

# Boarding Soon: Climate Change Impacts on Severe Thunderstorm-Related Delays in Aviation



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**Conference Room, 3/F,  
Mong Man Wai Building**



**[Zoom Link](#) (Mixed-mode)**

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As a result of projected increases in Convective Available Potential Energy (CAPE) due to global warming, there is growing consensus that severe thunderstorm environments will increase in the United States. While there have been ample studies on aviation's impact on climate, the literature on the feedback impacts of climate on aviation is relatively new. I couple domestic air traffic delay data from 2004-2017 with the registered storm events database from the National Centers for Environmental Information (NCEI) to estimate the delay minutes attributable to past severe thunderstorm events. Combining these estimates with the projected increases in the propensity of severe storm environments, I provide a first-order estimate of the potential impacts of climate change to the aviation industry via severe thunderstorm-related delays. Under a RCP 4.5 scenario, the estimated annual cost of additional delays would be in the order of 152.4 million dollars in the Spring (MAM) and 298.3 million dollars in the Summer (JJA).



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