

Yujuan Wang

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Research Interests

Modeling the Earth's climate system with the past, present and future scenarios to better understand global climate change/variability.

Utilizing general circulation models (GCMs) to better understand biogeochemical drivers of climate change and responses, and feedbacks of climate change

Education

Bachelor of Science, Nanjing University (NJU) Sept. 2016 – July 2020 (expected)

◆ **Experimental Class of Earth System Science and Environment (ESSE)** Sept. 2016 – Jan. 2018

- 98 students taught with interdisciplinary courses and field trainings designed collaboratively by selected instructors from four Geosciences departments at NJU.
- Overall GPA: 4.573/5.0, major GPA: 4.575/5.0, ranking: 1/98.
- Core Coursework (full mark – 100): *Physical Geography* (100), *Principle of Solid Earth Sciences* (94), *Earth Exploration and Information Technology* (93).

◆ **Atmospheric Sciences** Mar. 2018 – July 2020 (expected)

- Overall GPA: 4.562/5.0, major GPA: 4.558/5.0, ranking: 6/72.
- Core Coursework (full mark – 100): *Geophysics Fluid Dynamics* (97), *Computer Programming(C)* (98), *Numerical Weather Prediction* (95), *Statistical Weather Prediction* (95), *Atmospheric Chemistry* (95), *Methods of Mathematical Physics* (93), *Introduction to Modern Climatology* (93).

Research & Field Experiences

Environmental Biogeochemistry Modeling Group | Nanjing University | Research Assistant Sept. 2018 – Present

Advisor: Professor Yanxu Zhang

Project: Impact of climate change on marine mercury cycling

- Configured the MIT General Circulation Model (MITgcm) and MIT integrated Global Systems Model (IGSM) on the group server.
- Developed simulations for the global marine Hg cycle to conduct sensitivity analysis on the influence of the changing physical ocean circulation and ecosystem on MeHg formation and trophic transfer.
- Designed simulations with different chemistry schemes involving the demethylation process to evaluate the uncertainty of the Hg cycle model.
- Constructed mass budgets of methylmercury to quantitatively understand the processes driving global marine MeHg distribution.

Climate, Atmospheric Science and Physical Oceanography | Scripps Institute of Oceanography, University of California, San Diego | Visiting Student July 2019 – Present

Advisors: Professor Shang-Ping Xie and Doctor Shineng Hu

Project: Variability of cross-equatorial winds in the eastern Pacific

- Performed diagnostic analyses of cross-equatorial winds using observational data and AMIP multi-model ensembles and identified essential problems associated with model simulations.
- Carried out epoch difference analyses to characterize the relationships between rainfall and wind biases.
- Found that inefficient SST input in AMIP simulations contributes to cross-equatorial winds weakening biases.

Sino-Russian Joint Expedition & Research Training Project in Geoscience – Baikal | Nanjing University | Leader of Meteorological Group Summer 2018

Advisor: Professor Huiling Yuan

Project: Micrometeorological characteristics of different surface layers of Baikal region

- Conducted observations on interactions between the tectonics, climate, and biosphere and collected samples of sediments and rocks at over 50 sites covering about 500 km.
- Collected in-situ measurements of micrometeorological variables such as soil temperature, surface temperature, humidity, and wind profile at 8 different underlying surfaces of the Baikal region.
- Presented the comprehensive results of the field study in English at a summary meeting in Irkutsk National Research Technical University.

Advisor: Professor Gaojun Li

- Collected over 30 water samples from areas around the glacier.
- Analyzed glacier surface morphology to probe the glacial landscapes and weathering process.

Skills

Programming:	Fortran, C, MATLAB, NCL, Python (including Matplotlib and NumPy), \LaTeX
Parallel Computing:	MPI
Platform:	Linux, Windows
Modeling:	MITgcm, IGSM, WRF
Communication:	Rich experience in public speaking and technical writing in English.

Leadership & Activities

Assistant Secretary General NJU Enrollment Propaganda Volunteer Association	Apr. 2017 – June 2018
<ul style="list-style-type: none"> • Organized 5 campus-wide events such as postcards designing to develop cohesive contact between the local high school and NJU. • Mentored over 20 freshmen to facilitate their transition from high school to college. 	
Minister of Diplomacy Department NJU student Association for International Organization	Sept. 2017 – Jan. 2018
<ul style="list-style-type: none"> • Organized a NAIO Talk focused on United Nations Educational, Scientific and Cultural Organization (UNESCO). • Led communications with over 20 international non-profit organizations including United Nations Environment Program (UNEP). 	
Leader Hand-in-hand Team in NJU Youth Volunteers Association	Oct. 2016 – June 2017
<ul style="list-style-type: none"> • Recruited and trained over 30 volunteer home tutors for elementary school students every weekend for two consecutive semesters. • Expanded a home tutor volunteer project from a single school scale to a local community scale. 	

Honors & Awards

The National Scholarship, 8,000 CHY (Top 1.3%) <i>Highest Honor for undergraduate in China, awarded by Ministry of Education of the China</i>	2018
HNA Scholarship, 5,000 CHY <i>22 recipients at Nanjing University, funded by Hainan Airline Corporation</i>	2017
Outstanding Students of Nanjing University (Top 5%)	2018
Outstanding Interviewing Volunteer of 6th National Sedimentological Congress	2017
Outstanding Volunteer of Nanjing Xianlin Half Marathon	2017

Standardized Tests

GRE General	Quantitative 169/170 (96%) + Verbal 152/170 (56%) + Writing 3.5/6 (41%)
TOEFL iBT	Reading 25/30 + Listening 29/30 + Speaking 23/30 + Writing 27/30 = 104/120