

Report #1

Submitted on 31 Mar 2016

Anonymous Referee #2

Anonymous during peer-review: Yes No

Anonymous in acknowledgements of published article: Yes No

Recommendation to the Editor

1) Scientific Significance

Does the manuscript represent a substantial contribution to scientific progress within the scope of this journal (substantial new concepts, ideas, methods, or data)?

Excellent **Good** Fair Poor

2) Scientific Quality

Are the scientific approach and applied methods valid? Are the results discussed in an appropriate and balanced way (consideration of related work, including appropriate references)?

Excellent **Good** Fair Poor

3) Presentation Quality

Are the scientific results and conclusions presented in a clear, concise, and well structured way (number and quality of figures/tables, appropriate use of English language)?

Excellent **Good** Fair Poor

For final publication, the manuscript should be

accepted as is

accepted subject to technical corrections

accepted subject to **minor revisions**

reconsidered after **major revisions**

I would like to review the revised paper

I would NOT be willing to review the revised paper

rejected

Please note that this rating only refers to this version of the manuscript!

Suggestions for revision or reasons for rejection (will be published if the paper is accepted for final publication)

All comments have been dutifully addressed by the reviewers, except one: the reason for the heterogeneity of the water inputs in both fields should be provided in the "study site" section and not only in the response to the reviewers 1 and 2. Thanks

We had included a discussion concerning the heterogeneity of water inputs in the revised manuscript on page 23 line 10-16. : *“The climate in this region is quite arid during the growing season with the drip irrigation being the only water source for the vines. As a result, the water availability (or soil water content) condition in the vine root zone plays a crucial role in the vegetation biomass. Therefore it is reasonable to assume there would be a strong correlation between ET and vine LAI as representative of the water availability in the root zone. The spatial variation in vine LAI is likely due to variation in the amount of*

irrigated water and/or variability in soil water holding capacity.”

However we now also add the following comment in the text under the “Study Site” section (page 11 line 9-12)

“Although the drip-irrigation system was designed to apply water along the vine row uniformly across the field, it was evident that variations in soil texture and rates/amounts of water applied was not uniform in either field causing a fairly wide range in vine biomass.”

Also, my suggestion to adapt DATTUTDUT into a double-rectangular approach (one for the soil and one for the vegetation) could be included in the conclusion section, even if the absence of very pure pixels at native resolution prevent you to use it; indeed, you stress in introduction that other UAV data can provide sub-meter resolution data.

We now add the following text in the Conclusions section (page 27 line 26-30)

“Specifically, if the LST imagery is at fine enough pixel resolution to distinguish soil and vegetation temperatures the DATTUTDUT scheme could be applied separately for the soil and vegetation, providing E and T estimates that could be integrated with TSEB output computed at coarser resolutions or adapted for very fine resolution imagery.”