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กรมอตนิยมวิทยา
National Climate Center of Thailand (NCCT)
The Meteorological Department (TMD)

Application of ECPC G-RSM for Monthly to Seasonal Prediction in Thailand

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APEC Climate Symposium 2008, 19-21 August 2008, Museo de la Nacion (National Museum) Lima, Peru

TOPICS

- Introduction
- ECPC G-RSM
- Experiments
- Results
- Conclusion

Introduction

- Long Range Weather Forecast is base on the Global product from the international climate prediction centers,

- These products are difference value from grid point normal data and most are low-resolution in both temperal and spatial,

- Some, of the end-user need quantitative value to input to specific application; such as agriculture for crop yield estimation , hydrology for water resource management,

- To served the need of the public in various sectors, ECPC G-RSM model is address in TMD since 25 Aug 2007.

ECPC G-RSM

- Based on NCEP Year 2000 SFM and RSM.
- GSM and RSM merged.
  - Physics and their drivers are common to both GSM and RSM.
- User friendly interface (g-rsm.wikispaces.com)
- Only atmospheric model used by ECPC

ECPC G-RSM (cont)

Experiments

GSM: Global Spectral Model (T248L28)

Area: Global

Initial Condition: 00UTC GFS Analysis

Boundary Condition : 00UTC GDAS SST Analysis

Resolution: T248L28 (0.5 degree x 0.5 degree)

Time Step: 450 Sec.

Ensemble: 1 member

OS: Linux Cluster (x86_64)

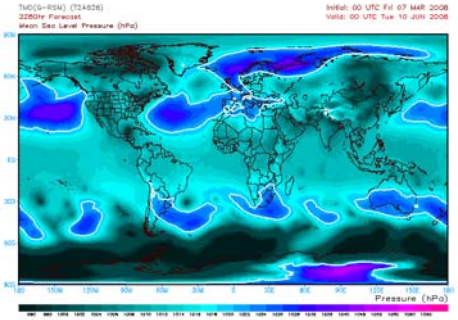
Data output format: GRIB

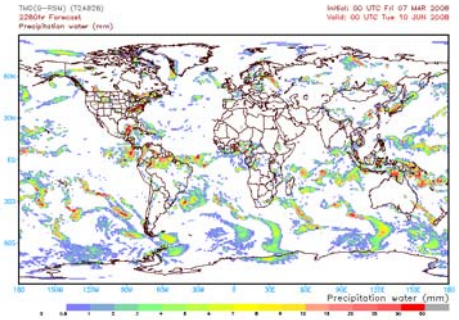
Experiments (cont)

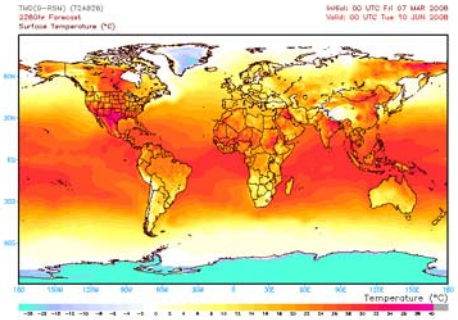
Time Integrations

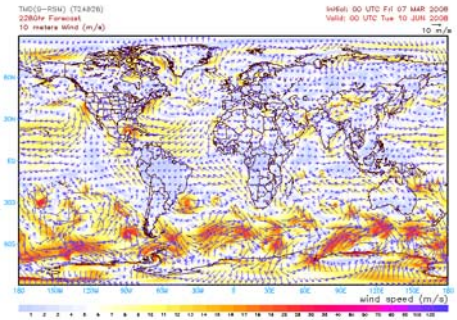
- one month (34-days)
- four month (120-days)

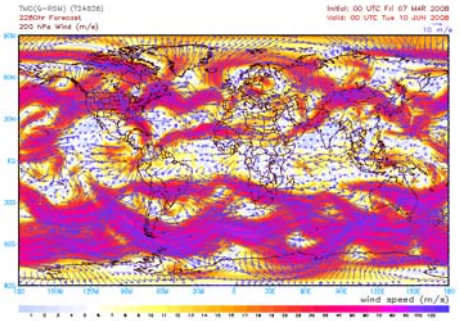
Results (global view)

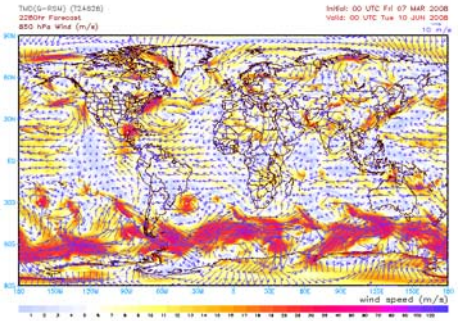












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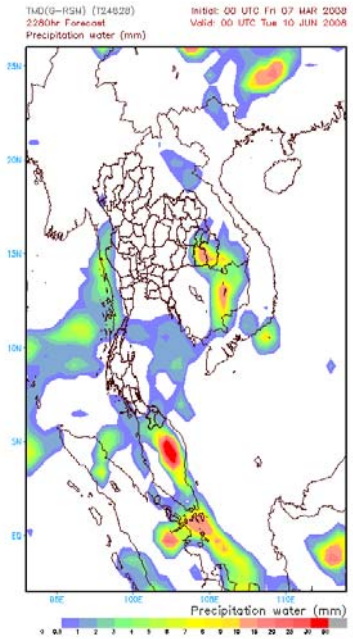
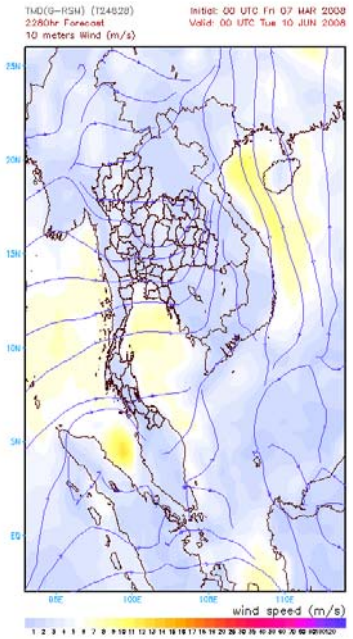
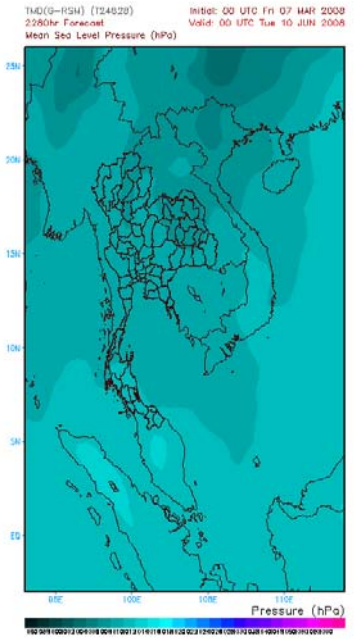
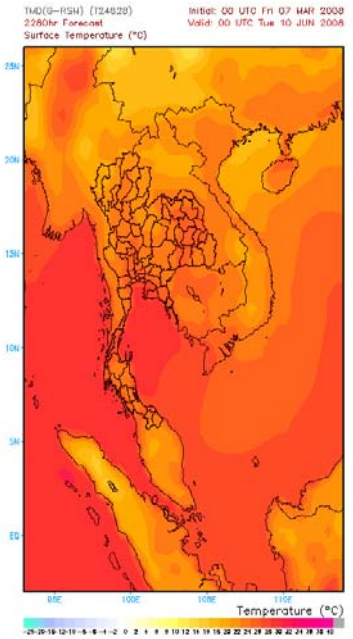
Results (Thailand – view)









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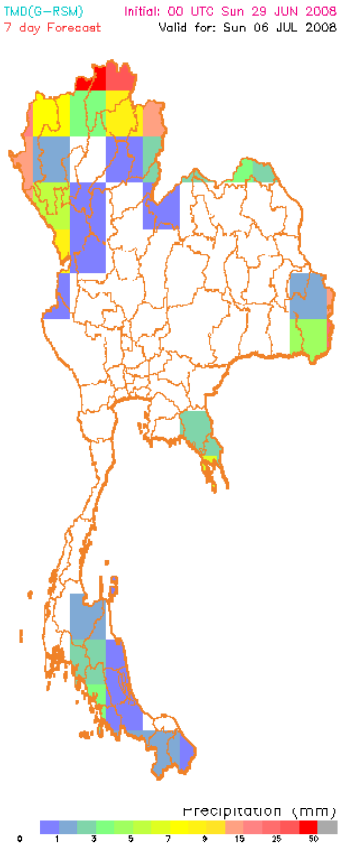
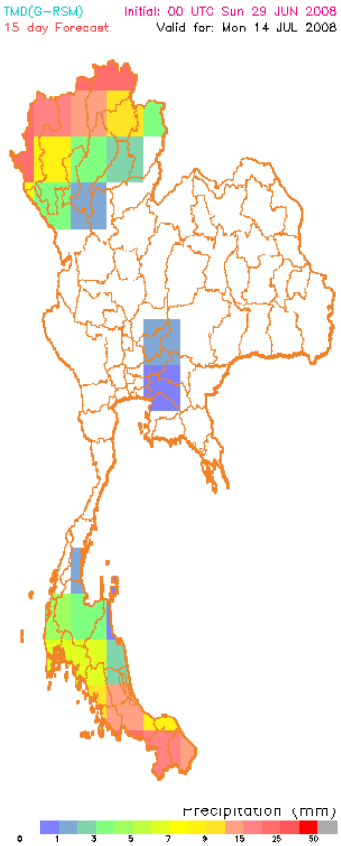
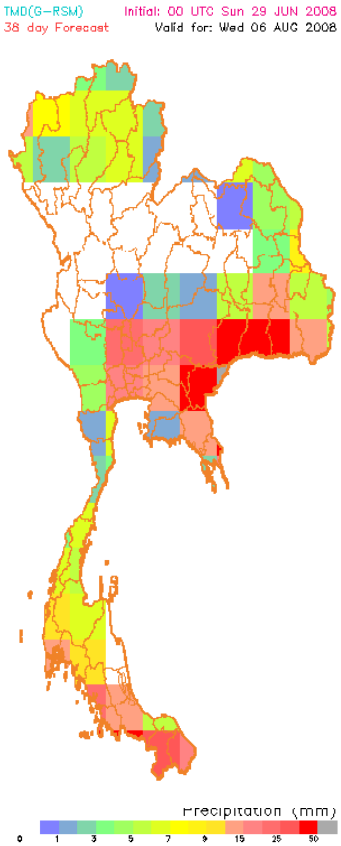
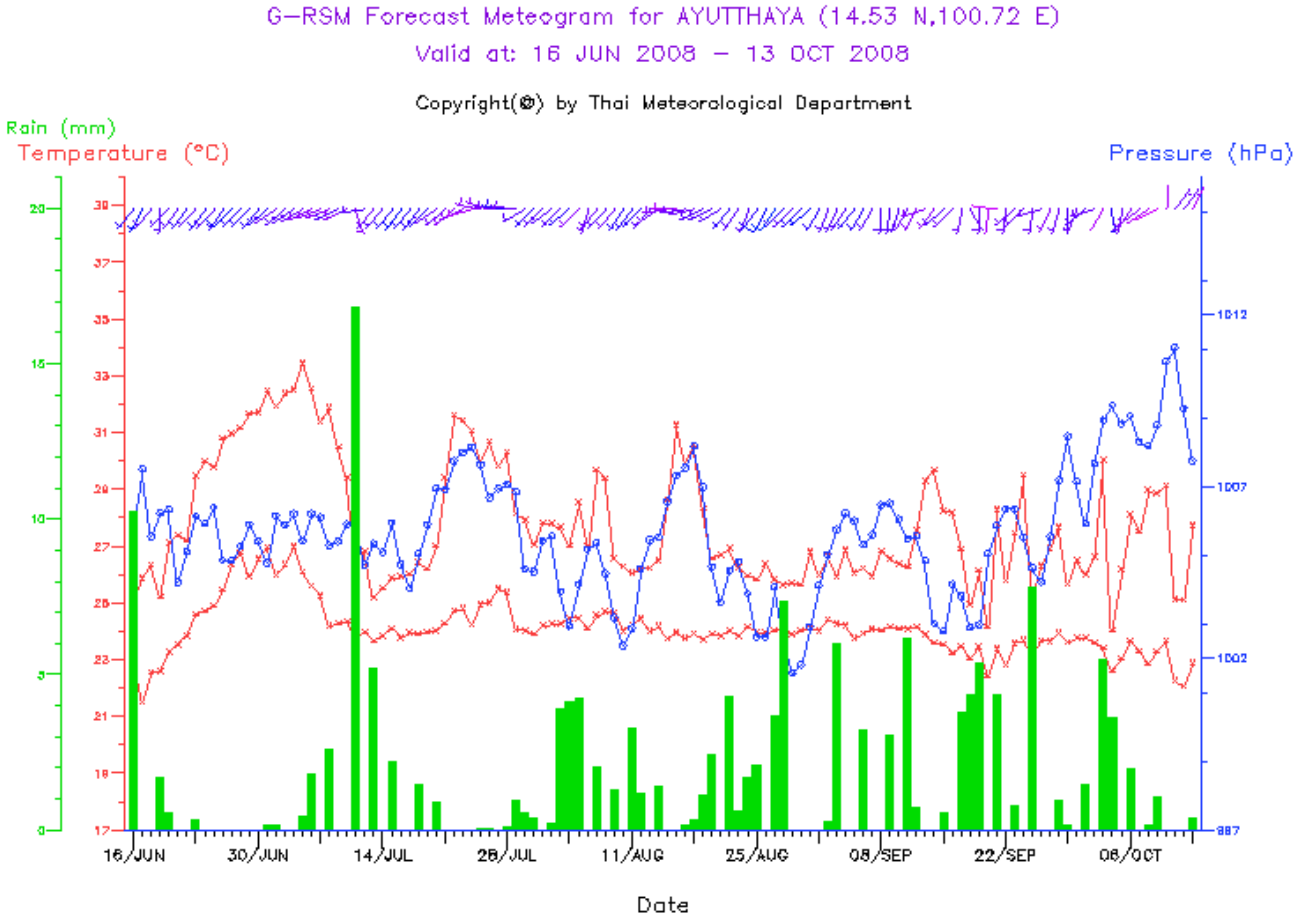
Results (Period – view)



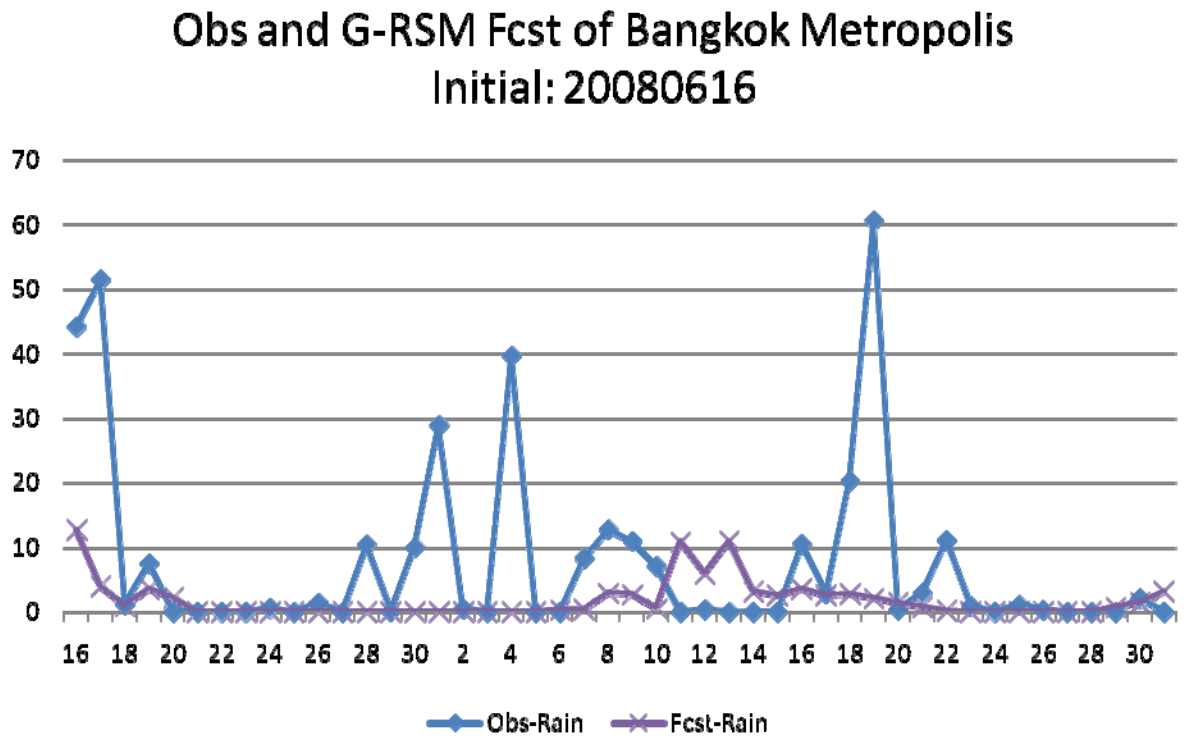




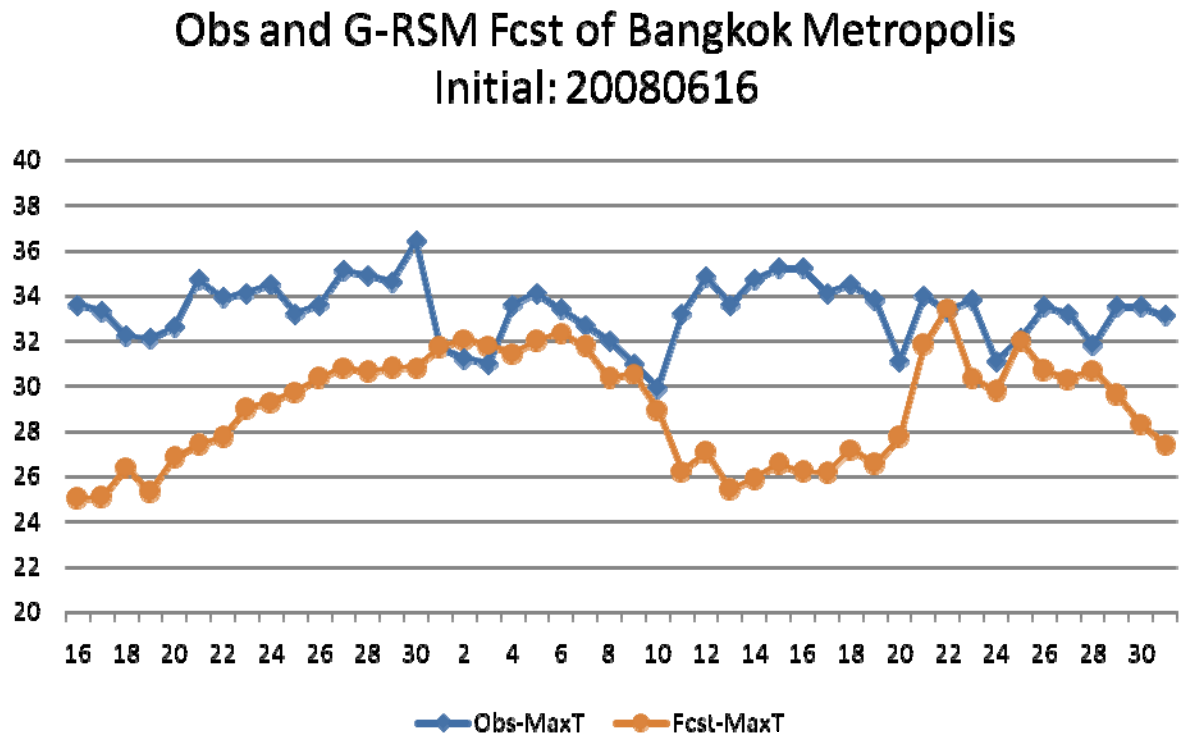
Results (meteogram)



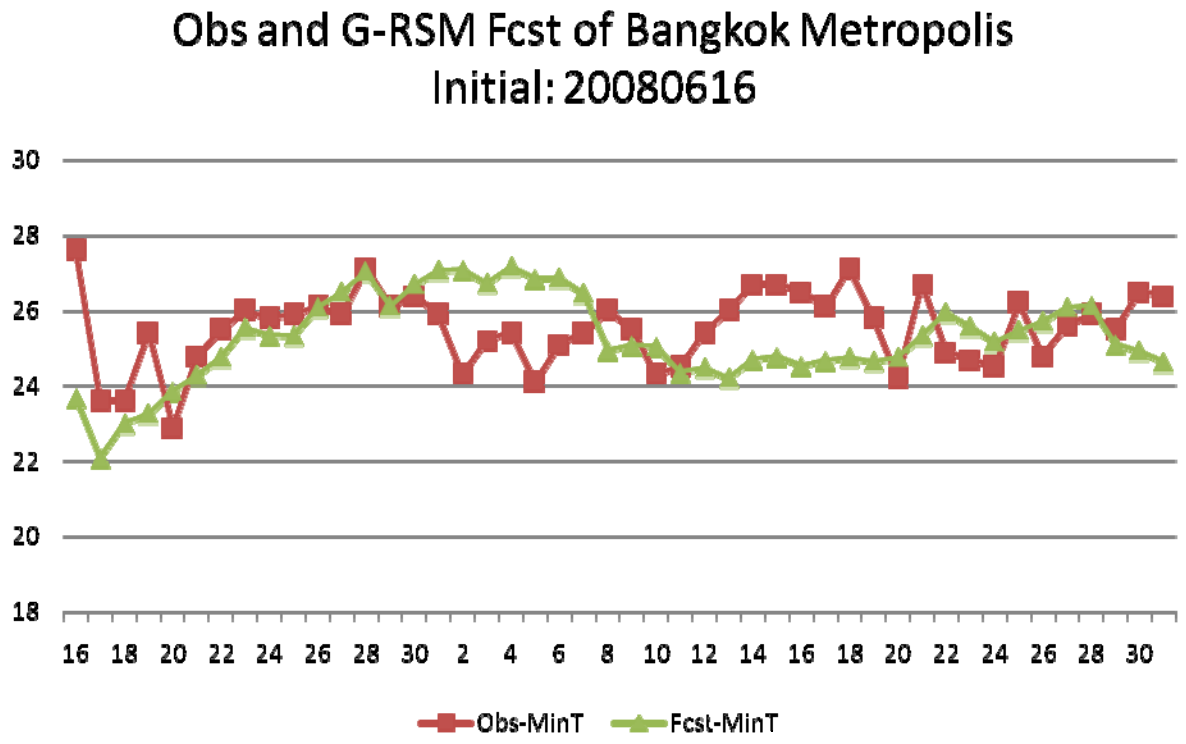
Results (Rainfall)



Results (Maximum Temperature)



Results (Minimum Temperature)



Conclusion

- ECPC G-RSM is useful for climate prediction
- Monthly and Seasonal prediction with GFS and GDAS data analysis
- Temperature estimation is more accuracy than precipitation
- To operate in routine, need more ensemble member

Thank you for your attention

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