ABSTRACT

CHARACTERISTICS OF THUNDERSTORM ACTIVITY USING CLOUD-TO-GROUND LIGHTNING DATA

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This paper is an initial exploration of cloud-to-ground (CG) lightning occurrences in the Philippines using the untapped lightning data generated by the subset of the WSI Global Lightning Network® operating in the Southeast Asian region. Using thunderstorm (PAGASA) and CG lightning (WSI) data, the use of a lightning detection network as an alternative or supplemental tool in detecting and analyzing thunderstorm events has been examined by analyzing the seasonal pattern of thunderstorms activity as revealed by Cloud-to-Ground (CG) lightning strokes occurring in the Philippine domain. Results reveal the profile of thunderstorm activity during the study period that includes information on spatio-temporal hazard related to CG lightning and indirectly, to thunderstorm severity. Additionally, the use of lightning data had refined the analyses of thunderstorm events by providing information that relate thunderstorm dynamics and microphysical structure, which is unavailable in the traditional thunderstorm data.