

## **SUMMARY**

*Floods are natural disasters that often occur in Indonesia every year. One of the natural factors that support flooding is rainfall with high intensity and long duration. In Jambi City in 2020, it was recorded that there were two flood disasters, namely on May 8, 2020 and December 31, 2020. High rainfall in the area is closely related to the dynamics of the atmosphere before and during the occurrence of rain and disturbances that occurred at that time. Therefore it is necessary to analyze the distribution of rainfall, atmospheric dynamics patterns, atmospheric patterns and remote sensing. This study analyzed descriptive observational data which included 24-hour rainfall accumulation data, atmospheric engineering pattern data, atmospheric dynamics pattern data and satellite imagery data as well as radar image data.*

*Based on the results of the processed data, the dynamics of the atmosphere before and during the flooding of the two cases indicate atmospheric instability that causes the formation of a convective cloud system that produces rain and thunderstorms. Atmospheric instability Based on the CAPE value before the rain reached 2700J/Kg, the SI value varied from (-1) to 1, the LI value (-4) to (-2) and the KI value 33 to 40. Copernicus reanalysis data obtained a divergence value more than  $-3 \times 10^{-5} \text{ s}^{-1}$  the vertical velocity value is more than  $-0.2 \text{ Pa s}^{-1}$  the vorticity value is more than  $-3 \times 10^{-5} \text{ s}^{-1}$  with air humidity more than 80%. The reflectivity value when it rains reaches 57 dBZ. With cloud top temperatures below  $-70^{\circ}\text{C}$ . Rainfall was recorded in 9 locations of rain posts and stations, the rainfall recorded in both cases was more than 100 mm/day. The high intensity of rain and unstable atmospheric conditions were the causes of the floods that occurred in Jambi City in 2020.*

## PENGESAHAN

Skripsi dengan judul **ANALISIS DINAMIKA ATMOSFER DAN KAITANNYA DENGAN HUJAN EKSTREM PENYEBAB BENCANA BANJIR DI KOTA JAMBI PADA TAHUN 2020** yang disusun oleh **MUHAMMAD RIDHO FIQRI, NIM: F1C317024** telah dipertimbangkan di depan tim penguji pada tanggal 3 Januari 2022 dan dinyatakan lulus.

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