

To be transparent with my biases, I am a user of eddy covariance data, not a producer. So, I'm going to be hard pressed to find anything against this paper, as it's essentially designed to help someone like me. I can certainly imagine there being pushback from individual data producers and networks, which I imagine justify why this proposed standardization hasn't come to fruition thus far. But, from my perspective, I can only really provide even more evidence and support for this paper. I suppose I could think of ways to make it even better for someone like me; but, this relative to the status quo is such a big improvement that I wouldn't want to make it less likely to occur by adding on any more bells and whistles. I hate to be a reviewer without a lot of complaints, and disparaging and unfounded insults—I mean, unleashing one's own personal frustrations onto unsuspecting authors is therapeutic, right? (Totally kidding...). I did find one spelling error though, so clearly the author doesn't know what he's doing (totally kidding again!).

- “Here a proposal for a new organization where regional and national networks become the pillars of the global initiative, organizing clusters and becoming responsible for the processing and preparation of datasets...”
 - Isn't this already the *old* organization? I know what you're trying to say here, but it doesn't come across clearly (essentially, those pillars aren't always under the same ceiling, and so it takes some moving of those pillars around in the syntheses, which is time consuming).
 - Is it really a new proposal? Hasn't this been proposed for years?
- Certainly, the author (and his acknowledged though not co-authored colleagues) have thought this through pretty thoroughly. But, why aren't there any other co-authors? Wouldn't it be more convincing if there were at least one co-author from each of the networks? It's slightly ironic that the article is about collaboration when there are no co-authors.
- Overall, the paper is somewhat light on specific details of how everything would work. I would guess that people are mostly on-board in theory. But, the practical systems engineering could perhaps be flushed out a bit more. Perhaps an additional figure could be useful that would reflect this.
- Are there analog data networks that could be discussed for failures/successes?
- I wonder if FLUXCOM is the best example to justify the proposal. Adding new data to FLUXCOM at this point changes it very little, as far as I would expect, and it moves without real time eddy flux data based on globally gridded inputs. I guess the justification might be better if it were for FLUXCOM-like new initiatives; or, new members to FLUXCOM.
- I'm trying not to be biased, though I definitely am, but a good example for the remote sensing need was published in *Fisher et al.* [2020] for the ECOSTRESS mission, focused on evapotranspiration. Here, we needed as much current eddy covariance data as possible right away (i.e., data before launch would be far less useful!) to ensure that our ET data products were good enough to release. It was a beast to deal with all the different disparate data (as you obviously know)—more than a dozen data formats alone, let alone the interfaces to access the data! We mentioned some of those aspects in the Methods section of the paper, check it out. In the end we had an amazing >150 sites contribute data (with nearly as many co-authors, because, after all, the eddy flux data were all new

too). I suspect that this paper is why the Biogeosciences Editor here thought of me to ask to be a reviewer. Our validation work also followed on similar validation work done for the SMAP mission on soil moisture.

- We're going to continue to have new missions that would benefit greatly from the proposed global standardized network. More missions that deal directly with fluxes, as well as others that deal with other variables that are useful from FLUXNET sites such as soil moisture, canopy height, fluorescence, etc.
- It would be good to include a statement of justification for Continental clusters. (Also, continents are not always consistently defined across the world).
- L167. "wait releases of dataset" → "wait for releases of datasets"
- L188-193. Check out the little-known *Fisher and Fortmann* [2010], where we applied Elinor Ostrom's design principles for sharing of natural resources to shared data with an application to FLUXNET. Keys to successful data sharing discussed therein.

I hope to see this proposed organization a reality soon!

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Fisher, J. B., and L. P. Fortmann (2010), Governing the data commons: Policy, practice, and the advancement of science, *Information & Management*, 47, 237-245.

Fisher, J. B., B. Lee, A. J. Purdy, G. H. Halverson, M. B. Dohlen, K. Cawse-Nicholson, A. Wang, R. G. Anderson, B. Aragon, M. A. Arain, D. D. Baldocchi, J. M. Baker, H. Barral, C. J. Bernacchi, C. Bernhofer, S. C. Biraud, G. Bohrer, N. Brunsell, B. Cappelaere, S. Castro-Contreras, J. Chun, B. J. Conrad, E. Cremonese, J. Demarty, A. R. Desai, A. De Ligne, L. Foltýnová, M. L. Goulden, T. J. Griffis, T. Grünwald, M. S. Johnson, M. Kang, D. Kelbe, N. Kowalska, J.-H. Lim, I. Mainassara, M. F. McCabe, J. E. C. Missik, B. P. Mohanty, C. E. Moore, L. Morillas, R. Morrison, J. W. Munger, G. Posse, A. D. Richardson, E. S. Russell, Y. Ryu, A. Sanchez-Azofeifa, M. Schmidt, E. Schwartz, I. Sharp, L. Šigut, Y. Tang, G. Hulley, M. Anderson, C. Hain, A. French, E. Wood, and S. Hook (2020), ECOSTRESS: NASA's Next Generation Mission to Measure Evapotranspiration From the International Space Station, *Water Resources Research*, 56(4), 1-20.