

Tropical Influences on Extratropical Precipitation Systems

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Since 1979, at least 32 tropical cyclones have affected eastern Canada after extratropical transition. This research examines the dynamical structures of these 32 cases from both a quasi-geostrophic and potential vorticity perspective. A partitioning of cases, based upon the Sutcliffe/Trenberth approach, establishes an 'intensifying' and a 'decaying' grouping. These groupings then were used to produce dynamical composite fields of potential vorticity, and other circulation fields. Precipitation fields are also analyzed for these groupings of cases. The database used for this study includes the North American Regional Reanalysis (NARR). The most recent record-breaking Hurricane season of 2005 will also be used in this analysis. Additionally, we will discuss the unique mesoscale precipitation structures associated with Hurricane Juan as it impacted the Canadian Maritime provinces during September 2003.