

THE STUDY OF CLOUD AND RAINFALL FORMATIONS AT KOTOTABANG IN SOME RANDOM CASES

JUAENI, Ina^{1*} ; BAMBANG, Siswanto¹ ; IIS, Sofiati¹ ; DIDI, Satiadi¹ ; YAMAMOTO, Mamoru² ;
HALIMURRAHMAN, Mukri¹

¹National Institute of Aeronautics and Space (LAPAN), ²RISH, Kyoto University

Existing of complete equipment at Kototabang space observatory stations is possible to use to study in atmospheric process. Equatorial Atmosphere Radar (EAR) gave three-dimensional wind speed data in horizontal wind (east-west and north-south directions) and vertical wind (updraft and downdraft). Development of convective cells vertically or horizontally can be detailed study with the availability of precipitation echo data from the X-band meteorological radar. EAR data with high resolution, about 8 minutes in time and 150 meters level resolution will contribute to study of the cloud formation and rainfall process. Rainfall events at January 2008, May 2011 and November 2011 that was recorded by Optical Rain Gauge (ORG) which was not initialed by vertical convection, or was not triggered by updraft previously is presumed that rainfall was from cloud that exist in mesoscale area. The rainfall from these process will have high intensity and will happen longer compare to rainfall from clouds that formed vertically above Kototabang. Rainfall from cloud under 2 km in high will create high intensity flow but in short duration.

Keywords: vertical wind, precipitation echo, rainfall, local scale, mesoscale