

Shift of fire season from spring to summer in northeastern China under global warming

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Same as the United States, wildfire is a major natural disaster in China and the impact of global warming becomes a big concern. Research has focused on the impacts on fire properties such as occurrence, intensity, burned area, and fire season length. However, climate change could also lead to a shift of fire season. This study investigated possible shift of fire season in northeastern China, a region with most frequent and intense wildfires in China. The fire occurrence date data during recent several decades were used. Despite its location in middle latitudes, northeastern China had a moist climate in summer. Thus, fires mainly occurred in springs, similar to the southeastern U.S. The Julian Date of fires in spring was found to extend into summer remarkably due to the drier and warmer summer conditions in recent several decades. The number of fires in summer actually exceeded the fires occurred in spring and autumn. It is concluded that northeastern China has the warming and drying trends and shift of fire season from spring to summer to become the climate and fire patterns similar to the western United States. This shift would be a big challenge to fire management. More intense fires are expected. More complex and unstable weather in summer would make fire prediction and suppression more difficult.