# HUSILE BAI

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## EDUCATION BACKGROUND

**2018-2022** **Ph.D. University of Utah, Department of Atmospheric Sciences**
**Salt Lake City, UT**

- *Committee: Drs. Courtenay Strong (Chair), John Horel, Jalene M. LaMontagne, Thomas R. Reichler, Benjamin Zuckerberg*
- Dissertation project: Teleconnection mechanisms associated with ecologically-relevant climate dipoles

**2015-2018** **M.S. University of Chinese Academy of Sciences, Institute of Earth Environment**
**Beijing, China**

- *Advisors: Dr. Guohui Li and Dr. Yu Liu*
- *Thesis project: Impact of the ice nuclei on the development of the cumulus clouds over the North China Plain*

**2011-2015** **B.S. Lanzhou University, College of Atmospheric Sciences**
**Lanzhou, China**

- *Capstone project: Numerical weather simulation and analysis of a heavy rainstorm*
- *Advisor: Dr. Yi Yang*
- *Atmospheric Sciences*

## PUBLICATIONS

2022 **BAI, Husile**, Courtenay Strong, and Benjamin Zuckerberg. Drivers of an ecologically-relevant summer North American dipole[J]. ***Journal of Climate***,

2019 **HU Sile**, LIU Yu, LI Guohui. 2019. Impact of ice nuclei on the development of cumulus clouds over the North China Plain[J]. **Journal of Earth Environment**, 10(3):257-266 https://doi.org/10.7515/JEE182078

2018 **HU Sile**, LI Yan, FANG Congxi, CHEN Zhihong, The relationship between Ural blocking, Siberian high, and East Asian winter monsoon[J]. **Journal of Lanzhou University**, 54(4):440-452

2018 Yu liu, Weiyuan Ta, Qiang Li, Huiming Song, Changfeng Sun, Qiufang Cai, Han Liu, Lu Wang, **Sile Hu**, Junyan Sun, Wenbiao Zhang, Wenzhu Li. Tree-ring stable carbon isotope-based April-June relative humidity reconstruction since AD 1648 in Mt. Tianmu, China. ***Climate Dynamics***, 50(2018), 1733–1745.

2017 Liu, Yu, Han Liu, Huiming Song, Qiang Li, George S. Burr, Lu Wang, and **Sile Hu**. "A monsoon-related 174-year relative humidity record from tree-ring δ18O in the Yaoshan region, eastern central China." ***Science of the Total Environment,*** 593 (2017): 523-534.

## RESEARCH INTERESTS

I am interested in climate dynamics and modeling research. I studied the teleconnection mechanisms and its impact on the ecological-evolutionary processes including conifer seed masting and bird migration for my Ph.D. dissertation. Currently, I am working on the glacier and cryosphere mass balance for my postdoctoral research.

## RESEARCH EXPERIENCE

**2020-2022**

Analyzing observational data and stimulating atmosphere-ocean interactions using models run on powerful supercomputers.
Developing the new interdisciplinary research program for understanding climate influence on the ecosystem process, such as bird migration and conifer seed masting

**2019-2020**

Studied Land-Atmosphere coupling using Land Information System (LIS) framework

**2017-2018**

Investigated the aerosol impacts on the cloud formations with Cloud Resolving Weather Research and Forecasting (CR-WRF) model

**2016-2017**

Participated in the dendroclimatology fieldwork: sampling, drying, and polishing
Tained in the dendroclimatology lab: tree-ring cross-dating and data processing

**2015-2016**

Trained LINUX operating system
Studied numerical weather simulation using Weather Research and Forecasting (WRF) model
Analyzed satellite and radar products

## TEACHING EXPERIENCE

### University of Utah, Department of Atmospheric Sciences

| *Course Number* | *Course Title* | *Semester* | *TA Note* |
|---|---|---|---|
| ATMOS 5400 | The Climate System | 2020 Fall<br>2021 Fall | Assist students in homeworks, host exam review sessions |
| ATMOS 6040 | Environmental Stats | 2021 Spring | Assist students in software operation (Matlab and Python) |

## MENTORSHIP

- **Olivia Mondlock**, co-mentored Capstone project in Department of Atmospheric Sciences, University of Utah, 2021-2022
- **Zoe Exelbert**, co-mentored Wilkes Scholar undergraduate project in Department of Atmospheric Sciences, University of Utah, Spring 2023

## PRESENTATIONS

**2017.12**

**Hu-sile**, Liu-Yu, Li-Guohui. Impact of ice nuclei on the development of cumulus clouds over the North China Plain. Oral presentation at 2017 AGU Fall Meeting, 11-15, December, 2017

**2021.01**

**Husile Bai**, Courtenay Strong, Benjamin Zuckerberg, and Jalene M. LaMontagne. Global teleconnections of west-east pine siskin irruption mode. Poster at Macrosystems PI Annual Meeting, Virtual, 13-14, January, 2021

**2021.12**

**Husile Bai**, Courtenay Strong, Benjamin Zuckerberg, and Jalene M. LaMontagne. Continental-Scale Climate Dipoles Driven by Pan-Pacific Wave. Poster at 2021 AGU Fall Meeting, In-person, 13-17, December, 2021

**2022.12**

**Husile Bai**, Courtenay Strong, Jalene M. LaMontagne, and Benjamin Zuckerberg. Summer North American Dipole Driven by Stationary Rossby Waves Associated with Tropical and Monsoonal Convection. Poster at 2022 AGU Fall Meeting, In-person, 12-16, December, 2022

## EDI PROMOTION

- Assisted as committee member in the Committee for the Advancement of Inclusion and Diversity (CAID), College of Mines and Earth Sciences, University of Utah, 2020-2022
- The Second National Conference: Justice in Geoscience, 14-17 August 2022, Washington DC

## PROFESSIONAL SKILLS

**Statistical and modeling techniques:**

- Weather Research and Forecasting (WRF) model
- Global climate model (GCM) including Community Earth System model (CESM)
- Land Information System (LIS) Framework
- Fu-Liou radiative transfer model
- ICE PACK glacier mass balance model
- Programming languages including NCL, Matlab, Python, Fortran, IDL.

- In addition, I am familiar with a wide range of techniques and programs for data analysis and simulation under Unix (Linux) and Mac OS environments.

**Other**:

- I am fluent in Mongolian, English, and Mandarin Chinese, and have given presentations and taught in all three languages.