

## ***Interactive comment on “Evaluating and improving modeled turbulent heat fluxes across the North American Great Lakes” by Umarporn Charusombat et al.***

**Umarporn Charusombat et al.**

ayumif@umich.edu

Received and published: 23 February 2018

As for the referee's concern with the Conclusions section, we renamed the title of Section 5 to "Summary and Conclusions", since this is more appropriate, as the referee pointed out. Also, we added to this section a sentence "With the updated formula for  $z_{0\theta,q}$ , the four models (LS87, C89, J99, Z98L) simulated similar heat fluxes to COARE's"

The suggestion to use the SCADIS footprint model to compare turbulent flux footprints using different roughness lengths as in McGloin et al. (2014) is a good idea, however, we feel that such an in-depth analysis would distract from the broader goals of the paper. Although such a comparison would likely yield more data from the Long Point

C1

site, our filtering based on an acceptable over-water wind direction of between 180-315 degrees likely ensured that only over-water fluxes were used in the analysis. The suggestion by the reviewer might also introduce some data that could be susceptible to land influence, thus compounding the effects of land contamination and over-lake model comparison, the latter being the main objective of this paper.

All the minor points have been corrected or revised as suggested. We appreciate the referee's careful review of the manuscript.

---

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2017-725>, 2018.

C2