

Environmental Factors affecting 2018 Western North Pacific Tropical Cyclone Activity

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Tropical cyclone (TC) activity over the western North Pacific in 2018 is documented. Among 29 TCs in 2018, the number of typhoon ranked on violent typhoon intensity with a maximum wind speed more than 105 knot were seven, which is the largest over the past 40 years since 1979. All of the violent typhoons, including Typhoon 1821 and 1824 making landfall on Japan, were generated over the southeastern quadrant of the western North Pacific, as a TC has enough time to intensify after its formation over the warm tropical ocean. The increase in TC formation frequency over the southeastern quadrant seems to be related to the eastward extension of monsoonal westerlies associated with El Niño. Additionally, the comparison among intense landfalling typhoons implies that the track of Typhoon 1821 was favorable for keeping its intensity owing to a passage over the North Pacific subtropical gyre with large ocean thermal energy.

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