

1. Change in Tropical Cyclone (TC) Translation Speed in the South China Sea and Implication on TC Intensity Change

2. The Explosive Intensification of Super Typhoon Hagibis (2019)

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This talk will cover 2 topics. The first is a climate-scale study discussing the change in tropical cyclone translation speed in the South China Sea in the past 20 years. Though Kossin 2018 suggested a global slow-down of TC translation speed since 1950's, in the most recent 2 decades (1998 onwards), TC translation speed over the South China Sea (SCS) has actually increased by 43%. We found that this translation speed increase may have positively contributed to the observed TC intensity increase in the SCS, via increase in the air-sea fluxes associated with TC-induced ocean cooling suppression due to translation speed increase.

The 2nd topic a weather-scale study, on the explosive intensification of Super Typhoon Hagibis (2019). TC Hagibis is one of the highest impact TC in the western North Pacific. It badly damaged Japan (including Tokyo) in October 2019, the associated economical lost is 15 Billion US dollars. One of the most striking feature is Hagibis's 'explosive' intensification. Within 24h, it intensified from a tropical storm to Category '6' intensity (60-160kts). This talk will discuss this impressive intensification from ocean, atmosphere, and TC structure perspective. Hagibis's subsequent intensification evolution will also be discussed.

References:

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