



## **The extratropical transition of tropical cyclones: a potential vorticity perspective**

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A significant number of tropical cyclones move into the midlatitudes and transform into extratropical cyclones. This process is generally referred to as extratropical transition. During extratropical transition a cyclone frequently produces intense rainfall and strong winds and has increased forward motion, so that such systems pose a serious threat to land and maritime activities. Furthermore, the upper-level outflow from a poleward-moving tropical cyclone may excite Rossby wave trains with the potential to modify midlatitude circulation characteristics around the hemisphere. In this paper an overview of extratropical transition and its impact on the downstream midlatitude flow is given based on case studies and idealised modelling and presented from a potential vorticity perspective.