RIMES Capacity building services

Current range of weather and climate products and their integration for decision support

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Addressing the Demands – A Bottom–Up approach

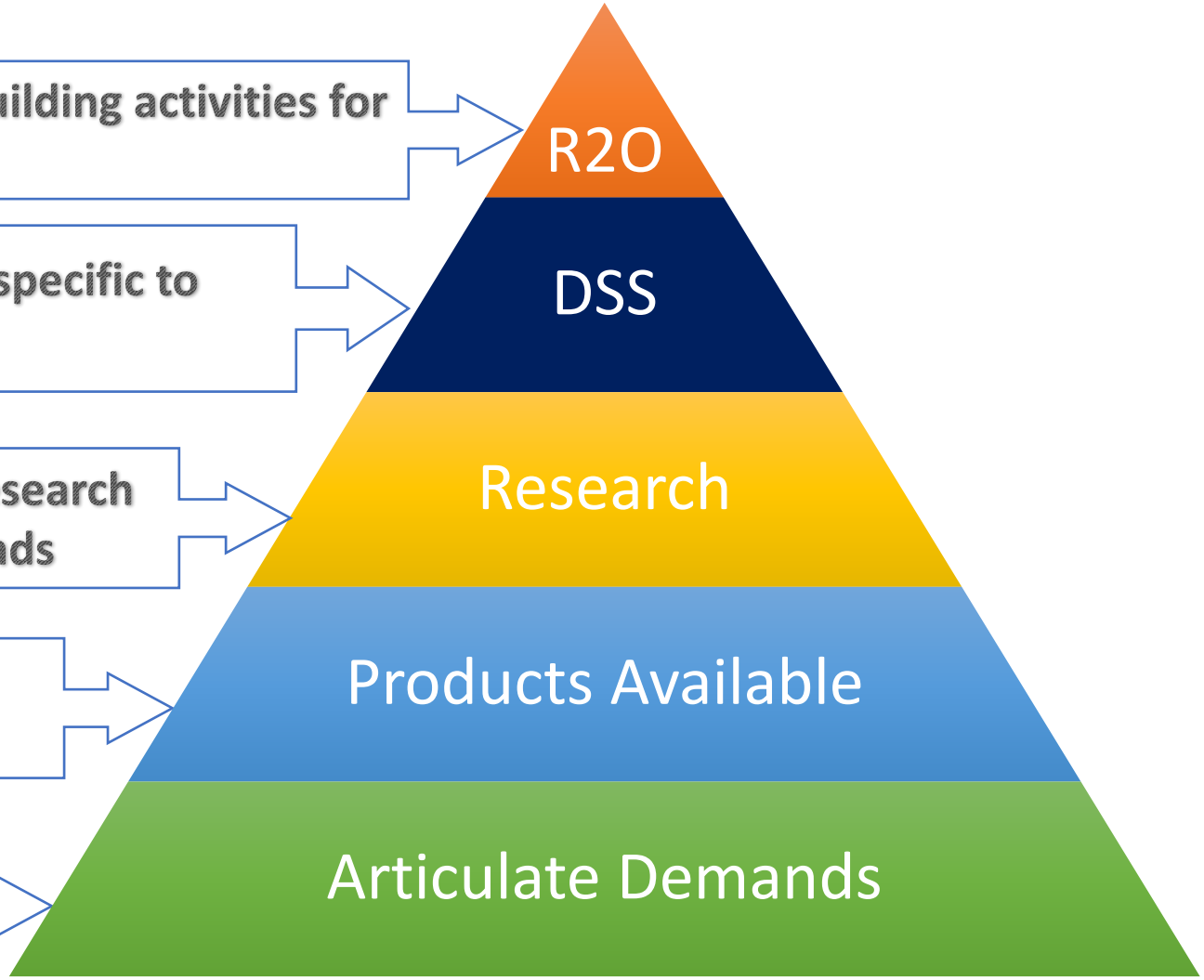
Bring research to operation, trainings and capacity building activities for all users

Tailored Decision Support System and interventions specific to operational needs of sectoral agencies

Improve product performance through continuous research and bring in innovation to support continuous demands

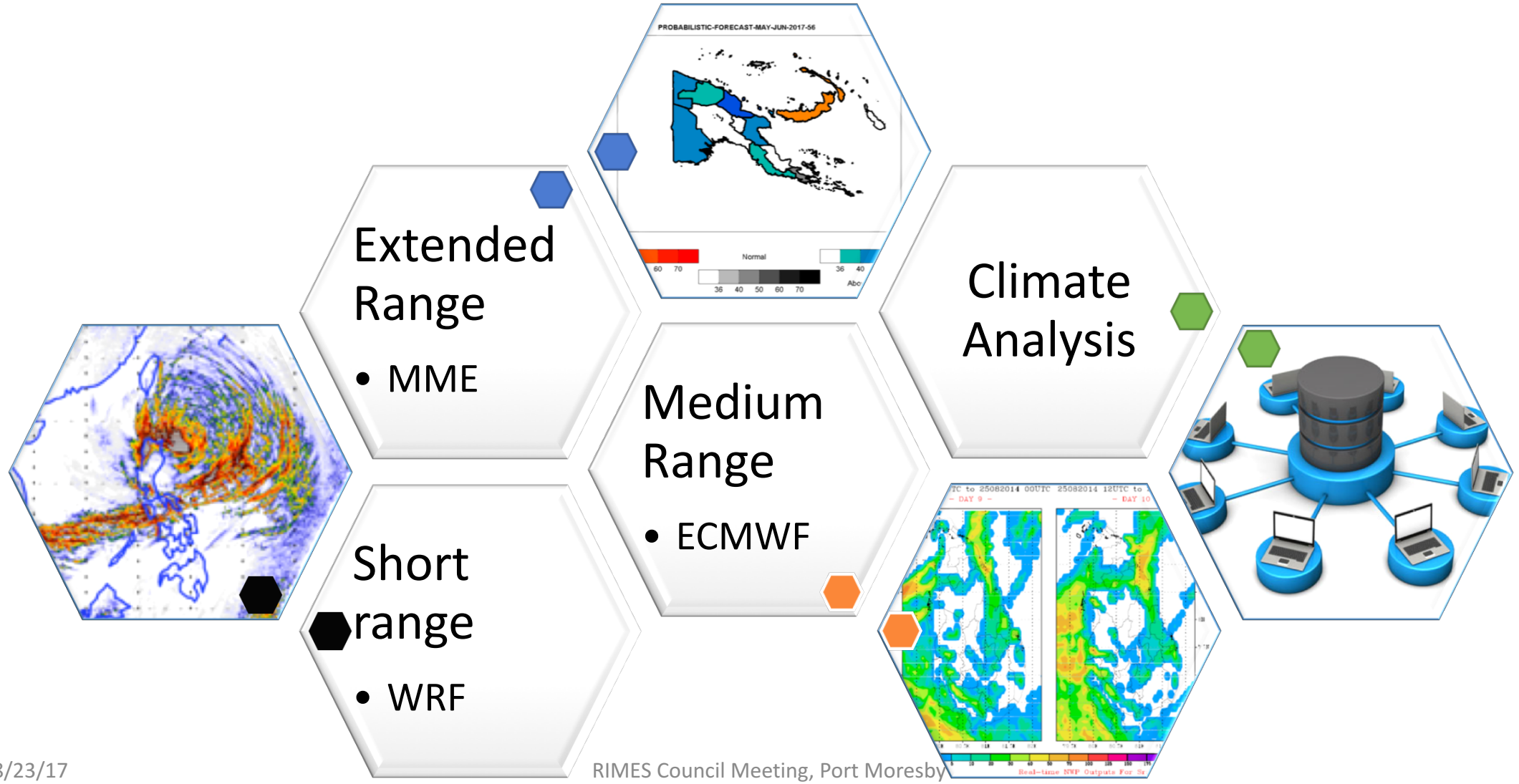
Assess products and services available with the Met services

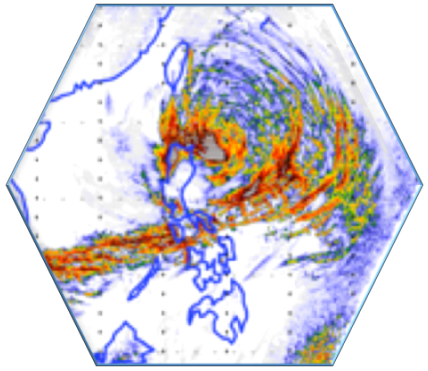
Understand user demands precisely, information, language, delivery etc.,



Articulate demands

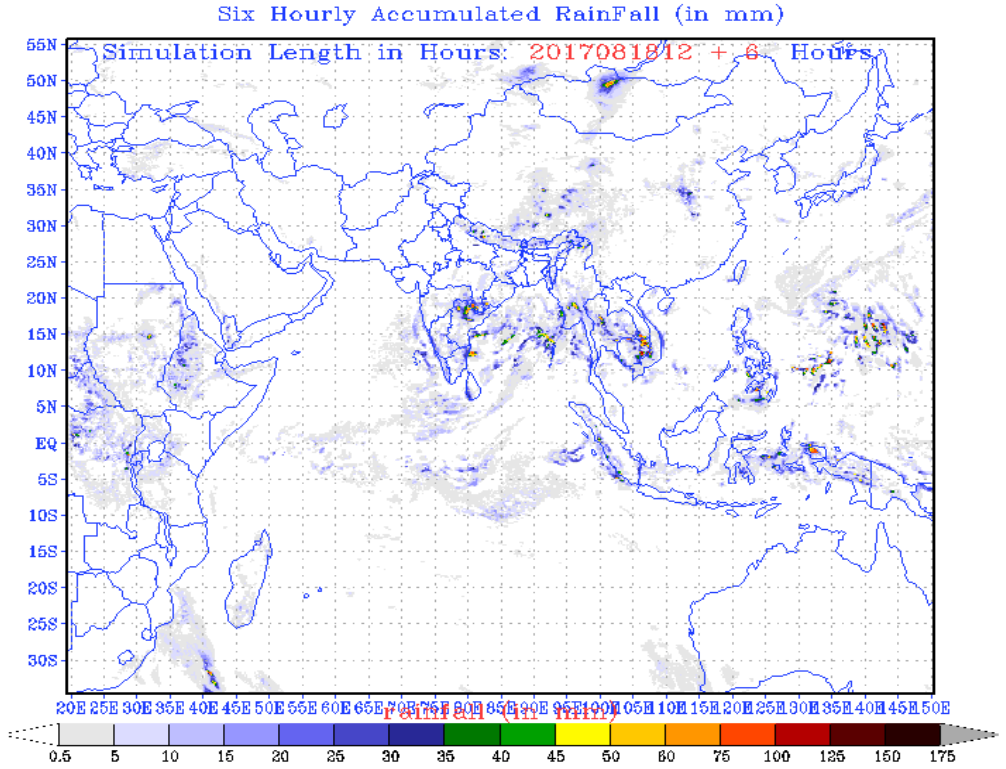
Range of weather and climate products and their integration for decision support

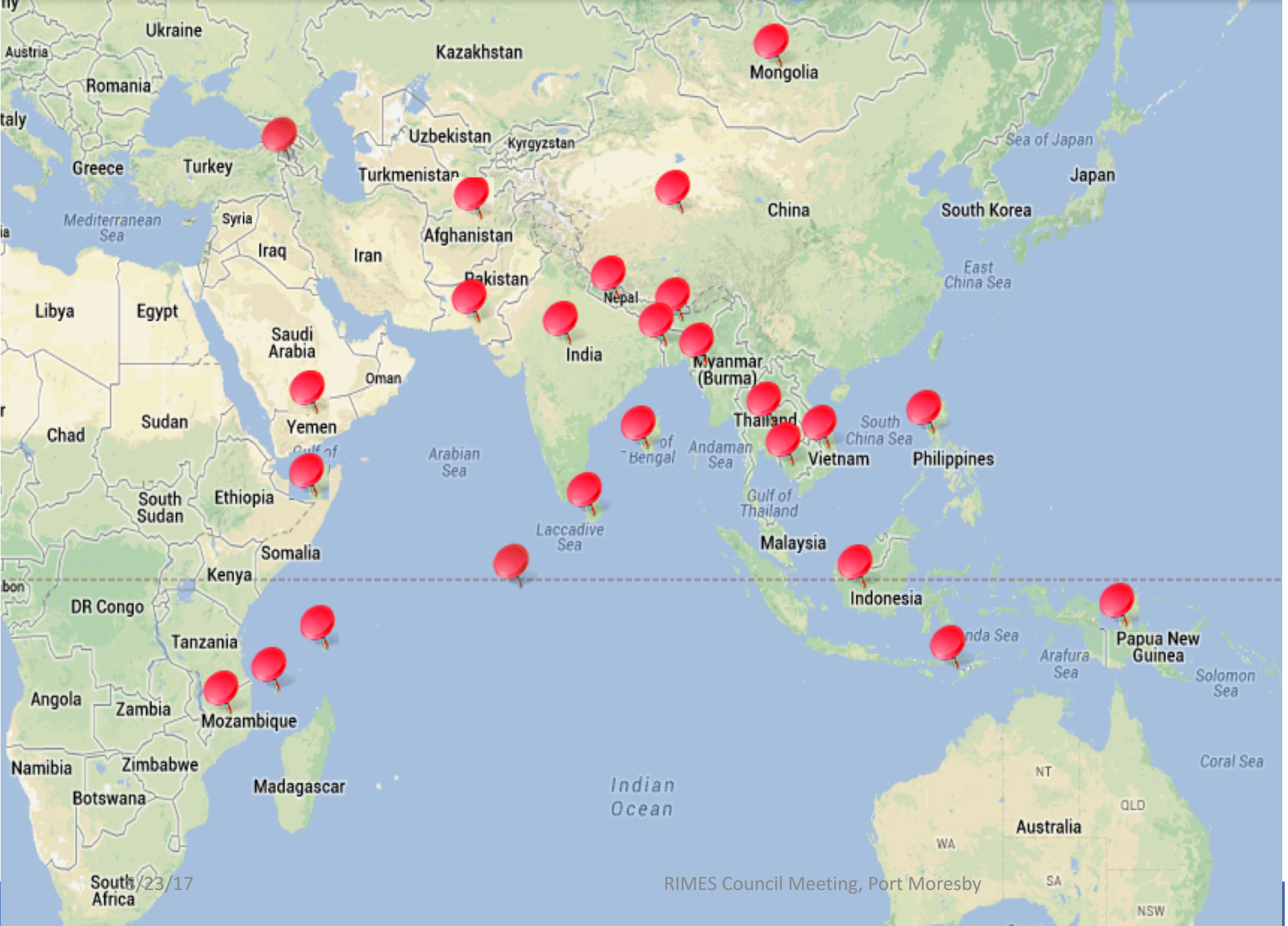




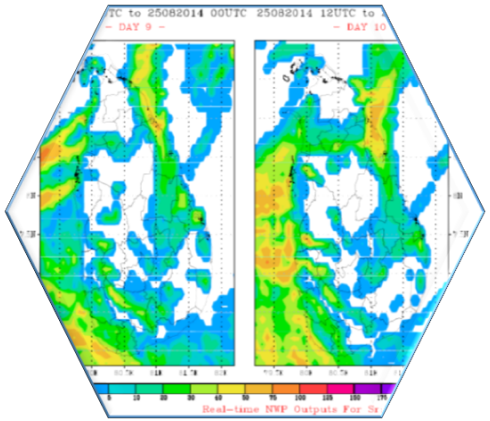
Short Range Forecast

- For guidance Purpose only
- Daily weather forecast products
  - Rainfall, temperature, Seal Level Pressure, Wind Speed and Direction, Geo potential Height
- Severe weather
  - Heavy rainfall events, heat waves
- Storm Tracks and intensity with increased frequency of updates
- Model initialized with IMD-GFS* datasets
- Extend to ***20E*** to ***150E*** and ***35S*** to ***55N*** to cover east African region in the west Indian Ocean and PNG in Pacific





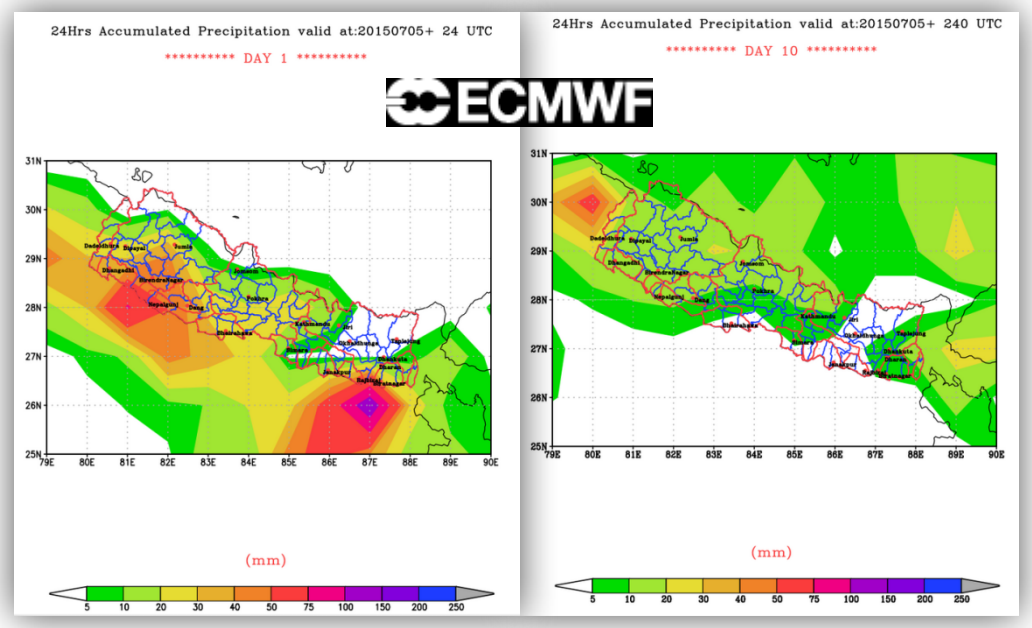
1. Afghanistan
2. Bangladesh
3. Bhutan
4. Cambodia
5. Comoros
6. East Timor
7. Lao PDR
8. Maldives
9. Mongolia
10. Myanmar
11. Nepal
12. Pakistan
13. **PNG**
14. Philippines
15. Seychelles
16. Sri Lanka
17. Tanzania
18. Yemen
19. Somaliland
20. **Madagascar**

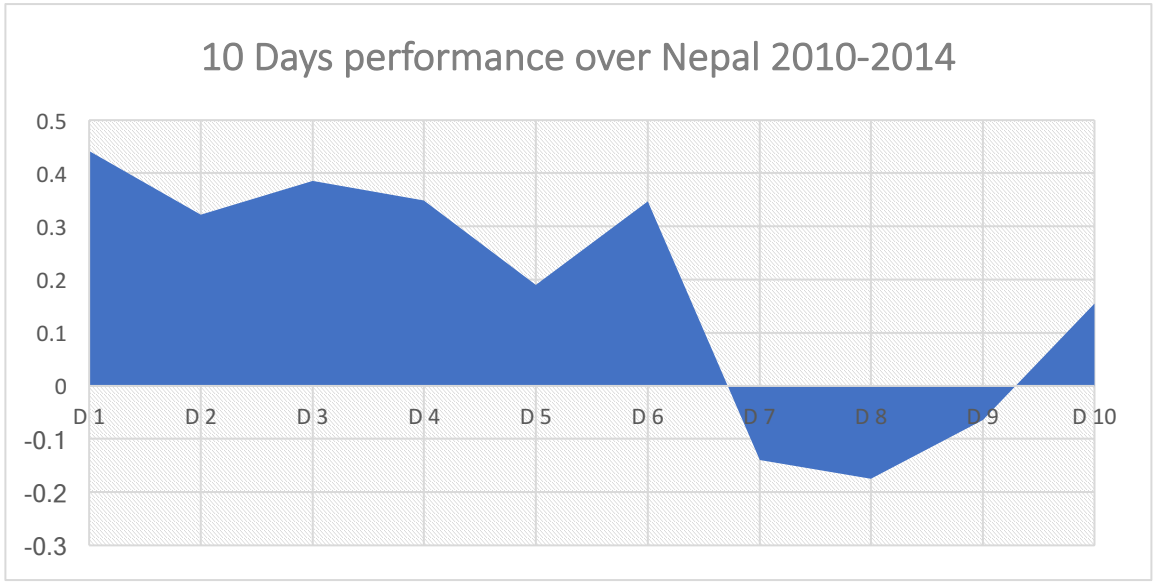


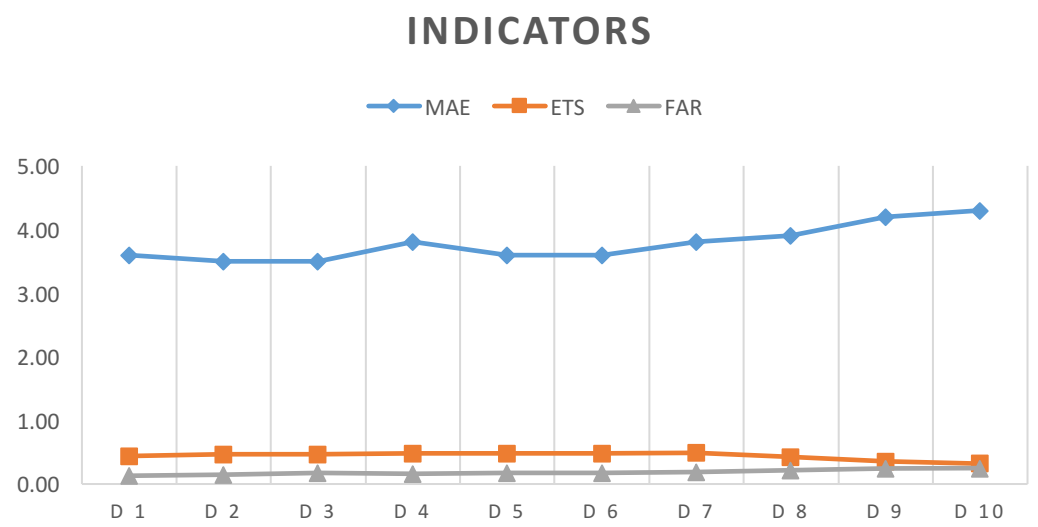
Medium Range Forecast

Performance evaluation

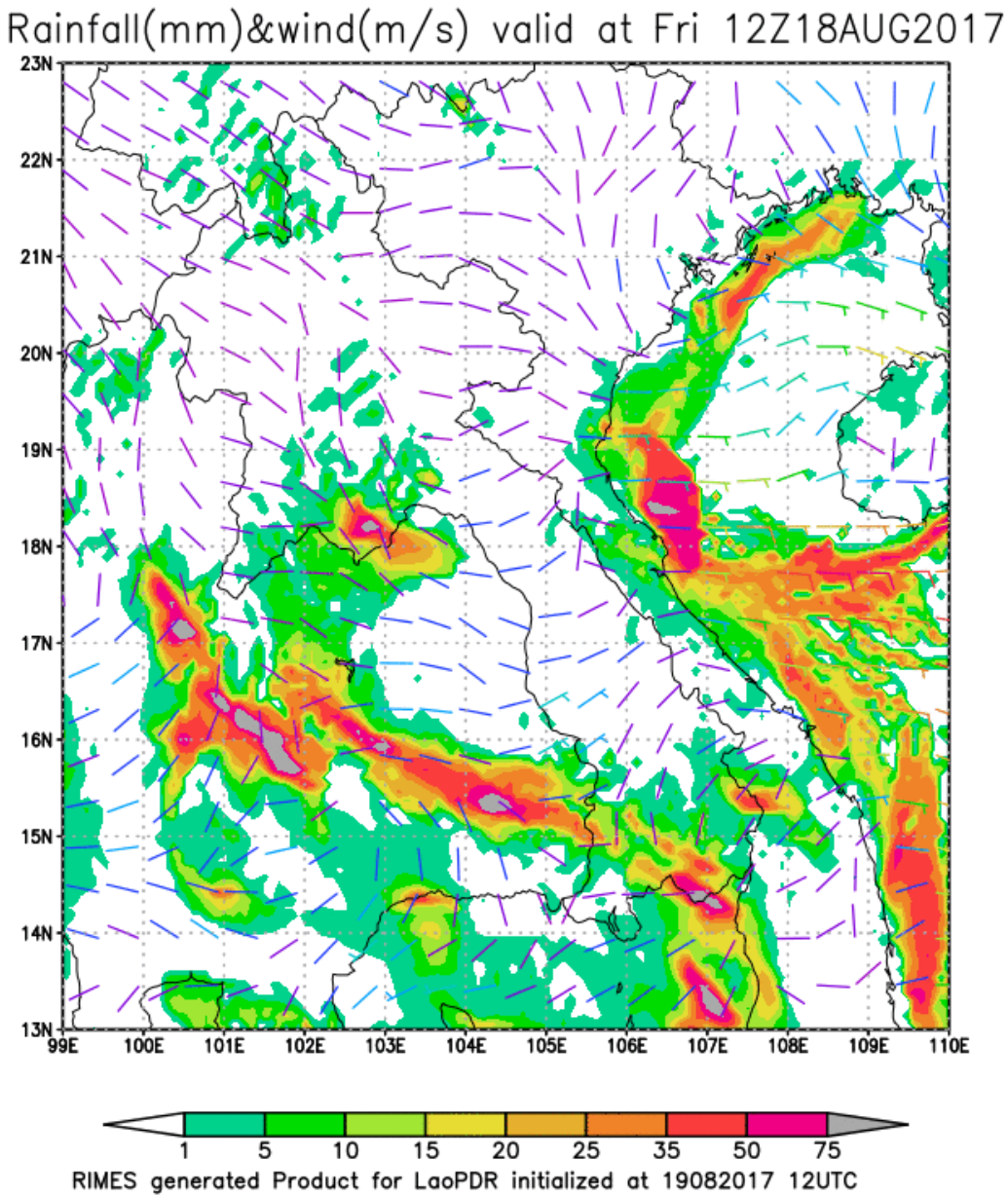
- Deterministic rainfall forecast for 10 days
- Customized from ECMWF data for Pakistan, Afghanistan, Nepal, Sri Lanka

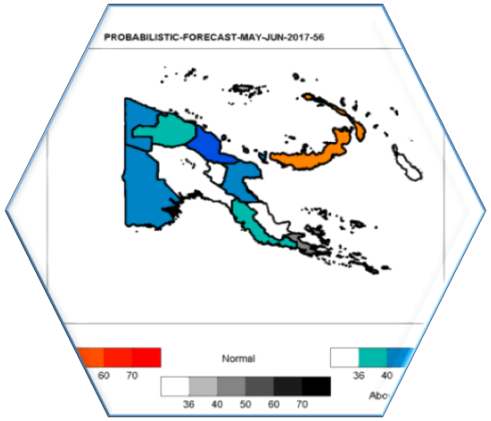






- High resolution 9km model downscaled using WRF
- Model initialized with NCEP-GFS forecast
- Experimentally Shared with
  - PNG, Myanmar, Cambodia, Sri Lanka, East Timor
- 12 hourly rainfall and wind speed and direction, Temperature
- Updated daily

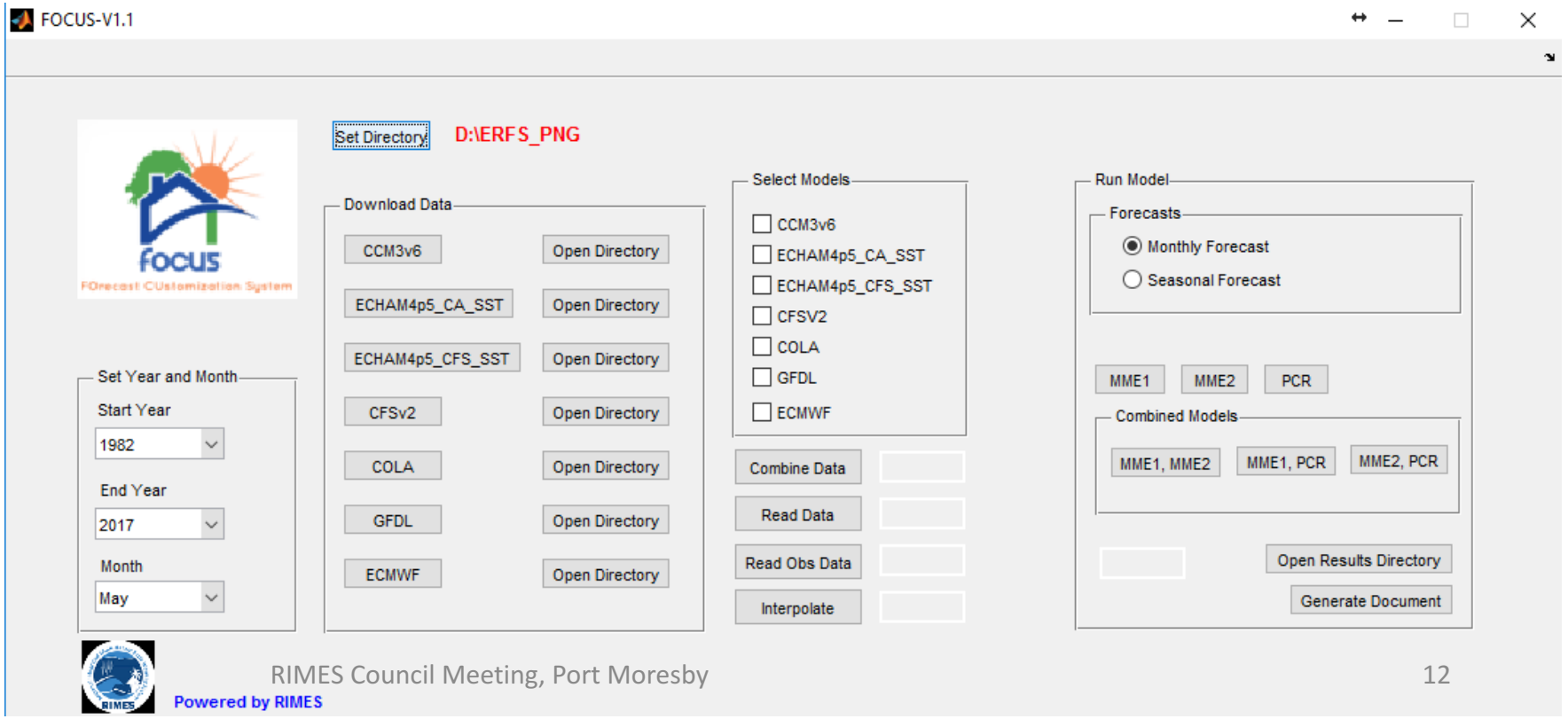




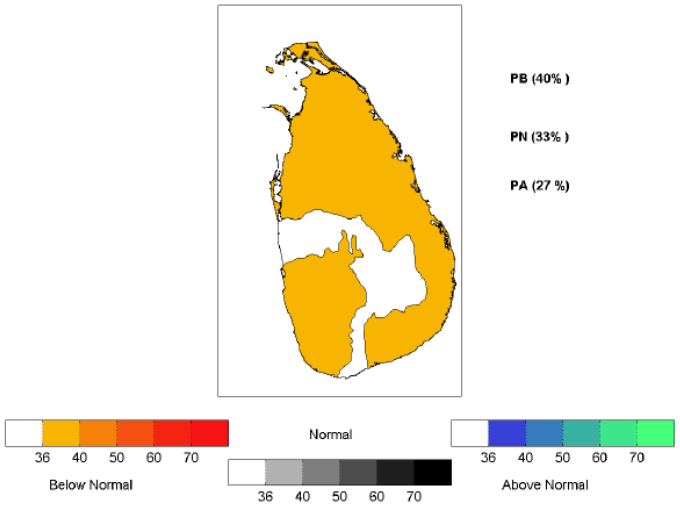
Long Range Forecast

Monthly & Seasonal

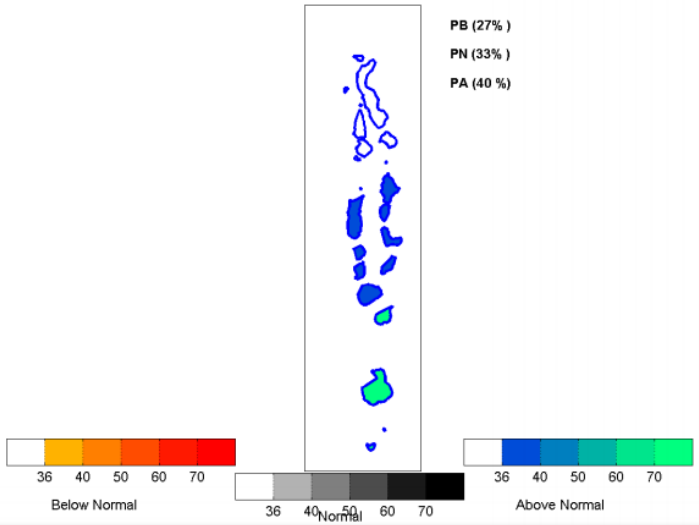
- Model customized based on Global climate model (GCMs)
- A empirical statistical technique for generating multi-model ensemble forecast
- Uses Historical synoptic observation as the predictand
- Experimentally used in:
  - Sri Lanka
  - Myanmar
  - Maldives
  - Bangladesh
  - PNG



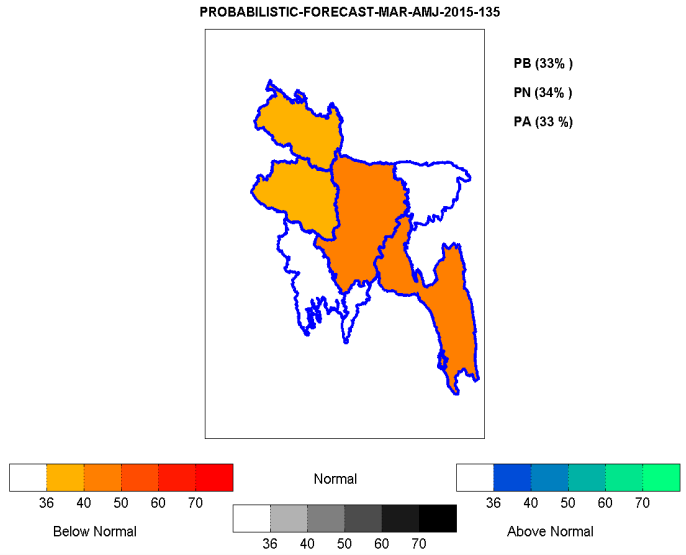
Sri Lanka



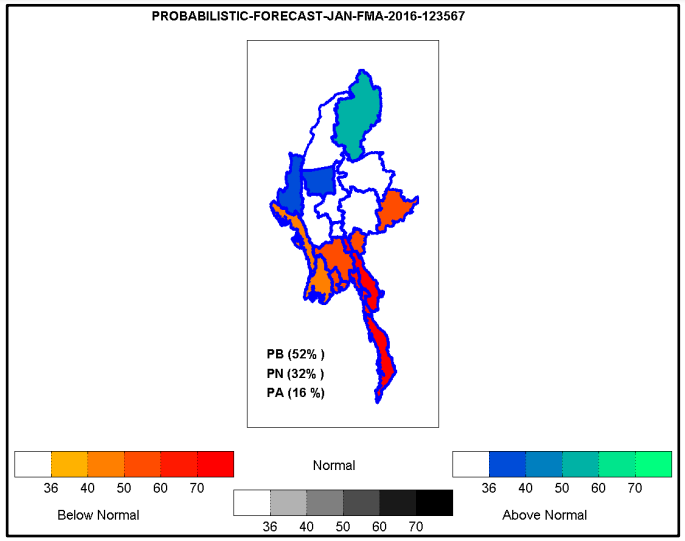
Maldives



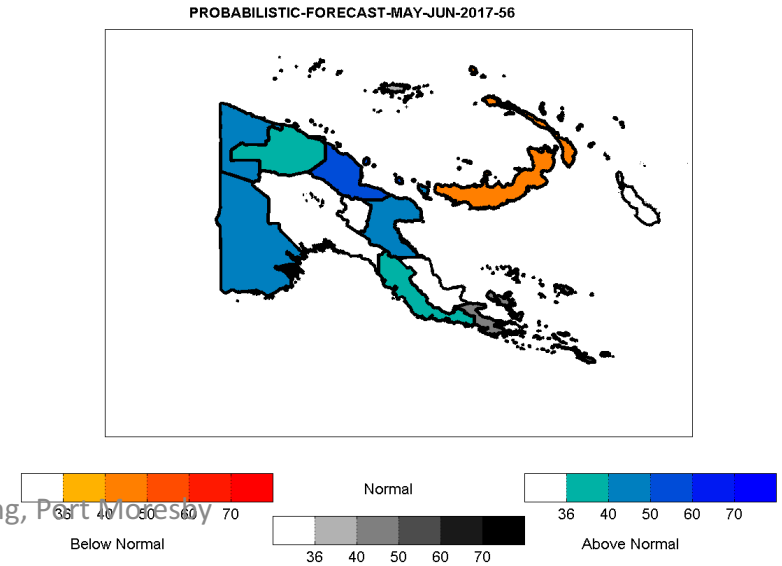
Bangladesh



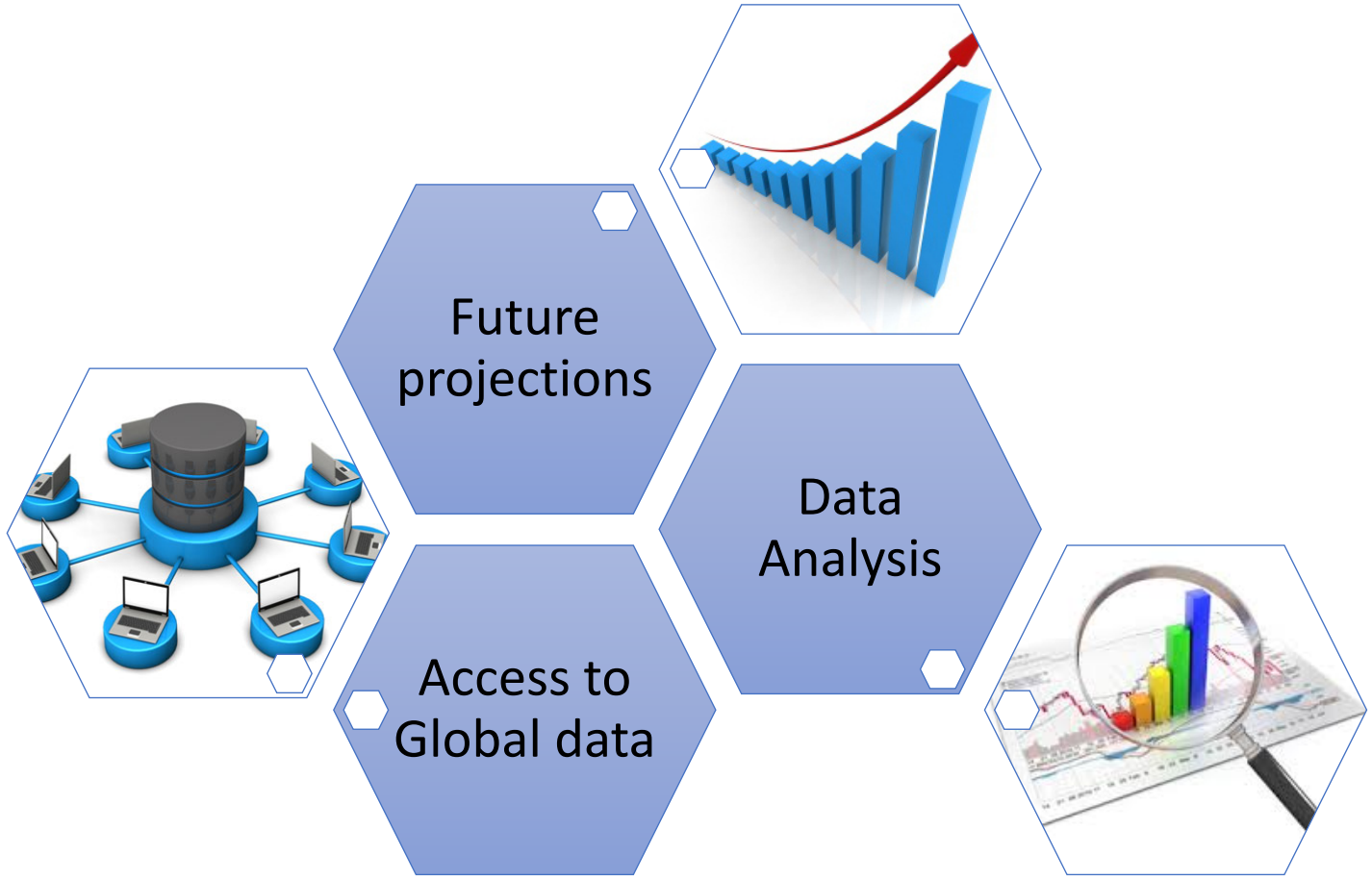
Myanmar



Papua New Guinea



CDAAS – Climate Data Access and Analysis System



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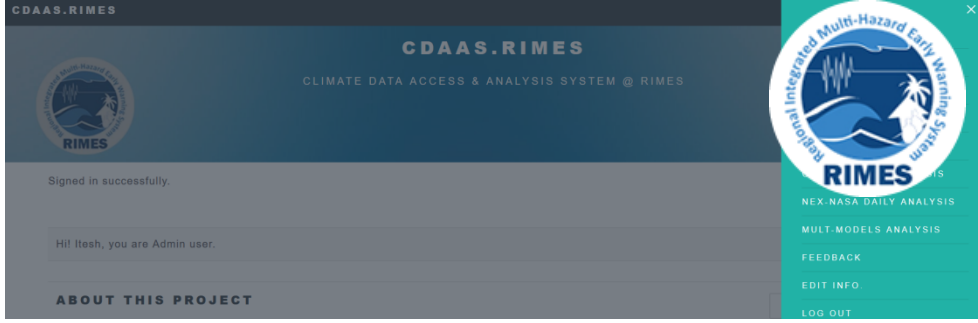
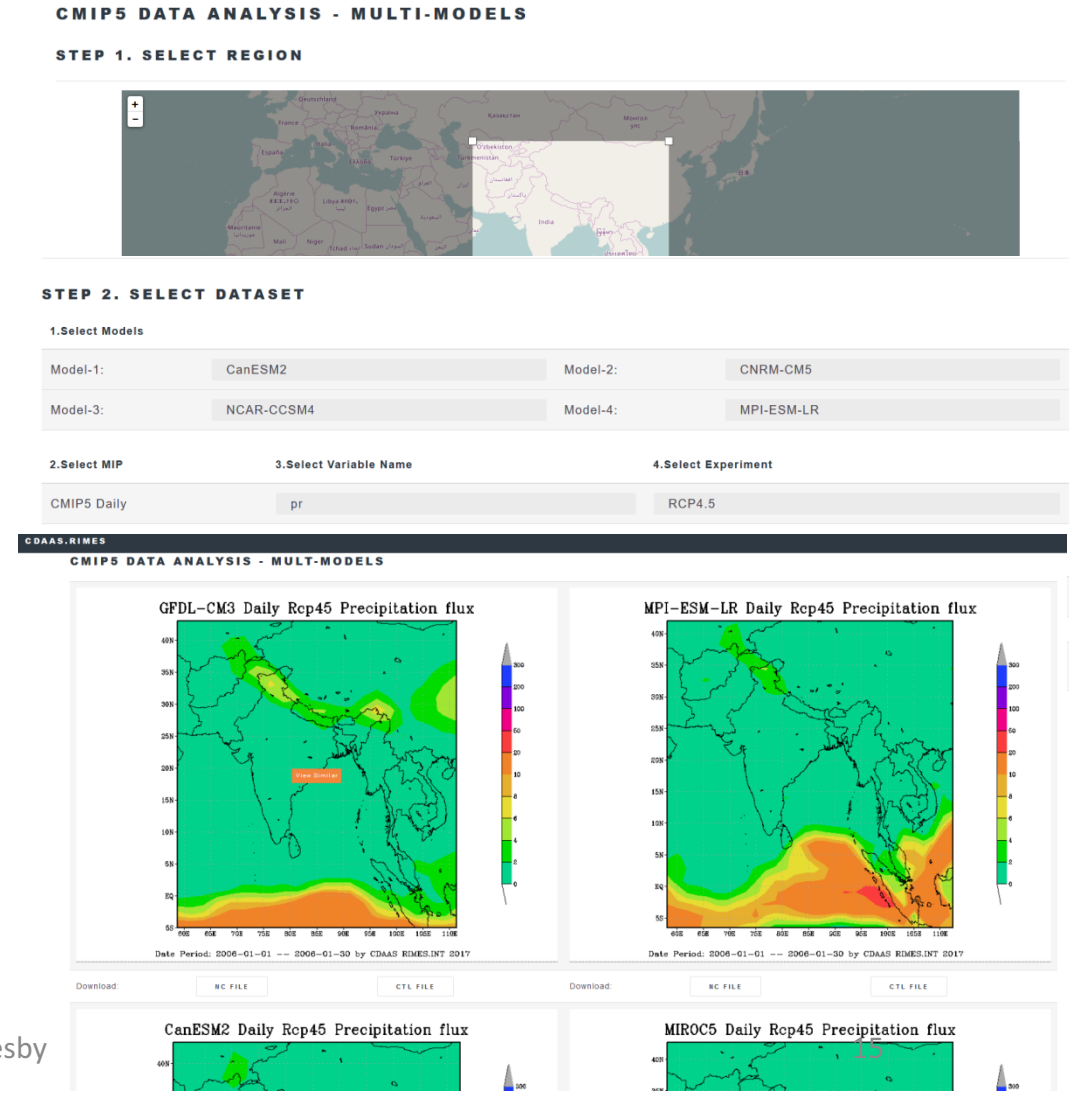


- Once stop Portal for accessing different global climate model outputs
- Simple and easy-to-use interface
- Lists out a number of CMIP5, CORDEX and NEX-NASA models
- Different access levels, with expert users are allowed to perform analysis on the datasets
- Background operations are handled with Climate Data Operator(CDO) and graphics with GrADS
- Perform multi model analysis on selected location or region



System Integration

Decision Support Systems and interventions specific to operational needs of sectoral agencies

01

Agriculture

- SESAME

02

Public Health

- CRISH

03

Disaster Management

- SMART

04

Ocean Services

OSFAS

05

Water Resources

- Flood, reservoir System

System Scalability and Sustenance

- Scalable
  - Easily scaled to larger domains and better forecast products in Member countries

- Sustenance
  - Built with open source software packages and free tools for customization as required
  - Low development and operational cost

- Capacity building on-demand
  - Operational users can be trained to maintain and update/upgrade systems


Regional Integrated Multi-Hazard Early Warning System
RIMES

Thank you