ZAITAO PAN
Curriculum Vitae

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Education

Ph.D. 1996 - Water Resources/Atmospheric Sciences, Dept. of Geological & Atmospheric sciences, Iowa State University, Ames, Iowa

M.S. 1983 - Meteorology, Dept. of Meteorology and Oceanography, University of the Philippines, Philippines.

B.S. 1978 - Atmospheric Physics, Dept. of Meteorology, Nanjing University, China.

Appointments

Associate Professor, Dept. of Earth and Atmospheric Sciences, St. Louis University, 2008-present.

Assistant Professor, Dept. of Earth and Atmospheric Sciences, St. Louis University, 2003-2008.

Associate Scientist, Dept. of Agronomy, Iowa State University, 2002-2003.

Assistant Scientist, Dept. of Agronomy, Iowa State University, 2000-2002.

Postdoctoral Research Associate, Dept. of Agronomy, Iowa State University, 1997-2000.

Research Assistant, Dept. of Geological and Atmospheric Sciences, Iowa State University, 1993-1996.

Visiting Scientist, Forecast Systems Lab., NOAA, Boulder, CO, 1991-1993.

Publications

Peer-Reviewed Journal Articles

Pan, Z., X.B. Yang, S. Pivonia, L. Xue, R. Pasken, and J. Roads, 2006. Long-term prediction of soybean rust entry into the continental United States, *Plant Disease*, **90**, 840-848.

Pan, Z., M. Segal, and C. Graves, 2006: On the potential change in surface water vapor deposition over the continental United States due to increases in atmospheric greenhouse gases. *J. Climate*, **19**, 1576-1585.

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Pan, Z., M. Segal, R.W. Arritt, and E.S. Takle, 2004: On the potential change in solar radiation over the US due to increase of atmospheric greenhouse gases, *Renewable Energy*, **29**, 1923-1928.

Pan, Z., M. Segal, and R.W. Arritt, 2004: Role of topography in forcing low-level Jets in central U.S. during the 1993 flood - altered terrain simulations, *Mon. Wea. Rev.*, **132**, 396-403.

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Jha, M, Z. Pan, E.S. Takle, and R. Gu, Impacts of climate change on stream flow in the upper Mississippi river basin: A regional climate model perspective, *J. Geophys. Res.*, **109**, D09105, doi:10.1029/2003JD003686, 2004.

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Pan, Z., R. Arritt, W. Gutowski, E. Takle, 2001: Soil moisture in regional climate models : simulation and projection. *Geophys. Res. Lttr*, **28**, 2947-2950.

Pan, Z., R.Arritt, M., Segal, T.-C. Chen, and S.-P. Weng, 2000: Effects of quasi-stationary large-scale anomalies on mesoscale features associated with 1993 flood. *J. Geophy. Res.*,**105**, 29,551-29,564.

Pan, Z., M., Segal, R. Arritt, T.-C. Chen, and S.-P. Weng, 1999: A method for simulating effects of quasi-stationary wave anomalies on regional climate. *J. Climate*, **12**,1336-1343.

Pan, Z., E. Takle, M. Segal, and R. Arritt, 1999: Simulation of potential impacts of man-made land use changes on U.S. summer climate under various synoptic regimes. *J. Geophy. Res.* **104,** 6515-6528.

Pan, Z., E. Takle, W. Gutowski, and R. Turner, 1999: Long simulation of regional climate as a sequence of short segments. *Mon. Wea. Rev*., **127**, 308-321.

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Pan, Z., 1996: On surface versus atmospheric forcing in regional climate simulations. *Ph.D dissertation*, Iowa State University, Ames, Iowa.

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Pan, Z., and P.-Y. Wang, 1990: Numerical simulation of June 26-27 1986 heavy rainfall in Beijing-Tianjin-Hebei area. *Quart. J. Applied Meteor. Acta*, **1(3)**, 242-252 (in Chinese).

Pan, Z., P.-Y. Wang, B.-X. Xu, and R.-C. Ren, 1990: A simple method to improve geopotential height accuracy in numerical forecasts. *J. Meteor.*, **17** 1-7 (in Chinese).

Segal, M, Z. Pan, and R. Arritt., 2002.: On the effects of interaction between diurnal and large-scale forcing on summer extreme rainfall characteristics over the central U.S.. *Mon Wea. Rev.*, **130**, 1442-1450.

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Kunkel, K.E., K. Andsager, X.-Z. Liang, R.W. Arritt, E.S. Takle, W.J. Gutowski, Jr., and Z. Pan, 2002: Observations and regional climate model simulations of extreme precipitation events and seasonal anomalies: a comparison. *J. Hydrometeor.*, **3**, 322-334.

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Wang, P.-Y., -T. Pan, B.-X. Xu, and R.-C. Ren, 1991: A quasi-operational meso-alpha model system run on PC/386's. *Quart. J. Applied Meteor. Acta*, **3(3)** (in Chinese).

Cai, Z.-Y., Z.-S. Wang, and Z.-T. Pan, 1992: A numerical study on forecasting the Henan extraordinary rainfall event in August 1975. *Adv. in Atmos. Sci.*,**9(1)**.

Xu, D.-H., R. Zhu, and Z. Pan, 1990: Studies on SO_2emission standard and dispersion model in cities. *China Envir. Sci.*, **10(3)** (in Chinese).

Book Chapters

Takle, E.S., and Z. Pan,2005: Climate change and crop production: challenges to modeling future scenarios,:*Climate Change and Global Food Security*, Lal, R., N. Uphoff, B.A. Stewart, and D.O. Hansen, Eds. Boca Raton, Fl. CRC Press. P. 375-395.

Other Publications

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Del Ponte, E., X. B. Yang, Kim, K.S., and Z. Pan 2005. Soybean rust outlook--July 18, 2005. Iowa State University Integrated Crop Management Newsletter.

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust outlook - June 30. Iowa State University Integrated Crop Management Newsletter.

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust outlook - June 13. Iowa State University Integrated Crop Management Newsletter.

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust outlook - June 5. Iowa State UniversityIntegrated Crop Management Newsletter.

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust weekly outlook-May 23. Iowa State University Integrated Crop Management Newsletter.

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust weekly outlook: May 8, 2005. Iowa State University Integrated Crop Management Newsletter IC494: (9)

Yang, X.B., E. Del Ponte, K.-S. Kim, and Z. Pan, 2005: Soybean rust weekly outlook: May 15, 2005. Iowa State University Integrated Crop Management Newsletter.

Conference Papers and Abstracts

Pan, Z., R. Horton, B. Tentinger, and M. Segal, 2006: Attribution of seasonal soil moisture prediction uncertainties, 18th Conference on Climate Variability and Change, Atlanta, GA., January 28-February 3, 2006.

Pan, Z., M. Segal, W. Gutowski, E. S. Takle, and C.J. Anderson, 2006: Global "warming holes" and regional land surface-atmosphere interactions, 18th Conference on Climate Variability and Change, Atlanta, GA., January 28-February 3, 2006.

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Pan, Z., R. Horton, J. Roads, and B. Tentinger, 2005: Growing-season soil moisture prediction using a climate-plant-soil coupled model, *5th International Scientific Conference on the Global Energy and Water Cycle*June 20-24, 2005, Orange County, CA.

Pan, Z., R. Pasken, L. Xue, and X.B Yang, 2005: long-term prediction of soybean rust entry to the continental United States, presented at *Missouri Academy of Science annual meeting*, 2005.

Takle, E.S., Z. Pan, L. Xue, and M. Segal, 2005: Improving surface water and energy fluxes in a regional climate model by use of fully interactive biophysical crop modeling, *5th International Scientific Conference on the Global Energy and Water Cycle* June 20-24, Orange County, CA.

Pan, Z., R.W. Arritt, E.S. Takle, W.J. Gutowski, Jr., C.J. Anderson and M. Segal, \ 2005: Influence of land-atmosphere coupling on development and persistence of a projected climate anomaly over the central U.S., *The Conference on International Association of Meteorology and Atmospheric Sciences Meeting*, Beijing, China, Aug. 2-12, 2005.

Pan, Z., X.B. Yang, S. Pivonia, R. Pasken, and J. Pietrowicz, 2004: Simulation of airborne dispersal potentials of soybean rust from Africa to South America, *The annual meeting of The American Phytopathological Society*, Anaheim, CA, July 30-Aug. 2, 2004.

Anderson, C.J., R. W. Arritt, W. J. Gutowski, Jr., E. S. Takle, Z. Pan, J. A. Taylor, M. Dvorak, J. O. Roads, and A. Nunes, The North American Monsoon (NAM) in regional climate model simulations. *14th Conference on Applied Climatology*, Amer. Meteor. Soc. Seattle, WA, 2004.

Pan, Z., E.S. Takle, L. Xue, and M. Segal, Crop phenology feedback to climate over the central US in a regional climate model. *Climate Feedback and Climate Dynamics*, *AGU Fall Meeting*, San Francisco, CA, 2004.

Takle, E.S., Z. Pan, L. Xue, and M. Segal. Improving surface water and energy fluxes in a regional climate model by use of fully interactive biophysical crop modeling, *5th International Scientific Conference on the Global Energy and Water Cycle*, June 20-24, Orange County, CA.

Takle, E.S., M. Jha, Z. Pan, and R. Gu, Impacts of climate change on stream flow in the Upper Mississippi River Basin: A regional climate model perspective. *Regional-Scale Climate Modeling Workshop*. World Climate Research Programme. Lund Sweden, 2004

Xu, D., D. Berleant, G. Takle, and Z. Pan, A better understanding of the effects of software defects in weather simulation. MM5 Workshop, Boulder CO., 2004.

Pan, Z., D. Flory, M. Segal, and R. Horton, Growing-season soil moisture prediction using a climate-plant-soil coupled agroecosystem model, Proceedings, *PSU/NCAR Mesoscale Modeling System Users' Workshop*, Boulder, CO, 10-10 June, 2003.