**Lagged Influence of ENSO Flavors on Rainfall Variability in the Philippines**

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## ABSTRACT

The El Niño–Southern Oscillation (ENSO) is one of the key drivers of the seasonal rainfall in the Philippines. While multiple studies have examined the impact of ENSO on rainfall variability, most have been limited to canonical ENSO phases. Recent studies identified distinct flavors of ENSO phases which are associated with varying patterns of rainfall distribution. However, its distinct impacts on several regions, particularly the Philippines, remain understudied. Furthermore, a significant gap remains in quantitatively assessing the lagged rainfall response following ENSO event onset. This study aims to analyze the seasonal and monthly lagged influence of ENSO flavors on rainfall variability in the Philippines using gridded and station rainfall data. Event Coincidence Analysis (ECA) will be used to assess the lagged relationships between ENSO flavors and wet and dry events at the monthly and seasonal timescales. Additionally, the spatial severity of ENSO-induced wet and dry events will be analyzed to identify the highly susceptible regions. The findings of the study may provide further understanding on how localized rainfall responses of EP and CP events vary geographically and over time in the country. Such insights are critical in mitigating the impacts of below- and above-normal rainfall conditions at a more localized and targeted level.

Keywords: *ENSO flavors, lagged rainfall impact, seasonal rainfall patterns, wet and dry events*