

The manuscript currently cites a relatively narrow set of studies on fire danger indices and savanna fire dynamics. However, recent work has demonstrated that large-scale atmospheric and oceanic processes—such as Arctic sea-ice loss, blocking events, and Pacific Ocean variability—can strongly modulate fire weather and wildfire risk across different biomes. These studies are highly relevant to the present work because they provide a broader climatic context for interpreting fire-danger index performance, and they highlight the importance of scale-dependent controls on fire activity.

Specifically, the authors should consider citing and discussing:

1. Luo et al. (2024, *Nature Communications*) demonstrated that rapid summer Arctic sea-ice loss has enhanced the risk of recent Eastern Siberian wildfires. They showed that sea-ice loss induced background warming, accounting for approximately 79% of the increase in vapor pressure deficit (VPD), while more persistent blocking events further amplified fire risk. This study is directly relevant to understanding how large-scale climate drivers can influence fire weather, even in regions far from the Arctic.
2. Luo et al. (2025, *Communications Earth & Environment*) investigated the drivers of the extreme 2023 Canadian wildfires and found that persistent surface warming, reduced precipitation and soil moisture, and unusually frequent North American blocking events—modulated by Pacific Ocean variability—created highly fire-conductive conditions. This study provides important evidence that antecedent moisture deficits can precondition landscapes for extreme fire activity, a mechanism that may also be relevant in savanna systems.
3. Luo (2026, *Global Change Biology*) showed that winter fire-weather risk in the southwestern United States has nearly doubled during 1984–2024, with approximately 33% of this increase attributable to anthropogenic ocean warming and 53% to internal Pacific Decadal Oscillation (PDO) variability. The study demonstrated that North Pacific midlatitude warming strengthens westerly winds and favors the eastward shift and southward extension of winter blocking anticyclones, which intensify surface warming and VPD while reducing precipitation and soil moisture. This work is particularly relevant to the present study because it highlights the critical role of ocean-atmosphere interactions and blocking dynamics in modulating fire weather, and it demonstrates that internal climate variability (e.g., PDO) can exert a dominant influence on fire-weather risk on interannual to decadal timescales. These mechanisms should be considered when interpreting the interannual variability in index performance observed in Botswana (e.g., low AUC values in years such as 2002, 2019, and 2023).

These studies should be cited in the Introduction (when discussing large-scale drivers of fire weather) and/or the Discussion (when contrasting the controls on fire activity in Botswana's savannas with those in boreal and temperate forest systems). Their inclusion would significantly strengthen the manuscript's engagement with the broader fire science literature and help contextualize the finding that short-term fuel moisture indices outperform deep drought codes in Botswana.

Reference:

Luo, B., Luo, D., Dai, A., Xiao, C., Simmonds, I., Hanna, E., Overland, J., et al. (2024). Rapid summer Russian Arctic sea-ice loss enhances the risk of recent Eastern Siberian wildfires. *Nature Communications*, 15, 5399. <https://doi.org/10.1038/s41467-024-49677-0>

Luo, B., Xiao, C., Luo, D., Fu, Q., Chen, D., Zhang, Q., Ge, Y., & Diao, Y. (2025). Atmospheric and oceanic drivers behind the 2023 Canadian wildfires. *Communications Earth & Environment*, 6, 1–12. <https://doi.org/10.1038/s43247-025-02387-x>

Luo, B. (2026). Recent escalation of winter fire-weather risk in the southwestern United States: Roles of anthropogenic warming and the negative Pacific Decadal Oscillation. *Global Change Biology*, 32(9). <https://doi.org/10.1111/gcb.71113>