

**Dear Editor,**

We thank you very much and are highly grateful for your support, valuable suggestions and corrections to the manuscript.

Here are the answers point-by-point to the required revision.

- Please replace all occurrences of "expectancy" with "probability".

We replaced “ expectancy” with “probability” in all occurrences. In the new text at lines: 383; 383; 393; 515; 519; 589; 590

- Fig. S1b: Please add explanation of the numbers on the figure (R? R-squared?), as well as the line colors.

In the Figure S1b (line 20) we added the explanation of numbers, we clarified the colors inside the plot-box and we clarified the Figure name as the notation R10 was not explained.

We used R10 for the Extreme climate indicator: “number of days with precipitation > 10mm”, but this was not enough explained. Now, we put a more clear Figure Title, with a more explicit description of the indicator” “Heavy precipitation days”, and the decade of accumulation (cf. Y-axis). In FigS1b caption, this clarification was added accordingly at line 41.

- Fig. S3: Please refer back to Fig. 7a in the caption of Fig. S3.

The link between Fig7a and Supplementary changed because following Reviewers, new Supplementary figures were included at last review (initially 4, then since last revision there are 7). Hence the Supplement S3 to which the Referee requires this specification became at the last revision, S5. In the Caption of S5 the Fig. 7a is mentioned at line 166: “ Harvest time mean simulated by models: ECEARTH-ICHEC (left), MPI (Middle) and CNRM (right). As in Fig.7a (that shows the same but for the ensemble mean), are shown percentiles of the H distribution ordered from maximum H values (left) to minimum H (right), logarithmic scale.”

In the Fig.7a, the S5 figure is also mentioned at line 417: “.. see also the models H distribution in Fig.S5”

### **Other small corrections:**

We checked the full text and supplementary and some other small corrections were done, seen in the Track changes document.

Most of these are typo errors, (grammar, numbers of figures, caption clarifications), or linking words for a more cursive reading.

There are few changes that do not fall in these categories and are described here:

- Figure 3 (line 273): we thought could be good to add Y-axis label, in order to have axis description as the other Figures
- Figure 7 (in the top line, when grouping Figure panels, for the P4 figure the labels were hidden): we re-done the grouping of panels, at line 455
- Lines 500-505 were doubled (as content), so one version was removed; the statements are maintained at the same place (lines 477-478 and 486-488).
- in the Abstract we removed the line: "Soil initial conditions were found to significantly influence yield responses".

The statement is correct, but the figures that were in the initial text showing the experiments that emphasized this, were suggested by Reviewers to be removed as it was spreading too much the topic. We fully agreed and removed this part, but not from the Abstract at that time. Now we proposed to remove it from the Abstract as it has no correspondent in the text;

- at the Conclusions we were missing a statement that answers to question iii) presented at line: 585: "Can be genotyping a (better) solution for adaptation under climate change in the region?"

However this aspect was analyzed in the text at lines 382-388; 392-402.

Hence a line of this conclusion was added at line 602: " These results show that genetic approaches offer adaptation strategy support in helping plants to resist drought stress under warming climate, while a projected narrowing of the agro-management options for maintaining a high yield level is emphasised under warmer and drier climate."