

- Below table is my result from global daily ET. I did not see overestimation, when I also use satellite data and SEBS model to calculate ET. You need be careful about your input data. I suggest list your canopy height used for SEBS in table 1. When you want to assess a model, all the parameters and input data (LST, air temperature, wind speed) should come from ground truth observation. Unfortunately, most of model users are not responsible for doing this evaluation. Satellite data are easily used to force model and conclude that the model has some problems when they compare remote sensing data based model result with ground flux measurement. To assess a model, we should first to remove bias in the forcing data. Otherwise, the result evaluation is confusing. The readers don't understand where does the errors come from. If you want say the overestimation in SEBS is due to the model problem, It is better to do in-situ simulation with all ground measurement to check whether the conclusion is the same as what from using satellite data.

Num	Sname	Lat	Lon	IGBP LCT		ET_d vs. EC (mm/d)			Rn_d vs. EC (MJ/m ² d)		
				Site	MO D12	RMSE	MB	r	RMSE	MB	r
112	Tonzi_Ranch	38.4316	-120.966	SAV	SAV	1	0.19	0.61	NaN	NaN	NaN
101	Santa_Rita_Mesquite_Savanna	31.8214	-110.866	SRB	SRB	1.02	-0.24	0.44	4.65	-3.91	0.8

- Please give the flux tower names in Figure 4 and 5. GRA, WSA, ENF is kind of misunderstanding information. One GRS site can not represent all 'GRS' sites.
- I don't agree the way you calculate kb_1. Z0m equation from Van der Kwast is empirical method. You have agreed this by saying that 'z0M was derived using a simple empirical relationship between the roughness length of momentum transfer, z0M, and NDVI, as suggested by Van der Kwast et al. (2009) [Page 9, Lines 23-24].'. Van der Kwast method cannot be used for forest or all kinds of canopy. Your using of z0h from Yang et al. 2002 also has some problem. Yang's method cannot be used for canopy site, since his method has used a 0.003???? z0m initial value to calculate z0h. This problem is already discussed by Prof. Hotslag and other micrometeorologist. But remote sensing community rarely notice this. I think the code from Abouali, Mohammad also have this problem when he replace SEBS's kb_1 with Yang` heat roughness scheme. The idea in Chen et al. 2013 is to merge Yang's method into SEBS's, due to Yang has a better performance than the Brutsaert method which is the soil part in SEBS kb_1:

$$k B_s^{-1} = 2.46 \left(\text{Re}_* \right)^{1/4} - \ln[7.4]$$

from Brusaert.

$$z_{0h} = (70\vartheta/u_*) \exp(-7.2u_*^{0.5}\theta_*^{0.25}) \quad \text{and} \quad (10a)$$

$$k B_s^{-1} = \log(z_{0m}/z_{0h}), \quad (10b)$$

from Chen et al. 2013

By fusing roughness schemes from both SEBS and Yang, Chen et al. 2013 can not only use the new kB_1 for bare soil but also canopy surface, which idea was already designed by Su 2002. In addition, no publication has tested Yang's scheme seriously over canopy covers. What is your argument for using Yang's method over forest or cropland? If you use yang's method how did you set the initial z_{0m} value for this land covers?

The relationship between these roughness scheme and publications should be clarified in this paper.

4. About Fig. 13, the only solution is to calculate kb_1 from flux observation. You can use momentum and sensible heat flux to inversely calculate z_{0m} and z_{0h} , Then kb_1 can be calculated from 'observed' z_{0m} and z_{0h} . Otherwise the result in figure 13 is not trustable. In addition, I did not see any 0 values of kb_1 , which is quite popular for forest sites. If the authors cannot derive kb_1 from observation, I suggest to remove this figure and about the analysis of kb_1 . Or land cover could be taken as x-axis.
5. Figure 9,10 and 11, I need a plot of land covers, canopy height (its importance has be mentioned in one of your paper) to analyze the possible error source in SEBS, beside your using of Yang's method.
6. I don't agree that you can use heat roughness to parameterize kB_1 . This is contradict with designing of kb_1 . kB_1 is intermedia variable which connect z_{0m} and z_{0h} , due to kb_1 cannot be used in MOST directly. Z_{0h} should be deduced from kB_1 not the inverse way. Please revise this sentence 'The roughness height for heat transfer proposed by Yang et al. (2002), was used to parametrize kB_1 .'

And also the following sentences, as I said figure 13 has a problem:

z_{0M} was derived using a simple empirical relationship between the roughness length of momentum transfer, z_{0M} , and NDVI, as suggested by Van der Kwast et al. (2009).

The roughness height for heat transfer proposed by Yang et al. (2002), was used to parametrize kB_1 . This new parametrization of kB_1 was designed to improve the SEBS model performances on bare soil, low canopies, and snow surfaces as was proposed by Chen et al. (2013)."

7. Please rewrite these sentence:

The source codes for different sub-models within SEBS were either adapted or modified from Abouali et al. (2013).----→ The SEBS codes in this study is adapted from Abouali et al. (2013), which is different from original version in Su 2002 and Chen et al. 2013.

8. Most of SEBS study found ET over ENF and DBF is overestimated, however, this is not reflected in your study. Please give some explanation.