

# ABSTRACT

The project entitled “**Development of Software Platform for Multi-format Data Analysis and Visualization**” carried out at CSIR Centre for Mathematical Modelling and Computer Simulation (C-MMACS), Bangalore, aims at developing an enabling software utility for multi-format and multi-source data analysis and visualization.

Meteorological data often come in a variety of formats, which need to be organised in a given format to be used for analysis or model inputs. An efficient utility for reading and writing, multi-format data in a target format can therefore be very effective for analysis as well as archival.

The main objectives of the project are Multi-scale analysis of various forecasting model output and multi-source observation data like remote sensing satellite data, field observation data etc.

The present version of the utility is capable of analysing data in Network Common Data Format (NetCDF) and Gridded Binary (GRIB). JAVA language is used to develop the code in Linux environment. GrADS and VisAD are used for the visualization.

Various utilities are being developed in the present work which enables user for displaying the header information of the given file. The extraction of different parameters from the source data is carried out. One can generate a new file of the same or different format with the threshold values as per user need i.e from a global data; sub domain data set can be prepared.

Multi-format and Multi-source climate data analysis is easily carried out by using the software. For better visualization GrADS and VisAD is integrated with JAVA. A Graphical User Interface is also developed as a part of the software platform to provide easy environment for the user to perform the required analysis and visualization in a user friendly way. Some of the analysis and outputs from C-MMACS monsoon model, crop model and Malaria model is also presented. An enhancement can be done for some more data format and the GUI can be improved for smooth data analysis.