

Pushpendra Raghav

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Education

Ph.D., Civil Engineering (Ecohydrology), 2023 The University of Alabama, Tuscaloosa, AL
M.Tech., Water Resources Engineering, 2018 Indian Institute of Technology Bombay, India
B.Tech., Civil Engineering, 2016 Dr. A.P.J. Abdul Kalam Technical University, India

Positions

Research Engineer, The University of Alabama, December 2024 through present
Postdoctoral Associate, The University of Alabama, December 2023 through December 2024
Graduate Research Assistant, The University of Alabama, August 2019 through December 2023
Junior Research Fellow, Indian Institute of Technology Bombay, June 2018 through July 2019
Graduate Teaching Assistant, Indian Institute of Technology Bombay, July 2016 through June 2018

Teaching Experience

The University of Alabama (2023-2024)

<u>Course</u>	<u>Course Title</u>	<u>Term</u>	<u>Role</u>
CEE 491/591	Process Hydrology	2023-2024	Teaching Assistant

Tutorials available at <https://github.com/praghav444/CEE491-591-Process-Hydrology-Tutorials>

Indian Institute of Technology Bombay (2016-2018)

<u>Course</u>	<u>Course Title</u>	<u>Term</u>	<u>Role</u>
CE Lab	Hydraulics Laboratory (TA)	2016-2018	Teaching Assistant

AmeriFlux Annual Meeting 2025

<u>Title</u>	<u>Year</u>	<u>Role</u>
Breakout session on Flux partitioning in wetlands	2025	Instructor

Publications

Peer-Reviewed Journal Articles (Published)

^{FA} First Author; * Authors contributed equally

- ^{FA}Wagle, P. *, **P. Raghav***, M. Kumar, T. M. Scanlon, B. K. Northup, C. Moffet, S. Gunter, and X. Xiao, 2026: Partitioning Evapotranspiration in C3-C4 Mixed Tallgrass Prairies: An Inter-comparison of Five Methods and Evaluation of Seasonal Parameterization. *Agricultural Water Management*. <https://doi.org/10.1016/j.agwat.2026.110616>.
- ^{FA}**Raghav, P.**, and M. Kumar, 2026: PULSE: A novel potential underlying water use efficiency-based method for latent heat and surface energy imbalance correction. *Water Resources Research*. <https://doi.org/10.1029/2025WR042766>.
- ^{FA}**Raghav, P.**, and M. Kumar, 2026: Dynamic parameterization of the Priestley-Taylor coefficient for more accurate potential evapotranspiration estimation in ungauged regions. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/ac6464>.
- Massoud, E. C., N. Collier, Y. Wang, J. Mao, A. Harpold, S. A. Kannenberg, G. Koren, M. Kumar, **P. Raghav**, P. Ray, M. Shi, J. Tao, S. P. Vasu, H. Wang, Q. Zhu, and F. M. Hoffman, 2026:

- Benchmarking soil moisture and its relationship to ecohydrologic variables in Earth System Models. *Geoscientific Model Development*. <https://doi.org/10.5194/gmd-19-3427-2026>.
5. Salvi, K. *, **P. Raghav***, M. Kumar, N. Magliocca, and G. Bisht, 2026: Discrepancy in the sign of temperature trends in reanalysis datasets. *Environmental Research Letters*. <https://doi.org/10.1088/1748-9326/ae5726>.
 6. Thakur, H., **P. Raghav**, and M. Kumar, 2026: How well does the Evaporative Stress Index from ECOSTRESS capture site-based stresses? *Canadian Journal of Remote Sensing*, 52(1). <https://doi.org/10.1080/07038992.2026.2645742>.
 7. Thakur, H., **P. Raghav**, and M. Kumar, 2025: Surface Flux Equilibrium theory-derived evapotranspiration estimate outperforms ECOSTRESS, MODIS, and SSEBop products. *Geophysical Research Letters*, 52(10), e2025GL114822. <https://doi.org/10.1029/2025GL114822>.
 8. Ghaseminejad, A., N. Bhat, **P. Raghav**, and M. Kumar, 2025: Influence of interannual leaf phenology dynamics on evapotranspiration predictions. *Journal of Hydrometeorology*, 26, 259-272. <https://doi.org/10.1175/JHM-D-24-0061.1>.
 9. ^{FA}**Raghav, P.**, and M. Kumar, 2024: Are the ecosystem-level evaporative stress indices representative of evaporative stress of vegetation? *Agricultural and Forest Meteorology*, 357, 110195. <https://doi.org/10.1016/j.agrformet.2024.110195>.
 10. ^{FA}**Raghav, P.**, M. Kumar, and Y. Liu, 2024: Structural constraints in current stomatal conductance models preclude accurate prediction of evapotranspiration. *Water Resources Research*, 60(8), e2024WR037652. <https://doi.org/10.1029/2024WR037652>.
 11. Rathore, L. S., N. Hanasaki, M. Kumar, M. Mekonnen, and **P. Raghav**, 2023: Water scarcity challenges across urban regions with expanding irrigation. *Environmental Research Letters*, 19(1), 014065. <https://doi.org/10.1088/1748-9326/ad178a>.
 12. ^{FA}**Raghav, P.**, and T. I. Eldho, 2023: Investigations on the hydrological impacts of climate change on a river basin using the macroscale model H08. *Journal of Earth System Science*, 132(2), 87. <https://doi.org/10.1007/s12040-023-02102-4>.
 13. ^{FA}Wagle, P. *, **P. Raghav***, M. Kumar, and A. G. Gunter, 2022: Influence of water use efficiency parameterizations on flux variance similarity-based partitioning of evapotranspiration. *Agricultural and Forest Meteorology*, 328, 109254. <https://doi.org/10.1016/j.agrformet.2022.109254>.
 14. ^{FA}**Raghav, P.**, P. Wagle, M. Kumar, T. Banerjee, and J. P. S. Neel, 2022: Vegetation index-based partitioning of evapotranspiration is deficient in grazed systems. *Water Resources Research*, 58(8), e2022WR032067. <https://doi.org/10.1029/2022WR032067>.
 15. ^{FA}**Raghav, P.**, and M. Kumar, 2021: Retrieving gap-free daily root zone soil moisture using surface flux equilibrium theory. *Environmental Research Letters*, 16(10), 104007. <https://doi.org/10.1088/1748-9326/ac2441>.
 16. ^{FA}**Raghav, P.**, S. S. Borkotoky, J. Joseph, R. Chattopadhyay, A. K. Sahai, and S. Ghosh, 2020: Revamping extended range forecast of the Indian summer monsoon. *Climate Dynamics*, 55, 3397-3411. <https://doi.org/10.1007/s00382-020-05454-5>.

Manuscripts Under Review / In Revision (drafts available upon request)

1. ^{FA}**Raghav, P.**, Y. Liu, M. Kumar, and G. Bisht, 2026: Multilayer canopy model outperforms big-leaf model for evapotranspiration predictions under high water and heat stress conditions. *Journal of Advances in Modeling Earth Systems* (in major revision).
2. ^{FA}**Raghav, P.**, and M. Kumar, 2026: Padé approximation of the Clausius-Clapeyron relation: an explicit and computationally efficient alternative to the Penman-Monteith evapotranspiration equation. *Geophysical Research Letters* (in review).
3. ^{FA}**Raghav, P.**, and M. Kumar, 2026: The Persistent Challenge of Detecting Evaporative Stress Flash Droughts from Reanalysis Data (Under Review with *PNAS*).
4. ^{FA}**Raghav, P.**, and M. Kumar, 2026: FLARE: Flux-equilibrium based Latent heat flux Aadjustment for Reducing Energy imbalance. *Geophysical Research Letters* (in review).

5. Thakur, H., **P. Raghav**, and M. Kumar, 2026: Benchmark data of root zone soil moisture over the conterminous USA based on vegetation-specific rooting depths. *Vadose Zone Journal* (in minor revision).
6. Wolkeba, F. T., **P. Raghav**, M. Kumar, and H. Thakur, 2026: CALFRET: A high-performing, calibration-free 1-km evapotranspiration product over the conterminous USA. *Water Resources Research* (in major revision).
7. Alam, M. S., Koriche, S. A., Johnson, R., Neisary, S., **Raghav, P.**, Tebbey, B., Khattak, A. J., Ogden, F. L., Kumar, M., & Burian, S., 2026: Understanding National Water Model performance for hydrologic extremes using basin attributes and hydrologic signatures. *Journal of the American Water Resources Association* (in review).

Manuscripts In Preparation

1. Moreno, H., E. Massoud, A. Yaari, J. Huang, G. Koren, **P. Raghav**, and others, 2026: How is artificial intelligence enhancing soil moisture estimation and prediction?
2. Desai, A., L. Wanner, P. Levy, W. Zhang, D. Durden, S. Metzger, **P. Raghav**, and others, 2026: Evaluating mechanistic corrections for surface energy imbalance in eddy covariance.
3. ^{FA}**Raghav, P.**, and M. Kumar, 2026: Evapotranspiration dynamics and partitioning in soybean under different irrigation practices. (For *Agricultural and Forest Meteorology*.)
4. ^{FA}**Raghav, P.**, Tang, A.C.I. *, and I. Forbrich, 2026: Evapotranspiration partitioning in tidal wetlands across hydrological, salinity, and vegetation gradients.
5. Kooperman, G. J., Ray, P., Hsu, W.-C., Puthiyamadham Vasu, S., Zhang, L., Ahmed, M. H., Chen, A., Fang, Y., Kibria, M. G., Kim, Y., Koren, G., Li, C., Li, L., Lin, T.-S., Liu, L., Mao, J., Massoud, E., Nikolopoulos, E., Ogunmokun, F., **Raghav, P.**, Saha, S. K., Shi, M., Sridhar, V., & Tewari, M., 2026: The Roles of Soil Moisture-Convection Interactions in the Tropics: A Review. (For *Reviews of Geophysics*).
6. Wang et al., 2026: Development of a boreal soil moisture dataset using updated quality control algorithms and deep learning.
7. Li, J. *, **Raghav, P.** *, Zhang, H., Wang, Y., et al., 2027: Deep Learning for High-Spatial-Resolution Satellite Soil Moisture Retrieval for Agriculture application: A Review.
8. ^{FA}**Raghav, P.**, and M. Kumar, 2027: Global Evaluation of Leading Remote Sensing Evapotranspiration algorithms: Quantifying forcing versus structural uncertainties.
9. ^{FA}**Raghav, P.**, Kim, Y., Andrade, B.C., Kumar, M., Volk, J., and Huntington, J.L., 2027: When the Benchmark is Uncertain: Impacts of Energy Balance Closure Corrections on Evaluation of Remote Sensing Evapotranspiration Products.

Book Chapter

1. ^{FA}**Raghav, P.**, and T. I. Eldho, 2021: Assessing the impacts of climate change on crop yield in the Upper Godavari River subbasin using the H08 hydrological model. *Climate Change Impacts on Water Resources: Hydraulics, Water Resources and Coastal Engineering*, 193-205.
https://doi.org/10.1007/978-3-030-64202-0_18.

Research Projects

Energy balance closure corrections for eddy-covariance measurements - PULSE and FLARE, physiology- and thermodynamics-based corrections; contributor to the AmeriFlux community evaluation of energy imbalance corrections; lead; 2024 through present.

Global benchmark of remote sensing evapotranspiration models across FLUXNET sites - with the OpenET team at the Desert Research Institute (J. Huntington, J. Volk, Y. Kim); lead analyst; 2025 through present.

Calibration-free evapotranspiration and root-zone soil moisture products over the conterminous United States - Surface Flux Equilibrium theory; CALFRET 1-km evapotranspiration and root-zone soil moisture benchmark datasets; co-lead with M. Kumar; 2021 through present.

Canopy and stomatal process representation in land surface models - multilayer CLM-ML v5 and E3SM Land Model; stomatal conductance model constraints using in-situ observations (e.g., eddy-covariance fluxes, SAPFLUXNET sap flow, leaf-scale plant hydraulics); physics-informed machine learning; with Y. Liu and G. Bisht; lead; 2022 through present.

Evapotranspiration and carbon flux partitioning in managed and disturbed ecosystems - grazed wheat and tallgrass prairie (USDA-ARS Grazinglands Research Laboratory, El Reno, OK), irrigated soybean fields (Mississippi), and tidal wetlands (California and Ohio); flux variance similarity and water-use-efficiency methods; lead analyst; 2020 through present.

Flash drought detection and evaporative stress from reanalysis and satellite data - ECOSTRESS evaporative stress evaluation; reanalysis-based flash drought detection; lead; 2023 through present.

Benchmarking soil moisture in Earth system models - RUBISCO Soil Moisture Working Group (E. Massoud, F. Hoffman); contributor; 2023 through present.

National Water Model performance for hydrologic extremes - Cooperative Institute for Research to Operations in Hydrology (CIROH), The University of Alabama; contributor; 2025 through present.

External Funding

Under Review / Submitted

Machine-learning-enhanced energy and water partitioning in the E3SM Land Model over the Southeastern US - U.S. Department of Energy, Biological and Environmental Research (DE-FOA-0003600); proposal contributor; 2026 (under review).

Developing a high-resolution root-zone soil moisture product over CONUS via Surface Flux Equilibrium theory-informed machine learning - USDA ARS AI Innovation Fund (AI Center of Excellence); proposal contributor; 2026 (under review).

FLARE: Field scale retrieval of plant water use and ecosystem resilience from space - VIEW-2: The Virtual Institute for Earth's Water; expression of interest submitted; 2026.

Not Funded

Assessment of evapotranspiration partitioning estimates from ECOSTRESS - NASA FINESST (21-EARTH21-0320); rated “Very Good”; 2022.

Fine resolution mapping of evapotranspiration from rain-fed and irrigation-fed fields in Alabama - Alabama EPSCoR Graduate Research Scholarship; 2020.

Awards and Achievements

- Our Energy Imbalance Corrections work *Research spotlight-ed* by WRR (2026)
- Travel Grant, AGU Energy Balance Chapman Conference, Boulder, CO (2025)
- Outstanding Dissertation Award, Department of Civil, Construction and Environmental Engineering, The University of Alabama (2025)
- Top rank, 2016-18 M.Tech Water Resources Engineering cohort, Department of Civil Engineering, Indian Institute of Technology Bombay (2018)
- Ministry of Human Resource Development (MHRD, India) Scholarship (2016-2018)
- 99.3 percentile, Graduate Aptitude Test in Engineering (GATE) (2016)

Student Mentoring

- Mentor for Hitesh P. Thakur, Ph.D. student, The University of Alabama (August 2024 - Dec. 2025)
- Mentored graduate students on student-led publications and fellowship applications

Presentations

Invited Talks

1. Flux partitioning in wetland systems. AmeriFlux Annual Meeting (2025). (Invited)
2. How representative are ecosystem-level evaporative stress indices of vegetation evaporative stress? American Geophysical Union Fall Meeting, Washington, D.C. (2024). (Invited)
3. Evapotranspiration predictions: gaps, challenges, implications, and the way forward. University of Toledo, OH (2024). (Invited)
4. Model performance diagnostics using information theory. RUBISCO Soil Moisture Working Group - Benchmarking (2024). (Invited)
5. Retrieving gap-free daily root zone soil moisture using surface flux equilibrium theory. Ohio State University, Columbus, OH (2024). (Invited)
6. Parallel surrogate global optimization for calibrating the Multilayer Community Land Model (CLM-ML v5). Ohio State University, Columbus, OH (2024). (Invited)
7. Assessing the impacts of climate change on crop yield in the Upper Godavari River Basin using the H08 hydrological model. Inter-Sectoral Impact Model Intercomparison Project (ISIMIP), Paris, France (2019). (Invited)

Conferences (*presenting author)

1. **Raghav, P.***, Kim, Y., Andrade, B.C., Kumar, M., Volk, J., and Huntington, J.L., 2027: When the Benchmark is Uncertain: Impacts of Energy Balance Closure Corrections on Evaluation of Remote Sensing Evapotranspiration Products. *American Meteorological Society (AMS)*, 2027 Annual Meeting, Denver, CO.
2. Volk, J.M.*, Kim, Y., Sueki, S., Majumdar, S., Morton, C.G., Minor, B., Huntington, J.L., Melton, F., and **Raghav, P.**, 2027: Photosynthetic Energy Storage: Improving Tower-Based ET Evaluation for OpenET Research-to-Operations. *AMS*, 2027 Annual Meeting, Denver, CO.
3. Kim, Y.*, **Raghav, P.**, Huntington, J.L., Andrade, B.C., Johnson, M.S., Volk, J.M., Majumdar, S., Morton, and ReVelle, P., 2027: Toward Operational Field-Scale Evapotranspiration Mapping Beyond Agriculture: Scaling RADET from Flux Networks to Continental Applications. *AMS*, 2027 Annual Meeting, Denver, CO.
4. **Raghav, P.***, Kim, Y., Andrade, B.C., Kumar, M., Volk, J., and Huntington, J.L., 2026: A Global Benchmark of Remote Sensing Evapotranspiration Models Across FLUXNET Sites. 2026 *AmeriFlux* Annual Meeting, Berkeley, CA.
5. **Raghav, P.**, and Kumar, M., 2026: Thermodynamic Constraint for Eddy Covariance Latent Heat Flux Correction for Energy Imbalance. *AGU*, 2026 Annual Meeting, San Francisco, CA.
6. Desai, A., and others, 2026: Evaluating corrections for surface energy imbalance in eddy covariance. *Pan-GLASS Conference*, Stuttgart, Germany.
7. **Raghav, P.***, and M. Kumar, 2025: Evaluating the accuracy of evaporative stress index-based flash drought detection in global reanalysis data. *AGU Fall Meeting*: H21B-04, New Orleans, LA.
8. **Raghav, P.**, and M. Kumar*, 2025: Leveraging FluxNet data for improved estimation of potential evapotranspiration using the Priestley-Taylor method. *AGU Fall Meeting*: B12C-07, New Orleans, LA.
9. Salvi, K., **P. Raghav***, and M. Kumar, 2025: Evaluation of temperature trends simulated by reanalysis data at observation sites in the continental United States. *AGU Fall Meeting*: BH11M-1043, New Orleans, LA.
10. Kumar, M.*, **P. Raghav**, Y. Liu, and G. Bisht, 2025: The complexity paradox: when advanced evapotranspiration models underperform (invited). *AGU Fall Meeting*: H52A-02, New Orleans, LA.
11. Nishan, B.*, P. Wagle, **P. Raghav**, and A. Shayeghi, 2025: Advancing measurements and modeling of invisible components of the water budget. *AGU Fall Meeting*: H13M, New Orleans, LA.
12. Tang, A.*, **P. Raghav***, and I. Forbrich, 2025: Partitioning evapotranspiration in coastal wetlands using flux variance similarity. *AGU Fall Meeting*: H42D-06, New Orleans, LA.

13. Wolkeba, F.*, M. Kumar, **P. Raghav**, and H. Thakur, 2025: A high-performing 1-km daily gridded evapotranspiration dataset for CONUS based on surface flux equilibrium theory. *AGU Fall Meeting*: H41D-07, New Orleans, LA.
14. **Raghav, P.***, and M. Kumar, 2025: Evaluating the influence of model parameters, structure, input data, and site-specific characteristics on energy partitioning errors in land surface models. *Chapman Conference on the Energy Balance Closure Problem, AGU*, Boulder, CO.
15. **Raghav, P.***, Y. Liu, and M. Kumar, 2024: Enhancing water and carbon flux predictions: a comparative study of multi-layer canopy and big-leaf models under varying water stress and light conditions. *AGU Fall Meeting*, Washington, D.C.
16. **Raghav, P.***, and M. Kumar, 2024: How representative are ecosystem-level evaporative stress indices of vegetation evaporative stress? *AGU Fall Meeting*, Washington, D.C.
17. **Raghav, P.***, and M. Kumar, 2024: The accuracy of evapotranspiration prediction is impeded by structural limitations in current stomatal conductance models. *Ecological Society of America Annual Meeting*, Long Beach, CA.
18. **Raghav, P.***, and M. Kumar, 2023: A physics-informed machine learning approach to study global dynamics of the transpiration to evapotranspiration ratio. *AGU Fall Meeting*: B43E-2592, San Francisco, CA.
19. **Raghav, P.***, and M. Kumar, 2023: Evapotranspiration partitioning in evaporation-dominant settings. *AGU Fall Meeting*: H21Q-1573, San Francisco, CA.
20. Ghaseminejad, A., **P. Raghav**, and M. Kumar*, 2023: Is the representation of interannual leaf phenology dynamics needed for accurate estimation of evapotranspiration? *AGU Fall Meeting*: B43E-2604, San Francisco, CA.
21. Wagle, P.*, **P. Raghav**, M. Kumar, T. M. Scanlon, B. K. Northup, C. Moffet, S. Gunter, and X. Xiao, 2023: A comparison of FVS, MREA, and CEC methods to partition evapotranspiration in tallgrass prairies. *AGU Fall Meeting*: H13D-06, San Francisco, CA.
22. **Raghav, P.***, and M. Kumar, 2022: Assessing evapotranspiration partitioning obtained using land surface models across varied ecosystems. *AGU Fall Meeting*: B12E-1121, Chicago, IL.
23. Ghaseminejad, A.*, M. Bhat, **P. Raghav**, and M. Kumar, 2022: Machine learning-driven temporal downscaling of groundwater recharge estimates to obtain event-based response. *AGU Fall Meeting*: H35H-1215, Chicago, IL.
24. Kumar, M.*, L. S. Rathore, N. Hanasaki, M. Mekonnen, and **P. Raghav**, 2022: Rain-fed to irrigation-fed transition of cropped agriculture may enhance urban-rural water conflict. *AGU Fall Meeting*: GC35D-05, Chicago, IL.
25. **Raghav, P.***, and M. Kumar, 2021: Are canonical relations to partition evapotranspiration valid for managed systems? *AGU Fall Meeting*: B12B-02, New Orleans, LA.
26. **Raghav, P.**, and M. Kumar*, 2021: Obtaining daily root zone soil moisture using a calibration-free approach. *AGU Fall Meeting*: H55C-0777, New Orleans, LA.
27. **Raghav, P.**, and T. I. Eldho*, 2019: Investigations on the impacts of future climate change on the hydrology of a river basin in India using a macroscale hydrological model. *11th World Congress on Water Resources and Environment (EWRA)*, Madrid, Spain.

Service

Conference Organization and Judging

- Advancing Understanding and Prediction of Droughts from Observations, Physical Process-based Models, and Machine Learning. American Geophysical Union (AGU) Fall Meeting, San Francisco, CA (2026). Session Convener (Primary)
- Data Science for Weather and Climate Extremes: Risks, Drivers, and Impacts. AGU Fall Meeting, San Francisco, CA (2026). Session Convener
- Advancing measurements and modeling of invisible components of the water budget: challenges, opportunities, and applications. AGU Fall Meeting, San Francisco, CA (2026). Session Convener

- Advancing measurements and modeling of invisible components of the water budget: challenges, opportunities, and applications. AGU Fall Meeting, New Orleans, LA (2025). Session Convener
- Facilitator and recorder, breakout sessions, AGU Chapman Conference on the Energy Balance Closure Problem, NSF NCAR Mesa Laboratory, Boulder, CO
- Co-organizer, breakout session, AmeriFlux Annual Meeting 2025, Tucson, AZ
- Judge, Ph.D. and M.S. student oral and poster presentations, American Geophysical Union

Reviewer

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| • Water Resources Research | • Journal of Hydrology |
| • JGR: Atmospheres | • Journal of Water and Climate Change |
| • JGR: Biogeosciences | • Agricultural and Forest Meteorology |
| • Remote Sensing of Environment | • Agricultural Water Management |

Professional Memberships

- American Geophysical Union
- European Geophysical Union
- The Ecological Society of America
- The Indian Society for Hydraulics
- Alabama Water Institute

Technical Skills

Earth system / land surface models: E3SM Land Model (ELM), Community Land Model (CLM), Multilayer CLM, *Ecosys*, H08, VIC, SWMM, ILAMB

Programming: Python, R, MATLAB, Fortran, Bash, LaTeX

Geospatial & visualization: Google Earth Engine, PySTAC, ArcGIS, QGIS, AutoCAD (Civil 3D), ERDAS Imagine, GMT, Matplotlib, ggplot, OriginPro, folium

Key libraries: xarray, dask-ml, h5py, rasterio, geopandas, earthengine-api, cartopy, climate4R, Keras/TensorFlow, PyTorch

Other: eddy covariance data processing, satellite remote sensing analysis, high-performance computing (HPC), machine learning / physics-informed ML

Software and Datasets

- Padé Approximation of Clausius-Clapeyron for Evapotranspiration Estimation ([GitHub](#), 2026)
- A tool for computing journal submission statistics from Word manuscripts (<https://github.com/praghav444/manuscript-meter>, 2026)
- Getting started with Hydrosat satellite data - STAC access, LST, NDVI & red-edge indices, cloud masking, and geospatial analysis (<https://github.com/praghav444/hydrosat-getting-started>, 2026)
- Evaluating multilayer and big-leaf canopy models for evapotranspiration under water and heat stress (<https://zenodo.org/uploads/20669926>, 2026)
- Dynamic parameterization of the Priestley-Taylor coefficient for potential evapotranspiration (<https://zenodo.org/records/19042800>, 2025)
- PULSE: correcting latent heat flux measurements for energy imbalance at eddy covariance sites (<https://zenodo.org/records/17486638>, 2025)
- Water flux partitioning using flux variance similarity theory in wetland settings (<https://github.com/praghav444/AmeriFlux-Meeting-2025-FVS-Tutorial-Wetland>, 2025)
- Guide to download and process remote sensing data in R ([GitHub](#), 2025)

- Information theory-based model performance diagnostics
(https://github.com/praghav444/Model_Performance_Diagnostics_using_Information_Theory, 2024)
- Ecosystem-scale transpiration from the SAPFLUXNET database
(<https://github.com/praghav444/Stand-Scale-Transpiration-Estimation-from-SAPFLUXNET-Database>, 2024)
- Water flux partitioning using high-frequency eddy covariance data
(https://github.com/praghav444/Flux_partitioning_using_high_frequency_EC_data, 2023)
- Physical and machine learning models of stomatal conductance for evapotranspiration prediction
(<https://zenodo.org/records/7768479>, 2023)
- Water flux partitioning data in disturbed (grazed) wheat systems (USDA-ADC, <https://doi.org/10.15482/USDA.ADC/1527834>, 2022)
- Step-by-step guide for gap-filling eddy covariance data and NEE flux partitioning
(<https://github.com/praghav444/GapFillingREddyPro>, 2022)
- Extracting Spatial Data from NASA data repository
(<https://github.com/praghav444/CreateBufferZoneShapeFiles>, 2022)