

TR09

## STUDY OF DIURNAL VARIATION OF THE CONVECTIVE ACTIVITIES IN THE EASTERN COAST OF NORTH SUMATRA

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### Abstract

This research conducted the spatial and temporal analysis of convective activity at the rain event during the rainy and transitional seasons in 2017. The Himawari-8 satellite data is used to identify the cloud type (convective/stratiform). The infrared channel data of the Himawari-8 satellite is used to calculate and map the distribution patterns of the convective index. The GSMaP data is used to map the spatial and temporal rain distribution. Time-series analysis of cloud top temperature shows that convective cloud growth begins at 07-11 LT and reaches the maximum at 16:00-19:00 LT. The result of the spatial precipitation analysis shows that the rain occurrence frequency in the coast is higher than in the ocean. Based on spatial analysis of satellite imagery, in the rainy season, convection in the early morning is formed in the sea which then migrate to the coast. Meanwhile, in the transition season clouds in the early morning formed and continue to be on the coast until the cloud decays. Even the convection that occurred in late afternoon looks stuck in coastal areas. This is likely to be influenced by the topography, the Bukit Barisan, and the sea-land breeze circulation formed on the Eastern Coast of North Sumatra.