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# Were Meteorological Conditions Related to the 2020 Siberia Wildfires Made More Likely by Anthropogenic Climate Change?

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The hotspots were defined by a 250-km radius and constructed using a stepwise approach to ensure that (a) they represent the immediate vicinity of the most intense fires, and (b) there is no overlap between them. All fires with fire radiative power (FRP) > 300 MW were selected and ranked by FRP. This set corresponds approximately to the highest 1% of FRP values among fires detected between April and September 2020. The first hotspot was centered on the location of the most intense fire; all smaller fires within two hotspot radii of this point were then removed from the ranked selection to ensure that none of the hotspots overlapped. The process was repeated for the fire with the next highest FRP, and so on until all fires had been assigned to a hotspot.

To assess the change in risk associated with a 2020-type event in the model, it is necessary to account for systematic discrepancy between the ERA5-driven global fire danger reanalysis (Vitolo et al. 2020) and CNRM-CM6-1. The mean (standard deviation) of FWIx7day maxima across the 13 hotspots was 38.7 (7.2) in the reanalysis and 42.5 (12.5) in CNRM-CM6-1. The $\sigma/\mu$ ratio of a GEV distribution fitted with CNRM-CM6-1 data (mean = 0.26; range = 0.18–0.35) compares favorably with that fitted with reanalysis data (mean = 0.25; range: 0.13–0.33), suggesting that the application of a simple additive bias correction to transform the reanalysis-derived maxima to match the distribution in CNRM-CM6-1 is appropriate (e.g., Philip et al. 2020). Corrections were based on the difference in $\mu$ between the reanalysis- and model-fitted GEV distributions (mean = 3.8; standard deviation = 8.5).

## References


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