

## **Xiaochun Wang, Ph.D.**

### **Mailing Address**

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### **Education**

2001 Ph.D. in Meteorology , University of Hawaii at Manoa, Honolulu, U.S.A.  
1996 M.S. in Applied Mathematics, University of Alberta, Edmonton, Canada  
1989 M.S. in Meteorology, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, P.R. China  
1986 B.S. in Meteorology, Nanjing Institute of Meteorology, Nanjing, P.R. China

### **Professional Experience**

Oct. 2008 - present Assistant Researcher (IV), Joint Institute for Regional Earth System Sciences and Engineering (JIFRESSE), University of California at Los Angeles (UCLA), Los Angeles, California, U.S.A.  
Jan. 2004 -Oct. 2008 Senior Physics Engineer, Raytheon Technical Services Company, Pasadena, California., U.S.A.  
Jan. 2002- Jan. 2004 Caltech Postdoctoral Scholar, Jet Propulsion Laboratory (JPL), California Institute of Technology, Pasadena, California, U.S.A.  
Aug. 1996-Dec. 2001 Research Assistant, Dept. of Meteorology, University of Hawaii at Manoa, Honolulu, U.S.A.  
Jan. 1995-Aug. 1996 Teaching Assistant and Research Assistant, Dept. of Math. Sci., University of Alberta, Edmonton, Canada  
Sept. 1992-Dec. 1994 Research Associate, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, P. R. China  
Aug. 1989-Aug. 1992 Practice Researcher, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, P. R. China

### **Awards and Honors**

Achievement Award, Raytheon Technical Services Company, 2008  
Peer Award, Raytheon Technical Services Company, 2007  
Team Award, Raytheon Technical Services Company, 2005  
Global Change Scholarship, American Meteorological Society, 2001  
Pan Pacific Scholarship, University of Hawaii, 1996  
J. Gordon Kaplan Graduate Student Award, University of Alberta, Alberta, 1995

## **Expertise and Synergistic Activities**

Dr. Xiaochun Wang is both a meteorologist and a physical oceanographer with over 25 year experience. His Ph.D. thesis is on the dynamics of Pacific decadal oscillation and ENSO, which are two large scale air-sea coupled phenomena that impact global climate. Currently he works in the Joint Institute for Regional Earth System Science and Engineering (JIFRESSE), a joint institute between UCLA and Jet Propulsion Laboratory/Caltech (JPL). He has been involved in a JPL group to develop real-time coastal ocean data assimilation and forecasting systems for the past 10 years and played a leading role in implementing tidal forcing and river run-off forcing in Regional Ocean Modeling System (ROMS), validating model solutions using *in situ* and remote sensing observations, investigating coastal ocean dynamics. He has nineteen referred publications (with nine as first author) on the topics of weather and climate, statistical methods in climate research, Pacific decadal oscillation and ENSO, sea surface salinity variability, ocean circulation and tidal simulations using ROMS.

For community service, he has served as a reviewer for many journals (e.g., J. of Climate, J. of Physical Oceanography, J. Geophys. Res., Geophys. Res. Lett., Progress in Oceanography), NSF proposals, NASA proposals, North Pacific Research Board proposals, and as an advisor of summer intern students of JPL and graduate students at UCLA. From 2006 to 2010, he served as an Executive Committee Member of the Southern California Chapter of the Chinese-American Oceanic and Atmospheric Association (COAA), with duties to organize annual fall scientific conferences and winter social events for members.

## **Referred Publication List**

Song, Y.T., R. Gross, X. Wang, and V. Zlotnicki, 2010: A non-Boussinesq terrain following OGCM for oceanographic and geodetic applications. *Advances in Geosciences*, 18 (Ocean Sciences, Eds. Gan et al.), 63-86.

Breaker, L., Y.-H., Tseng, and X. Wang, 2010: On the natural oscillations of Monterey Bay: observations, modeling, and origins. *Progress in Oceanography*, 86, 380-395.

Wang, X., Y. Chao, C. Dong, J. Farrara, Z. Li, J. C. McWilliams, J. D. Paduan, L. R. Rosenfeld, 2009: Modeling tides in Monterey Bay, California. *Deep-Sea Research II*, 219-231, Vol. 56, doi:10.1016/j.dsr2.2008.08.012.

Wang, X., Y. Chao, 2004: Simulated sea surface salinity variability in the tropical Pacific. *Geophys. Res. Lett.*, Vol. 31, L02302, doi:10.1029/2003GL01846.

Wang, X., F.-F. Jin, and Y. Wang, 2003: A tropical ocean recharge mechanism for climate variability. Part I: Equatorial heat content changes induced by the off-equatorial wind. *J. Climate*, 3585-3598, Vol. 16, No. 22.

Wang, X., F.-F. Jin, and Y. Wang, 2003: A tropical ocean recharge mechanism for climate variability, Part II: A unified theory for decadal and ENSO modes. *J. Climate*, 3599-3616, Vol. 16, No. 22.

Jin, F.-F., M. Kimoto, and X. Wang, 2001: A model of decadal ocean-atmosphere interaction in the North Pacific basin. *Geophys. Res. Lett.*, 1531-1534, Vol. 28, No. 8.

Wang, X., and S.S.P. Shen, 1999: Estimation of spatial degrees of freedom of a climate field. *J. Climate*, 1280-1291, Vol. 12, No. 5.

Shen, S.S.P., and X. Wang, 1997: Optimal average of regional temperature with sampling error estimation. *Atmosphere-ocean*, 147-160, Vol. 35, No. 2.

Wang, X., and G. Wu, 1997: The analysis of the relationship of spatial modes of summer precipitation anomalies over China and the general circulation. *Chinese Journal of Atmospheric Sciences*, 133-142, Vol. 21, No. 2.

Wang, X., and G. Wu, 1997: Regional characteristics of summer precipitation anomalies over China. *Acta Meteorologica Sinica*, 153-163, Vol. 11, No. 2.

Wu, G., F. Song, J. Wang, and X. Wang, 1995: Neighborhood response of rainfall to tropical sea surface temperature anomalies — Data analysis. *Chinese Journal of Atmospheric Sciences*, 663-676, Vol. 19, No. 6 (in Chinese)

Shen, S.S.P., X. Wang, R. Li, and Y. Liang, 1995: Optimal weighting scheme for averaging regional temperature I: Theoretical analysis. *Chinese Sciences Bulletin*, 1351-1356, Vol. 40, No. 16.

Wang, X. Y.Cai, and Y. Liang, 1994: Detection of the inhomogeneity of yearly-mean surface temperature data using the bivariate-test method. *Chinese Journal of Atmospheric Sciences*, 856-867, Vol. 18, Sup. (in Chinese)

Wang, X., 1994: On the abrupt seasonal change in the general circulation over South and Southeast Asia area. *Chinese Journal of Atmospheric Sciences*, 303-309, Vol. 18, No. 3. (in Chinese)

Yan, Z., Z. Li, and X. Wang, 1993: An analysis of decade-to-century-scale climate jumps in history. *Chinese Journal of Atmospheric Sciences*, 663-672, Vol. 17, No. 6.

Liang, Y., X. Wang, Z. Kong, N. Du, and D. Cheng, 1991: The application of successive discriminate analysis in the reconstruction of paleoclimate. *Chinese Sciences Bulletin*, 1731-1734, Vol. 36, No. 22. (in Chinese)

Kong, Z., N. Du, Y. Zhang, F. Wang, Y. Liang, X. Wang, 1991: Discovery of *helicia* fossil florule and spore-pollen assemblage of Baohuashan in Jurong county and its climatic and botanic significance. *Quaternary Sciences*, No. 4, 326-337. (in Chinese)

Liang, Y., L. Song, and X. Wang, 1991: The analysis of long-term trend of summer precipitation anomalies in China. Long-term Prediction and Solar-terrestrial Relationship in China, J. Zhang et al. (Eds.) 165-173, China Ocean Press, Beijing (in Chinese)

### **Non-refereed Publication List**

Wang, X., Y. Chao, C. Dong, J. Farrara, Z. Li, J. C. McWilliams, J. D. Paduan, L. K. Rosenfeld, C. K. Shum, and Y. Wang, 2006, Tidal simulation using Regional Ocean Modeling System. In Proceedings of the Symposium on 15 Years of Progress in Radar Altimetry, European Space Agency, SP-614.

Li, P., Y. Chao, Q. Vu, Z. Li, J. Farrara, H. Zhang, X. Wang, 2006, OurOcean – An integrated solution to ocean monitoring and forecasting. In Proceedings of 2006 Oceans Conference.

Wang, X., H. Xiao, X. Liang, J. Dong, and J. Wu, 1991: Data Inventory. Institute of Atmospheric Physics, Chinese Academy of Sciences, 64pp. (in Chinese)

Wang, X., Q. Zhao, H. Jiang, and F. Yu, 1991: Real-time meteorological data system, Institute of Atmospheric Physics, Chinese Academy of Sciences, 50pp. (in Chinese)

### **Manuscripts in Review**

Wang, X., Y. Chao, D. R. Thompson, S. A. Chien, J. Farrara, P. Li, Q. Vu, and H. Zhang, 2012: Multi-model ensemble forecasting and glider path planning in the Mid-Atlantic Bight. *Continental Shelf Research*

Wang, X., Y. Chao, C. K. Shum, Y. Yi, and H. S. Fok, 2012: On assessing the accuracy of ocean tide models. *J. Atmos. Oceanic Technology*

Wang, X., Y. Chao, H. Zhang, J. Farrara, Z. Li, X. Jin, K. Park, F. Colas, J. C. McWilliams, C. Paternostro, C. K. Shum, Y. Yi, C. Schoch, and P. Olsson, 2012: Modeling tides in Prince William Sound, Alaska and their influence on circulation. *Continental Shelf Research*

Colas, F. X. Wang, X. Capet, Y. Chao, and J. C. McWilliams, 2012: Untangling the roles of wind, run-off and tides in Prince William Sound. *Continental Shelf Research*

Farrara, J., Y. Chao, Z. Li, X. Wang, X. Jin, H. Zhang, P. Li, Q. Vu, P. Olsson, G. C. Schoch, M. Halverson, M. A. Moline, J. C. McWilliams, and F. A. Colas, 2012: A data-assimilative ocean forecasting system for the Prince William Sound and an evaluation of its performance during Sound Predictions 2009. *Continental Shelf Research*