The revisions the authors have made has improved the manuscript. However, there are some questions that remain unanswered and some new areas of confusion that have come up in the revised version.

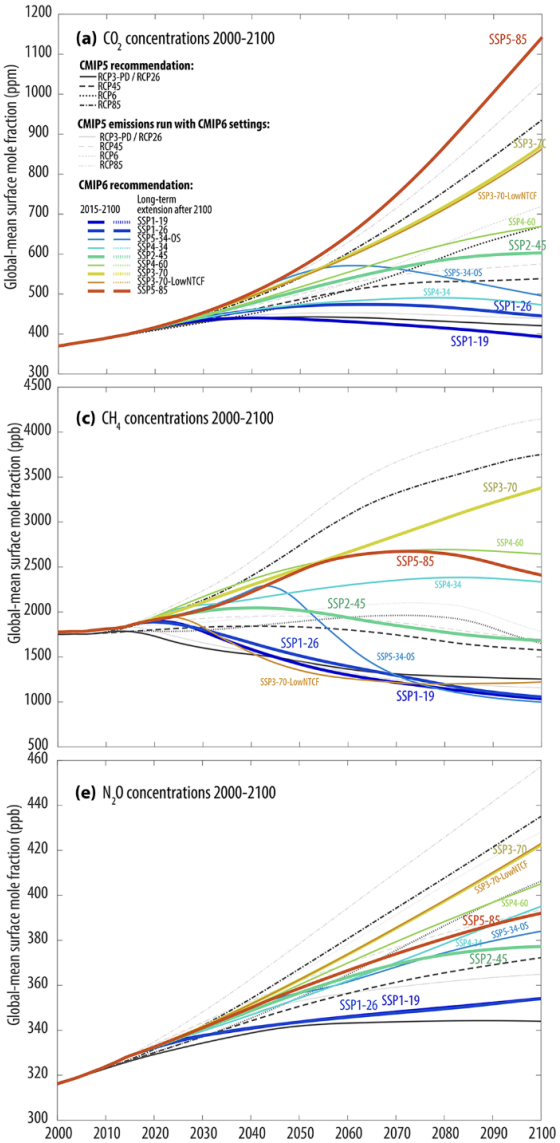
Fig. 1: Can you describe what the vertical dashed lines mean in panels b and c?

Response to line 86 comment: “We do not further isolate the changes in SD and skewness. Figure 9 only shows how the SD and skewness change relative to each other.”
I was referring to how the PDFs indicating standard deviation and skewness changes were calculated in Fig. 1c. Line 95-96 describes how the PDF associated with mean change is calculated but there is no explanation for how the SD change and skewness change is calculated in Fig. 1c. If the rest of the analysis does not isolate changes in standard deviation and skewness, why show PDFs that isolate their contribution here? I think this is an unnecessary source of confusion for readers. It seems that reviewer 2 also had a similar confusion about whether standard deviation is isolated.

On a related note, what is different about the analysis in Fig. D1 that allows standard deviation, skewness, and kurtosis to be isolated whereas they cannot be elsewhere? This needs to be clarified in the manuscript.

Response to Fig. 1b comment: “We have now added a legend to identify the different lines and make the figure easier to understand.”
The legend is helpful. However, my second question about this figure remains unanswered. What is the location of this regional example? This needs to be specified for the results to be reproducible.

Line 122 - 123: “greenhouse gas emissions remain relatively constant in these SSPs [SSP1-2.6 and SSP3-7.0]”
I’m confused by the statement that greenhouse gas emissions remain relatively constant in SSP1-2.6 and more generally that the greenhouse gas emissions in these two scenarios are similar. Doesn’t SSP1 involve a cut in greenhouse gas emissions? In terms of concentrations, this means the carbon dioxide concentration increases slowly and methane decreases by the middle of the 21st century whereas CO2 and CH4 continue to increase in the SSP3 scenario (see Figure 11 from Meinshausen et al. 2020, copied for convenience on the right). Are there studies that show that the difference between SSP3 and SSP1 is dominated by the aerosol effect compared to the greenhouse gas effect? If so, can you state this explicitly and provide references?



Line 160: “The spatial correlation between the SD and the number of extreme days.”
Do you mean the spatial correlation between *changes* in SD and *changes* in the number of extreme days?

Line 161 - 162: “These SD differences are significant at a p-level < 0.05 using the Kolmogorov-Smirnov test.”
Are you testing the null hypothesis that the change in SD is significantly different from 0? The current phrasing suggests this is what is being tested but this seems out of context from the previous sentence. Are you instead testing the null hypothesis that the change in SD and the change in the number of extreme days are correlated?

In either case I’m confused why the Kolmogorov-Smirnov test is used here. Are you comparing the change in PDFs or the spatial correlation between changes in standard deviation and changes in number of extreme days? If the significance of a correlation is being tested, shouldn’t something like a Pearson’s correlation test (or similar) be used instead of a Kolmogorov-Smirnov test?

Response to line 175 and Fig 6b comment: “We find it a bit inconvenient to plot the variability and mean side by side for 3 models and 4 warming levels, which is why we split them up.”
Putting aside the decision to put these plots side by side, can you reconcile my original comment that the brown shades in Fig. 4 generally look darker compared to Fig. 5, yet Fig. 6 shows that changes in the mean dominate the change in extreme precipitation over parts of Eastern Brazil, Southern Africa, and Northern Australia? Is the result in Fig. 6 not intended to be consistent with a comparison of the colors in Fig. 4 and 5?

Response to line 231 comment: “We have performed a KS test for the distribution and found that the distributions are different.”
I suggest you specify that you use the Kolmogorov-Smirnov test and the p-value of the test in the manuscript.