## Wind Kinetic Energy Input and Precipitation Induced by the Tropical Cyclones in South China Sea

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Based on the best track data, QuikSCAT wind field and the TRMM precipitation datasets, we analyze the contribution of the tropical cyclones (TCs) to the wind kinetic energy and precipitation in the South China Sea. The result shows that from May to September, the TCs contribute about 5 to more than 55 percent of the total wind kinetic energy in the north SCS, the largest contribution is at the Luzon Strait, which is larger than 30 percent from June to September. And in August and September there is another large value centre more than 30 percent at the southeast Hainan Island. The TCs also bring heavy rain to the north South China Sea, the maximum value is at the Luzon Strait and the east of Hainan Island. The TCs can contribute 5 to 70 percent of the total precipitation in the north South China Sea, the maximum value is in the area from Luzon strait to the east of Hainan Island. From October to December, the TCs contribute about 5-25 percent of the total wind kinetic energy. The large value center at the Luzon Strait still exists in October and disappears in November. And with the centers of the TCs moving southwestward, the precipitation induced by the TCs concentrates in the central South China Sea, which accounts for 5 to 90 percent of the total precipitation.

Key words: wind kinetic energy, precipitation, tropical cyclones, South China Sea