Takamura, N., A. Wada, W. Yanase and Y. Miyamoto, 2023: Effects of Storm Size on the Interactions between Mid-Latitude Westerlies and Tropical Cyclones during Extratropical Transition in the Western North Pacific. *J. Meteor. Soc. Japan*, **101,** 391-409.
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Plain Language Summary: The effect of storm size on tropical cyclones (TCs) that undergo extratropical transition (ET) and its associated synoptic environment is investigated by comparing large (LA) and small (SM) TCs that undergo ET after the recurvature (ETR). The larger the storm size is, the larger the amplitude of the north–south meander of the westerly jet is, resulting in a more drastic asymmetric structural change of the TC.

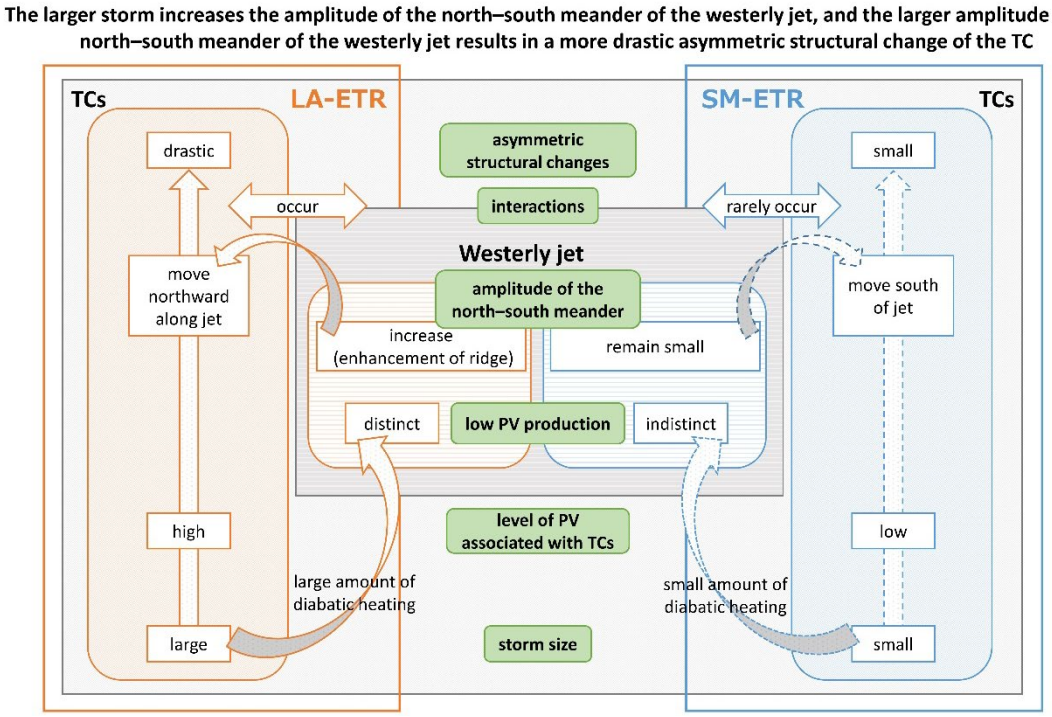

Figure 1. Schematic diagram of the interactions of tropical cyclones (TCs) with a westerly jet with a focus on the differences between large (LA) TCs that undergo extratropical transition (ET) after the recurvature (LA-ETR) and small (SM) TCs that undergo ET after the recurvature (SM-ETR).

- The effect of storm size on TCs that undergo ET and the amplitude of the north–south meander of the westerly jet is revealed.
- The LA-ETR TCs drastically change into asymmetric structures while moving northward. By contrast, the SM-ETR TCs move south of the westerly jet and the asymmetric structural changes of the TCs are relatively small.
- The LA-ETR TCs cause a relatively large amount of diabatic heating compared with the SM-ETR TCs, and increases the amplitude of the north–south meander of the westerly jet. The larger amplitude of the north–south meander of the westerly jet results in a northward motion and a more drastic asymmetric structural change of the TC.