

Xiaogang Gao, Ph.D.
 Adjunct Professor II
 Departments of Civil and Environmental Engineering
 University of California, Irvine, Irvine, CA, 92697-2175
 (949) 824-8822/gaox@uci.edu

Education and Training:

Institution	Major	Degree	Year
Dong-Wu University, Shanghai, China	Engineering	B.S.	1979
Dong-Wu University, Shanghai, China	Engineering	M.S.	1981
University of Arizona, Tucson, Arizona	Engineering	Ph.D.	1993

Research and Professional Experience:

07/2006-Present	Adjunct Professor, Department of Civil and Environmental Engineering, University of California, Irvine
07/2003-07/2006	Associate Adjunct Professor, Department of Civil & Environmental Engineering, University of California, Irvine
01/2002-07/2003	Adjunct Associate Professor, Department of Hydrology & Water Resources, University of Arizona
01/1996-01/2002	Adjunct Assistant Professor, Department of Hydrology & Water Resources, University of Arizona

Professional Affiliations

American Geophysical Union (AGU)
 American Meteorology Society (AMS)
 American Society of Civil and Engineers (ASCE)

Publications:

1. Qing Xia, **X. Gao**, W. Chu and S. Sorooshian, Estimate cloud-free snow cover areas from MODIS daily images based on variational interpolation: Validation, Water Resources Research, 48, W09523, doi:10.1029/2011WR011072, 2012.
2. Sorooshian, S., J. Li, K. Hsu, and **X. Gao**, Influence of irrigation schemes used in regional climate models on evapotranspiration estimation: Results and comparative studies from California's Central Valley agricultural regions, J. Geophys. Res., 117, D06107, doi:10.1029/2011JD016978, 2012.
3. Wei Chu, **X. Gao**, Thomas J. Phillips and S. Sorooshian, Consistency of spatial patterns of the daily precipitation field in the western United States and its application to precipitation disaggregation, Geophysical Research Letters, 38, L04403, doi:10.1029/2010GL046473, 2011.
4. Sorooshian, S., J. Li, K. Hsu, and **X. Gao**, How significant is the impact of irrigation on the local hydroclimate in California's Central Valley? Comparison of model results with ground and remote-sensing data, J. Geophys. Res., 116, D06102, doi:10.1029/2010JD014775, 2011.
5. Wei Chu, **X. Gao** and S. Sorooshian, A solution to the crucial problem of population degeneration in high- dimensional evolutionary optimization, IEEE systems journal, doi: 10.1109/JSYST.2011.2158682.
6. Wei Chu, **X. Gao** and S. Sorooshian, Improving the shuffled complex evolution scheme for optimization of complex nonlinear hydrological systems: Application to the calibration of the

Sacramento soil-moisture accounting model, *Water Resources Research*, 46, W09530, doi:10.1029/2010WR009224, 2010.

7. Li, J., S. Sorooshian, W. Higgins, **X. Gao**, B. Imam and K-L Hsu, Influence of Spatial Resolution on Diurnal Variability During the North American Monsoon, *J. Climate*, 21(16), 3967-3988, 2008.
8. Li, J., **X. Gao** and S. Sorooshian, Model performance of downscaling 1999-2004 hydrometeorological fields to Upper Rio Grande River basin at different forcing datasets, *J. of Hydrometeor.*, 9(4), 677-690, 2008.
9. **Gao, X.**, J. Li, and S. Sorooshian, Modeling Intra-Seasonal Features of 2004 North American Monsoon Precipitation, *J. Climate*, 20(9), 1890–1904, 2007.
10. Yaun, H., S.L. Mullen, **X. Gao**, S. Sorooshian, J. Du, and H. Juan, Short-Range Probabilistic Quantitative Precipitation Forecasts over the Southwest United States by the RSM Ensemble System, and have included it in the May issue of the *Mon. Wea. Rev.*, 135(5), 1685–1698, 2007.
11. Yaun, H., **X. Gao**, S.L. Mullen, S. Sorooshian, J. Du, and H. Juan, Calibration of Probabilistic Quantitative Precipitation Forecasts With an Artificial Neural Network, *Wea. Forecast.*, 22(6), 1287-1303, 2007.

Synergistic Activities

1. Principal investigator and co-principal investigator on over \$55 million by various agencies, such as NSF, NOAA, NASA, DOE, DOD, CDWR, U.S. Army Research Office, UNESCO, World Bank, UC Lab, etc.
2. Currently doing research for the Center for Hydrology & Remote Sensing (CHRS).
3. Working on using satellite remotely sensed information to retrieve physical variables of atmosphere, land surface, and ocean, which include the global precipitation (rainfall and snowfall), clouds, sea surface temperature, and vegetation parameters.
4. Current research focuses on the data assimilation, ensemble forecasts to improve the predictability of mesoscale models.