To study how tropical cyclones in Northwest Pacific can influence on the temperature in the upper ocean, sea surface temperature (SST) from the Tropical Rainfall Measuring Mission (TRMM) Microwave Imager (TMI) and the Princeton Ocean Model (POM) are used. The model domain includes the northwest Pacific and South China Sea (105°E-160°E, 5°N-42°N), with a horizontal resolution of 1/3° and 23 vertical layers, with higher resolution in the upper ocean mixed layer. The model is driven by surface winds with or without tropical cyclone. Compared with the simulations without tropical cyclone, the winds with tropical cyclone result in an increase in energy fluxes input into near-inertia motions in the ocean. The increase of energy flux into ocean is consistent with the sea surface cooling. After TC passage, there is different cooling depends on TC intensity, moving speed, MLD. In correspondence to the cooling, the mixed layer depth exhibits an increase. When a TC passes through, there is significant vertical redistribution of temperature anomalies, with cooling of the upper 0-30m and warming below. The most decrease is on the right of TC at the surface, while below 50m the most anomalies is just under TC center.