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**Master of Science in Meteorology**

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*Onset of Northeast Monsoon in the Philippines*

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## **ABSTRACT**

Northeast Monsoon is one of the weather systems that significantly influence weather and climate in the Philippines. It occurs in the country from October to late March of the following year, but its start and end vary from year to year. To define the Northeast Monsoon progression as it reaches the country, the circulation patterns during the transition to its onset will be analyzed using the ERA5 reanalysis. Then, a detailed examination of the time series of local signals such as mean sea level pressure, temperature, wind speed, and wind direction will then be analyzed from seventeen (17) synoptic stations of PAGASA situated at the northeastern and eastern parts of the country where the local signals of the progression of the Northeast Monsoon in the country are likely to manifest. It is necessary to give attention to large-scale synoptic conditions and establish them as primary signals of monsoon onset before using other/secondary indicators such as surface observations which are influenced by both the large scale and synoptic drivers. The purpose of this study is to give an objective definition for the onset of the Northeast Monsoon in the Philippines. A robust characterization of its commencement is of considerable significance to the country's economy and people's well-being.