

OzFlux newsletter - #1 summer 2025

Welcome to the summer 2025 issue of the OzFlux newsletter

Read the latest information and news from the Australian and New Zealand flux community below!

Do you have some news to share with the OzFlux community? Please email caitlin.moore@uwa.edu.au with your news to have it included in the next issue

Message from the OzFlux Director (Stefan Arndt)

We have a big year of flux coming up in 2025. This year we will implement the new global flux data system that will lead to a regular processing of flux towers globally (<https://fluxnet.org/fluxnet-data-system/>). This will be a massive effort by the regional flux networks, and we all eagerly await its implementation. Please ensure that you upload your flux data via the OzFlux data portal this year to be part of the FLUXNET initiative (<https://data.ozflux.org.au/portal/home.jspx>).

This year we will also welcome the flux world to Australia as we are hosting the FLUXNET 2025 conference in Brisbane from 8-10 July at the St Lucia campus of the University of Queensland. See more information about abstract submission below.

Please also be aware of the exciting Asia Flux conference from 20-25 October that will be hosted in the APRIL Kerinci Complex, Pangkalan Kerinci, Riau, Indonesia. OzFlux will convene a session at the Asia Flux conference, and we shall update you with more information as it becomes available.

FLUXNET Meeting 8th-10th July Brisbane 2024

The FLUXNET meeting will be held in Brisbane, Australia, July 8-10, 2025 (plus an optional field site visit July 11th). The meeting will be hosted by the [University of Queensland St Lucia campus](#), near Brisbane city centre. More details will be updated on the [meeting website](#).

This year's theme will be *'Expanding International Collaboration through FLUXNET'*, and we welcome attendees from a wide range of disciplines. The meeting is organized by the FLUXNET Coordination Project in collaboration with OzFlux and TERN. The meeting is sponsored by TERN.

The meeting will include talks, posters, and breakout discussions, along with plenty of time for informal discussion with colleagues. There will also be a field trip to a nearby field site, with the exact location to be determined.

Abstract submissions Now Open

We are pleased to open the abstract submissions for the upcoming FLUXNET meeting in Brisbane, Australia at the University of Queensland St Lucia campus.

Please submit your abstract [here](#) by March 28th, 2025.

The meeting will include talks, posters, and breakout discussions, along with plenty of time for informal discussion with colleagues. **We are soliciting break-out discussion topics from the community**, so if you may be interested in leading a session, please let us know in the abstract submittal forms.

We look forward to an exciting meeting and seeing you there!

Kyle Delwiche (on behalf of the planning committee: Stefan Arndt, David Rowlings, Shuli Niu, Minseok Kang, Frederick Otu-Larbi, Trevor Keenan, Kyle Delwiche)

Now Hiring: Associate Professor, Ecosystem Processes Research at James Cook University, Queensland, Australia

James Cook University (JCU) is seeking an accomplished and visionary Associate Professor in Ecosystem Processes Research to drive scientific, strategic, and operational leadership for the Ecosystem Processes (EP) platform, a key component of the multi-institutional Terrestrial Ecosystem Research Network (TERN).

- Full-time, fixed term to June 2028
- Can be based at either the Townsville Bebegu Yumba campus, Douglas or the Cairns Nguma-bada campus, Smithfield
- Academic Level D: \$155,180 - \$170,518 per annum (3% increase in July) plus up to 17% employer superannuation contributions, leave loading and other generous employee benefits.

Applications close on 11 March at 11:55 PM AEST.

For any enquiries about the role, please contact Professor Lucas Cernusak – lucas.cernusak@jcu.edu.au.

More information available here: <https://careers.jcu.edu.au/jobs/associate-professor-ecosystem-processes-research-townsville-qld-australia>

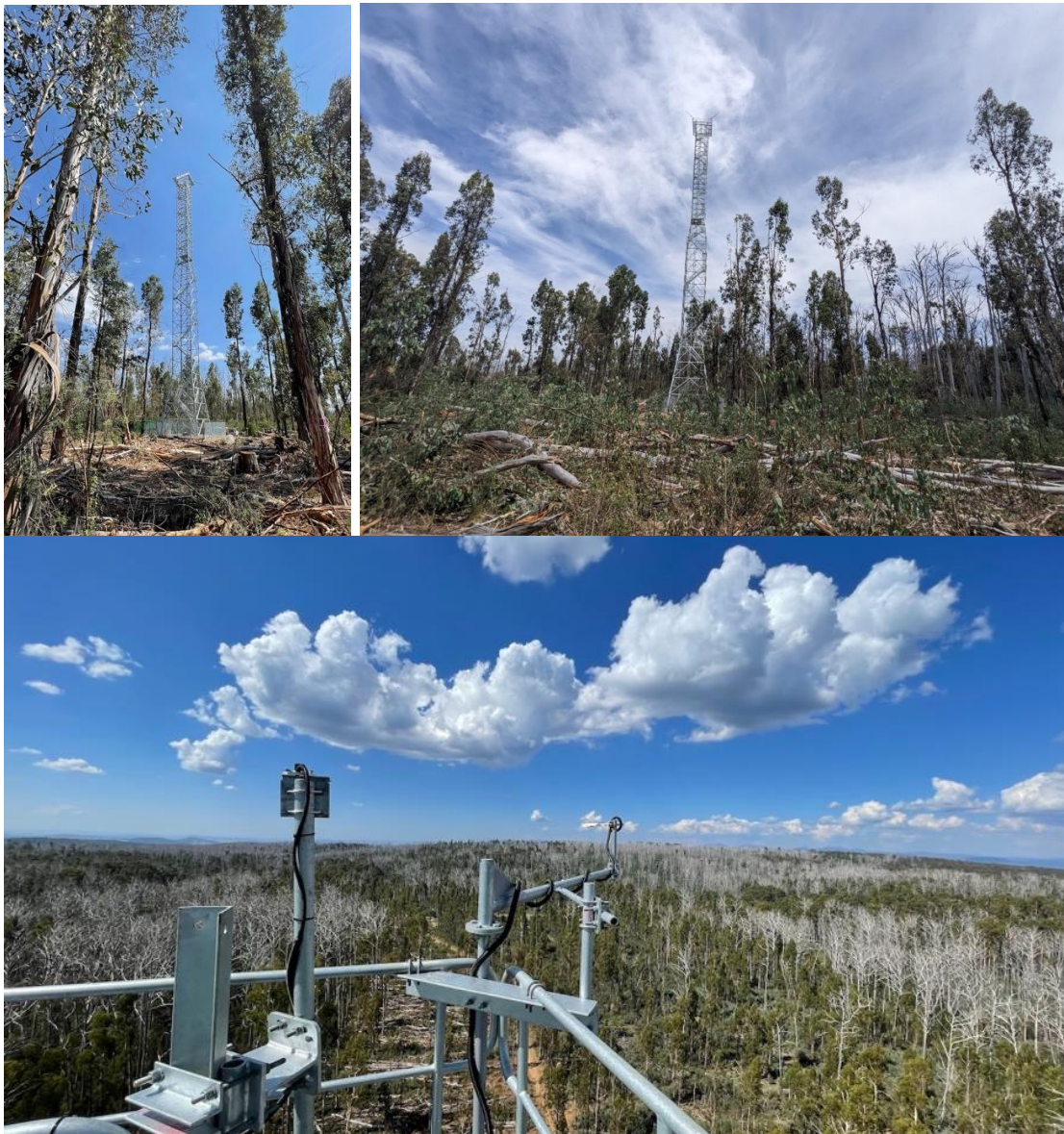
Site Update: Tumbarumba

The flux site at Tumbarumba is back online after a long hiatus. Tumbarumba was severely impacted by the bushfires in 2020, which burned much of the flux infrastructure on the ground. After limping along for a couple of years, TERN was able to fund a new freestanding tower structure. The tower has now been built, and all flux sensors have been installed by a team from the University of Melbourne. A big thank you to Markus Loew for organising a field trip where everything worked and where we had no major hiccups – which, you know, is almost unheard of in the flux world. Thanks also to Ian McHugh, Rhys Browning

and to the entire 'team conduit' that ensured that every cable on the tower was enclosed.

The tower is a 70 m structure with a walk-up staircase. Yes, you can just walk up to the platform at the top – if you can stomach the 316 steps to get you there. The sensors are mounted on swing arms that are then accessible from the platform. The site is powered by a diesel generator and a large remote area battery system that is housed in a shipping container.

The forest in the area around the Tumbarumba site has changed in the last few weeks as salvage harvesting took place. The dead alpine ash trees surrounding the tower and along the forest tracks have been cleared. Thus, we now have a mixture of very few mature and resprouting mountain grey gums, many alpine ash saplings and lot of logs of dead alpine ash surrounding the tower.





Tumba is back, baby: the Tumbarumba tower in the Bago State forest with many cleared alpine ash trees (top), a view to northwest from the platform at 70 m (middle) and 'men at work' getting the tower back online (bottom) (Image credits Markus Loew & Stefan Arndt)

Hot off the Press: new research out from Gingin

The Gingin TERN observatory has featured in a recent study published in *Environmental Research Letters*. We used the flux tower data to investigate the response of the ecologically critical Mediterranean ecosystem to extreme water deficit caused by a severe regional drought, intensified by record-breaking global heat in 2023. Substantial disruptions to both carbon and water cycles were observed, with extensive vegetation dieback across approximately 1,000 km of Western Australia's coastal terrestrial ecosystems.

These findings challenge the perception that Mediterranean ecosystems are inherently resilient to drought and heat stress, providing evidence that they are already affected by a drying climate, as projected in the IPCC's 2021 report.

This research highlights the vulnerability of ecosystems that are increasingly relied upon to sustain water supplies for urban populations, such as Perth. It also emphasises the importance of integrating long-term ecological monitoring into resource management strategies to mitigate the impact of climate extremes.

Read the full paper here: <https://doi.org/10.1088/1748-9326/adb6c1>

Further OzFlux related publications in 2025

- Chen, Y., Mu, X., McVicar, T.R., Wang, Y., Guo, Y., Yan, K., Lai, Y., Xie, D., Yan, G., 2025. Using an improved radiative transfer model to estimate leaf area index, fractional vegetation cover and leaf inclination angle from Himawari-8 geostationary satellite data. *Remote Sensing of Environment* 318, 114595. <https://doi.org/10.1016/j.rse.2024.114595>
- Jin, C., Zha, T., Bourque, C.P.-A., Fan, Z., Zhang, W., Di, K., Jiao, Y., Ma, Q., Yuan, D., Zhao, H., Hao, S., Lu, Y., Hu, Z., 2025. Spatiotemporal variation in carbon use efficiency derived from eddy-covariance measurement of global

terrestrial biomes. *Agricultural and Forest Meteorology* 361, 110318.
<https://doi.org/10.1016/j.agrformet.2024.110318>

- Kong, Z., Wang, T., Han, Q., Dai, Y., Zuo, Y., Wang, L., Lang, Y., 2025. Impacts of environmental factors on ecosystem water use efficiency: An insight from gross primary production and evapotranspiration dynamics. *AGRICULTURAL AND FOREST METEOROLOGY* 362.
<https://doi.org/10.1016/j.agrformet.2025.110382>
- Lindenberger, A., Rauch, H.P., Kasak, K., Stelzhammer, M., von der Thannen, M., 2025. Impact of various flood conditions on the CO₂ ecosystem exchange as a component of floodplain grassland restoration. *Ecological Engineering* 212, 107489. <https://doi.org/10.1016/j.ecoleng.2024.107489> (using of TOVI™ software)
- Liu, X., Li, Z., Duan, S., Leng, P., Si, M., 2025. Retrieval of global surface soil and vegetation temperatures based on multisource data fusion. *REMOTE SENSING OF ENVIRONMENT* 318.
<https://doi.org/10.1016/j.rse.2024.114564>
- Nguyen, H., Gelsinari, S., Callow, J., Silberstein, R., Thompson, S., 2025. Satellite and eddy covariance analysis reveals short-lived evapotranspiration changes after fire in Mediterranean woodland. *JOURNAL OF HYDROLOGY* 653. <https://doi.org/10.1016/j.jhydrol.2024.132654>
- Takeda, N., Rowlings, D., Parton, W., Grace, L., Day, K., Nguyen, T., Grace, P., 2025. Soil carbon sequestration potential in subtropical grasslands estimated by DayCent-CABBI. *Soil Sci. Soc. Am. J.* 89.
<https://doi.org/10.1002/saj2.70003>
- Woodgate, W., Phinn, S., Devereux, T., Aryal, R., 2025. Bushfire recovery at a long-term tall eucalypt flux site through the lens of a satellite: Combining multi-scale data for structural-functional insight. *REMOTE SENSING OF ENVIRONMENT* 317. <https://doi.org/10.1016/j.rse.2024.114530>

OzFlux steering committee

The OzFlux steering committee meets every month, with community meetings announced twice per year. Feel free to reach out to find out how you can get more involved.

Director – Stefan Arndt

Chair – Elise Pendall

Associate Director – Nina Hinko-Najera

Deputy Chair – Samantha Grover

Secretary – Mark Hovenden

Communications – Caitlin Moore

Industry engagement – Lindsay Hutley

Early Career Representative – Charuni Jayasekara

Data Manager and TERN representative – Peter Isaac

Aotearoa NZ Representative – Johannes Laubach

Upcoming meetings

EGU 2025

Vienna, Austria, 27 Apr – 2 May 2025

Abstract Deadline: 15th January

<https://www.egu25.eu/>

AMOS 2025

Cairns, QLD 23rd – 27th June 2025

<https://www.amos.org.au/amos-2025-call-for-abstracts/>

FLUXNET Meeting 2025

Brisbane, QLD 8th – 10th July 2025

<https://fluxnet.org/community/fluxnet-annual-meeting-2025/>

IEEE International Geoscience and Remote Sensing Symposium 2025

Brisbane, QLD 3rd – 8th August 2025

<https://www.grss-ieee.org/event/2025-ieee-international-geoscience-and-remote-sensing-symposium-igarss-2025/>