

Impacts of climate change on fire activity and fire management in the circumboreal forest

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Abstract

Forest fires are a significant and natural element of the circumboreal forest. Fire activity is strongly linked to weather and increased fire activity due to climate change is anticipated or arguably has already occurred. Recent studies suggest a doubling of area burned along with a 50% increase in fire occurrence in parts of the circumboreal by the end of this century. Fire management agencies' ability to cope with these increases in fire activity is limited as these organizations operate with a narrow margin between success and failure, a disproportionate number of fires may escape initial attack under a warmer climate, resulting in an increase in area burned much greater than the corresponding increase in fire weather severity. There may be only a decade or two before increased fire activity means fire management agencies cannot maintain their current levels of effectiveness.