Jun Hu

CONTACT INFORMATION

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RESEARCH INTERESTS

Climate dynamics, hydroclimate variability, monsoon dynamics, water isotope physics, isotope-enabled climate modeling, low order climate models

EDUCATION

08/2014-07/2019 **University of Southern California**, Los Angeles, CA
Ph.D. in Climate Dynamics
Dissertation: "Flowstone Ideograms: Deciphering the Climate Messages of Asian Speleothems"
Advisor: Julien Emile-Geay

09/2011-07/2014 **Institute of Atmospheric Physics, Chinese Academy of Sciences**, Beijing, China
Master of Science in Meteorology
Dissertation: "Synergic impacts of the Indian Ocean and the Tibetan Plateau diabatic heating on the East Asian summer monsoon"
Advisor: Anmin Duan

08/2007-06/2011 **Lanzhou University**, Lanzhou, China
Bachelor of Science in Atmospheric Sciences

APPOINTMENTS

09/2019-NOW **Rice University**, Houston, TX
Postdoctoral Research Fellow
Advisor: Sylvia Dee

08/2014-05/2019 **University of Southern California**, Los Angeles, CA
Research and Teaching Assistant
Ph.D. dissertation (to be) published as [1][2][3][9][11]; assisted in teaching 4 courses

TEACHING

TEACHING ASSISTANT

My responsibilities as a *teaching assistant* at USC included teaching weekly laboratory sessions, developing/designing lab session material, grading homework and exams, and holding office hours.

- GEOL150 – Climate Change (Spring 2016 and Spring 2017)
- GEOL157 – The Logic of Climate Change: From Data to Deeds (Spring 2018)
- GEOL351 – Climate Systems (Fall 2015)
- GEOL425 – Data Analysis in the Earth and Environmental Sciences (Fall 2017, 88% of students are graduate students)

MENTORING

Student advised:

- John Krone (USC Earth Sciences)
  Undergraduate Research Assistant, Spring 2018
- Eric Park (Palos Verdes High School)
  Summer Internship, Summer 2019

TRAINING

I lead two training sessions in the fourth workshop of Speleothem Isotopes Synthesis and AnaLysis (SISAL), teaching the participants to read/extract/analyze a global speleothem dataset.

PUBLICATIONS

PUBLISHED PAPERS

[1] **Hu, J.**, J. Emile-Geay, J. Nusbaumer, and D. Noone, 2018: Impact of convective activity on precipitation δ^{18}O in isotope-enabled general circulation models. *Journal of Geophysical Research: Atmosphere*, 123, 13,595-13,610, doi: 10.1029/2018JD029187.

[2] Atsawawaranunt, K., et al. (including **J. Hu**), 2018: The SISAL database: a global resource to document oxygen and carbon isotope records from speleothems. *Earth System Science Data*, 10, 1687-1713, doi:10.5194/essd-10-1687-2018.

[3] **Hu, J.**, J. Emile-Geay, and J. Partin, 2017: Correlation-based interpretations of paleoclimate data – where statistics meet past climates. *Earth and Planetary Science Letters*, 459, 362-371, doi: 10.1016/j.epsl.2016.11.048.

[4] **Hu, J.**, and A. Duan, 2015: Relative contributions of the Tibetan Plateau thermal forcing and the Indian Ocean Sea surface temperature basin mode to the interannual variability of the East Asian summer monsoon. *Climate Dynamics*, 45, 2697-2711, doi:10.1007/s00382-015-2503-7.

[5] Duan, A., Z. Xiao, and **J. Hu**, 2014: Can current AGCMs reproduce historical changes in the atmospheric diabatic heating over the Tibetan Plateau? *Atmospheric and Oceanic Science Letters*, 7(2), 143-148, doi:10.3879/j.issn.1674-2834.13.0084.

[6] Duan, A., **J. Hu**, and Z. Xiao, 2013: The Tibetan Plateau Summer Monsoon in the CMIP5 Simulations. *Journal of Climate*, 26, 7747-7766. doi: 10.1175/JCLI-D-12-00685.1.

[7] Liu, Y. M., **J. Hu**, B. He, Q. Bao, A. M. Duan, and G. X. Wu, 2013: Seasonal evolution of subtropical anticyclones in the climate system model FGOALS-s2. *Advances in Atmospheric Sciences*, 30(3), 593-606, doi:10.1007/s00376-012-2154-0.

[8] Luo, J., W. Tian, Z. Pu, P. Zhang, L. Shang, M. Zhang, and **J. Hu**, 2013: Characteristics of stratosphere-troposphere exchange during the Meiyu season. *Journal of Geophysical Research: Atmosphere*, 118, 2058?2072, doi:10.1029/2012JD018124.

PAPERS IN REVISION

[9] **Hu, J.**, J. Emile-Geay, C. Tabor, J. Nusbaumer, and J. Partin: Deciphering Chinese speleothems with an isotope-enabled climate model. *Paleoceanography and Paleoclimatology.*

[10] Su, Y., and **J. Hu**: Competing Agendas on the East China Sea Dispute: A Cross-National Network Analysis. *International Communication Gazette.*

PAPERS IN PREPARATION

[11] **Hu, J.**, J. Emile-Geay, N. McKay, Y. A. Brahim, and S. Stevenson: Limited coherency of Asian speleothems over the Holocene, with implications for the Meghalayan age. *Science.*

[12] **Hu, J.**, S. Dee, and J. Nusbaumer: The role of isotope-enabled GCM complexity in simulating circulation changes in high-CO_2 scenarios. *Journal of Advances in Modeling Earth Systems*.

[13] Yang, Y., Y. Liu, **J. Hu**, Y. Xie, and J. Li: Time-lagged impact of Eurasian spring snow decrement on the onset of the Asian summer monsoon. *Journal of Climate*.

[14] He, Y., X. Ding, J. Huang, **J. Hu**, D. Li, and X. Guan: The extreme cold winters under global warming. *Nature Climate Change*.

CONFERENCE PRESENTATIONS AND WORKSHOPS

Invited Talks

- *California Institute of Technology*, November 17th, 2016. GeoClub Speaker. "Correlation-based interpretations of paleoclimate data – where statistics meet past climates".

Talks

- Deciphering Chinese speleothems with an isotope-enabled climate model. *U.S. CLIVAR Water isotopes and Climate workshop*, Boulder, CO, October 2019.
- The interpretation of speleothem δ^{18}O in the Asian Monsoon regions: Insights from an isotope-enabled model. *AGU Fall Meeting*, Washington, D.C., December 2018.
- What is Asian speleothem δ^{18}O telling us? Insights from an isotope-enabled model. *The 28th Goldschmidt Conference*, Boston, MA, August 2018.
- Impact of convective activity on precipitation δ^{18}O in isotope-enabled models. *AGU Fall Meeting*, New Orleans, LA, December 2017.
- Using LiPD format with speleothem records. *The first workshop of Speleothem Isotopes Synthesis and AnaLysis (SISAL)*, Dublin, Ireland, June 2017.

Posters

- A coherency analysis of Asian speleothems. *EGU General Assembly*, Vienna, Austria, April 2019.
- Reinterpreting the Crystal Cave speleothem record with statistics, climate models, and proxy system models. *Urbino Summer School in Paleoclimatology*, Urbino, Italy, July 2017.
- Reinterpreting the Crystal Cave speleothem record with statistics, climate models, and proxy system models. *AGU Fall Meeting*, San Francisco, CA, December 2016.
- Blind speleothem calibrations: A cautionary tale from Crystal Cave. *The 26th Goldschmidt Conference*, Yokohama, Japan, June 2016.
- An efficient climate model with water isotope physics: NEEMY. *AGU Fall Meeting*, San Francisco, CA, December 2015.

HONORS, AWARDS, AND GRANTS

09/2019 Lanzhou University, LZUJBKY-2019-KB02, Synergic impact of latent heating and blocking systems on extreme climate events in semi-arid regions, PI, $3000

09/2019 U.S. CLIVAR Water isotopes and Climate workshop Travel Fund

07/2019 SISAL 4th Workshop Travel Fund

03/2018 Teaching Assistant Award (GEOL 425), Department of Earth Sciences, USC

10/2016	Best Student Paper Award in COAA-SCC (Chinese-American Oceanic and Atmospheric Association, Southern California Chapter)
06/2016	Adam Fischer International Travel Grant, USC
2014-2019	Dornsife College Merit Fellowship, USC
06/2011	Outstanding student in Chinese Academy of Sciences
11/2010	Scholarship of Chinese Academy of Sciences
10/2010	Outstanding graduate of Lanzhou University
10/2010	Provincial First Prize for China Undergraduate Mathematical Contest in Modeling
11/2009	National Scholarship of China
11/2008	National Scholarship of China

PROFESSIONAL SERVICE

Dataset Coordinator

Regional Coordinator in a Past Global Changes (PAGES) working group – Speleothem Isotopes Synthesis and AnaLysis (SISAL), collecting and control the quality of speleothem records in China

Seminar Coordinator

Paleoenvironmental Seminar Coordinator (2018-2019) at the Department of Earth Sciences, USC

Paper Reviewer

- Journal of Climate. 2019-
- Journal of Geophysical Research: Atmosphere. 2017-
- Advances in Atmospheric Sciences. 2018-
- Journal of Applied Meteorology and Climatology. 2014-

AFFILATIONS

- American Geophysical Union. 2015-
- American Meteorological Society. 2017-
- PAGES – Past Global Changes. 2017-

COMPUTER SKILLS

- Climate models: CESM/iCESM, SPEEDY, FGOALS, WRF, Linear Baroclinic Model
- Languages: Python, Matlab, NCL, Fortran, Linux/Unix shell scripts, MPI parallel processing library.