Special Issue

Weather and Aviation Safety

Message from the Guest Editors

Weather directly affects every phase of flight and type of aviation operation, ranging from air carriers to general aviation. Weather hazards and wind patterns directly affect the safety and economic efficiency of air carriers, including both airfield and en-route operations. GA shows a poor safety record (>60 fold higher accident rate than air carriers), with weather-related mishaps constituting the largest fraction of fatal accidents. Notably, 72% of crashes involving unintended flight from visual to instrument meteorological conditions are fatal. Importantly, the rate of GA weather-related fatal accidents shows little evidence of abating. This lack of progress provides an opportunity for improving aviation weather forecast and analysis products, as well as better understanding the human factors related to proper interpretation/usage. This special issue seeks papers encompassing all aspects of aviation meteorology, from advancements in aviation forecasting to improved product design and usage. We also welcome papers looking forward and investigating the potential impacts of climate change on aviation operations.

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About the Journal

Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

Editor-in-Chief

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