

Qiaohong Sun

Personal information

Postdoctoral Scientist
Pacific Climate Impacts Consortium, University of Victoria
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Research Interests

Hydrologic and Climatic Extremes;
Detection and Attribution;
Multivariate Analysis;
ENSO and Precipitation Variability;
Hydrology and water resources

Education

2015/09 - 2018/06 Ph.D., Global Environmental Change, Faculty of Geographical Science, Beijing Normal University, China
2016/09 – 2018/03: Visiting scholar, Department of Civil and Environmental Engineering, University of California, Irvine, USA
2012/09 – 2015/07: M.S., Global Environmental Change, College of Global Change and Earth System Science, Beijing Normal University, China
2008/09 – 2012/07: B.S., Geography, College of Geographical Science, Fujian Normal University, China

Working Experience

2018/07 - Current: Postdoctoral Scientist, Pacific Climate Impacts Consortium (PCIC), University of Victoria (UVIC)

Peer-Reviewed Publications

1. **Sun Q.**, Miao C., Duan Q., Ashouri H., Sorooshian S., Hsu K., A review of global precipitation datasets: data sources, estimation, and intercomparisons. *Reviews of Geophysics*, 2017, doi: 10.1002/2017RG000574.
2. **Sun Q.**, Miao C., Duan Q., Changes in the Spatial Heterogeneity and Annual Distribution of Observed Precipitation across China. *Journal of Climate*, 2017, doi:10.1175/JCLI-D-17-0045.1.
3. **Sun Q.**, Miao C., AghaKouchak A., Duan Q., Unraveling anthropogenic influence on the changing risk of heat waves in China. *Geophysical Research Letters*, 2017, doi: 10.1002/2017GL073531. (AGU highlight)
4. **Sun Q.**, Miao C., Extreme Rainfall (R20mm, RX5day) in Yangtze-Huai, China, in June–July 2016: The Role of ENSO and Anthropogenic Climate Change. *Bulletin of the American Meteorological Society*, 2017, doi: 10.1175/BAMS-D-17-0091.1
5. **Sun Q.**, Miao C., Qiao Y., Duan Q., The nonstationary impact of local temperature changes and ENSO on extreme precipitation at the global scale. *Climate Dynamics*, 2017, doi: 10.1007/s00382-017-3586-0.

6. **Sun Q.**, Miao C., AghaKouchak A., Duan Q., Century-scale causal relationships between global dry/wet conditions and the state of the Pacific and Atlantic Oceans. *Geophysical Research Letters*, 2016, doi: 10.1002/2016GL069628.
7. **Sun Q.**, Miao C., Duan Q., Comparative analysis of CMIP3 and CMIP5 global climate models for simulating the daily mean, maximum and minimum temperature and precipitation over China. *Journal of Geophysical Research-Atmospheres*, 2015, doi:10.1002/2014JD022994.
8. **Sun Q.**, Miao C., Duan Q., Extreme climate events and agricultural climate indices in China: CMIP5 model evaluation and projections. *International Journal of Climatology*, 2015, doi: 10.1002/joc.4328.
9. **Sun Q.**, Miao C., Duan Q., Temperature and precipitation changes over the Loess Plateau between 1961 and 2011, based on high-density gauge observations. *Global and Planetary Change*, 2015, doi:10.1016/j.gloplacha.2015.05.011.
10. **Sun Q.**, Miao C., Duan Q., Kong D., Ye A., Di Z., Gong W., Would the “real” observed dataset stand up? A critical examination of eight observed gridded climate datasets for China. *Environmental Research Letters*, 2014, 9: 015001, doi:10.1088/1748-9326/9/1/015001.
11. **Sun Q.**, Miao C., Duan Q., Projected changes in temperature and precipitation in ten river basins over China in 21st century. *International Journal of Climatology*, 2014, doi: 10.1002/joc.4043.
12. **Sun Q.**, Kong D., Miao C., Duan Q., Yang T., Ye A., Di Z., Gong W., Variations in global temperature and precipitation for the period of 1948 to 2010. *Environmental Monitoring and Assessment*, 2014, doi: 10.1007/s10661-014-3811-9.
13. Miao C., **Sun Q.**, Kong D., Duan Q., Record-breaking heat in northwest China in July 2015: Analysis of the severity and underlying causes, *Bulletin of the American Meteorological Society*, 2016, doi: 10.1175/BAMS-D-16-0142.1
14. Miao C., **Sun Q.**, Borthwick A., Duan Q., Linkage Between Hourly Precipitation Events and Atmospheric Temperature Changes over China during the Warm Season. *Scientific Reports*, 2016: 1-14, doi: 10.1038/srep22543.
15. Miao C., **Sun Q.**, Duan Q., Wang Y., Joint analysis of changes in temperature and precipitation on the Loess Plateau during the period 1961–2011. *Climate Dynamics*, 2016, 6, doi: 10.1007/s00382-016-3022-x.
16. Miao C., Su L., **Sun Q.**, Duan Q., A nonstationary bias-correction technique to remove bias in GCM simulations. *Journal of Geophysical Research Atmospheres*, 2016, 121, doi: 10.1002/2015JD024159.
17. Miao C., Duan Q., **Sun Q.**, Li J., Evaluation and application of Bayesian Multi-model estimation in temperature simulations. *Progress in physical geography*, 2013, 37: 727-744.
18. Miao C., Duan Q., **Sun Q.**, Huang Y., Kong D., Yang T., Ye A., Di Z., Gong W., Assessment of CMIP5 climate models and its multi-model ensemble prediction in temperature changes over the Northern Eurasia. *Environmental Research Letters*, 2014, 9, doi:10.1088/1748-9326/9/5/055007.
19. Kong D., Miao C., Borthwick A., Duan Q., Liu H., **Sun Q.**, Ye A., Di Z., Gong W., Evolution of the Yellow River Delta and its relationship with runoff and sediment load from 1983 to 2011. *Journal of Hydrology*, 2015, 520: 157-167.
20. Kong D., Miao C., Wu J., Duan Q., **Sun Q.**, Ye A., Di Z., Gong W., The hydro-environmental response on the lower Yellow River to the water-sediment regulation scheme. *Ecological*

Engineering, 2015, doi: 10.1016/j.ecoleng.2015.03.009.

Awards

National Scholarship [2017, 2016, 2015, 2014], Beijing Normal University
Outstanding Award for Doctoral Freshmen [2015], Beijing Normal University
Honor of Excellent Graduate of Beijing [2015, 2018], Beijing Normal University
Honor of Excellent Graduate of Beijing Normal University [2015, 2018]

Skills

Facility with the professional software grasped include programming language (Matlab, R, NCL, CDAT), graph (Origin, Photoshop, Adobe Illustrator), GIS (ArcView, Arcgis).

Research Experience

2013-2014, the rainfall erosivity under climate change, China.

Project participant, sponsored by State Key Laboratory of Earth Surface Processes and Resource Ecology

2012-2013, Quantitative hydrological responses to the climate change and human activities and its future scenario in the Yellow River basin

Project participant, sponsored by the National Natural Science Foundation of China

2012-2014, Application of Bayesian multi-model to assess the climate change

Project participant, sponsored by National Key Basic Special Foundation Project of China (973)

2009-2013, Uncertainty quantification and downscaling of climate change projection

Project participant, sponsored by National Key Basic Special Foundation Project of China (973).

Academic Activity

Reviewer for International Journals, such as, Journal of Hydrology, International Journal of Climatology, Scientific Reports, Environmental Monitoring and Assessment.

Selected Conference Papers, Presentations and Posters

Sun QH, Miao CY, Duan QY, Century-scale causal relationships between global drought conditions and the state of the Pacific and Atlantic Oceans, EGU General Assembly Conference, April, 2016, Vienna, Austria. (Poster)

Sun QH, Miao CY, Duan QY, Linkages between the alternation of global dry/wet conditions and the state of Pacific and Atlantic Oceans, AOGS 13th Annual Meeting, August, 2016, Beijing, China. (Oral)

Sun QH, Miao CY, Duan QY, Changes in Spatial Heterogeneity and Temporal Inequality of Observed Precipitation over China, AGU Fall Meeting, December, 2016, San Francisco, California, USA. (Poster)