Future projection of forest fire frequency due to climate change in Japan by using predicted relative humidity and wind speed

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The present study estimated future frequency of forest fires to investigate the effects of climate change until the end of 21st century in Japan. We firstly developed an empirical model to estimate forest fire frequency based on the statistical relationships between mean forest fire frequency and their background physiographic conditions in the past. Then we estimated the forest fire frequency in future with relative humidity and wind speed estimated until 2100. Here we used the statistically down-scaled relative humidity and wind speed data generated by Institute for Agro-Environmental Sciences, NARO, Japan with the climate models of GFDL-CM3, HadGEM2-ES, MIROC5 and MRI-CGCM3.0 and the scenarios of RCP2.6 and RCP8.5. The results showed that mean-monthly frequency of future forest fires will not significantly until 2100 and seasonal change of the frequency will remain dominated in future.

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