This is a great paper giving an overview of remotely sensed ET evaluation approaches in the literature. It's well-written and interesting. Such an undertaking is certainly a large task so it's understandable that the authors would miss some literature here and there; I've given a few pointers to uncover large missing areas in the literature. That said, I don't know which of the 601 (plus more coming in revision) papers the authors should cite explicitly in the main text versus refer to implicitly within category, but maybe err on the side of adding more in-text references unless EGUsphere pushes back with a limit? Overall, the paper doesn't really have a main result other than that different things are different, but the paper will be a great go-to source for those interested in RS-ET. If scientists follow the recommendations, this could help understand results in a relative context.

Josh Fisher

- There is some discussion on different time scales of analysis, but perhaps some more extensive commentary on instantaneous vs. temporally upscaled validation would be helpful given that most RS-ET is based on polar orbiting instantaneous measurements.
- L31. May want to cite [*Fisher et al.*, 2017].
- L35. May want to cite [*Monteith*, 1965; *Shuttleworth and Wallace*, 1985].
- L39. [*Fisher et al.*, 2017].
- L49. Include ECOSTRESS [*Fisher et al.*, 2020].
- Fig 1. This figure seems to be missing a lot of literature, including reviews cited in the text (e.g., Vinukollu; Jimenez; Melton; etc.).
- L130. "ET is not measured directly by sensors, but is the result from models or reanalyses, and thus…"
- Section 2.3. We used Gaussian Error Propagation in [*Fisher et al.*, 2005] and Method of Moments in [*Fisher et al.*, 2008].
- L185. Period.
- How do you draw the line between diagnostic models, machine learning models, land surface models, etc.? It's sometimes a blurry distinction.
- Figs 5 & 9. I'm not 100% clear on how to read this. It's not obvious what the top bars correspond to. The figure does not label what are the bottom numbers. It's not clear what gray vs. black circles are, and what the connecting lines mean. Maybe define TCH/TH in the caption.
- L243. Curious what are those other approaches?
- Fig 6. Maybe include a secondary y-axis that is the total #.
- Fig 7. I'm not seeing the water balance residual papers here?
- L274. Even smaller with sap flow?
- L308. Slightly misleading because then there was the GRACE-FO mission, which should be mentioned.
- Section 4.1.2. I think you're missing quite a lot of papers here, so you'll have to re-search and update.
- 4.3 out of order.

- Section 4.7. Yunjun Yao and others have been forging forward with many papers in this realm.
- Fig 12. Nice figure.
- L520. Interesting.
- L556. I think it would also depend on the site. If you're using a site with low ET, then your RMSE is likely to be low, and vice versa.
- L581. "in a"
- Section 7. One of the major approaches many of us in the community are working towards is improved spatiotemporal resolution of RS-ET. Moving from ECOSTRESS to SBG, multiple Landsats, TRISHNA, LSTM, and Hydrosat. Would that be worth commenting on here?
- L606. Period.
- L754. Reference repeated.
- Here's a list of more papers to cross-check:

[*McCabe and Wood*, 2006; *Fisher et al.*, 2009; *Glenn et al.*, 2010; *Liang et al.*, 2010; *Blyth and Harding*, 2011; *Fisher et al.*, 2011; *Jiménez et al.*, 2011; *Mueller et al.*, 2011; *Sahoo et al.*, 2011; *Vinukollu et al.*, 2011b; *Vinukollu et al.*, 2011a; *Polhamus et al.*, 2012; *McCabe et al.*, 2013; *Mueller et al.*, 2013; *Polhamus et al.*, 2013; *Armanios and Fisher*, 2014; *Chen et al.*, 2014; *Ershadi et al.*, 2014; *Yao et al.*, 2014; *Chen et al.*, 2015; *Feng et al.*, 2016; *McCabe et al.*, 2016; *Michel et al.*, 2016a; *Michel et al.*, 2016b; *Miralles et al.*, 2016a; *Miralles et al.*, 2016b; *Zhang et al.*, 2016; *Yao et al.*, 2017a; *Yao et al.*, 2017b; *Chang et al.*, 2018; *Jiménez et al.*, 2018; *Xu et al.*, 2018; *Gomis-Cebolla et al.*, 2019; *Guillevic et al.*, 2019; *McCabe et al.*, 2019; *Stoy et al.*, 2019; *Pascolini-Campbell et al.*, 2020; *Sadeghi et al.*, 2020; *Wu et al.*, 2020; *Anderson et al.*, 2021; *Bai et al.*, 2021; *Cawse-Nicholson et al.*, 2021; *Melo et al.*, 2021; *Pascolini-Campbell et al.*, 2021; *Pascolini-Campbell et al.*, 2021; *Shang et al.*, 2021; *Tang et al.*, 2021; *Shi et al.*, 2022; *Xie et al.*, 2022; *Yang et al.*, 2022; *Volk et al.*, 2023]

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