



Impact of the Subtropical High on the Extratropical Transition of Tropical Cyclones over the Western North Pacific

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Tropical cyclones (TCs) moving to higher latitudes are likely to undergo an extratropical transition (ET) process over the western North Pacific. Although many publications focused on the interaction between decaying storms and the midlatitude circulations they approaching to, this study investigates the potential relationship between the cyclones and subtropical systems, particularly the West Pacific subtropical high (WPSH). Preliminary results are given based on discussing the relationship of ET transitioning probability and WPSH activity from 1951 to 2008. It is found that both annual and monthly variations of ET transitioning probability are greatly influenced by the positional shift and strength change of the WPSH. When the WPSH shifts eastward and/or weakened, more TCs are found with recurving paths and have more chance to move into higher latitudes. This leads to a greater transitioning probability. However, when the WPSH shifts westward and/or strengthened, most of TCs straightly move to the west and land on Southern China. It causes to a smaller transitioning probability. Therefore, the activity of the WPSH could be used as a potential factor of predicting the activity of ET.