

## ***Interactive comment on “The WACMOS-ET project – Part 1: Tower-scale evaluation of four remote sensing-based evapotranspiration algorithms” by D. Michel et al.***

### **Anonymous Referee #2**

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This is a well-written paper, summarising four model performance to estimate evapotranspiration at a temporal resolution from 3 hours to one day and using various forcing datasets obtained from site observation to gridded reanalysis dataset. I would like to recommend to accept the paper, but subject to address my following comments.

#### 1. More references needed in introduction

Some state-of-art evapotranspiration studies have not been included, especially recently published in Scientific Reports and Environmental Research Letters.

Mao J, Fu W, Shi X et al. (2015) Disentangling climatic and anthropogenic controls on global terrestrial evapotranspiration trends. *Environmental Research Letters*, 10, C5653

094008.

Zhang K, Kimball JS, Nemani RR, Running SW, Hong Y, Gourley JJ, Yu Z (2015) Vegetation Greening and Climate Change Promote Multidecadal Rises of Global Land Evapotranspiration. *Sci Rep*, 5, 15956.

Zhang, Y. et al. Multi-decadal trends in global terrestrial evapotranspiration and its components. *Sci. Rep.* 5, 19124; doi: 10.1038/srep19124 (2015).

#### 2. Parameterisation

There is no summary on parameterising the four selected ET models. The systematically overestimated or underestimated ET is mainly caused by the inappropriate parameters setup. For example, the key variable surface conductance or surface resistance in the Penman-Monteith equation needs to be carefully parameterised. It requires at least one free parameter (the maximum stomatal conductance) in each biome. It is not appropriate to draw a conclusion that x model outperforms y model without considering parameterisation schemes.

At least, this issue should be discussed thoroughly.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 10739, 2015.