

Dear Editor,

We sincerely thank you for your thorough review and constructive feedback on our manuscript. We have carefully addressed each of your comments and suggestions. Below we provide a point-by-point response, indicating the changes made in the revised manuscript.

- 1) Editor suggested small letter “s” on Scheme,

Authors: We have corrected the capital letter to small on line 20.

- 2) Editor suggested algorithm not algorithms on line 23.

Authors: We have changed to algorithm.

- 3) Editor removed comma on “overuse, in”, line 31.

Authors: We have accepted the removal of the comma.

- 4) Editor suggested: “ETa. However, instead of “ETa, however”, line 45.

Authors: Thanks for the suggestion, we have accepted.

- 5) Editor suggested that we use “crop coefficient (Kc)” first not Kc at start, line 49.

Authors: We have accepted the change and corrected on the document.

- 6) Editor suggested “ETa represents” instead of “ETa tells” line 51.

Authors: Thanks very much for the suggestion, we have accepted the suggestion.

- 7) Editor suggested the replacement of “not enough” to “not sufficiently available” line 54.

Authors: Thanks for this, we have fixed in the revised document.

- 8) Editor suggested the change of “has provided” to “provides” line 57.

Authors: Thanks for the suggestion, we have accepted the change to “provides”.

- 9) Editor suggested a change of “of lately” to “of late”, line 60.

Authors: Thanks for the suggestion, we have accepted the change to “of late”.

- 10) Editor suggested the removal of “However”, line 66.

Authors: Thanks for suggesting removal, we have accepted the suggestion.

- 11) Editor suggested change of “lysimeters, although”, to “lysimeters. Although”, line 67.

Authors: Thanks for the suggestion, we have changed to “lysimeters. Although”.

- 12) Editor suggested change of “such diseases” to “such as diseases”, line 71.

Authors: Thanks for this, we have accepted the change and made corrections.

- 13) Editor suggested change of “being key in development” to “is key in the development”, line 72.

Authors: Thanks very much, we have accepted the changes to “is key in the development”.

- 14) Editor has suggested the change of “consumption,” to “consumption.”, line 73.

Authors: Thanks for the suggestion, we have accepted the changes to “consumption.”

- 15) Editor suggested removal of “was implemented”, line 92.

Authors: Thanks very much, we have accepted the removal.

16) Editor suggested change of “removal, however” to “removal. However”, line 123-124

Authors: Thanks for this, we have corrected this in the main document.

17) Editor suggested the removal of “variability”. Line 126

Authors: Thanks for the suggestion, we have made corrections in text.

18) Editor suggested change of “were” to “are” on line 132.

Authors: Thanks for the suggestion, we have changed to “are”.

19) Editor suggested change of lysimetric to lysimeter on line 133.

Authors: we have changed lysimetric to lysimeter on line 133.

20) Editor suggested removal of “from lysimetric measurements” on line 134.

Authors: Thanks for the suggestion, we have removed the suggested text on the revised document.

21) Editor suggested removal of “as documented by” on line 135, and shifting of citation to the end on line 136.

Authors: thanks for the suggestion, we have corrected accordingly on the corrected manuscript.’

22) Editor suggested removal of “that lysimeter approach” on line 136.

Authors: Thanks for the suggestion, we have corrected on the revised document.

23) Editor suggested removal of “were” on line 153.

Authors: Thanks for the suggestion, we have corrected as suggested.

24) Editor suggested the removal of “the weir collect water....” On line 154.

Authors: Thanks for the suggestion, we have removed the sentence.

25) Editor suggested changes of “period, their cloud %..” to “study period (cloud cover percentages are given in Table S1).” On lines 183-184.

Authors: Thanks for the suggestion, we have corrected that on the main document.

26) Editor suggested the use of “data were” instead of “were” on line 184.

Authors: Thanks for the suggestion, we have corrected the grammar on the revised manuscript.

27) Editor suggested correction of line 192 as “objects, but due to atmospheric scattering these pixels appear brighter than they should.”

Authors: We have corrected line 192 as suggested on line 215.

28) Editor suggested change of “tensioned nut” to “tensioned nuts”.

Authors: Thanks for the suggestion, we have corrected in the main document.

29) Editor suggested change of “value which fitted effectively” to “value, effectively” on line 229.

Authors: Thanks for the suggestion, we have corrected as suggested on line 229.

30) Editor indicated that “It is not clear what crop was grown in these seasons. For the first period it is mentioned barley was the crop. Please include which cultivars were cropped in these ensuing seasons.” On lines 230-234.

Authors: Thanks for raising this concern, we have included crops and their cultivars as “During the 2019-2020 season, measurements were done between 14th December 2019 and 6th May 2020 for maize crop. In the 2020 winter season, measurements were made between 7th June 2020 and 13th October 2020 for barley, while in 2020-2021 season measurements were between 17th January 2021 and 9th May 2021 for soybean. The Genie cultivar was planted in both barley seasons, while PANNAR (PAN 4R-728BR) was used for maize season and PANNAR (PAN 1623R) cultivar was used for soybean.”

31) Editor indicated that equation 2 has no closing bracket.

Authors: Thanks, we have included the bracket on the equation.

32) Editor suggested removal of “it” on line 250.

Authors: Thanks for this, we have accepted the removal of “it” on line 250.

33) Editor suggested dropping a line on line 236 after moelets et al.

Authors: Thanks for the suggestion, we have dropped the sentence after the citation.

34) Editor suggested removal of “times” and replacing with “period from” on line 266.

Authors: Thanks for the suggestion, we have corrected as suggested.

35) Editor suggested replacement of “directly” with “applied directly” on line 274.

Authors: Thanks for the suggestion, we have replaced the text as suggested.

36) Editor suggested removal of “which” on line 277.

Authors: We have removed the text “which” on line 277.

37) Editor suggested removal of “on the other hand” on 277

Authors: Thanks for the suggestion, we have removed the text as suggested.

38) Editor suggested removal of “a” on line 287.

Authors: Thanks for the suggestion, we have removed “a” on line 287.

39) Editor suggested that the s should be a subscript on line 304.

Authors: Thanks, we have corrected the subscript “ s ”

40) Editor suggested removal of “was” on line 306.

Authors: Thanks for the suggestion, we have removed as suggested.

41) Editor suggested that the units of C_n and C_d should be added and if they are unitless (-) must be added on line 306.

Authors: Thanks for suggestions, we made corrections on the revised manuscript.

42) Editor suggested the check grammar on line 310.

Authors: Thanks for this, we have revised line 310.

43) Editor suggested change of “on” to “in” on line 337.

Authors: Thanks for the suggestion, we have revised the text.

44) Editor asked if “G” should be subscript o ? and required the units on line 341.

Authors: Thanks for the suggestion, we have added subscript o . The units are given on the equation description on line 352-353.

45) Editor highlighted that LST is used but not explained on line 439.

Authors: Thanks for the suggestion, we have improved the LST explanation including TIRs.

46) Editor suggested replacement of “on” with “in” on line 359.

Authors: Thanks for suggesting this, we have corrected in text.

47) Editor said “As an overall comment on this section. Please check the consistency in notation of variables in the equations and in the text. There are several inconsistencies.” On line 390.

Authors: Thanks for this, we have revised as suggested throughout.

48) Editor removed were on line 393.

Authors: Thanks for this, we have accepted the removal.

49) Editor suggested a check of punctuation where there was double full stop on line 401.

Authors: Thanks for highlighting this, we have revised accordingly on line 401.

50) Editor suggested the use of “was developed” not developed on line 398.

Authors: Thanks for the suggestion, we have revised accordingly.

51) Editor suggested that we remove “were” with “was” on line 401.

Authors: Thanks for this, we have revised accordingly.

52) Editor suggested that we remove “on” with “in” on line 410.

Authors: Thanks for this, we have revised accordingly.

53) Editor suggested replacement of “selective” with “selected” on line 428.

Authors: Thanks for suggesting, we have revised as suggested.

54) Editor suggested Day of Year (DOY) on line 438.

Authors: Thanks for raising this, we have corrected accordingly on the manuscript.

55) Editor suggested the use of “in” instead of “on” on line 445.

Authors: Thanks for suggesting this, we have revised accordingly.

56) Editor suggested replacement of “are” with “is” on line 448.

Authors: Thanks for suggesting this, we have revised accordingly.

57) Editor suggested using “the four” instead of “four” on line 455.

Authors: Thanks for this, we have revised this on the manuscript.

58) Editor asked “why are these not simply in ascending sequence. I assume these are satellite overpass days” on line 463.

Authors: Thanks for this, we have arranged the numbers in ascending order.

59) Editor gave this comment on Figure 5 “The graph is reasonably clear. However, as the Lysimeter ETa is the common variable across all subplots, it may be useful to use the same scale for the y-axis. Potentially all could be merged into one plot, thus enabling intercomparison between the four methods. Different

colours could be used, while making the plot larger to enable legibility. You could use the same colours per method as in later comparison plots to ensure consistency.”

Authors: Thanks very much for acknowledging that the graph is reasonably clear, we tried the suggested approach, however keeping the graphs in one figure makes it not clearly visible. On the other proposed approach, setting the graph on the same scale does not look really appealing compared to the current figure. We have however increased the figure to be larger.

60) Editor gave a comment “with a bias of only (I assume this is bias). If so, please also add the sign as it appears as if some (VI-ETa) underestimate, while all others overestimate)” on line 480.

Authors: Thanks for this, we have revised accordingly with sign inclusion.

61) The editor gave a comment on Figure 7, “I appreciate that a heat plot like this is nice, but it is also somewhat misleading. This is due to the different indicators having quite different properties. r and R^2 have a maximum of +1, though their ranges differ. The best value is +1 (though for r -1 is also a good!). For the other statistics, the best value is zero. Also the units are not the same. I think a table would be much clearer, including an indication of what the direction of the optimal value is.”

Authors: Thanks for the comment, we have revised the figure into Table 2 on the manuscript.

62) Editor gave a comment on line 512 saying “should this be "of"? Please check.”

Authors: We have revised line 512 in the manuscript.

63) Editor suggested on line 510 to use “are concentrated” instead of “concentrated”.

Authors: Thanks for this, we have revised in the manuscript.

64) Editor suggested the use of “coefficient of determination” in lines 533 and 536.

Authors: Thanks for the suggestion, we have revised accordingly.

65) Editor made a comment on Figure 9 saying “This figure needs to be improved. At least ensure that the scales of the y and x axis are the same, at least for each station. Also include a thin dashed 1:1 line. You could even consider combining into a 2x2 plot showing estimates of the three algorithms in one plot for each station. The markers and regression lines can then be coloured using the allocate colour per algorithm”.

Authors: Thanks for this, we have revised the figure maintaining the same scale and including the 1:1 line in blue dashed.

66) Editor suggested the use of “aligning” in line 583

Authors: We have revised accordingly.

67) Editor commented that in line 635 “This sentence seems somewhat redundant as it says the same as the previous.”.

Authors: Thanks for this, we have revised accordingly.

68) Editor suggested the use of “are” instead on “were” on line 646.

Authors: Thanks for this, we have revised as suggested.

69) Editor suggested that “is it important that Gibson is from South Africa - or was the study done in SA. If the latter then pls rephrase from South Africa by Gibson et al.” in line 645.

Authors: Thanks for this, we have revised accordingly as suggested.

70) Editor suggested the use of “relies” not “rely” in line 666.

Authors: Thanks for raising this, we have revised accordingly.

71) Editor suggested the removal of “method” in line 675.

Authors: Thanks for this, we have accepted the removal.

72) Editor suggested the removal of “lysimeter system used” in line 679.\

Authors: Thanks for this, we have removed the text as suggested.

73) Editor suggested the removal of “used” in line 680.

Authors: Thanks for the suggestion we removed the text as suggested.

74) Editor suggested removal of “were” in line 685.

Authors: Thanks for this, we have removed the text.

75) Editor suggested adding “the algorithms evaluated” on line 690.

Authors: Thanks for this, we have added “the algorithms evaluated” as suggested.

76) Editor suggested the use of “emphasize the importance” in line 703-704.

Authors: Thanks for this, we have added the text as suggested.

77) Editor suggested “I would suggest adding a full stop after "outcomes"" in line 711.

Authors: Thanks for this, we have revised accordingly.

78) Editor suggested that the sentence on line 718-719 be dropped.

Authors: Thanks for this, we have dropped the sentence.

79) Editor made comments on references, “I made some comments, but the references are not well developed. There are different formatting approaches and in many references not all information is provided. Please refer to the publication guidance of HESS on reference formatting and make sure these are consistently applied.”

Authors: Thanks for this, we have revised the manuscript references as suggested.

80) Editor suggested English editing on the manuscript, we have revised the manuscript with the aid of a professional English editor assistance.