Yi Yu

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Education

The Australian National University, Canberra, Australia 07/2021 – Present

Doctor of Philosophy

- Project title: From point-to-pixel: understanding spatiotemporal scaling to improve soil moisture modelling capability through the utilisation of satellite observations (Primary Supervisor: Dr. Luigi Renzullo)

The Australian National University, Canberra, Australia 07/2018 – 08/2020

Master of Environment (Advanced)

- GPA: 6.56/7.00 (First Class Honours Equivalent)

Southwest University, Chongqing, China 09/2014 – 06/2018

Bachelor of Land Resource Management

Experiences

CSIRO Agriculture and Food, Canberra, Australia 08/2021 – Present

PhD Postgraduate Student Supervisor: Dr. Brendan Malone

Academic collaboration with The Australian National University. The key responsibilities include:

- Committing two days per week as part of the CSIRO A&F Prediction team to work on industry-aligned projects that address interdisciplinary challenges in agricultural innovation and soil science using statistical approaches and high-performance computing resources.
- Establishing the geo-database using data from in-situ measurement, drone, satellite, and proximal observations, as well as the Soil and Landscape Grids of Australia, to enable spatiotemporal modelling of soil water dynamics for key growing regions in Australia.
- Conducting research tasks as assigned and consulting with administrative and supervisory staff to gather ideas for improvements.

ANU Fenner School of Environment & Society, Canberra, Australia 07/2022 – 11/2022

Academic Tutor Supervisor: Assoc. Prof. Frank Mills

Course: ENVS3020 Climate Change: Science, Society, and Policy

- Developing and implementing course plans and study materials that effectively communicated complex scientific concepts. Responding to students' questions and marking assignments and exams.
- Helping students understand the basic scientific concepts behind climate change using a variety of visual aids and real-world examples. Guiding students to explore the impact of climate change on different regions and populations, as well as examining the various policy options available for addressing the issue.

ANU Institute for Water Futures, Canberra, Australia 01/2021 – 01/2022

Research Officer Supervisor: Dr. Luigi Renzullo

- Processing continent-scale satellite retrievals and land surface observations acquired from Geoscience Australia, NASA and CSIRO. Demonstrating expert-level spatial analysis skills using R and Python. Proficient with essential Linux commands and utilising programming modules from the Gadi supercomputer to complete research tasks.
- Undertaking testing and statistical analysis as required and preparing and disseminating relevant analysis reports to internal and external stakeholders, including external funding agencies.
- Participating in workshops and professional networks across campus to develop a broad base of industry knowledge, and providing input to improve the area's research practices and processes.

UniLodge Australia, Canberra, Australia 02/2020 – Present

Senior Resident

Key skills acquired: Emotional Intelligence, Collaboration, Leadership, Self Care, Time Management.

- Acting as a residential leader who is front-liner in delivering pastoral care to university students on campus.
- Responding timely to first-aid emergencies, fire drills and evacuations; Responsible for immediate referral to the relevant emergency body.
- Organising lodge events and actively committing to an inclusive community; Providing mental health advice and personal assistance to residents on the assigned floor through regular catch-ups.

Publications

- **Yu, Y.**, Renzullo, L.J., McVicar, T.R., Tian, S. and Cai, D., 2023. Recalibration of Himawari-8 split-window algorithm retrieved land surface temperature product based on diurnal characteristics, *ISPRS Journal of Photogrammetry and Remote Sensing*, In preparation.
- **Yu, Y.**, Renzullo, L.J., McVicar, T.R., Malone, B.P. and Tian, S., 2023. Generating daily 100 m resolution land surface temperature estimates continentally using an unbiased spatiotemporal fusion approach, *Remote Sensing of Environment*, Submitted.
- **Yu, Y.**, Xu, T. and Wang, T., 2020. Outmigration Drives Cropland Decline and Woodland Increase in Rural Regions of Southwest China, *Land, 9*(11), p.443. **doi**: `https://doi.org/10.3390/land9110443`.
- **Yu, Y.**, 2020. An Assessment of Outmigration-related Land Use Transition in Rural Area and Corresponding Social and Ecological Dynamics - A Case Study in Southwest China, Masters Thesis, The Australian National University, Canberra. **doi**: `https://doi.org/10.25911/5fabaffa0e0e9`.
- Wang, T., Yan, J., Cheng, X. and **Yu, Y**., 2020. Irrigation Influencing Farmers' Perceptions of Temperature and Precipitation: A Comparative Study of Two Regions of the Tibetan Plateau, *Sustainability, 12*(19), p.8164. **doi**: `https://doi.org/10.3390/su12198164`.

Conference Papers & Talks

- **Yu, Y.**, Renzullo, L.J., Tian, S. and Malone, B., 2023. An unbiased spatiotemporal fusion approach to generate daily 100 m spatial resolution land surface temperature over a continental scale, *EGU General Assembly 2023, Vienna, Austria, 23-28 April 2023*, EGU23-1501. **doi**: `https://doi.org/10.5194/egusphere-egu23-1501`.
- **Yu, Y.**, Renzullo, L.J. and Tian, S., 2021. Continental scale downscaling of AWRA-L analysed soil moisture using random forest regression, *24th International Congress on Modelling and Simulation, Sydney, Australia.* **doi**: `https://doi.org/10.36334/modsim.2021.J10.yu`.

Honours & Awards

- ANU University Research Scholarship (2021 - 2024)
- ANU-CSIRO Digital Agriculture PhD Supplementary Scholarship (2021 - 2025)
- ANU UniLodge Residential Scholarship (2020, 2023)

Skills & Certificates

- **Programming Languages**: R Programming (Expert); Python (Advanced); Shell Scripting
- **Software Packages**: ArcGIS; EndNote; Google Earth Engine; LaTeX
- **Certificates**: First Aid Certificate; Youth Mental Health First Aider

References

- References available on request.