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2 **Editor's report**  
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6 We thank the editor and the reviewers for agreeing with our review and we list here the  
7 remaining corrections requested. Comments by editor/reviewers are in black, answers **from the**  
8 **authors are in blue** and **corrections added to the manuscript are in green.**  
9

10 ~~~~~  
11  
12 Line 232 "...and ERA5 datasets are connected to different cloud cover schemes (not shwon),  
13 lead.." should be 'shown'

14 **Corrected, thanks.**

15  
16  
17 Line 472 Not sure what sure what is meant by the 'regional heat budget closure hypothesis' see  
18 '...cover. This uncertainty impacts the regional heat budget closure hypothesis.' maybe this  
19 should be revised.

20  
21 **We propose to eliminate the last phrase and add text at the end of the previous sentence which**  
22 **now reads as:**

23  
24 **“Additionally, comparing the  $Q_{net}$  estimates derived from ERA5 and ECMWF with the**  
25 **same bulk formulas demonstrates that the uncertainty peaks in the atmospheric forcing**  
26 **resolution and cloud cover, affecting the regional long term heat budget values.”**  
27

28 Fig. 8 caption is not great and should be revised. Panel B is not well described.

29  
30 **We propose this revised caption for Fig. 8**

31  
32 **a) Long term mean net heat flux after the removal of extremes ( $Q_{net}$ : Extremes**  
33 **replaced) using threshold of  $-289 \text{ W m}^{-2}$  ( $K = 0.75$ ). b) The time mean distribution computed**  
34 **from the difference between  $Q_{net}$  (Fig. 3a) and “ $Q_{net}$ : Extremes replaced” time series. It shows**  
35 **a significant reduction of heat losses in the Gulf of Lion, Adriatic Sea and Aegean Sea regions.**  
36

37 The text better put things into perspective for the effect related to resolution vs. physics in  
38 particular for clouds and radiative scheme(s).

39  
40 **We thank the reviewer for the appreciation of our revisions**

41  
42 I thank the authors for comparing cloud coverage, and also direct fluxes from ERA5 with their  
43 estimates. Still, for SW, the values and unit of C are unclear (Eq. 2, Fig. A1): Is the threshold  
44 for clear-sky 0.3% or 0.3 (i.e. 30%)?  
45

46 **We added now a clearer explanation-**

47  
48 **“For the cloud cover, we follow the Reed (1977) formula, where the threshold cloud**  
49 **fraction 0.3 is in tenths, indicating 30% cloud coverage.”**  
50

51 The revised version is so a little improved. I suggest however a very careful proof-reading of  
52 the paper for English corrections, especially for introduction and conclusion where some parts  
53 added for the revision must be rephrased.

54

55

56 We thoroughly revised the introduction, discussion and conclusions and the remaining text.

57 We corrected the SST acronym without explanation, as requested from the editorial office