Preliminary Validation of the NCMRWF Data Over Indian Ocean and Southern Ocean Using a Ship-mounted AWS

T.M. BALAKRISHNAN NAIR* and R. HARIKUMAR
Indian National Centre for Ocean Information Services, Ministry of Earth Science, Govt. of India, Hyderabad-55, India.
* *bala@incois.gov.in, 04023886007*

An Automatic Weather Station (AWS) has deployed onboard 'Sagar Nidhi' by the Indian National Centre for Ocean Information Services (INCOIS) under our INCOIS Real-time AWS (IRAWS) programme of its first kind in India. The real time data is being received at INCOIS through the Indian satellite INSAT 3A and 3C. The objective is to improve the forcing parameters for INDian Ocean FOrecasting System (INDOFOS) that operationalised at INCOIS. The in-situ observations of Air temperature, Wind[1], longwave radiation, shortwave radiation, Humidity, Air pressure and Sea surface temperature are being done would be also useful for validating the data from the upcoming satellite missions. Here, an attempt has been made to validate the National Center for Medium Range Weather Forecast (NCMRWF) analysed products over the Indian Ocean and Southern Ocean using this IRAWS to quantify the error in NCMRWF data. The ongoing cruise started from a latitude of 15°N and reached up to 66.6°S and the longitudinal span is from ~82°E to ~50°E, which covers Indian Ocean and Southern Ocean. The data from 19-December-2009 to 21-February-2010 has been used for the present study. The meteorological parameters Air temperature, Wind, Longwave radiation and shortwave radiation, which are directly obtained from AWS were compared with the NCMRWF data. All these comparisons have shown a reasonable good agreement. The correlation as well as the Root mean square error calculations quantified the error in the NCMRWF data. The results and its implications with special reference to the INDOFOS will be presented and discussed in detail.

Key words: Ship-mounted Automatic Weather Station, INCOIS Real-time AWS (IRAWS), Indian Ocean Forecasting System, NCMRWF data.

References

[1]R. Senan, D.S. Anitha and D. Sengupta , CAOS Report 2001AS1, Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore, India (2001)