

Dear Editor,

Thank you very much for your feedback and the reviewers' final remarks on our manuscript. We implemented the changes suggested and cross-checked the manuscript again. Further we provide a DOI to the FWI dataset derived in our study (see Data availability section). We just requested the dataset to be published on the server of Envidat. It might therefore take until Monday until it is publicly available. However, the DOI of the dataset is set. We are looking forward to our last round of iteration.

Best regards,

Julia Miller

Reviewer 1

The manuscript has been substantially improved, and the authors have thoroughly followed up the reviewer comments.

I recommend publication after minor clarifications:

Line 20: Please clarify (i.e. write out) what is meant by 'they'.

Old: However, they reach their time of emergence (TOE) in the early 2040's because of very low current fire danger.

New: However, these regions reach their time of emergence (TOE) in the early 2040's because of very low current fire danger.

Fig. 1: Please clarify what 'landscapes' refers to and what 'land cover' refers to, to avoid confusion between these two overlapping terms.

Thank you for pointing this out. The figure caption was imprecise.

Old: Subregions of Hydrological Bavaria by landscapes and land cover (modified, CLMS (2021))

New: Complex landscapes (subregions) of Hydrological Bavaria (Landesamt für Umwelt, 2023) by elevation, (European Environment Agency, 2016).

Line 173-175/Fig 3: Please state spatial domain of this part of the analysis (e.g. "our study region").

Old: To ensure that the CRCM5-LE sampled the FWI in a meaningful way, we compared the CRCM5-LE FWI median for the current period (1980–2009) with the median of the ERA-5-based FWI dataset from Vitolo et al. (2020), hereafter referred to as the "reference dataset" (REF).

New: To ensure that the CRCM5-LE sampled the FWI in a meaningful way, we compared the CRCM5-LE FWI median for the current period (1980–2009) with the median of the ERA-5-based FWI dataset from Vitolo et al. (2020), hereafter referred to as the "reference dataset" (REF) over the study domain.

Line 178: Repetition of previous sentence (line 176)?

We deleted the sentence.

Line 304-306: The logic of the argument is not clear. Maybe it is the term 'Extreme fire weather', which can refer to both the 90th quantile and the coloured classes in Fig. 5, which give rise to the confusion. Please consider clarifying the argument.

We clarified the statement by adding 90th quantile in brackets next to “extreme fire weather” and emphasizing that we use FWI quantiles.

Old: In time, extreme fire weather (90th quantile) is more likely to occur in the second half than in the first half of the fire season because the differences between the median and extreme FWI quantiles are smaller in April, May and June, than in July, August and September (see Figure 5).

New: In time, extreme fire weather (**90th quantile**) is more likely to occur in the second half than in the first half of the fire season because the differences between the median and extreme FWI **quantiles** are smaller in April, May and June, than in July, August and September (see Figure 6).

Line 367: Please consider changing to "One average, the median fire danger ..." or similar, for clarity.

Old: On average (median), the fire danger will be high ...

New: On average, the median fire danger will be high ...

Line 388: I assume "forest fire mitigation measures" already exist for the region, and that the point of this sentence is that changes in fire danger should be considered in these mitigation measures (more in line with sentences line 387 and line 404). If this is correct, please clarify the sentence.

We softened the statement according to your suggestion.

Old: Our research findings indicate that forest fire mitigation measures must be proposed for central Europe and its mountain regions as well.

New: Our findings indicate that forest fire mitigation measures must be adapted for central Europe and its mountain regions as well.

Reviewer 2

Dear Authors,

I have now carefully gone through your response to my comments, the revised manuscript, and new information added based on reviewers' comments. I believe the manuscript is significantly improved, and I'm satisfied with the framing of the methods and results. Hence, I enthusiastically recommend that the paper be accepted for publication in NHESS.

Before acceptance, it'd be great if the authors could correct one small typographical error: replace "MAI" with "MAY" in Figure 6 to ensure consistency with other English month names. :)

We changed the description of MAI to MAY

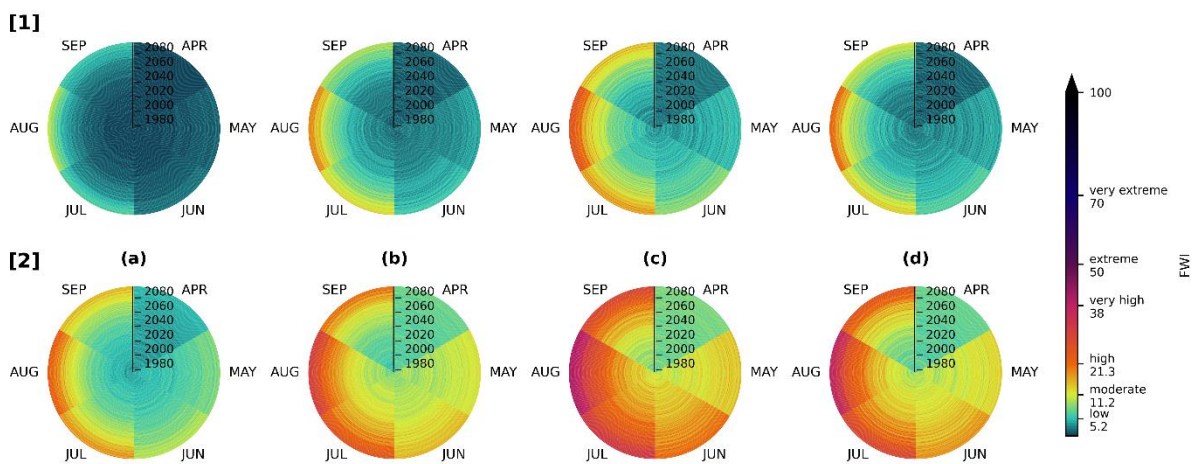


Figure 6. Fire rings show the FWI of the ensemble mean of the monthly median ([1], 50th quantile) and extreme ([2], 90th quantile) of each subregion (Alps, Alpine Foreland, Southgerman Escarpment and Eastern Mountain Ranges (a-d)) during the fire season (April - September) between 1980 and 2099.