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Abstract

Intense precipitation events associated with landfalling tropical cyclones in a warmer climate

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In this work the authors investigate possible changes in the intensity of precipitation events associated with landfalling tropical cyclones (TCs) under a warmer climate. The availability of a new set of experiments designed within the U.S. CLIVAR Hurricane Working Group allows disentangling the role of changes in atmospheric carbon dioxide from the role played by sea surface temperatures in changing the amount of precipitation associated with landfalling TCs in a warmer world. Since previous works based on the fifth Coupled Model Intercomparison Project (CMIP5) simulations suggest a future increase in the amount of water associated with heavy precipitation events, especially over the South East Asia, we will examine the role played by landfalling TCs in this projected increase in the width of the right tail of the precipitation distribution.

Keywords: Tropical Cyclones, Precipitation.

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