

Projected Future Changes in Wildland Fire Potential for North America.

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Abstract:

Future climate change will affect not only surface weather conditions and fuel characteristics. It will also affect above-ground atmospheric properties such as stability and moisture, known to play an important role in the development of large wildfires. This study employs simulations from the NCAR CCSM3.0 general circulation model to derive a future climatology for 2000-2099 of the Haines Index, a widely used fire weather index that evaluates the potential contribution of dry, unstable air to large or erratic plume-dominated wildfires. The future climatology covers North America, and all changes are presented as deviations in median values from a 10-year control period. Control period simulations are validated against Haines Index values calculated from NCEP/NCAR reanalysis fields.