

1. How did you measure the water table in both sites to support the statements all over the paper?

Page 1736 Line 13 insert:

The groundwater level (Solinst levellogger 3001, Ontario, Canada) at the PSF was measured at hourly intervals to coincide with the sapflow measurements. A perforated PVC access tube, lined with a geotextile was installed at the site for the monitoring of groundwater levels to approximately 1.8 m. The DF groundwater level was measured (Solinst levellogger, Ontario, Canada) approximately 3 km to the north (28° 10.407 S 32 ° 32.115 E) near the top of the dunes, also at hourly intervals in a steel cased borehole.

2. Theoretically, the root distribution decrease along the soil profile, fixing the maximum amount of biomass in the first soil layers. However, the combination of different tree species and soil conditions can produce root biomass accumulation in depths lower than 20 or 30 cm. considering this, it is possible that the root sampling procedure ignores or neglects these erratic root patterns in both stands. Other detail in respect of the root sampling procedure is the type of roots that you measured within the sample: Those were fine roots? or Did you include gross roots?

As suggested above, the root sampling is likely to neglect erratic patterns in both stands and a comprehensive study on the root distributions and growth would be a valuable addition to the water-use results obtained in this study. The aim of the root study was to get a general distribution of the roots in the profile to give the reader an indication of the rooting distribution. We suggest that the following additional detail be added to the text:

Page 1736 Line 18 insert:

All root sizes were included in the measurement, which at the PSF included tree and fern roots. At the DF, only trees were present as there was very little undergrowth around the measurement site.

3. The paper mentions the measurement of LAI at both sites. How did you perform this? Did you use a leaf area meter, hemispherical pictures, or the old traditional method of measure and weight the leaves?

The details of LAI measurement should be added:

Page 1735 Line 10 insert:

The LAI was measured (LAI 2200, LI-COR Inc., Lincoln, Nebraska, USA) at monthly intervals at both sites. The measurement sequence of an above canopy, four below canopy and an above canopy reading were performed at each site in triplicate. However, due to the dense ferns at the PSF, the LAI of the ferns and trees was measured separately to the LAI of only the trees by measuring above the ferns.

4. Apply the Bowen-Ratio method to calculate the real evapotranspiration and then differentiate the losses by tree transpiration and soil evaporation after the rain events.

As suggested, the evapotranspiration is a useful measure and allows the differentiation between transpiration and soil evaporation. We have in fact measured the evapotranspiration from the PSF using a full (sonic and LI8100) eddy covariance system (InSitu) on a telescopic mast (21 m high) during 3 window periods over the sapflow measurements. At the DF we used a scintillometer (BLS900) to measure the evapotranspiration of the entire canopy. We plan to use this extensive data set in a follow up paper. We felt that the inclusion of this data would dilute the focus of the current paper (the response of a few individual trees) and make the study too broad. The response of the tree water-use is clear in this paper because of the focused measurements of a few specific plants, whereas, the dynamics of the tree transpiration is lost in a single measurement of ET due to the inclusion of the other components with their particular dynamics (undergrowth and soil).

5. Describe the stand composition in terms of number of individuals per species (if plots are available). With this information the stand water use can be better understandable.

As discussed in (4) above, the forest total evapotranspiration have been captured and will be presented in a follow up study. We felt it better to measure the forest total evapotranspiration rather than try and upscale it from individual tree water-use due to the heterogeneity of the indigenous PSF and DF sites.

6. Do you mention in results the use of FAO-56 evapotranspiration equation, but it is not specify in the methodology section.

Good point. We suggest the following additions

Page 1733 Line 3 insert:

The FAO-56 grass reference evaporation (ET_r) was calculated from the climatic data according to Allan et al. (2006) at an hourly interval and summed to a daily level.

Page 1742 Line 3 change:

“FAO-56 reference evaporation (ET_r)” to ET_r

Page 1750 Line 2 add:

Allen, R. G., Pruitt, W. O., Wright, J. S., Howell, T. A., Ventura, F., Snyder, R., Itenfisu, D., Steduto, P., Berengena, J., Yrisarry, J. B., Smith, M., Pereira, L. S., Raes, D., Perrier, A., Alves, I., Walter, I., and Elliot, R.: A recommendation on standardized surface resistance for hourly calculation of reference ET_o by the FAO56 Penman-Monteith method, *Agr. Water Manage.*, 81, 1–22, 2006.

7. You can remove the figure 4 and replace it with a table, in this way you will show in a better way the sampling procedure and you will skip any wrong assumption in respect to the root biomass distribution.

We suggest replacing Fig. 4 with Table 3 below to address the suggestion above:

Table 3. Root distribution between the surface and 1.0 m at the Peat Swamp Forest and Dune Forest sites expressed as a percentage of oven dried root mass per unit mass of soil.

Depth (m)	Dune Forest site (%)	Peat Swamp Forest site (%)
0.005	7.98	1.88
0.250	1.06	0.16
0.500	0.17	0.09
1.000	0.07	0.04

8. Could be important to broad the discussion section, focusing the response of water use to rain events differentiating by duration and water quantity.

This is a pertinent comment and one that we tried to address. Generally, because evaporation is minimal during rainfall events due to the low vapour pressure deficit (particularly of this subtropical humid coastal environment), the water-use response was largely independent of duration (within reason) and dictated primarily by rainfall depth. Unfortunately, rainfall events were varied, differing in duration and depth and it was difficult to be conclusive and hence no particular statements were made in differentiating between duration and depth. We found it best to refer to a rainfall event as rain falling over a few hours. Thus we refer on Page 1744 Lines 7-15 to rainfall events ‘over a few hours’ referring to between 1 and 6 h in general. In addition, we categorised large events as >20 mm and small events that impacted water-use as 4 to 10 mm. Below 4 mm, there was no impact on tree water-use and surface soil water content.

Some minor corrections about the paper:

Page 1726, line 11, change: "trees' roots" to "tree roots"

Corrected

Page 1731, line 7, change "vegeation" to "vegetation"

Corrected

Page 1732, line 3, change "mamsl" to "masl"

Corrected

Page 1732, line 26, has to be written as "meters above ground level"

Corrected

Page 1737, line 4, What is the meaning of the number in brackets: (0339756W)

The number in brackets is the station number at the South African Weather Services. We could change to (ID. 0339756W)?

Page 1737, do you have to specify if the data is in MJ m⁻² per day or month

My research on the subject indicates that because MJ m⁻² or 'solar radiant density' is a density and not a flux, it doesn't require the time unit but we did specify the time frame in the sentence.

Page 1744, line 3-4, change "soil profile water content" to "soil water content profile"

Corrected

Figure 1(a), change the Y axis to "Elevation (masl)"

Corrected

Figure 5, change "Total soil profile volumetric water content" to "Total volumetric water content in the upper 1.5 m of soil profile at"

Corrected