

**ANNUAL JOINT WMO TECHNICAL PROGRESS REPORT ON THE GLOBAL
DATA-PROCESSING AND FORECASTING SYSTEM (GDPFS) AND NUMERICAL
WEATHER PREDICTION (NWP) RESEARCH ACTIVITIES**

National Contributions - Department of Meteorology, Sri Lanka

This report summaries the global data processing system activities carried out at the numerical weather prediction section of Department of Meteorology Sri Lanka.

1. Summary highlights

MM5 model have run with limited data set, operationally data assimilation and downloading from global products are to be done.

2. Equipment in use at centre

Two PCs. .

3. Data and products from GTS in use

Not available

4. Forecasting system

Subjective forecast with the help of forecast products from other sources are done.

4.1 System run schedule and forecast ranges

Not available

4.2 Medium range forecasting system(4-10 days)

Not available

4.2.1 Data assimilation, objective analysis and initialization

Not available

4.2.2 Model

4.2.3 Operationally available Numerical Weather Prediction (NWP)

Products are used for forecasting are Winds and Humidity at 850,700,500 hPa from NCEP, winds at 850 and 500 hPa from India Meteorological Department and MM5 outputs which runs in Korea meteorological administration.

4.2.4 Operational techniques for application of NWP products (MOS, PPM, KF, Expert System, etc..)

4.2.4.1 In operation

Not available

4.2.4.2 Research performed in this field

Not available

4.2.5 Ensemble Prediction System (EPS) (Number of members, initial state, Perturbation method, model(s), and number of models used, perturbation of physics, post processing: calculation of indices, clustering)

4.2.5.1 In operation

Not available

4.2.5.2 Research performed in this field

Not available

4.2.5.3 Operationally available EPS products

Not available

4.3 Short- range forecasting system(0-72)

4.3.1 Data assimilation, objective analysis and initialization

Not available

4.3.2 Model

4.3.2.1 In operation

Not available

4.3.2.2 Research performed in this field

Not available

4.3.3 Operationally available NWP products

4.3.4 Operational techniques for application of NWP products (MOS, PPM, KF, Expert System, etc..)

4.3.4.1 In operation

Not available

4.3.4.2 Research performed in this field

Not available

4.3.5 Ensemble Prediction System (Number of members, initial state, Perturbation method, model(s), and number of models used, perturbation of physics, post-processing: calculation of indices, clustering)

4.3.5.1 In operation

Not available

4.3.5.2 Research performed in this field

Not available

4.3.5.3 Operationally available EPS products

Not available

4.4 Nowcasting and Very Short-rang Forecasting System (0- 6 hrs)

4.4.1 Nowcasting system

4.4.1.1 In operation

Subjective analysis of synoptic data and satellite imageries

4.4.2 Models for Very Shot-range Forecasting System

Not available

4.5 Specialized numerical predictions (on sea waves, sea ice, tropical cyclones, pollution transport and dispersion, solar ultraviolet (UV) radiation, air quality forecasting, smoke, sand and dust, etc..)

4.5.1 Assimilation of specific data, analysis and initialization(where applicable)

Not available

4.5.2 Specific models (as appropriate related to 4.5)

Not available

4.5.3 Specific products operationally available

Not available

4.6 Extended range forecasts (10 days to 30 days) (Models, Ensemble, Methodology)

4.6.1 In operation

Not available

4.6.2 Research performed in this filed

Not available

4.6.3 Operationally available EPS products

Not available

4.7 Long rang forecasts (30 days up to two years) (Models, Ensemble, Methodology)

4.7.1 In operation

Not available

4.7.2 Research performed in this filed

Long range forecast for seasonal rainfall

4.7.3 Operationally available products

Not available

5. Verification of prognostic products

5.1 Annual verification summary

Not available

5.2 Research performed in this filed

Not available

6. Plans for the future (next 4 years)

6.1 Development of the GDPFS

Not available

6.2 Planned Research Activities in NWP, Nowcasting and Long-range Forecasting

6.2.1 Planned Research Activities in NWP

Intend to use products of WRF and downscale with necessary adjustments.

7. Reference: None