

## **Fengge Su**

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### **Education**

Ph.D. in Hydrology, Hohai University, Nanjing, China, 2001

*Dissertation:* Macro-scale Hydrologic Model and Its Coupling with Atmospheric Model

M.S. in Hydrology, Xinjiang Agricultural University, Xinjiang, China, 1998

*Thesis:* Mixed Runoff Generation Mechanism in Tianshan Area

B.S. in Civil Engineering, Xinjiang Agricultural University, Xinjiang, China, 1995

### **Research Interests**

- Hydrologic modeling at regional and continental scales
- Climate change impacts on regional hydrology
- Depictions of water and energy budgets of global river basins
- Evaluation and application of satellite precipitation estimates in hydrologic predictions

### **Professional Appointments**

April 2008-present: Research Scientist at Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington

August 2007-March 2008: Research Scientist at USRA/MSFC/NASA, Huntsville, USA

January 2003-July 2007: Postdoctoral researcher at Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington

January 2002-December 2002: Postdoctoral researcher at Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China

### **Professional Membership**

American Geophysical Union

### **Professional Service**

Referee for the Journal "Water Resources Research" (six papers)

Referee for one US NSF Postdoctoral Fellow Proposal

Referee for the Journal "Natural Hazards" (one paper)

Referee for the Journal "Journal of Geophysical Research" (two papers)

### **Computer Skills**

Proficiency in C and FORTRAN programming, UNIX system, and GIS software of GMT

and ArcInfo.

### **Projects:**

#### **Pending NASA projects as a Co-I (PI: Dennis P, Lettenmaier)**

- IMPLEMENTATION OF THE VARIABLE INFILTRATION CAPACITY MACROSCALE HYDROLOGY MODEL FOR GLOBAL FLOOD PREDICTION USING NASA TRMM REAL-TIME PRECIPITATION PRODUCTS
- DEVELOPMENT OF AN EXPERIMENTAL GLOBAL FLOOD AND DROUGHT PREDICTION SYSTEM

#### **Current project (as key personnel)**

- RESPONSES OF PACIFIC SALMON TO CLIMATE CHANGE: IMPORTANCE OF EVOLUTIONARY VERSUS PLASTIC RESPONSES AND MECHANISMS THAT LIMIT GEOGRAPHIC RANGE

#### **Finished NASA/NSF projects since 2003 (as key personnel)**

- THE ROLE OF SPATIAL AND TEMPORAL VARIABILITY OF PAN-ARCTIC RIVER DISCHARGE AND SURFACE HYDROLOGICAL PROCESSES ON CLIMATE
- A LAND SURFACE MODEL HIND CAST FOR THE TERRESTRIAL ARCTIC DRAINAGE SYSTEM
- ON THE CAUSES OF RECENT TRENDS IN PRECIPITATION OVER LA PLATA BASIN AND THEIR IMPACT ON THE BASIN'S HYDROLOGY
- CEOP HYDROLOGIC MODEL TRANSFERABILITY STUDY FOR THE MISSISSIPPI AND LA PLATA RIVER CSES

### **Publication**

- **Su, F.** and D. P. Lettenmaier, Estimation of surface water budget of La Plata Basin. *J. Hydrometeo.*, 2008 (Accepted).
- Lettenmaier, D. P and **F. Su**, Chapter 9: Progress in hydrological modeling over high latitudes under Arctic Climate System Study (ACSYS), In: Lemke, P.(Ed) *ARCTIC Climate Change-The ACSYS Decade and Beyond*, 2008 (in press).
- Tang, Q. H. Gao, P. Yeh, T. Oki, **F. Su**, and D. P. Lettenmaier, 2008: Dynamics of terrestrial water storage change from observations and modeling, *J. Climate* (in review)
- **Su, F.**, H. Yang, and D. P. Lettenmaier, Evaluation of TRMM Multi-satellite Precipitation Analysis (TMPA) and its utility in hydrologic prediction in La Plata Basin, *J. Hydrometeo.*, 9(4),622-640,2008
- Adam, J.C., I. Haddeland, **F. Su**, and D.P. Lettenmaier, Simulation of reservoir influences on annual and seasonal streamflow changes for the Lena, Yenisei and Ob Rivers, *J. Geophys. Res.* 112, D24114, doi:10.1029/2007JD008525, 2007
- **Su, F.**, J.C. Adam, K.E. Trenberth, and D.P. Lettenmaier, Evaluation of surface water fluxes of the pan-Arctic land region with a land surface model and ERA-40 reanalysis, *J. Geophys. Res.*, 11, D05110, doi:10.1029/2005JD006387, 2006
- **Su, F.**, J. C. Adam, L. C. Bowling, and D. P. Lettenmaier, Streamflow simulations of the terrestrial Arctic domain, *J. Geophys. Res.*, 110, D08112, doi:10.1029/2004JD005518, 2005

- Xie Zhenghui, Liu Qian, **Su Fengge**, Application of the VIC-3L land surface model with a new surface runoff model in simulating streamflow for the Yellow River basin, *IAHS Publication*. No.289, 241-248, 2004.
- **Su Fengge**, Xie Zhenghui, A model for assessing effects of climate change on runoff in China, *Progress in Natural Progress*, 13(9), 701-707,2003
- Xie Zhenghui, **Su Fengge**, Liang Xu, Zeng Qingcun, et al, Application of a surface runoff model with Horton and Dunne runoff for VIC, *Advances in Atmospheric Sciences*. 20(2), 165-172, 2003.

### **Conference and Presentation**

**Su, F.**, D.E. Alsdorfb, C.K. Shumb, and D. P. Lettenmaiera, Arctic terrestrial water storage changes from GRACE satellite estimates and a land surface hydrology model, AGU oral presentation, December 2008 (San Francisco, CA).

**Su, F.**, Y. Hong, W. L. Crosson, and D.P. Lettenmaier, Hydrological evaluation of satellite precipitation products – toward global real-time flood forecasting, Poster, The Third NASA/JAXA International TRMM Science Conference, February 4-8, 2008 (Las Vegas, NV).

**Su, F.**, Y. Hong, W. L. Crosson, and D.P. Lettenmaier, Hydrological evaluation of satellite precipitation products in La Plata Basin, AGU oral presentation , December 2007 (San Francisco, CA).

**Su, F.**, Y. Hong, and D.P. Lettenmaier, Evaluation of TRMM satellite precipitation products in hydrologic simulations of La Plata Basin, AGU oral presentation, December 2006 (San Francisco, CA).

**Su, F.** and D.P.Lettenmaier, Water and energy budgets of the La Plata Basin, WPGM oral presentation, July 2006 (Beijing, China).

**Su, F.**, D. P. Lettenmaier, V. R. Barros, C. E. M. Tucci, and E. H. Berbery, Modeling of land surface processes in La Plata Basin, AGU oral presentation, December 2005 (San Francisco, CA).

**Su, F.**, J. C. Adam, L. C. Bowling, and D. P. Lettenmaier, Hydrologic simulations for the pan-Arctic drainage system, Poster, 1st CliC International Science Conference, April 2005 (Beijing, China).

**Su, F.**, J. C. Adam, K. E. Trenberth, and D. P. Lettenmaier, Surface water and energy fluxes of the pan-Arctic land region based on a land surface model and ERA-40 reanalysis, Poster, AMS, January 2005 (San Diego, CA).

**Su, F.**, J. C. Adam, L. C. Bowling, and D. P. Lettenmaier, Streamflow Simulations of the terrestrial Arctic region, AGU oral Presentation, December 2003 (San Francisco, CA).