

## A Case Study of Typhoon Tracks: Insights from the Interaction between Typhoon Hinnamnor and Ocean Currents in 2022

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**Abstract :** The forecasting of typhoon tracks remains a formidable challenge, primarily attributable to the paucity of observational data in the open sea and the intricate influence of weather systems at varying scales. This study investigates the case of Typhoon Hinnamnor in 2022, examining its trajectory and intensity fluctuations in relation to the interaction with a concurrent tropical cyclone and sea surface temperatures (SST). Utilizing the Weather Research and Forecasting Model (WRF), to simulate and analyze the interaction between Typhoon Hinnamnor and its environmental factors, shedding light on the mechanisms driving typhoon development and enhancing forecasting capabilities.

**Keywords :** typhoon, sea surface temperature, forecasting, WRF

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