

ABSTRACT

El Niño Southern Oscillation (ENSO) inflicts overwhelming impacts and drives the variability of the global and local climate. It modulates the rainfall variability and affects the interannual variability of the tropical cyclone (TC) activity in the Philippines. However, recent studies suggested that there is another type of ENSO that occurs more frequently over the last few decades. In this study, the new type of ENSO is referred to as the Central-Pacific (CP) ENSO since its SST anomalies are mostly confined in the central Pacific (between 160°E and 120°W). Whereas the more established ENSO is termed as Eastern-Pacific (EP) ENSO as its SST anomalies extend from the South American coast to the central Pacific along the equator. These two ENSO types differ in their structure, evolution, and global teleconnection. Thus, they have a different impact on the atmospheric conditions that affect rainfall and TC activities in different regions across the globe. With the emergence of the new type of ENSO, several studies are now focusing on its impacts on regional climates. To the author's knowledge, there is no dedicated study of its influence in the Philippines yet. Thus, this study is proposing to investigate the impacts of the CP type of ENSO in the country particularly on rainfall variability and TC activity. In this paper, the EP and CP ENSO events will be determined by using the Niño-3.4 index and ENSO Modoki index (EMI), respectively. TC characteristics (i.e., track, intensity, size, and impact in the Philippines) will then be analysed for each ENSO type event. Lastly, the synoptic conditions during the EP and CP ENSO events will be compared in order to explain the differences in TC and rainfall characteristics. Understanding the influence of the two ENSO types will have vital implications on future studies and climate prediction in the country.