy and water vapor exchanges between a vegetated ecosystem and atmosphere using both model and field observation (eddy covariance) approaches; environmental controls on these fluxes and their seasonal and inter-annual variations; uncertainties involved in the flux measurement
- Design and development of algorithms that can be used in managing (Qa/Qc) and gap-filling meteorological and flux data
- Numerical simulation (such as large eddy simulation and regional scale atmospheric model) of atmospheric turbulence in the boundary layer and its interaction with a vegetation canopy

Employment/Research experience:

- Research Staff Scientist, June 2007---present, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee
- Postdoctoral Research Associate, June 2004---June 2007, Oak Ridge National Laboratory Postdoctoral Research Associates Program at Oak Ridge National Laboratory, Oak Ridge, Tennessee

- Research Scientist, July 2003---June 2004; Research Associate, August 2002---June 2003, Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at University of Oklahoma, Norman, Oklahoma
- Research Assistant, September 1996---July 2002, Atmospheric Science Program at University of California, Davis, California
- Research Associate, June 1991---September 1996, Chinese Academy of Meteorological Sciences, Beijing, People's Republic of China
- Research Assistant, September 1988---June 1991, Chinese Academy of Meteorological Sciences, Beijing, People's Republic of China

Teaching experience:

- Substitute lecturer for ATM124 (Meteorological Instruments and Observation), October 1st---5th, 2001, Atmospheric Science Program at University of California, Davis, California.
- Teaching Assistant for ATM5 (Global Climate), Winter Quarter, 2002, Atmospheric Science Program at University of California, Davis, California.
- Teaching Assistant for ATM60 (Atmospheric Physics and Dynamics), Fall Quarter, 2001, Atmospheric Science Program at University of California, Davis, California.
- Teaching Assistant for ATM124 (Meteorological Instruments and Observation), every Fall Quarter from 1997 to 2000, Atmospheric Science Program at University of California, Davis, California.

Technical skills:

- Familiar with 'Windows' and 'UNIX' operating systems; strong programming skills in: FORTRAN (23-year experience), C (9-year experience) and C++ (1-year experience); good skills with UNIX scripts; expert with application software, such as MicrosoftWord, WordPerfect, Excel, Grapher, Surfer, Tecplot and NCAR (National Center of Atmospheric Research) graphics tools (7-year experience).
- Familiar with most of the general meteorological instruments, data sampling and acquisition techniques; especially with the instruments used in the turbulence and eddy covariance measurements, for example, Campbell Scientific sonic anemometers and data loggers, RM Young sonic anemometers and LICOR gas analyzers, etc.

Journal/Peer-Reviewed Publications:

- **Yang, B.**, Pallardy, S. G., Meyers, T. P., Gu, L., Hanson, P. J., Wullschleger, S. D., Heuer, M., Hosman, K. P., Riggs J. S. and Sluss D. W.: 2010, 'Environmental Controls on Water Use Efficiency during Severe Drought in an Ozark Forest in

- Missouri, USA', *Global Change Biology*, 16, 2252–2271, doi: 10.1111/j.1365-2486.2009.02138.x.
- West, T. O., Brandt, C. C., Baskaran, L. M., Hellwinckel, C. M., Mueller, R., Bernacchi, C. J., Bandaru, V., **Yang, B.**, Wilson, B. S., Marland, G., Nelson, R. G., De La Torre Ugarte, D. G., and Post, W. M.: 2010, 'Cropland Carbon Fluxes in the United States: Increasing Geospatial Resolution of Inventory-Based Carbon Accounting', *Ecological Applications*, 20(4), 1074–1086.
 - Liu, Y., Sun, J. and **Yang, B.**: 2009, 'The Effects of Black Carbon and Sulphate Aerosols in China Regions on East Asia Monsoons', *Tellus*, 61B, 642-656.
 - Gu, L., Hanson, P. J., Post, W. M., Kaiser, D. P., **Yang, B.**, Nemani, R., Pallardy, S. G. and Meyers T.: 2008, 'The 2007 Eastern US Spring Freeze: Increased Cold Damage in a Warming World', *BioScience*, Vol. 58, 253-262.
 - **Yang, B.**, Hanson, P. J., Riggs, J. S., Pallardy, S. G., Heuer, M., Hosman, K. P., Meyers, T. P., Wullschleger, S. D. and Gu, L.: 2007, 'Biases of CO₂ Storage in Eddy Flux Measurements in a Forest pertinent to Vertical Configurations of a Profile System and CO₂ Density Averaging', *Journal of Geophysical Research*, Vol. 112, D20123, DOI:10.1029/2006JD008243.
 - Gu, L., Meyers, T. P., Pallardy, S. G., Hanson, P. J., **Yang, B.**, Heuer, M., Hosman, K. P., Liu, Q., Riggs, J. S., Sluss, D. and Wullschleger, S. D.: 2007, 'Influences of Biomass Heat and Biochemical Energy Storages on the Land Surface Fluxes and Radiative Temperature', *Journal of Geophysical Research-Atmospheres*, 112, D02107, DOI:10.1029/2006JD007425.
 - **Yang, B.**, Shaw, R. H. and Paw U, K. T.: 2006, 'Wind Loading on Trees across a Forest Edge: A Large Eddy Simulation', *Agricultural and Forest Meteorology*, Vol. 141, 133-146, DOI: 10.1016/j.agrformet.2006.09.006.
 - Gu, L., Meyers, T. P., Pallardy, S. G., Hanson, P. J., **Yang, B.**, Heuer, M., Hosman, K. P., Riggs, J. S., Sluss, D. and Wullschleger, S. D.: 2006, 'Direct and Indirect Effects of Atmospheric Conditions and Soil Moisture on Surface Energy Partitioning Revealed by a Prolonged Drought at a Temperate Forest Site', *Journal of Geophysical Research*, 111, D16102, DOI:10.1029/2006JD007161.
 - **Yang, B.**, Morse, A. P., Shaw, R. H. and Paw U, K. T.: 2006, 'Large-Eddy Simulation of Turbulent Flow across a Forest Edge. Part II: Momentum and Turbulent Kinetic Energy Budgets', *Boundary-Layer Meteorology*, Vol. 121, 433-457, DOI:10.1007/s10546-006-9083-3.
 - **Yang, B.**, Raupach, M. R., Shaw, R. H., Paw U, K. T. and Morse, A. P.: 2006, 'Large-Eddy Simulation of Turbulent Flow across a Forest Edge. Part I: Flow Statistics', *Boundary-Layer Meteorology*, Vol. 120, 377-412, DOI:10.1007/s10546-006-9057-5.

- **Yang, B.**, Li, S. and Huo, Z.: 1999, 'The Temporal and Spatial Distribution of Agro-Meteorological Disasters in China', in S. Li (eds.), *Risk Assessment and Strategies of Agricultural Disasters in China*, China Meteorological Press, pp59-66. (In Chinese)
- **Yang, B.**, Li, S. and Huo, Z.: 1999, 'Trend Prediction of the Main Meteorological Disasters in China', in S. Li (eds.), *Risk Assessment and Strategies of Agricultural Disasters in China*, China Meteorological Press, pp379-382. (In Chinese)
- Li, S., **Yang, B.** and Huo, Z.: 1999, 'Characteristics of Environments of Embodying Agricultural Disasters and the Causes', in S. Li (eds.), *Risk Assessment and Strategies of Agricultural Disasters in China*, China Meteorological Press, pp18-24. (In Chinese)
- **Yang, B.**, Li, S. and Huo, Z.: 1994, 'A Study on the Dynamic Variation of the Northern Boundary of the South-Temperate Zone of Northern China in the Last Hundred Years', *Chinese Journal of Arid Land Research*, Vol. 7, No. 1, pp17-22. (In English)
- **Yang, B.**, Li, S. and Huo, Z.: 1993, 'A Study on the Dynamic Variation of the Boundaries between Agro-Climatic Zones and Its Influence on Agricultural Production in the Subtropical Region of China in the Last Hundred Years', *Journal of Natural Resources*, Vol. 8, No. 3, pp193-203. (In Chinese)
- Yang, D., **Yang, B.** and Pan, Z.: 1991, 'The Heat Balance on the Sea Surface in the Mature Phase of 1982/83 El Nino event', *Acta Oceanologica Sinica*, Vol. 10, No. 4, pp 539-554. (In English)

Conference Presentations/Posters:

- **Yang, B.**, Gu, L., Hanson, P. J., Wullschleger, S. D., Riggs, J. S., Meyers, T. P., Heuer, M., Pallardy, S. G. and Hosman, K. P.: 2006, 'Drought Influence on Water Use Efficiency of a Missouri Ozark Forest', *poster in AmeriFlux Annual Science Meetings*, Boulder, Colorado, 16-18 October 2006.
- **Yang, B.**, Gu, L., Pallardy, S. G., Meyers, T. P., Hanson, P. J., Wullschleger, S. D., Heuer, M., Riggs, J. S., and Hosman, K. P.: 2006, 'Inferring Ecosystem Phenology from Eddy Covariance Measurements at a Missouri Ozark Forest', *invited talk at 91st Annual Meeting of Ecological Society of America*, Memphis, Tennessee, 6-11 August 2006.
- **Yang, B.**, Gu, L., Hanson, P. J., Wullschleger, S. D., Riggs, J. S., Meyers, T. P., Heuer, M., Pallardy, S. G. and Hosman, K. P.: 2005, 'Drought and Heat Wave Influence on a Missouri Ozark Forest: Field Observations and Model Outputs', *poster in American Geophysical Union Fall Meeting*, San Francisco, California, 5-9 December 2005.

- **Yang, B.**, Gu, L., Hanson, P. J., Wullschleger, S. D., Riggs, J. S., Pallardy, S. G., Hosman, K. P., Meyers, T. P. and Heuer, M.: 2005, 'Drought and Heat Wave Influence on a Missouri Ozark Forest', *poster in AmeriFlux Annual Science Meetings*, Boulder, Colorado, 17-20 October 2005.
- **Yang, B.**, Gu, L., Hanson, P. J., Riggs, J. S., Wullschleger, S. D., Pallardy, S. G., Hosman, K. P., Meyers, T. P. and Heuer, M.: 2004, 'Bias of CO₂ Storage pertinent to vertical Configuration of a Profile System', *poster in AmeriFlux Annual Science Meetings*, Boulder, Colorado, 5-7 October 2004.
- **Yang, B.** and Kogan, Y. L.: 2004, 'On Heterogeneity of Drizzle in a Stratocumulus-Topped Marine Boundary Layer', *Proc. 14th International Conference on Clouds and Precipitation*, Bologna, Italy, 19-23 July 2004, Vol. 3, pp 1867-1870.
- Morse, A. P., Brunet, Y., Devalance, M., Gambnboa-Marrufo, M., Irvine, M. R., Marshall, B. J., Paw U, K. T., Shaw, R. H., Wood, C., **Yang, B.** and Gardiner, B. A.: 2003, 'THE VENFOR PROJECT: The role of Forest Edges in the Patterns of Turbulence Development --- findings from a field experiment, wind tunnel experiment and a large eddy simulation experiment', International Conference 'Wind Effects on Trees', University of Karlsruhe, Germany, September 16-18, 2003.
- **Yang, B.**, Morse, A. P., Shaw, R. H. and Paw U, K. T.: 2002, 'Budget of Velocity Variances Across A Forest Edge: A Comparison between Field, Wind Tunnel and Numerical Simulation Studies', *Proc. 25th American Meteorological Science Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia, 20-24 May 2002, pp 20-21.
- Momma, N., Shaw, R. H., Paw U, K. T. and **Yang, B.**: 2002, 'The Scalar Budget of Turbulence Flow across a Forest Edge: Using a Large Eddy Simulation (LES)', *Proc. 25th American Meteorological Science Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia, 20-24 May 2002, pp117-118.
- Paw U, K. T., Falk, M., **Yang, B.**, Park, Y. M. and Schroeder, M.: 2002, 'Characteristics of Turbulent Exchange in and above an Old-Growth Forest', *Proc. 25th American Meteorological Science Conference on Agricultural and Forest Meteorology*, Norfolk, Virginia, 20-24 May 2002, pp152-153.
- **Yang, B.**, Shaw, R. H. and Paw U, K. T.: 2000, 'A Numerical Simulation of Airflow over and through A Forest Edge Using Large Eddy Simulation', *Proc. 24th American Meteorological Science Conference on Agricultural and Forest Meteorology*, Davis, California, 14-18 August 2000, pp 110-111.

Memberships:

- Regular Member of American Meteorological Society, January 2004-----present;
Student Member of American Meteorological Society, July 1998-----January 2004.

- Member of American Geophysical Union, June 2004-----present.
- Member of Chinese Meteorological Society, September 1991-----September 1996.

Awards:

- Summer Research Fellowship, University of California at Davis, July—September, 2001.
- Jastro-Shields research fellowship, University of California at Davis, July, 2000.
- Non-resident tuition fellowship, University of California at Davis, January 1999.
- Outstanding project, ‘Investigation of Agricultural Disasters in China’, awarded by China Department of Agriculture, 1996.

Committees/Services:

- Graduate Student Member on Faculty Search Committee, Atmospheric Sciences Program, University of California at Davis, 2002.