

YI YU

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🎓 EDUCATION

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

Doctor of Philosophy - Hydrology and Remote Sensing

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

Master of Environment (Advanced)

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

Bachelor of Land Resources Management

👜 EXPERIENCES

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

PhD Postgraduate Student Supervisor: Dr. Brendan P. Malone

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

- Committing to industry-aligned projects that address interdisciplinary challenges in agricultural innovation and soil science using statistical approaches and high-performance computing (HPC) 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.
- Performing assigned research tasks and producing scientific publications that demonstrated practical implications for the agri-food sector.

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

Academic Tutor Supervisor: Assoc. Prof. Franklin P. Mills

Course: ENV3020 Climate Change: Science, Society, and Policy

- Developed and implemented course plans and study materials that effectively communicated complex scientific concepts. Responded to students' questions and marked assignments and exams.
- Helped students understand the basic scientific concepts behind climate change using a variety of visual aids and real-world examples. Guided students to explore the impact of climate change on different regions and populations, as well as to examine 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 J. Renzullo

- Processed continental-scale remote sensing data and earth observations acquired from various satellite platforms. Demonstrated expert-level spatial analysis skills using R and Python.
- Proficient with essential Linux commands and utilised programming modules from the ANU HPC platform (i.e., the Gadi supercomputer) to complete research tasks.
- Undertook testing and statistical analysis as required. Prepared and disseminated relevant analysis reports to internal and external stakeholders, including external funding agencies.
- Participated in workshops and professional networks across campus to develop a broad base of industry knowledge, and provided 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.

- Acted as a residential leader who is front-liner in delivering pastoral care to university students on campus.

- Responded timely to first-aid emergencies, fire drills and evacuations; Responsible for immediate referral to the relevant emergency body.
- Organised lodge events and actively committed to an inclusive community; Provided mental health advice and personal assistance to residents on the assigned floor through regular catch-ups.

JOURNAL ARTICLES

- [1] **Yu, Y.**, Malone, B. P., Renzullo, L. J., Burton, C. A., Tian, S., Searle, R. D. and Bishop, T. F. A., 2024. Data-driven upscaling of in-situ measurements for spatial evaluation of soil moisture models over heterogeneous agricultural land, *Water Resources Research, In Preparation*.
- [2] **Yu, Y.**, Renzullo, L. J., McVicar, T. R., Van Niel, T. G., Cai, D., and Tian, S., 2024. Solar zenith angle-based calibration of Himawari-8 land surface temperature for correcting diurnal retrieval error characteristics, *Remote Sensing of Environment, Under Review*. Preprint DOI: <https://doi.org/10.22541/essoar.170110655.56133673/v1>.
- [3] **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*, 297, 113784. <https://doi.org/10.1016/j.rse.2023.113784>.
- [4] **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. <https://doi.org/10.3390/land9110443>.
- [5] 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. <https://doi.org/10.3390/su12198164>.

CONFERENCE PROCEEDINGS, POSTERS & ORAL PRESENTATIONS

- [1] **Yu, Y.**, Malone, B. P. and Renzullo, L. J., 2024. Empirical upscaling of point-scale soil moisture measurements for spatial evaluation of model simulations and satellite retrievals, *IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2024, Athens, Greece, 7-12 July*.
- [2] **Yu, Y.**, Renzullo, L. J., McVicar, T. R., Van Niel, T. G., Cai, D. and Tian, S., 2023. Himawari-ANU: A recalibrated geostationary land surface temperature dataset based on MODIS spatiotemporal characteristics, *AGU Fall Meeting 2023, San Francisco, United States, 11-15 December*.
- [3] **Yu, Y.**, Renzullo, L. J., Tian, S. and Malone, B. P., 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, 24-28 April*, EGU23-1501. <https://doi.org/10.5194/egusphere-egu23-1501>.
- [4] **Yu, Y.**, Renzullo, L. J. and Tian, S., 2021. Continental scale downscaling of AWRA-L analysed soil moisture using random forest regression, *MODSIM2021, 24th International Congress on Modelling and Simulation, Sydney, Australia, 5-10 December*. <https://doi.org/10.36334/modsim.2021.J10.yu>.



THESES

- [1] **Yu, Y.**, 2024. Role of land surface temperature in improving spatiotemporal predictability of soil moisture-related stress in vegetation, PhD Thesis, The Australian National University, Canberra. *In Preparation*.
- [2] **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. <https://doi.org/10.25911/5fabaffa0e0e9>.

REVIEW ACTIVITIES

- **Journal of Remote Sensing** (2024)
- **Remote Sensing of Environment** (Student Reviewer, 2022)

★ HONOURS & AWARDS

- CSIRO Agriculture & Food Director's Award - Next Generation Science (2023) 
- ANU-CSIRO Digital Agriculture PhD Supplementary Scholarship (2021 - 2025) 

- ANU University Research Scholarship (2021 - 2024) [↗](#)
- ANU Residential Scholarship (2020, 2023 - 2024) [↗](#)

i SKILLS & CERTIFICATES

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

👥 REFEREES

- Prof. Dr. Tim R. McVicar (*Principal Research Scientist, **CSIRO Environment***) ✉ tim.mcvicar@csiro.au
- Dr. Luigi J. Renzullo (*Senior Research Scientist, **Bureau of Meteorology***) ✉ luigi.renzullo@bom.gov.au
- Dr. Brendan P. Malone (*Senior Research Scientist, **CSIRO Agriculture and Food***) ✉ brendan.malone@csiro.au
- Dr. Thomas G. Vanniel (*Senior Experimental Scientist, **CSIRO Environment***) ✉ tom.vanniel@csiro.au
- Dr. Siyuan Tian (*Research Scientist, **Bureau of Meteorology***) ✉ siyuan.tian@bom.gov.au