



The contributions of large-scale circulations versus complex terrain on tropical cyclone precipitation patterns in the American Southwest region

K. Wood and E.A. Ritchie

Dept. of Atmospheric Sciences, Univ. of Arizona, Tucson, AZ 85721, USA

In this study we investigate the various contributions to the precipitation patterns of tropical cyclones that make landfall in the U.S. southwest. In general, tropical cyclones that move north and northeast into the U.S. southwest region from the eastern North Pacific move under the influence of a midlatitude trough to their northwest and a ridge to their east, a pattern typical of the extratropical transition (ET) of tropical cyclones. However, in the U.S. southwest region, complex topography significantly complicates the typical rainfall pattern of an ET event. This study investigates the contributions of each factor to the complex rainfall patterns associated with these landfall events.