

OzFlux newsletter - #2 autumn 2025

Welcome to the autumn 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)

Please join us for the OzFlux Community Meeting on 23 May to hear about and discuss the activities we are planning this year.

OzFlux is working on a new website in a collaboration with TERN. It is a miracle that the old one is still working and is thanks to all the hard work that Mark Kitchen has put in over all these years. Thank you, Mark! The new webpage should have a more modern layout and will be easier to maintain. Hopefully we can share it with you soon.

As part of the new webpage, we would also update the site info of our flux sites. We will discuss what kind of site information we should display on the webpage. If you have specific preferences or strong views, then please share them.

We are also planning to move the OzFlux listserver from JCU to Uni Melbourne. The listserver at JCU does not allow to send images or attachments in the listserver emails, the one at Uni Melbourne does. The downside is that the Uni Melbourne listserver has a bit more manual handling to add or remove people from the list.

We do not have an OzFlux conference this year as we are hosting the FLUXNET 2025 meeting in Brisbane this year. Thus, if you are keen to hear the latest flux research then please join us from 8-11 July at the St Lucia Campus of the University of Queensland in Brisbane.

OzFlux Community Meeting – Friday 23rd May 11:30-13:00 AEST

The OzFlux Steering Committee invite you to join the first OzFlux Community meeting of 2025 on Friday 23 May at 11:30 am AEST - see the agenda and a Zoom link below.

We are not able to send a calendar invite via the listserver, so please add this meeting to your calendar.

If you have any additions to the agenda, please contact Stefan Arndt (sarndt@unimelb.edu.au).

We hope to see you all on the line in a couple of weeks!

**OzFlux Community meeting 23 May 2025, 11:30 – 13:00 pm AEST
13:30 NZ; 11:30 MEL, SYD, BRI; 10:00 ADL, DRW; 9:30 PER**

Agenda

1. Welcome (EP)
2. FLUXNET 2025 meeting in Australia (SA)
3. New OzFlux webpage & logo (SA)
4. OzFlux site information (SA)
5. OzFlux listserver (SA)
6. FLUXNET Data submission process (PI)
7. TERN update (PI)
8. OzFlux Site news, updates, issues, concerns (everybody)
9. Other business

Join from PC, Mac, iOS or

Android: <https://unimelb.zoom.us/j/89453044173?pwd=hCZnSv0NE536DaPKOXOZObusrqP5be.1>

Password: 027606

Need to dial-in instead? Enter the meeting ID: 894 5304 4173 via +61 3 7018 2005 or +61 2 8015 6011

Or join from a H.323/SIP room system:

Dial: 89453044173@global.zoomcrc.com | or SIP: 89453044173@zmau.us | or 103.122.166.55
with meeting ID: 89453044173 and password: 027606

TERN Science Symposium 2nd – 3rd July, 2025 in Brisbane

TERN is delighted to announce its Biennial Science Symposium will be held on Wednesday and Thursday 2-3 July 2025 at the Queensland State Library in Brisbane, Australia.

It is 15 years since TERN published its first data, so we are anticipating some great talks on use of TERN data to advance ecosystem science, build collaborative projects and as a catalyst for innovation, outreach and translation.

For more information, including to submit an abstract and/or register, please visit the TERN events website: <https://www.tern.org.au/science-symposium2025/>

FLUXNET Meeting 8th-10th July, 2025 in Brisbane

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 at the [University of Queensland St Lucia campus](#), near Brisbane city centre.

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. We will have 6 keynotes,

25 science talks and 38 posters about the latest flux research. On Fri 11 July we will have a field trip to the amazing Springbrook National Park, one of the wonders of the Gold Coast hinterland.

The topic of the first day will be "*Regional flux synthesis from around the world*" and the conference will be opened by our own Peter Isacc, followed by keynotes from Zhi Chen and Dario Papale. In the afternoon we will have a long poster session and a social event in a nearby lawn bowls club. The second day will focus on "Agricultural and land-use applications" with keynotes Licheng Liu and Caitlin Moore. There will be breakout discussions and the conference dinner. The third day will be on "Global ecosystem trends" and will feature keynotes by Belinda Medlyn and Masahito Ueyama, a townhall discussion and breakouts. On the last day we will have out fieldtrip.

You can attend the conference in person or online. The cost for the in-person registration will be \$176 thanks to the generous conference sponsors of TERN, Campbell Scientific, ICT International and LICOR. The online registration is free. Many thanks to the organising team from TERN who helps tremendously to organise the conference.

Registration is Now Open

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

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

AMOS 2025

Cairns, QLD 23rd – 27th June 2025

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

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/>

AsiaFlux 2025

Riau, Indonesia 20th – 25th October, 2025

<https://asiaflux.net/>

2025 Publication list

1. Bernard, J., Salmon, E., Saunois, M., Peng, S., Serrano-Ortiz, P., Berchet, A., Gnanamoorthy, P., Jansen, J., Ciais, P., 2025. Satellite-based modeling of wetland methane emissions on a global scale (SatWetCH4 1.0). *Geoscientific Model Development* 18, 863–883. <https://doi.org/10.5194/gmd-18-863-2025>
2. Blakely, B., Moore, C.E., Pederson, T.L., Gibson, C.D., Benson, M.C., Dracup, E., Bernacchi, C.J., 2025. Climate Forcing of Bioenergy Feedstocks: Insights From Carbon and Energy Flux Measurements. *GCB Bioenergy* 17, e70026. <https://doi.org/10.1111/gcbb.70026>
3. 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>
4. Choi, K., Paik, K., 2025. Complementary Relationship Among Heat Flux Ratios and Maximum Entropy Production Principle in Humid Forests. *Water Resources Research* 61, e2024WR037746. <https://doi.org/10.1029/2024WR037746>
5. De, R., Bao, S., Koirala, S., Brenning, A., Reichstein, M., Tagesson, T., Liddell, M., Ibrom, A., Wolf, S., Šigut, L., Hörtnagl, L., Woodgate, W., Korkiakoski, M., Merbold, L., Black, T.A., Roland, M., Klosterhalfen, A., Blanken, P.D., Knox, S., Sabbatini, S., Gielen, B., Montagnani, L., Fensholt, R., Wohlfahrt, G., Desai, A.R., Paul-Limoges, E., Galvagno, M., Hammerle, A., Jocher, G., Reverter, B.R., Holl, D., Chen, J., Vitale, L., Arain, M.A., Carvalhais, N., 2025. Addressing Challenges in Simulating Inter-Annual Variability of Gross Primary Production. *Journal of Advances in Modeling Earth Systems* 17, e2024MS004697. <https://doi.org/10.1029/2024MS004697>
6. Fang, J., Lian, X., Ryu, Y., Jeong, S., Jiang, C., Gentine, P., 2025. A long-term reconstruction of a global photosynthesis proxy over 1982–2023. *Sci Data* 12, 372. <https://doi.org/10.1038/s41597-025-04686-6>
7. Gunawardhana, M., Treby, S., Silvester, E., Callesen, T.O., Jones, O.A.H., Grover, S., 2025. Intact Australian Sphagnum peatland is a strong carbon sink. *The Science of the total environment* 959, 178197–178197. <https://doi.org/10.1016/j.scitotenv.2024.178197>
8. Holzman, M., Srivastava, A., Rivas, R., Huete, A., 2025. Evaluating the Relationship Between Vegetation Status and Soil Moisture in Semi-Arid Woodlands, Central Australia, Using Daily Thermal, Vegetation Index, and Reflectance Data. *Remote Sensing* 17, 635. <https://doi.org/10.3390/rs17040635>
9. Hua, L., Li, L., Chen, W., Wang, X., Xiong, X., Zhou, G., 2025. Climate effects of ecosystem change converge according to the ratio of the daytime to daily vapor flux. *Innovation* 6. <https://doi.org/10.1016/j.jinn.2024.100733>
10. Huang, H., Li, L., Shi, Q., Liu, S., 2025. Evaluation of Large Eddy Effects on Land Surface Modeling Based on the FLUXNET Dataset. *Atmosphere* 16, 328. <https://doi.org/10.3390/atmos16030328>
11. Jiang, B., Zhang, J., Zhou, G., He, Y., Du, Z., Liu, R., Li, J., Chai, H., Zhou, X., Chen, H., 2025. Wetland CH₄ and CO₂ emissions show opposite temperature dependencies along global climate gradients. *CATENA* 248, 108557. <https://doi.org/10.1016/j.catena.2024.108557>
12. 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>
13. Kang, B., Jeong, S., Han, S., Kong, J., 2025. Tracking Vegetation Recovery after the 2019–2020 Wildfires in Tumbarumba, Australia, Using a High-Resolution Image Fusion Dataset. *Korean Journal of Remote Sensing* 41, 41–51. <https://doi.org/10.7780/kjrs.2025.41.1.4>
14. 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>

15. Li, D., Wang, S., 2025. Widespread underestimation of ecosystem water use efficiency in CMIP6 models. *Journal of Hydrology* 650, 132558. <https://doi.org/10.1016/j.jhydrol.2024.132558>
16. Li, S., Xiao, X., Neuhaus, C., Wunderle, S., 2025. Retrieval and Evaluation of Global Surface Albedo Based on AVHRR GAC Data of the Last 40 Years. *Remote Sensing* 17, 117. <https://doi.org/10.3390/rs17010117>
17. 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>
18. 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>
19. Liu, Z., Liu, J., Chen, D., 2025. Unraveling the response of the apparent temperature sensitivity of ecosystem respiration to rising temperature. *Environ. Res. Lett.* 20, 034008. <https://doi.org/10.1088/1748-9326/adad00>
20. Mbabazi, D., Sehgal, V., Mohanty, B.P., 2025. Global Terrestrial Water–Energy Coupling Across Scales. *Ecohydrology* 18, e2743. <https://doi.org/10.1002/eco.2743>
21. Mengoli, G., Harrison, S.P., Prentice, I.C., 2025. The Response of Carbon Uptake to Soil Moisture Stress: Adaptation to Climatic Aridity. *Global Change Biology* 31, e70098. <https://doi.org/10.1111/gcb.70098>
22. Miralles, D.G., Bonte, O., Koppa, A., Baez-Villanueva, O.M., Tronquo, E., Zhong, F., Beck, H.E., Hulsman, P., Dorigo, W., Verhoest, N.E.C., Haghdoost, S., 2025. GLEAM4: global land evaporation and soil moisture dataset at 0.1° resolution from 1980 to near present. *Sci Data* 12, 416. <https://doi.org/10.1038/s41597-025-04610-y>
23. Moore, C.E., Thompson, S.E., Beringer, J., Cooper, W., Gelsinari, S., Nguyen, H.L., Wang, H., Xie, Q., Silberstein, R., 2025. Biophysical response of a coastal woodland to extreme water deficit during a year of record-breaking heat. *Environ. Res. Lett.* <https://doi.org/10.1088/1748-9326/adb6c1>
24. 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>
25. Njuki, S.M., 2025. Modelling surface turbulent heat fluxes over heterogeneous landscapes. <https://doi.org/10.3990/1.9789036564724>
26. Reef, R., Daly, E., Anandappa, T., Vienna-Hallam, E., Robertson, H., Peck, M., Guyot, A., 2025. Eddy covariance evaluation of ecosystem fluxes at a temperate saltmarsh in Victoria, Australia, shows large CO₂ uptake. *BIOGEOSCIENCES* 22, 1149–1162. <https://doi.org/10.5194/bg-22-1149-2025>
27. Ren, H., Zhang, L., Yan, M., Zhang, B., Ruan, L., 2025. Improving forest gross primary productivity estimation through climate and trait integration. *Ecological Modelling* 501, 111027. <https://doi.org/10.1016/j.ecolmodel.2025.111027>
28. Ren, Y., Wang, H., Harrison, S.P., Prentice, I.C., Mengoli, G., Zhao, L., Reich, P.B., Yang, K., 2025. Incorporating the Acclimation of Photosynthesis and Leaf Respiration in the Noah-MP Land Surface Model: Model Development and Evaluation. *Journal of Advances in Modeling Earth Systems* 17, e2024MS004599. <https://doi.org/10.1029/2024MS004599>
29. Shu, Z., Jin, J., Menzel, L., Zhang, J., Luo, J., Wang, G., Cui, N., Guan, T., Liu, Y., 2025. Evaluating the effectiveness of different surface resistance schemes coupled with Penman-Monteith model for estimating actual evapotranspiration – A global comparative study. *Journal of Hydrology* 656, 133047. <https://doi.org/10.1016/j.jhydrol.2025.133047>
30. Stachelek, J., Dickman, L.T., Kraklow, V.A., Casleton, E., Thompson, E.C., Sevanto, S., Junghans, A., 2025. Eddy covariance towers as sentinels of abnormal radioactive material releases. *Environ Sci Pollut Res* 32, 6761–6769. <https://doi.org/10.1007/s11356-025-36171-3>
31. Sun, S., Huang, Y., Wang, R., Xie, Y., 2025. Global continuous solar-induced chlorophyll fluorescence product from 2000 to 2021 using multivariate OCO-3 data and MODIS. *JARS* 19, 018501. <https://doi.org/10.1111/1.JRS.19.018501>
32. 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>
33. Tian, X., Di, Z., Yao, Y., Liu, Z., Meng, H., Sun, H., Wang, X., Zhang, W., 2025. Evaluation and simulation of terrestrial latent heat flux globally: A collaborative effort utilizing CMIP6

- climate models and eddy covariance observations. *Agricultural and Forest Meteorology* 362, 110371. <https://doi.org/10.1016/j.agrformet.2024.110371>
34. Verma, A., Khadke, L., Eldhose, E., Ghosh, S., 2025. Role of Micrometeorological Memory in Modulating Sub-Daily Scale Variability of Net Ecosystem Exchange. *Journal of Geophysical Research: Biogeosciences* 130, e2024JG008356. <https://doi.org/10.1029/2024JG008356>
35. Wang, L., Han, S., Tian, F., Zhang, B., Wang, Y., Tudaji, M., Yang, Y., 2025. Inferior Performance of the Generalized Complementary Relationship for Evaporation in the Mediterranean Climates. *Journal of Geophysical Research: Atmospheres* 130, e2024JD042774. <https://doi.org/10.1029/2024JD042774>
36. Wang, X., Chen, J.M., He, L., Ju, W., 2025. Global distribution of leaf maximum carboxylation rate derived from the TROPOMI solar-induced chlorophyll fluorescence data. *Agricultural and Forest Meteorology* 366, 110496. <https://doi.org/10.1016/j.agrformet.2025.110496>
37. Wenyu, Y., Qiang, B., 2025. Global-scale improvement of terrestrial gross primary productivity estimation by integrating optical remote sensing with meteorological data. *Ecological Indicators* 173, 113429. <https://doi.org/10.1016/j.ecolind.2025.113429>
38. Widystuti, M.T., Padarian, J., Minasny, B., Webb, M., Taufik, M., Kidd, D., 2025. Mapping near-real-time soil moisture dynamics over Tasmania with transfer learning. *SOIL* 11, 287–307. <https://doi.org/10.5194/soil-11-287-2025>
39. 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>
40. Xu, X., Xu, J., Li, B., Li, J., Nie, M., 2025. Ecosystem Carbon Fluxes Exhibit Thermal Response Thresholds at Which Carbon–Climate Feedback Changes. *Global Ecology and Biogeography* 34, e70030. <https://doi.org/10.1111/geb.70030>
41. Yang, D., Yang ,Shanshan, Huang ,Jiaojiao, Zhang ,Shuyu, Zhang ,Sha, Zhang ,Jiahua, and Bai, Y., 2025. Improving time upscaling of instantaneous evapotranspiration based on machine learning models. *Big Earth Data* 9, 127–154. <https://doi.org/10.1080/20964471.2024.2423431>
42. Yang, S., Zhang, J., Han, J., Bai, Y., Xun, L., Zhang, S., Cao, D., Wang, J., 2025. The ratio of transpiration to evapotranspiration dominates ecosystem water use efficiency response to drought. *Agricultural and Forest Meteorology* 363, 110423. <https://doi.org/10.1016/j.agrformet.2025.110423>
43. Yu, Y., Malone, B.P., Renzullo, L.J., Burton, C.A., Tian, S., Searle, R.D., Bishop, T.F.A., Walker, J.P., 2025. Spatial Soil Moisture Prediction from In-situ Data Upscaled to Landsat Footprint: Assessing Area of Applicability of Machine Learning Models. *IEEE Transactions on Geoscience and Remote Sensing* 1–1. <https://doi.org/10.1109/TGRS.2025.3565818>
44. Zhang, Q., Yi, C., Destouni, G., Wohlfahrt, G., Kuzyakov, Y., Li, R., Kutter, E., Chen, D., Rietkerk, M., Tian, Z., Hendrey, G., Fang, W., Krakauer, N., Jarsjo, J., Han, J., Xu, S., 2025. How Michaelis–Menten kinetics can represent ecosystem-scale respiration: scale and applicability. *Environ. Res. Lett.* 20, 041003. <https://doi.org/10.1088/1748-9326/adc31a>
45. Zhang, X., Jin, H., Zhao, W., Yin, G., Xie, X., Fan, J., 2025. Assessment of Satellite-Derived FAPAR Products With Different Spatial Resolutions for Gross Primary Productivity Estimation. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* 18, 3087–3098. <https://doi.org/10.1109/JSTARS.2024.3522938>
46. Zhang, Z., Poulter, B., Melton, J.R., Riley, W.J., Allen, G.H., Beerling, D.J., Bousquet, P., Canadell, J.G., Fluet-Chouinard, E., Ciais, P., Gedney, N., Hopcroft, P.O., Ito, A., Jackson, R.B., Jain, A.K., Jensen, K., Joos, F., Kleinen, T., Knox, S.H., Li, T., Li, X., Liu, X., McDonald, K., McNicol, G., Miller, P.A., Müller, J., Patra, P.K., Peng, C., Peng, S., Qin, Z., Riggs, R.M., Saunois, M., Sun, Q., Tian, H., Xu, X., Yao, Y., Xi, Y., Zhang, W., Zhu, Qing, Zhu, Qiuan, Zhuang, Q., 2025. Ensemble estimates of global wetland methane emissions over 2000–2020. *Biogeosciences* 22, 305–321. <https://doi.org/10.5194/bg-22-305-2025>
47. Zheng, C., Wang, S., Chen, J.M., Xiao, J., Chen, J., Zhang, Z., Forzieri, G., 2025. Estimating global transpiration from TROPOMI SIF with angular normalization and separation for sunlit and shaded leaves. *Remote Sensing of Environment* 319, 114586. <https://doi.org/10.1016/j.rse.2024.114586>
48. Zhou, B., Cai, W., Zhu, Z., Wang, H., Harrison, S.P., Prentice, I.C., 2025. A General Model for the Seasonal to Decadal Dynamics of Leaf Area. *Global Change Biology* 31, e70125. <https://doi.org/10.1111/gcb.70125>

49. Zou, M., Zhong, L., Jia, W., Ge, Y., Mamtimin, A., 2025. Improving soil surface evaporation estimates with transformer-based model. *Atmospheric Research* 316, 107972.
<https://doi.org/10.1016/j.atmosres.2025.107972>