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## Intensifying fire regimes in the arctic-boreal zone: recent changes, global implications, and possible solutions

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Across much of the high latitudes, wildfires have been increasing in frequency, area burned, and severity in response to longer fire seasons, more severe fire weather, and increased ignitions. These fires not only affect the tundra and boreal forests they burn, but also global climate due to the high levels of carbon emitted during combustion that take decades to re-aggrade. Carbon emissions from high latitude fires are generally not included in global models that inform policy nor emissions reductions commitments from relevant countries. In this presentation we describe recent progress and critical unknowns related to intensifying fire regimes in high latitude ecosystems, with a particular focus on (i) trends in burned area and large fire years; (ii) changing ignitions sources including lightning, human, and overwintering fires; (iii) patterns and drivers of carbon emissions, including interactions with permafrost; (iv) implications for global carbon budgets; and (v) potential climate mitigation through increased resources for carbon-focused fire management.