

3rd Ministerial Conference and 9th Council meeting of the Regional Integrated Multi Hazard Early Warning Systems (RIMES)



RIMES Capacity Building For Sri Lanka



**Department of Meteorology
Sri Lanka**

Out Line

- Monsoon Forum
- Numerical Weather Prediction (NWP)
- Seasonal Weather Prediction
- RIMES Earth Quake and Tsunami Monitoring
- Climate Projection (CMIP 5)
- National Training on Forecast Translation
- Integrated Ocean Information System

Monsoon forum

- Started in May 2012, through the Project “Reducing risks of tsunamis, storm surges, large waves, and other natural hazards in low elevation coastal zones”.
- 15th Monsoon Forum was held on 04th May 2017
- Lesson learnt forum was held on 20th June 2017

Main Target Group

- Department of Agriculture
- Irrigation Department
- Electricity Board
- Disaster Management Centre
- Tea Research Institute
- Rubber Research Institute
- Coconut Research Institute
- Fisheries Department
- Water Board etc

Objectives

- Review the previous monsoon in terms of patterns of climate and performance of the seasonal climate
- Draw feedback from user institutions on the relevance/usability of the seasonal forecast and recommendations for enhancement of forecast products
- Present the seasonal forecast for the next Monsoon after SASCOF conducted by WMO
- Present sectoral potential impacts outlook and response options for possible application by stakeholders
- Present/discuss recent issues /concerns/ developments in earthquake monitoring and tsunami early warning and response

Advantages for DoM/ Stakeholders / Users

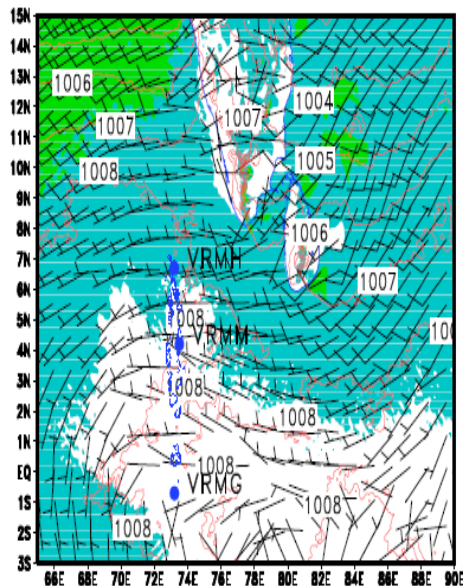
- It is able to work very closely with the stakeholders after started “ Monsoon Forum”
- Able to gather Many stakeholders in a one shelter
- 2015 – ElNino year (Below Normal (SWM) and Above Normal (SIM – October to November)
 - Change crops and protected farmers (SWM) – Agri Dept
 - Release water from the reservoirs and mitigate flood due to heavy rain in SI – Irrigation Department
 - About 250 Fishermen were saved from the special forecast given by met department

Numerical Weather Prediction (NWP)

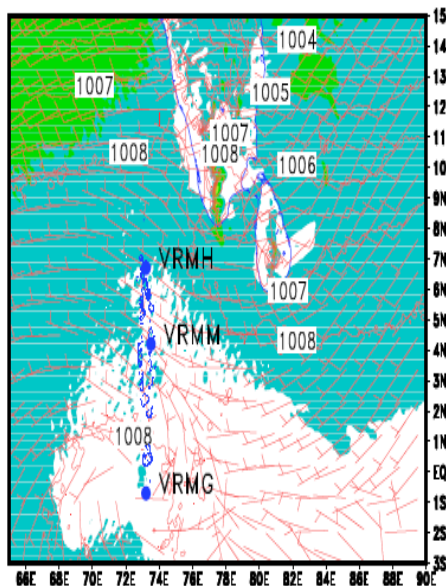
- Provided NWP Training for Department staff
- Developed NWP outputs for 10days (10 Day Forecast)

Mean Sea Level Pressure(hPa)& 10m Wind ($m\ sec^{-1}$) si

Valid at 30062017 00 UTC

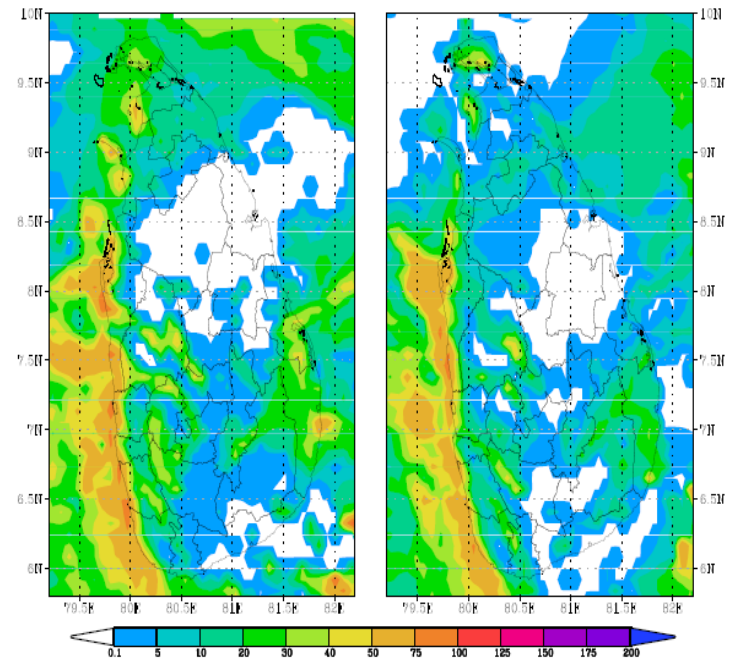


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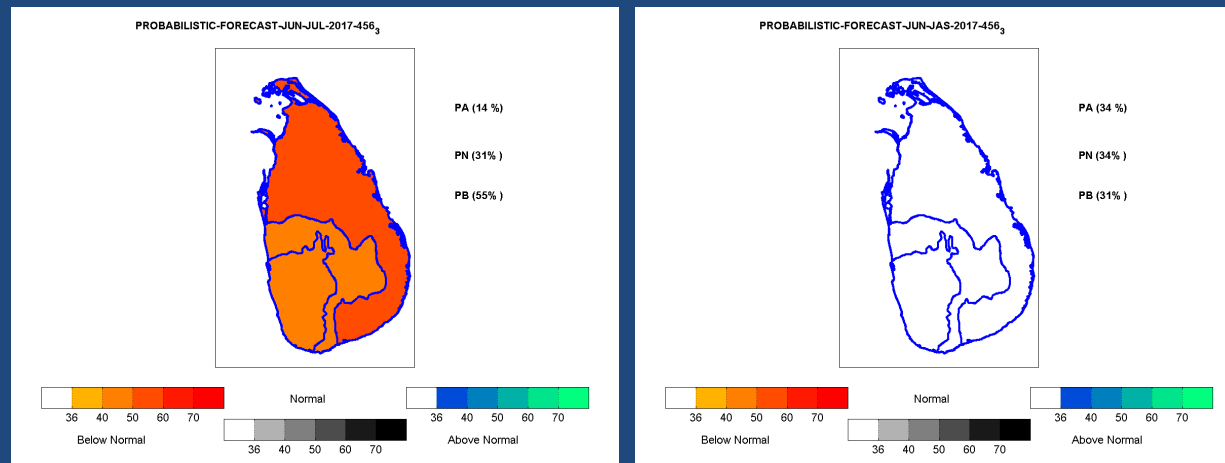
Daily Accumulated Precipitation in mm
Forecast Product Valid From

04072017 00UTC to 05072017 00UTC 05072017 00UTC to 06072017 00UTC
+ DAY 5 + + DAY 6 +



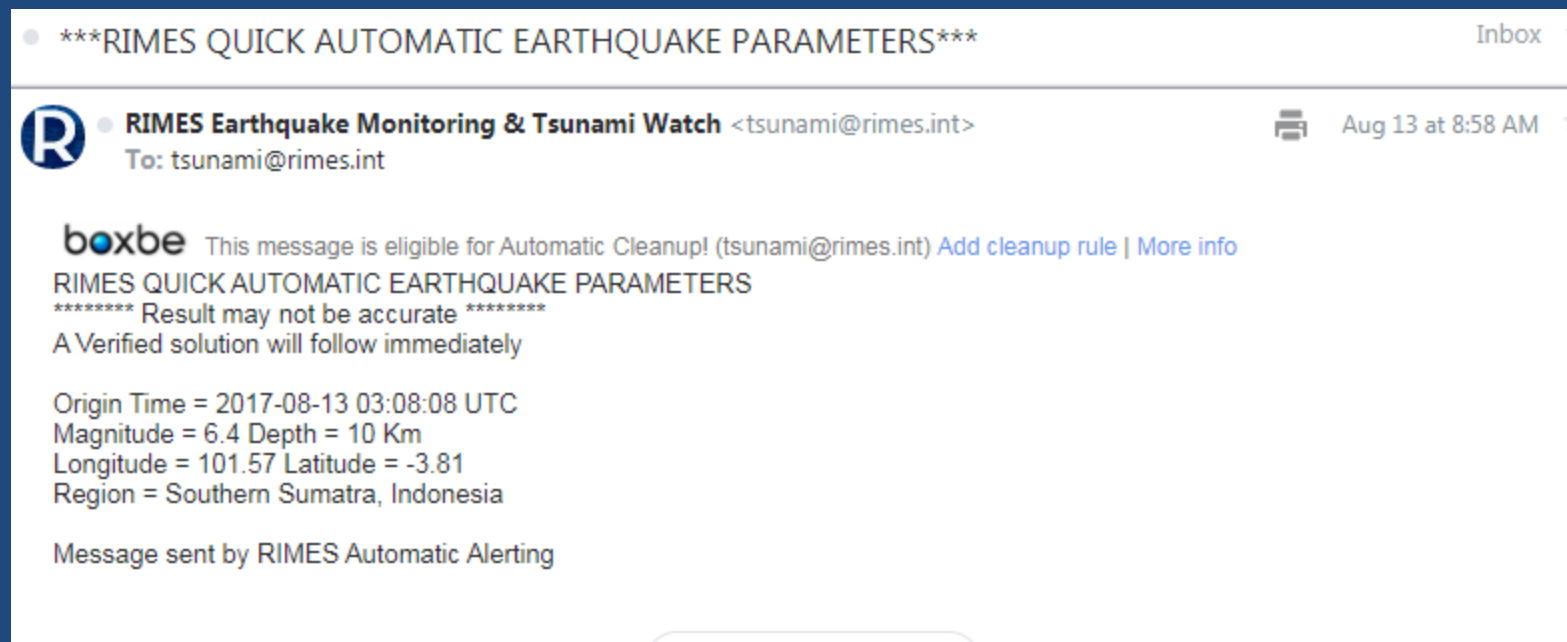
Seasonal Forecast Customization System for technical staff of Department of Meteorology- Sri Lanka

- Training programme on “Seasonal Forecast Customization System for technical staff of Department of Meteorology- Sri Lanka”, was conducted by RIMES during the period 24.08.2015 – 04.09.2015 in Thailand. One officer, who was involving in seasonal forecasting participated.
- The main objective of the training programme was to build the capacity of the officers, who are involving in seasonal forecast activities in the Department of Meteorology, Sri Lanka, in generation of customized monthly and seasonal forecasts using RIMES –developed system.
- Follow up training programme was conducted during 2016.05.03-2016.05.10 for relevant officers in the Dom.



RIMES Earth Quake and Tsunami Monitoring

- Real Time Monitoring and dissemination of Earth quake / Tsunami.
- Started Very recently
- Disseminate pre identify email/mobile (SMS)



Capacity Building on Generation and Application of Downscaled Climate Change Projections

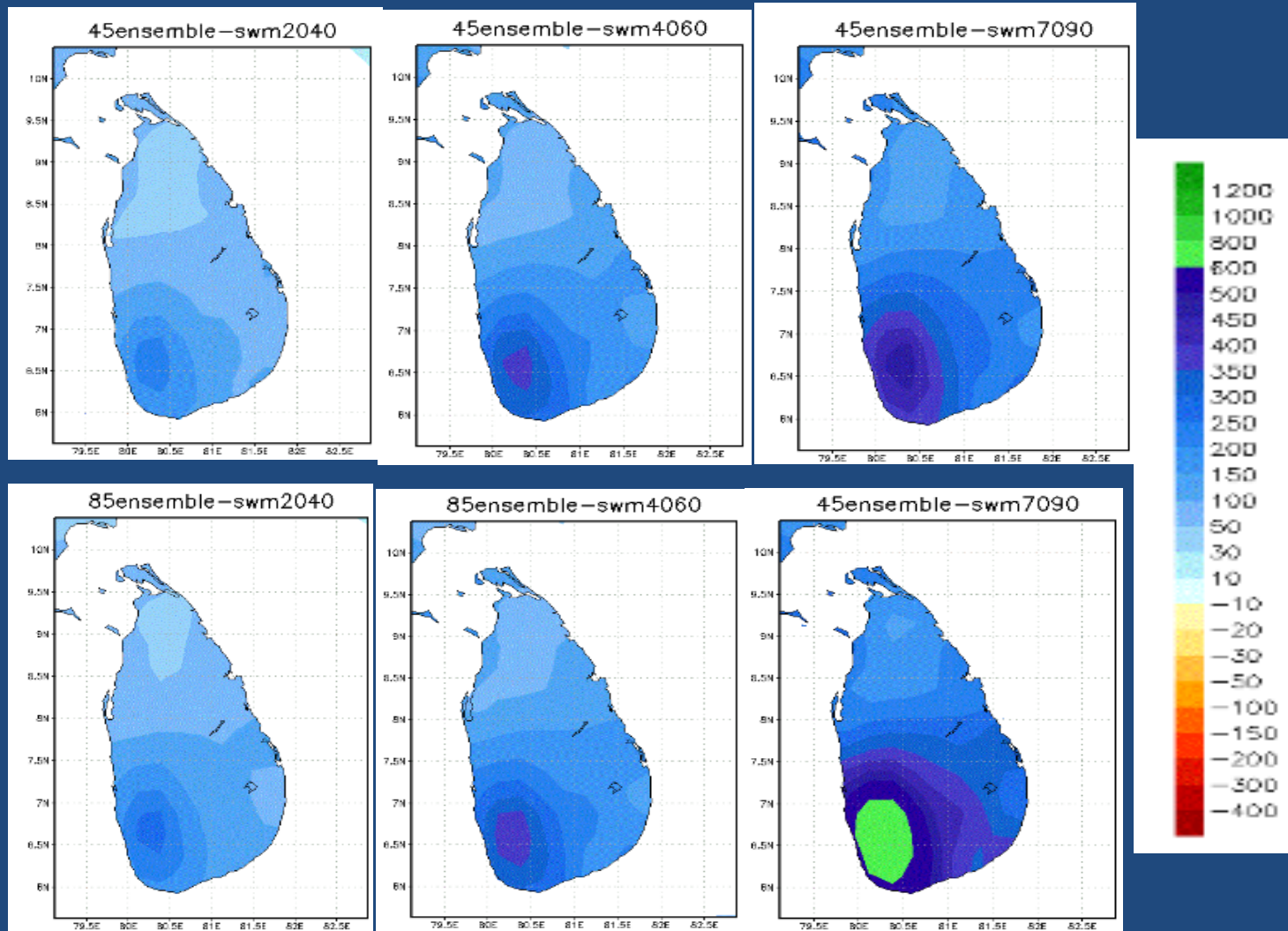
RIMES implemented the project “Capacity Building on Generation and Application of Downscaled Climate Change Projections” in Sri Lanka, , which involves the following

- **Generation of downscaled climate projections using CMIP 5, CORDEX, NEX NASA**
- **User capacity building for application**

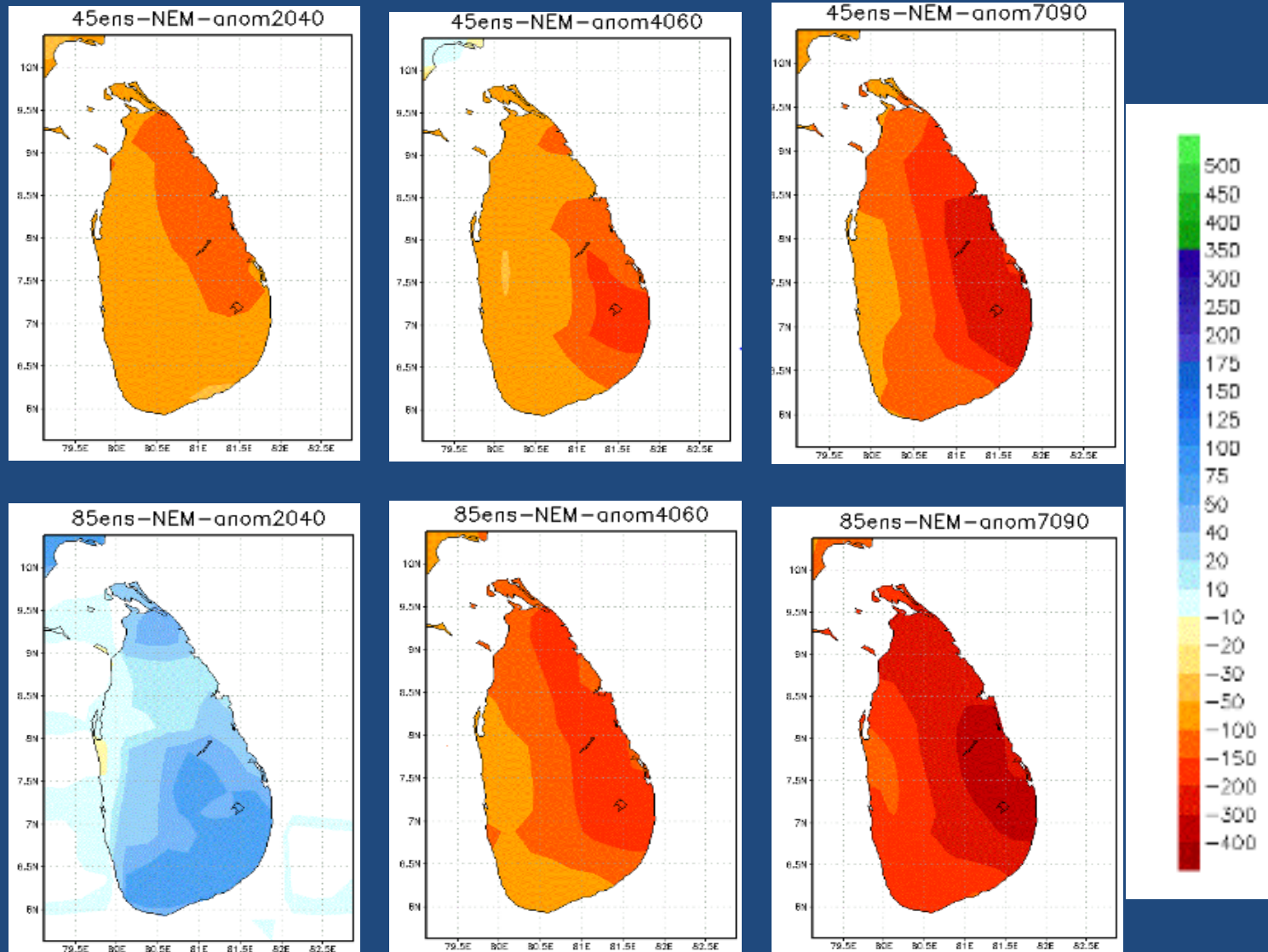
Under this project RIMES conducted a workshop for DoM Climate Scientists during 23 May to 28 May, 2016.

- **Quality check of historical observation data, of at least 30 years**
- **Identification of suitable General Circulation Models (GCMs), for various climate regions in the country**
- **Hands-on exercise on statistical and dynamical downscaling techniques**
- **Analysis of past and future climate trends, including climate extremes, in various climate regions in the country**
- **Interpretation of results and report preparation**

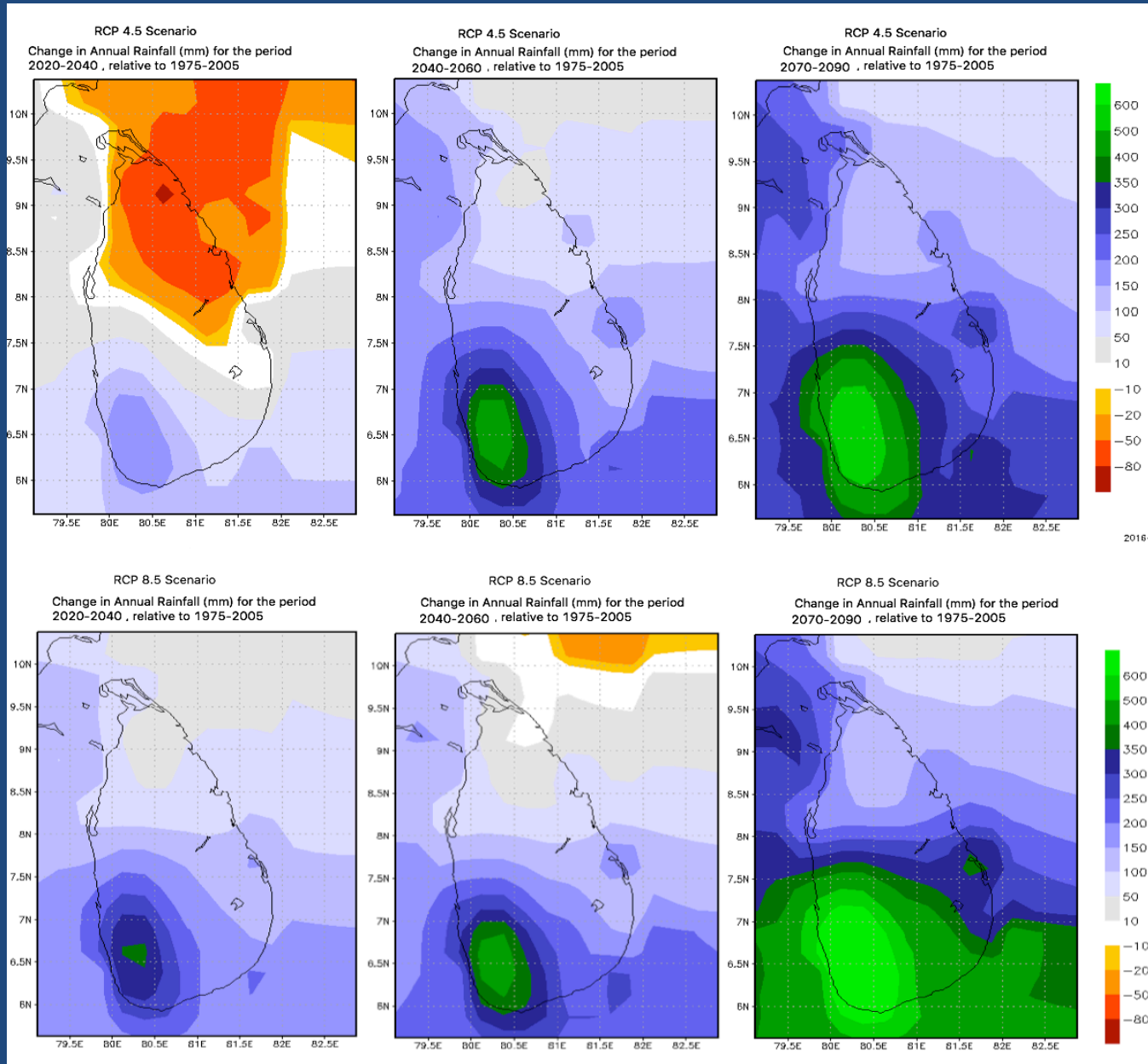
Projections – SW Monsoon



Projections – NE Monsoon



Projections



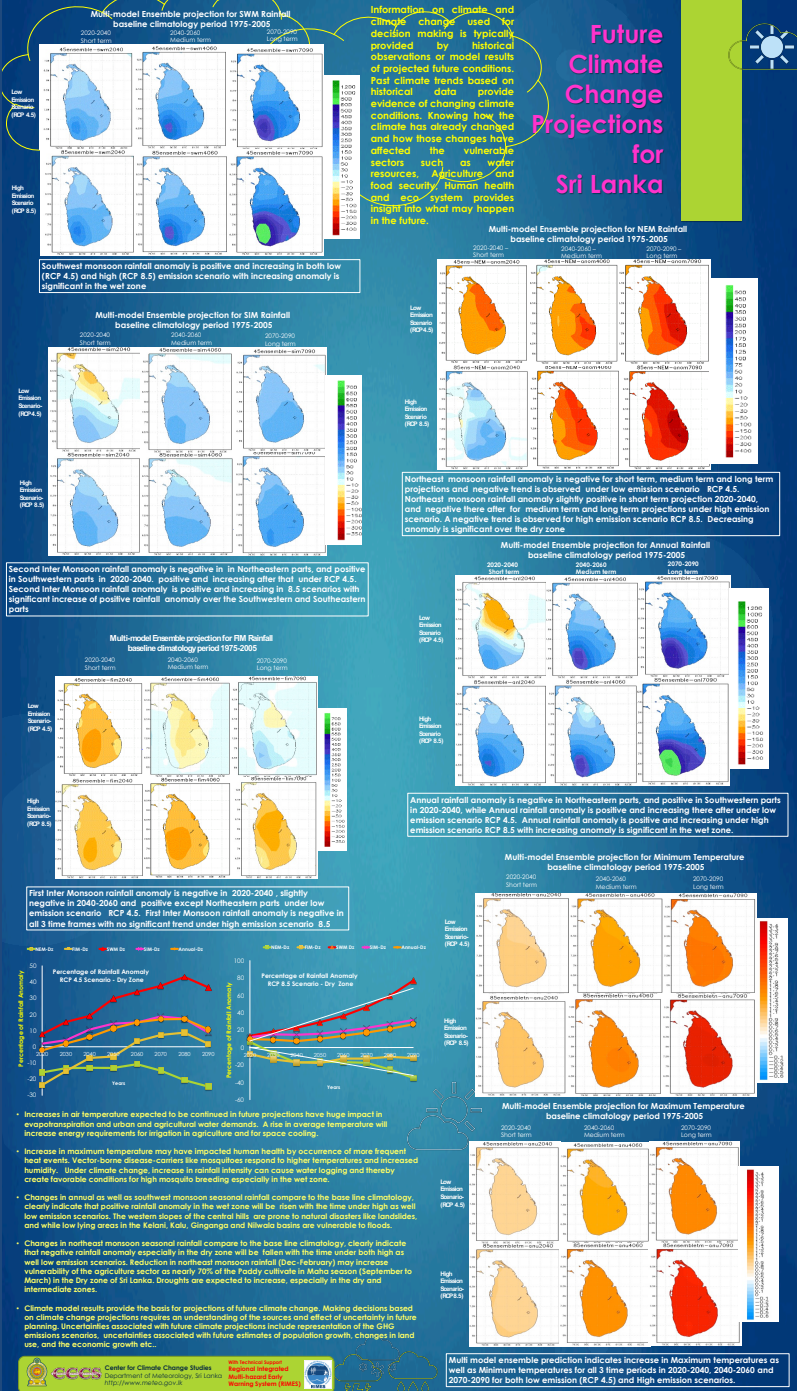
Future Climate Change Projections for Sri Lanka

Displayed at the Centre for Climate Change Studies

presented the results of Climate change projections in the " International Conference of Climate Change 2017 " in Colombo 16th-17th of February at the Kingsbury Hotel, Sri Lanka. ICCC 2017

Based on the Results

- Preparing a report for policy decision
- Use by different stakeholders such as
 - Tea sector
 - Agriculture Sector
 - University Students etc.



Share data with other stake holder for adaptation strategies ? Policy decision etc

Collaborative Research Projects with Center for Climate change Studies (CCCS),
Department of Meteorology, using future climate change projection data developed
with technical support from RIMES

Institute	Topic	Investigators
Department of Crop Sciences , Faculty of Agriculture, University of Peradeniya	Simulation modelling of the response of selected field crops (Maize, Tomato, and Mungbean) under present and predicted climatic conditions across an environmental gradient in Sri Lanka	Prof W A J M de Costa (University of Peradeniya), Dr L D B Suriyagoda (University of Peradeniya) , Mr J B D A P Kumara (Sabaragamuwa University)
Department of Zoology and Environmental sciences , University of Colombo	Analysis of endemic bird distribution	Prof Erandathie Lokupitiya (University of Colombo), Mr D D J N Perera (University of Colombo)
International Water Management Institute	Storage scenarios for Sri Lanka under Climate Change	Dr Lal Muthuwatta
Disaster Management Ministry/ United Nations Development Project	Climate Resilience Agriculture Interventions under Climate Change Adaptation Project (C-CAP)	Mr Chaminda Pathiraja

National Training on Forecast Translation

“National Training on Forecast Translation” facilitated by RIMES and organized by the Department of Meteorology (DoM) during 09th – 11th October 2013.

Main objective of this training programme was to enhance the capacity of national level key sectoral decision makers, in applying forecast from DoM , for better management of risks related to weather and climate changes.

Integrated Ocean Information System

- **RIMES helped DoM to establish “Integrated Ocean Information System “.This system is fully operational and it gives various information such as Significant Wave Height ,Sea Surface Temperatures, and Sea Winds etc.**
- **It is planned to deploy Wave Rider Buoy(WRB) in Sri-Lankan sea off Hambantota. Project is in progress.**

Development of decision support system to connect seasonal climate information with irrigation and agriculture: Case study in Kirindi Oya Basin, Sri Lanka

DoM involved in the project “Development of decision support system to connect seasonal climate information with irrigation and agriculture: Case study in Kirindi Oya Basin, Sri Lanka”

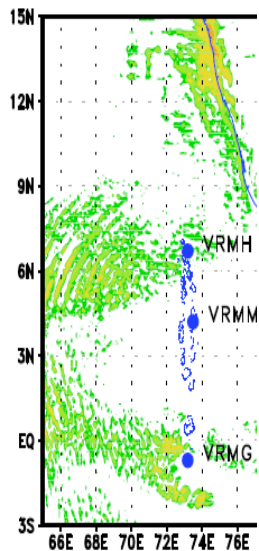
The specific focus of the study :

- Development of a reservoir inflow forecast system based on weather forecast, hydrologic and hydraulic models and real time telemetric observations**
- Improvement of reservoir operation and management plans to mitigate the impact of floods with minimal impact to water available for productive uses.**

RIMES contribution for Forecasting activities in DOM

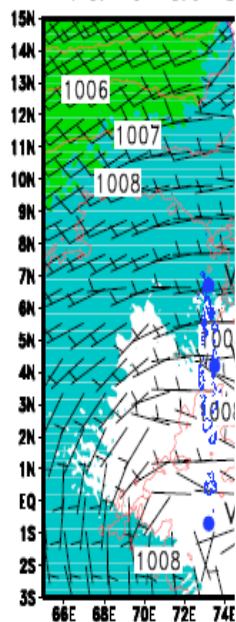
12 H 03 day
forecast

Valid from 00-1



Valid from 00-

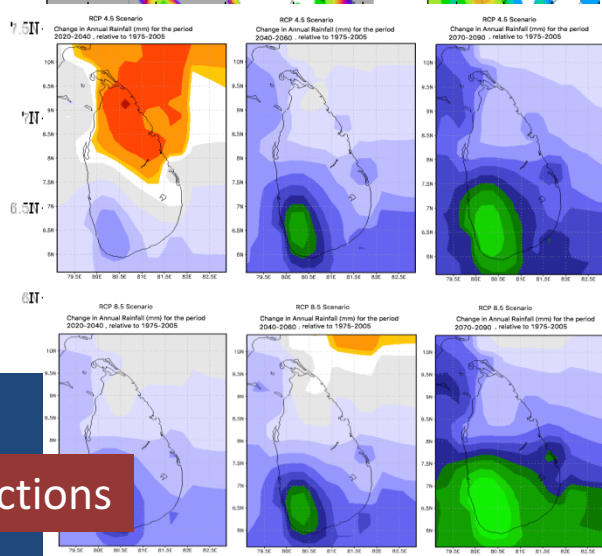
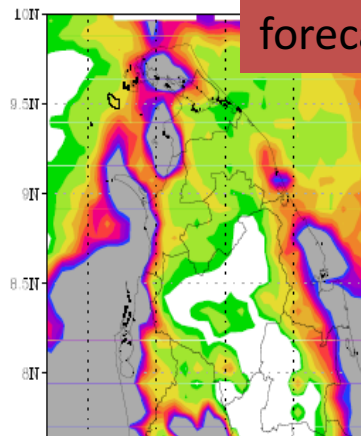
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Projections

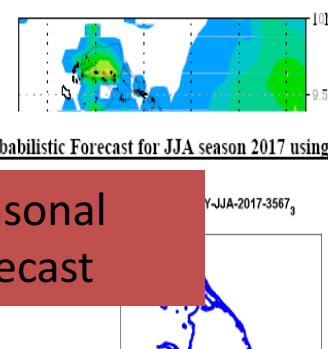
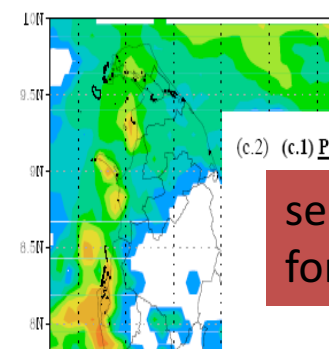
10 Days Average
From 30062017 00

10 day
forecast



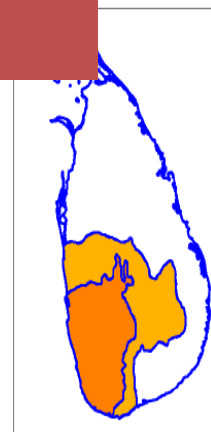
Daily Accumulated Precipitation in mm
Forecast Product Valid From

05072017 00UTC to 05072017 00UTC to 06072017 00UTC
* DAY 5 * * DAY 6 *

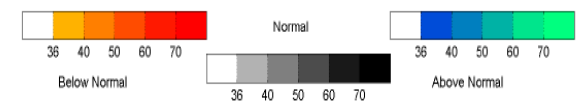


(c.1) Probabilistic Forecast for JJA season 2017 using RIMES FOCUS System

seasonal
forecast



PA (19 %)
PN (33%)
PB (48%)



End of the Presentation