

Haoran Hou

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EDUCATION

Arizona State University, Tempe, AZ

Visiting Scholar, Hydrosystem Engineering Lab, Advisor: Zhihua Wang, May 2023 (expected)

University of Chinese Academy of Sciences, Beijing, China

Ph. D., Cartography and Geographic Information System, Advisor: Hongbo Su, May 2023 (expected)

Fujian Normal University, Fuzhou, China

M. S., Cartography and Geographic Information System, July 2019

Xuchang University, Xuchang, China

B. S., Geographic Information System, July 2015

Selected coursework: Geographical Analysis & Modeling, Remote Sensing, Spatial Data Analysis, Database Basics

EXPERIENCE

Shenzhen Municipal Ecology and Environment Bureau and Institute of Geographic Sciences and Natural Resources of Chinese Academy of Sciences, Shenzhen and Beijing, China

Research Assistance & Student researcher, September 2020 – December 2021

Went to study fields in Shenzhen to install meteorological sensors and collect data; Applied multisource data and methods to analyze atmospheric and thermal environment contamination in Shenzhen; Wrote reports to support policymaking of Shenzhen Municipal Ecology and Environment Bureau.

PROJECTS

Terrestrial Emissivity Measurement from a UAV Platform, China National Natural Science Foundation

University of Chinese Academy of Sciences, fall 2019 – spring 2020

Literature research and help integrated a thermal imaging camera and a CO₂ laser on a UAV platform.

Ecological Environment Monitoring for Shenzhen by Remote Sensing, Shenzhen Environmental Monitoring Center

University of Chinese Academy of Sciences, fall 2020 – spring 2021

Investigated the thermal environment changes and their driving factors in Pearl River Delta during 2003 – 2017 by employing remotely sensed and in-situ observed data and multi-spatial analysis methods.

Dynamic Evaluation and Accurate Supervision of the Ecosystem of Fujian Triangle City Cluster, China National Key Research and Development Plan

Fujian Normal University, fall 2016

Mapped the land cover changes in Fujian Triangle City Cluster during 2001 – 2015 and evaluated its natural hazards possibility by adopting remote sensing data and a novel three-dimensional evaluation framework.

Land Surface Energy Exchanges and Anthropologic Heat Release in Urban Areas, Natural Science Foundation of Fujian province

Fujian Normal University, spring 2017

Evaluated the urban heat island development in Fuzhou City from 1993 to 2016 by using Landsat archive data and the modified HUTS spatial downscaling algorithm for thermal infrared images.

MAJOR PUBLICATIONS

- **Hou, H.**, Long, Y., Su, H., Zeng, R., Xu, T., and Wang, Z.H., 2023. Prioritizing environmental determinants of urban heat islands: A machine learning study for major Chinese cities. *Urban Climate*, under review.
- **Hou, H.**, Su, H., Yao, C., and Wang, Z.H., 2023. Spatiotemporal patterns of the impact of surface roughness and morphology on urban heat island. *Sustainable Cities and Society*, p.104513.
- **Hou, H.**, Wang, Z., and Su, H., 2022. "Investigate the Spatiotemporal Impacts of Urban Morphology on Land Surface Temperature", oral presentation in *AGU Fall meeting*, Chicago, Illinois, December 12 – 16.
- **Hou, H.**, Su, H., Liu, K., Li, X., Chen, S., Wang, W. and Lin, J., 2022. Driving forces of UHI changes in China's major cities from the perspective of land surface energy balance. *Science of The Total Environment*, 829, p.154710.
- **Hou, H.**, Liu, K., Li, X., Chen, S., Wang, W. and Rong, K., 2020. Assessing the urban heat island variations and its influencing mechanism in metropolitan areas of Pearl River Delta, South China. *Physics and Chemistry of the Earth, Parts A/B/C*, 120, p.102953.

SKILLS

Programming Languages: Python (for data management, process, visualization and machine learning methods), Javascript (for Google Earth Engine), SQL (for database)

Software: ArcGIS, ENVI, Microsoft Office (Word, Excel, and PowerPoint), Origin