Special Issue

Dynamics of Orographic Effects on Tropical Cyclones

Message from the Guest Editor

When a tropical cyclone (TC) approaches over a mesoscale mountain range, its precipitation (TCP) may be enhanced or weakened significantly in local areas. Although many heavy orographic rain events associated with TCs passing over or by those mountain ranges have been studied extensively, robust quantitative precipitation forecasting (QPF) remains challenging. Since the impacts of gusty wind and the maximum amount and distribution of precipitation are dictated by the TC track, making accurate predictions of TC track is essential. Orographic influence on TC track deflection has been observed and investigated intensively for hurricanes passing over mesoscale mountains around the world. However, some basic dynamics of the orographic influence on TC track deflection are still not well understood and deserve further studies. We invite authors to submit original and review articles that aim to study the effects of orography on tropical cyclone track and precipitation to this Special Issue. In addition, we hope to receive the tentative abstracts before 1 October 2019.

Guest Editor

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Deadline for manuscript submissions

closed (1 April 2020)

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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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