DIURNAL VARIABILITIES ANALYSIS OF METEOROLOGICAL PARAMETER OF CCAM-NWP OUTPUTS AND OBSERVATION AT KOTOTABANG

*Sofiati Iis Soeratman[1], Lely Qodrita Avia[1], Nurzaman Adikusumah[1]

1.Indonesian National Institute of Aeronautics and Space

The diurnal varibilities of some meteorological parameter (rainfall, temperature, relative humidity, and pressure) study, needed a model that can predict the behavior of the weather in the future by following the data history in the past. As a validation stage, outcomes such dynamic model of spatial and temporal very necessary compared with surface observational data from Automatic Weather Station (AWS) and u-v wind data from Equatorial Atmosphere Radar (EAR). The purpose of this study is analyzing the diurnal varibilities of meteorological parameter of dynamic model outputs Conformal Cubic Atmospheric Model-Numerical Weather Prediction (CCAM-NWP), and the surface observational data. The data used is the hourly output CCAM-NWP models in (12-15) February, (12-15) June 2014, and (2-14) January 2015, and surface observational data in (2-4) January 2015 as validation. The method on analyzing the output CCAM-NWP from the input models Global Forecast System (GFS-NOAA) with a resolution of the model 0.25^{o} x 0.25^{o}, and statistical analysis with method of T-test and F-test. Based on the results shown the diurnal variabilities and dinamic process of meteorological parameter for the model output and surface observation. Furthermore, we obtained a weak correlation between the temporal model output with surface observations from statistical analysis which mean that there are significant differences of the results found from the CCAM-NWP output and surface observations. Additionally, we compared spatial distribution of hourly output CCAM-NWP with satellite observation data such as MTSAT.
Keywords: rainfall, temperature, relative humidity, pressure, CCAM-NWP, T-test, MTSAT.