



MME seasonal forecast

NGUYEN DUC HOA

**National Center for Hydro-Meteorological Forecasting
(NCHMF)**

NCHMF

APCC - 1st, November, 2006

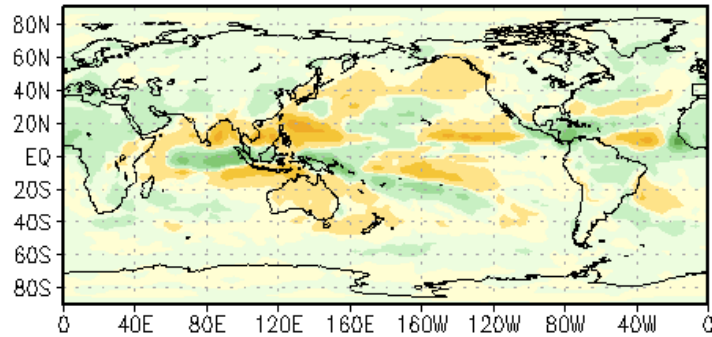


selection

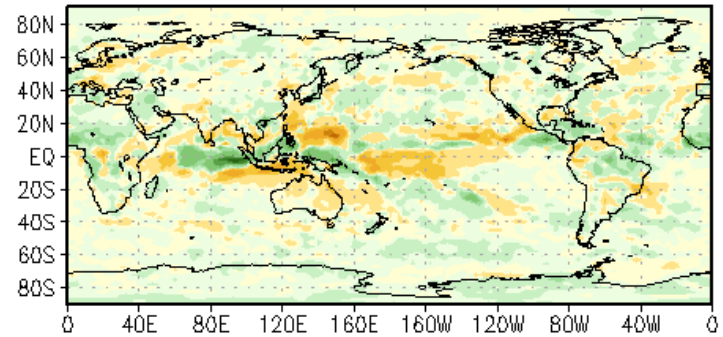
- Models for rerun:**
 - + CWB, MGO, NCEP, IRI, METRI, IRIF, NCC, GDAPS_O, GDAPS_F for MME forecast**
 - + CWB, MGO, NCEP, IRI, METRI for probabilistic forecast.**
- Variables:**
 - + Precipitation**
 - + Temperature at 850hPa**
 - + Geopotential height at 500hPa**

Seasonal Forecast for Global Precipitation Anomaly SON 2006

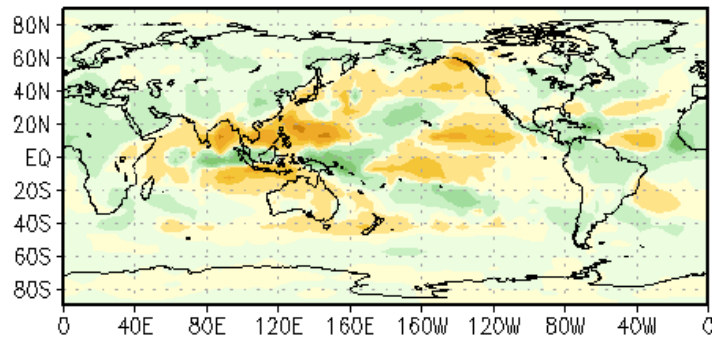
Simple Composite (MME I)



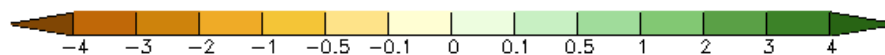
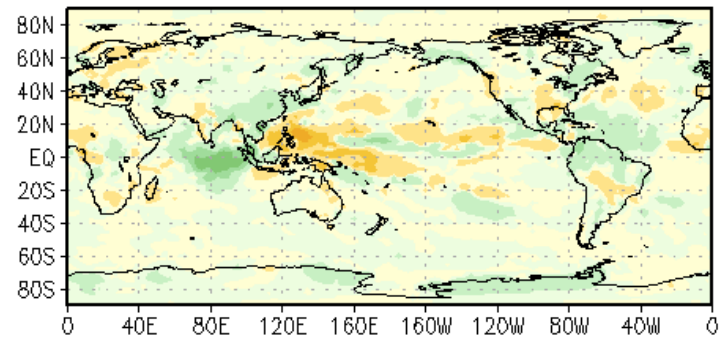
Multiple Regression (MME II)



CPPM (MME III)



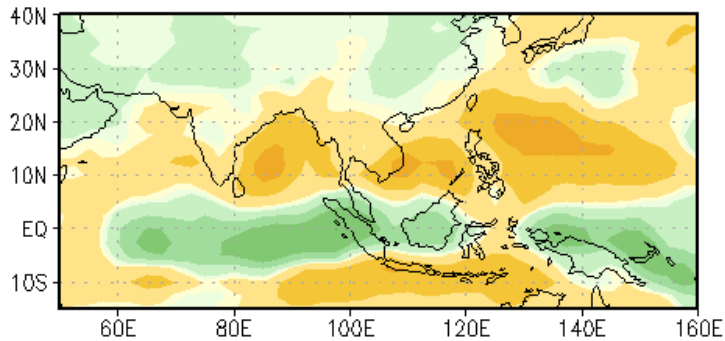
Synthetic Ensemble (MME IV)



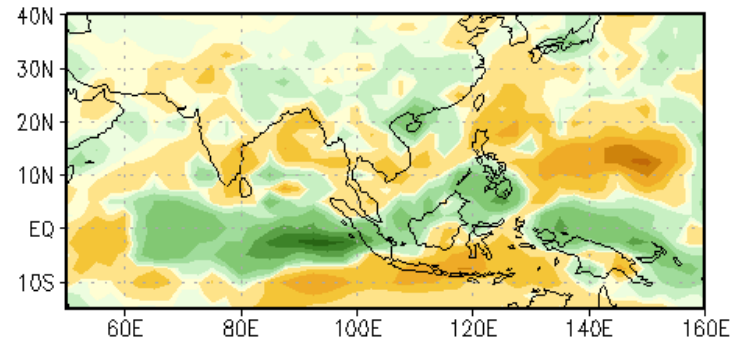
Seasonal Forecast for South Asia

Precipitation Anomaly SON 2006

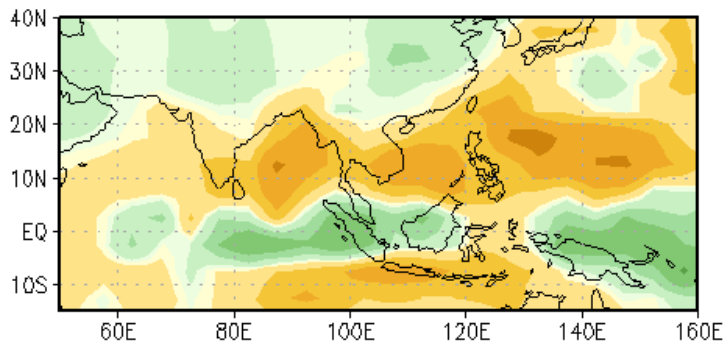
Simple Composite (MME I)



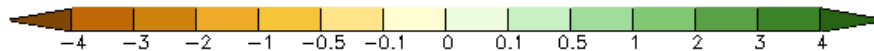
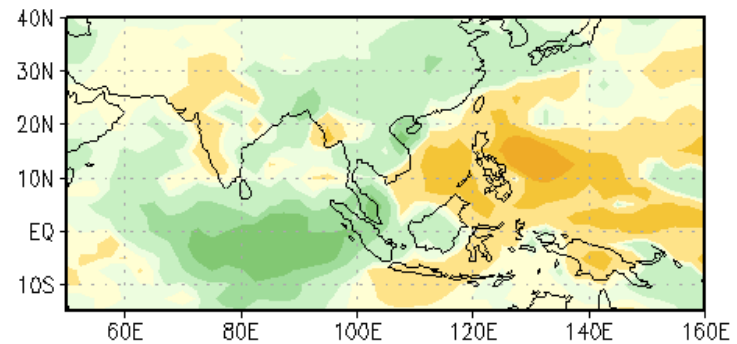
Multiple Regression (MME II)



CPPM (MME III)

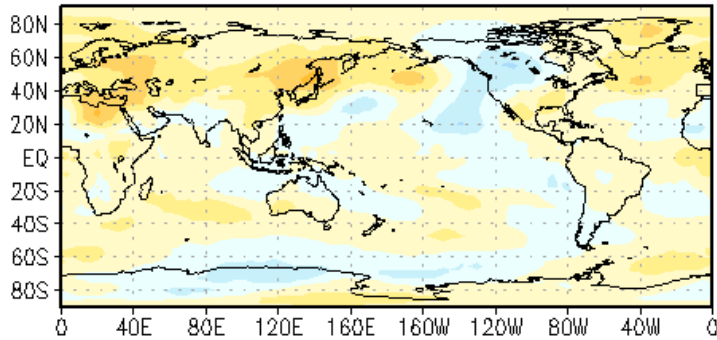


Synthetic Ensemble (MME IV)

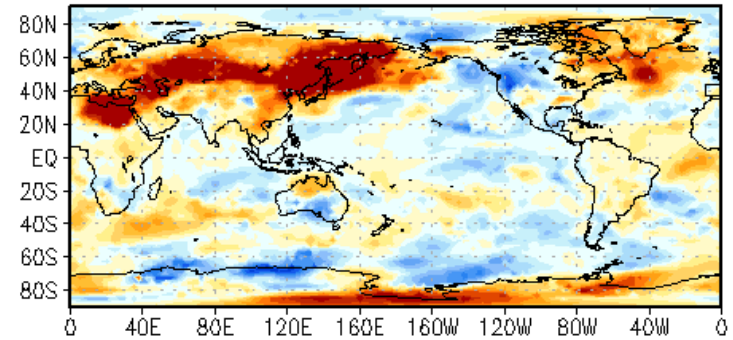


Seasonal Forecast for Global Temperature Anomaly at 850 hPa for SON 2006

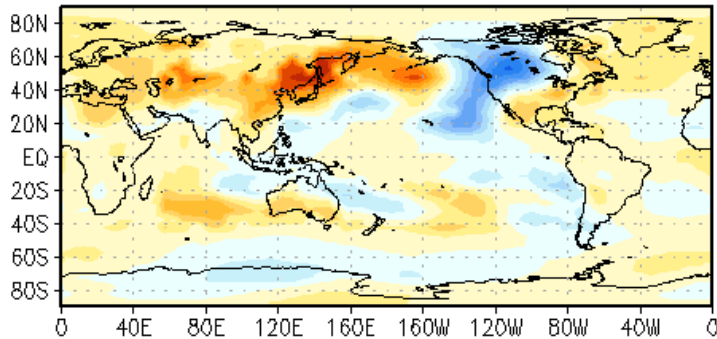
Simple Composite (MME I)



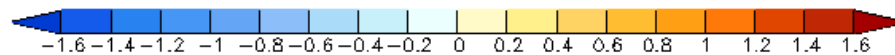
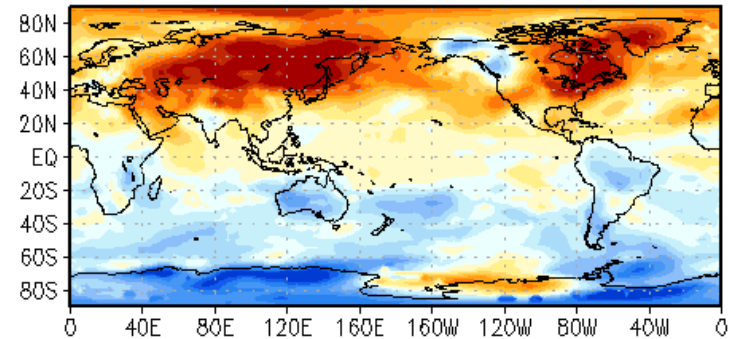
Multiple Regression (MME II)



CPPM (MME III)



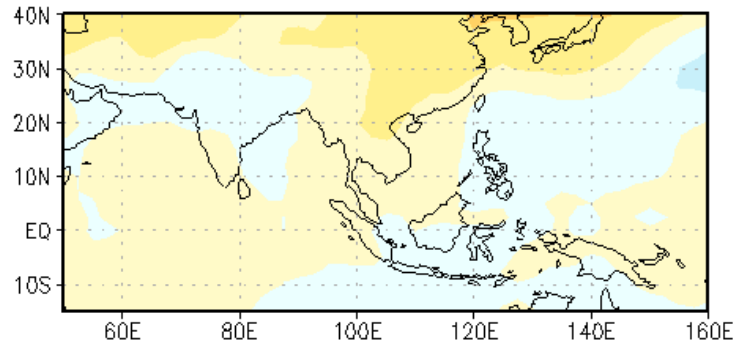
Synthetic Ensemble (MME IV)



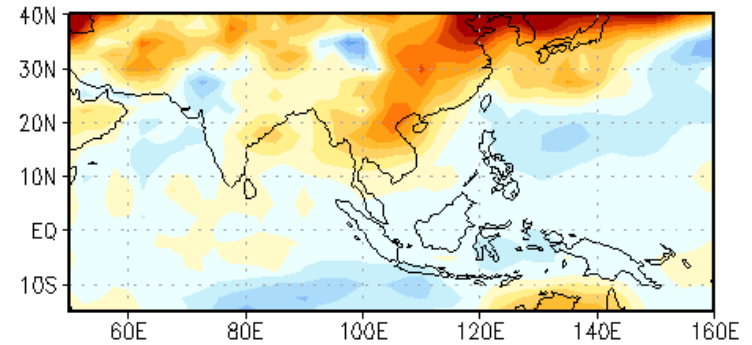
Seasonal Forecast for South Asia

Temperature Anomaly at 850 hPa for SON 2006

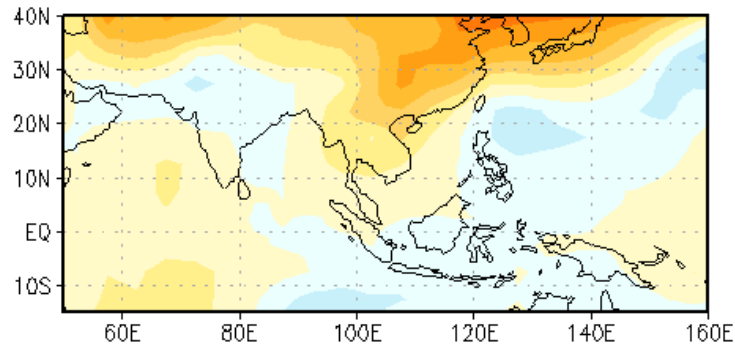
Simple Composite (MME I)



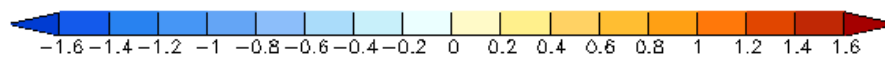
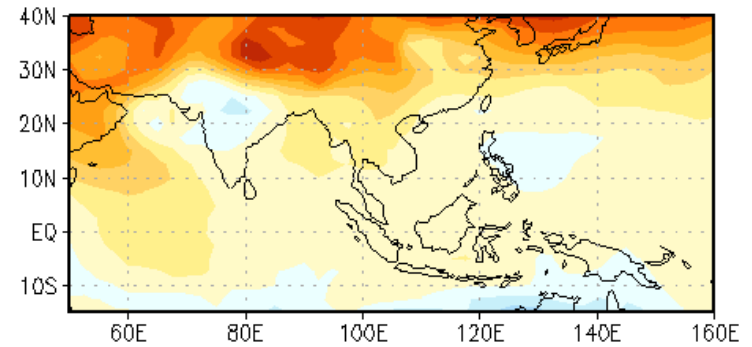
Multiple Regression (MME II)



CPPM (MME III)

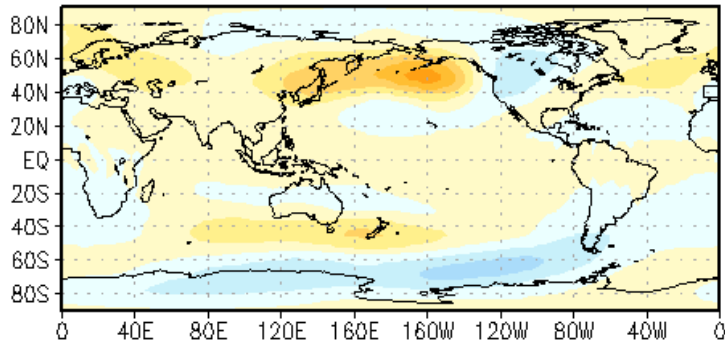


Synthetic Ensemble (MME IV)

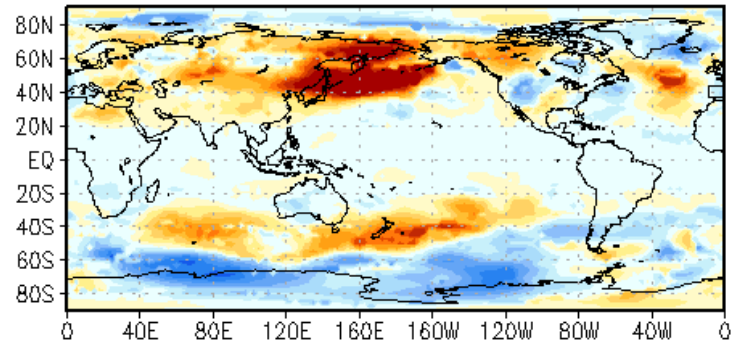


Seasonal Forecast for Global Geopotential Height Anomaly at 500 hPa for SON 2006

Simple Composite (MME I)

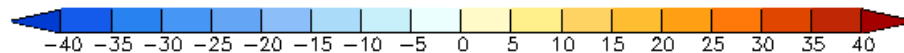
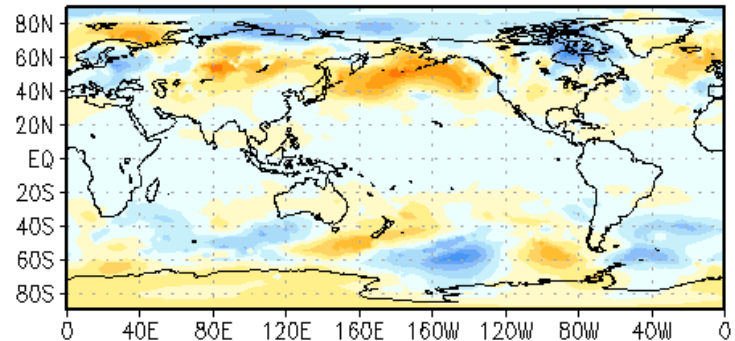


Multiple Regression (MME II)



CPPM (MME III)

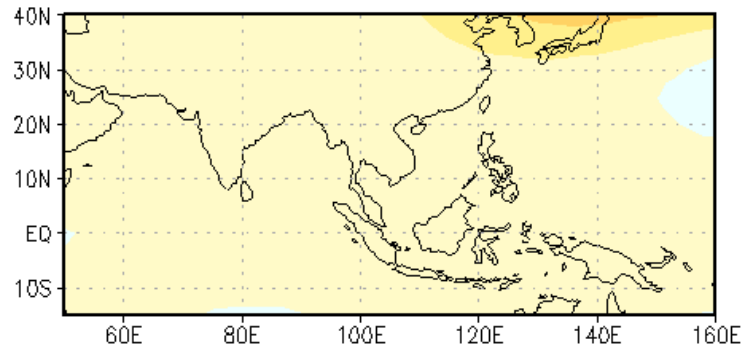
Synthetic Ensemble (MME IV)



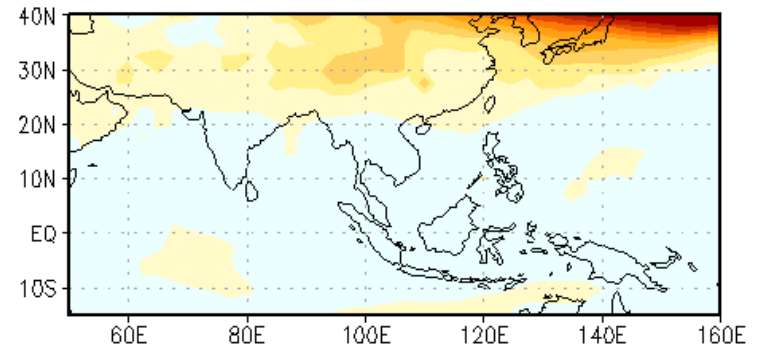
Seasonal Forecast for South Asia

Geopotential Height Anomaly at 500 hPa for SON 2006

Simple Composite (MME I)

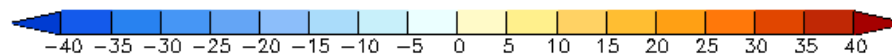
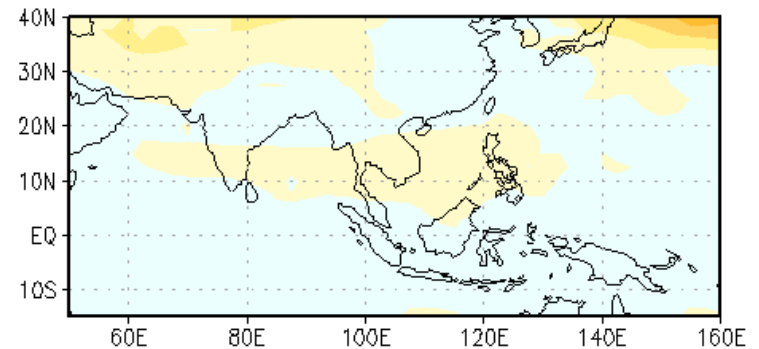


Multiple Regression (MME II)



CPPM (MME III)

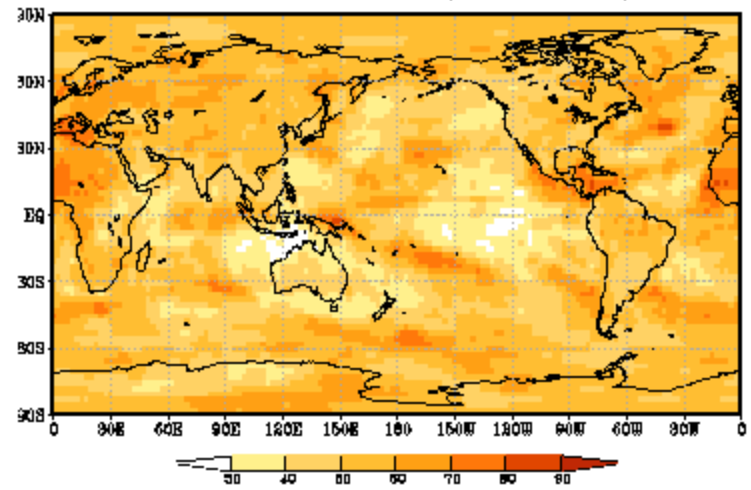
Synthetic Ensemble (MME IV)



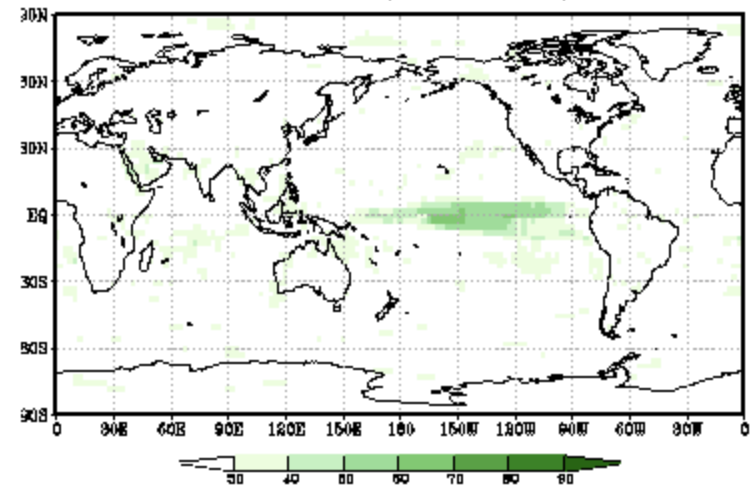


Probabilistic PREC Forecast for 2006 Autumn(%)

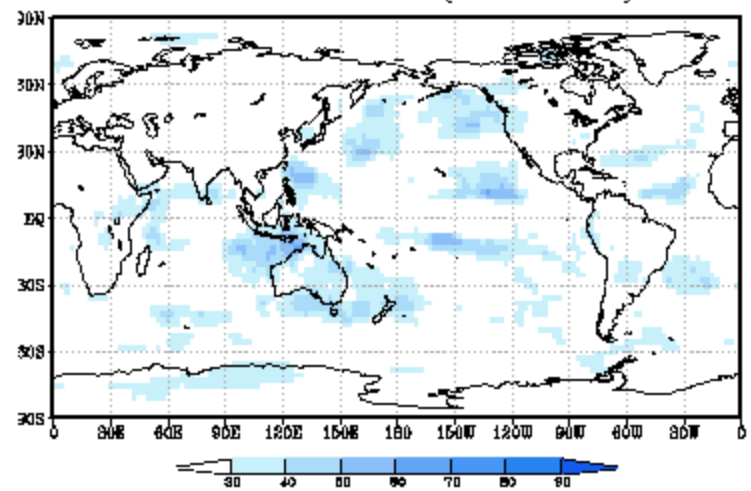
ABOVE NORMAL (SON 2006)



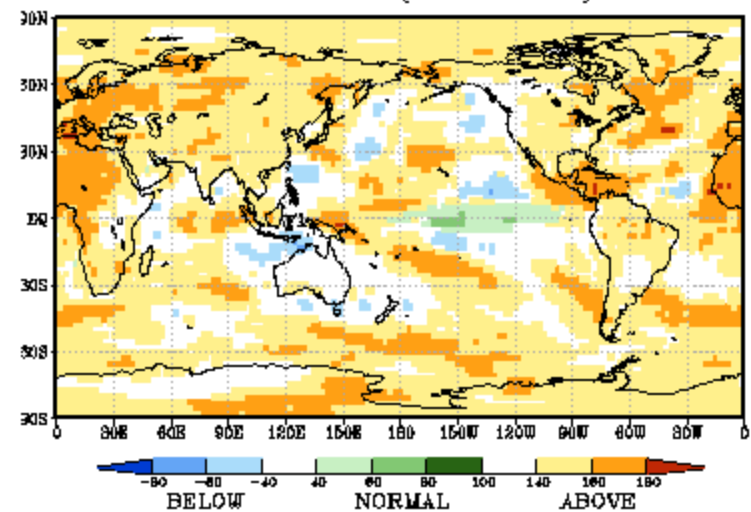
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)



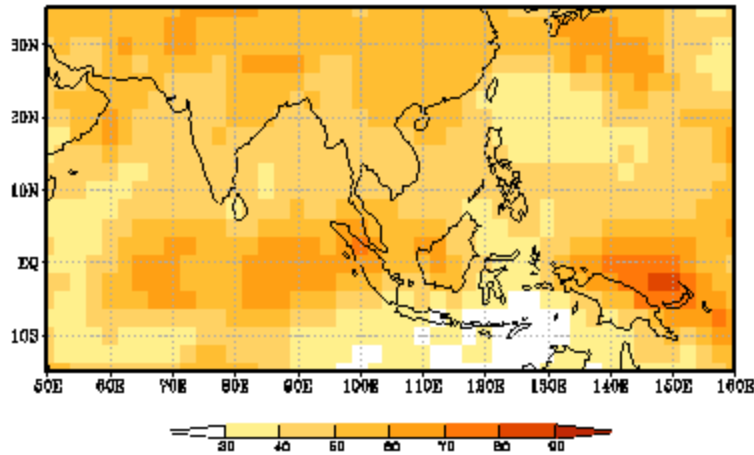
COMBINED (SON 2006)



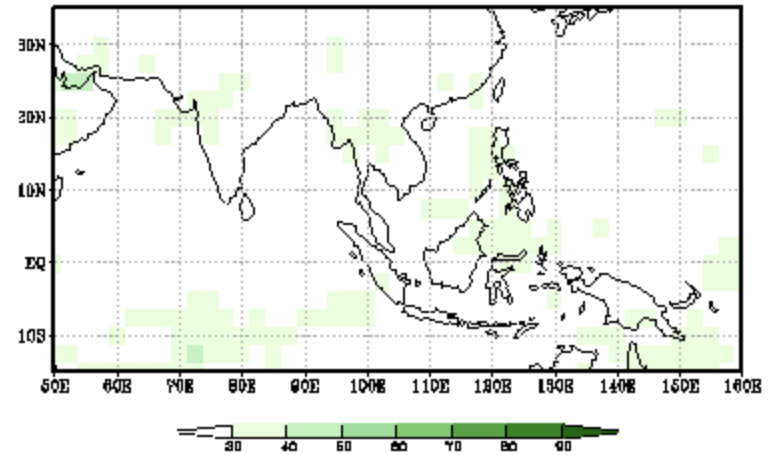


Probabilistic PREC Forecast for 2006 Autumn(%)

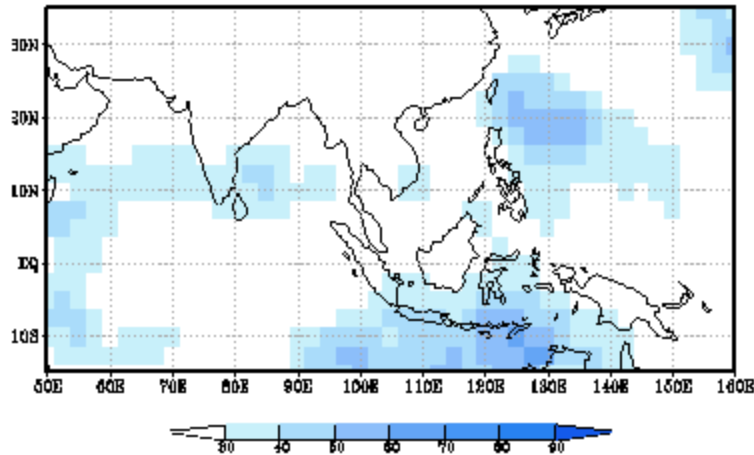
ABOVE NORMAL (SON 2006)



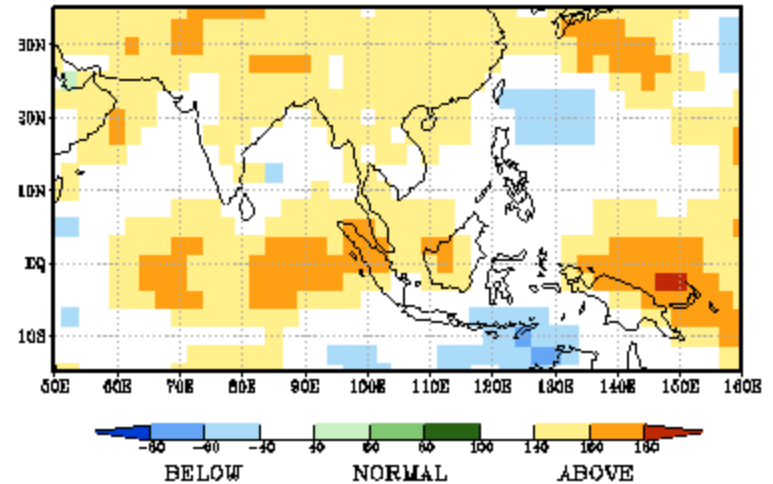
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)

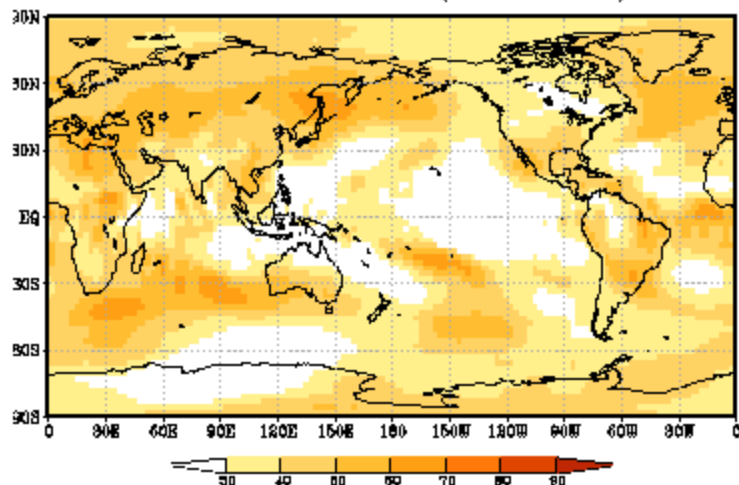


COMBINED (SON 2006)

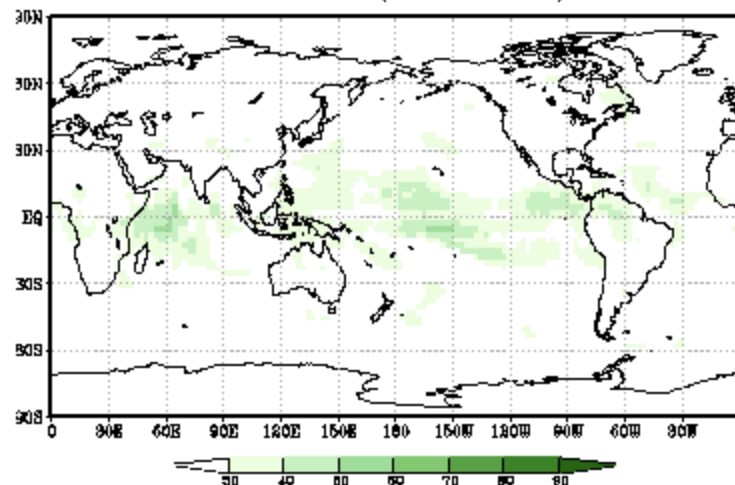


Probabilistic T850 Forecast for 2006 Autumn(%)

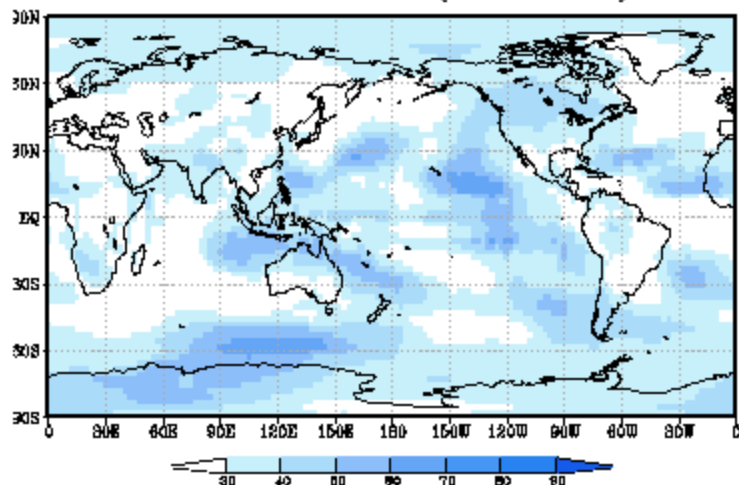
ABOVE NORMAL (SON 2006)



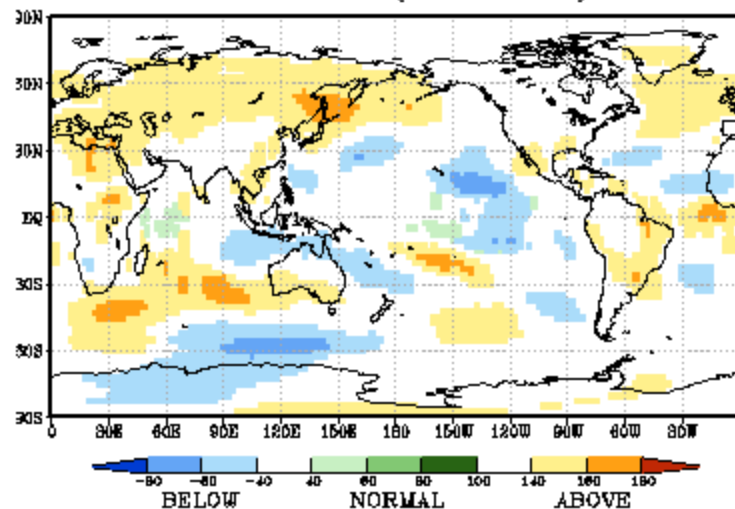
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)

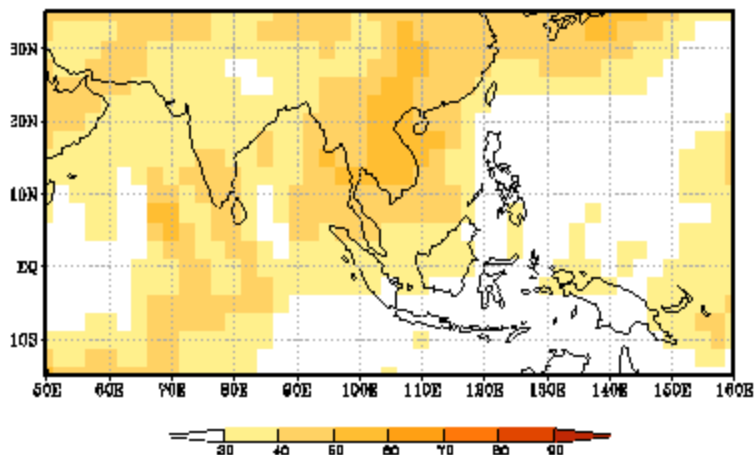


COMBINED (SON 2006)

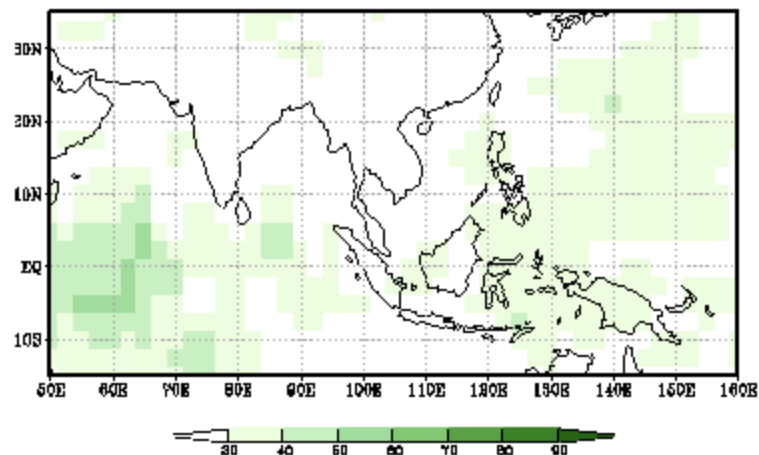


Probabilistic T850 Forecast for 2006 Autumn(%)

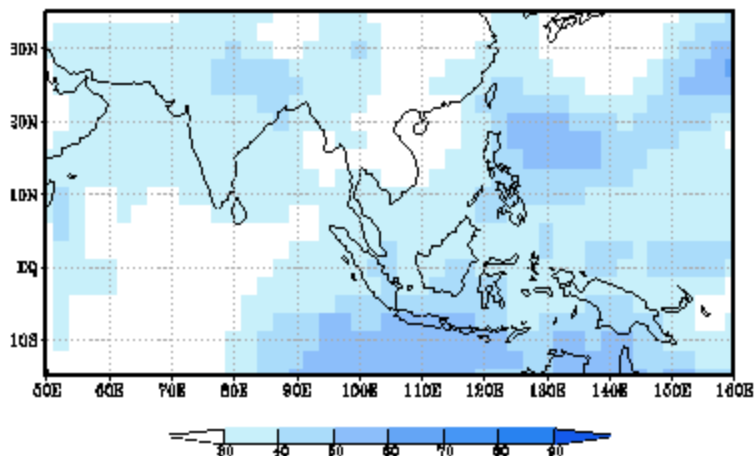
ABOVE NORMAL (SON 2006)



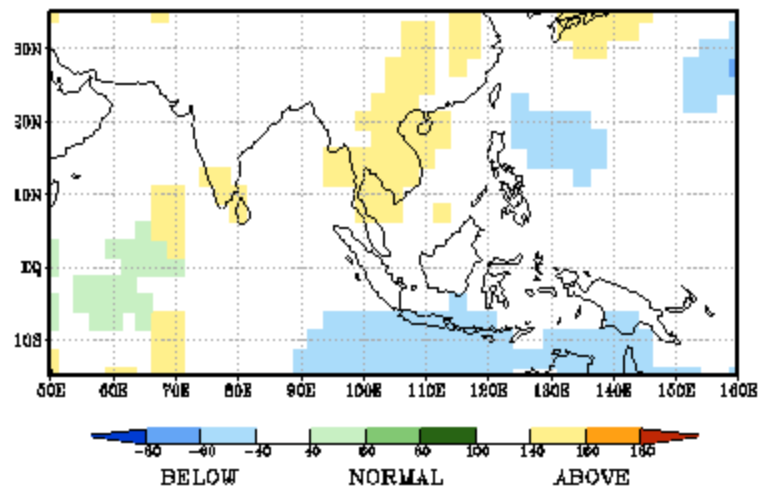
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)

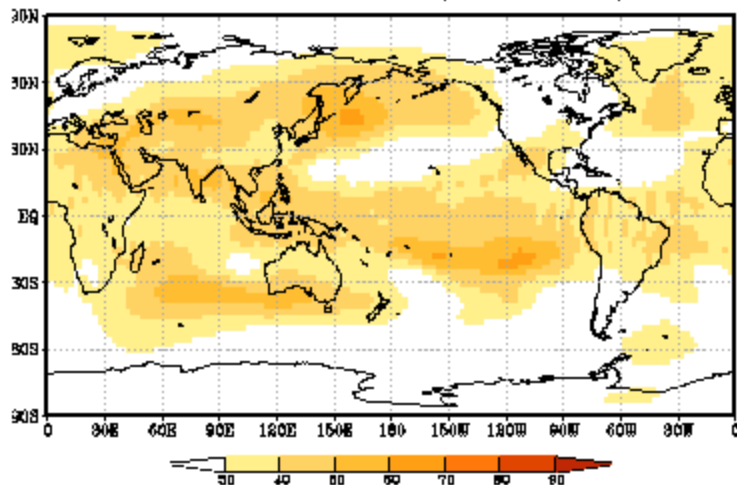


COMBINED (SON 2006)

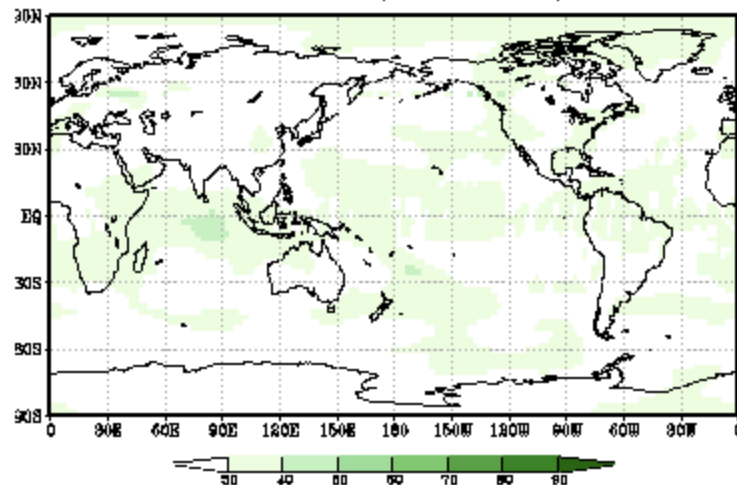


Probabilistic Z500 Forecast for 2006 Autumn(%)

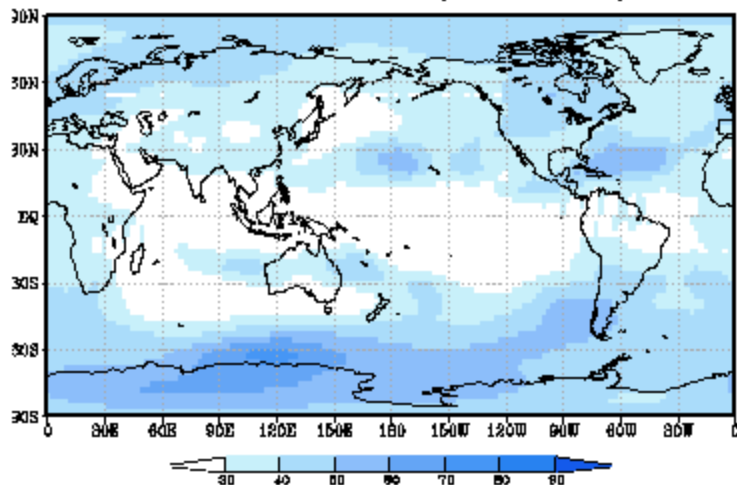
ABOVE NORMAL (SON 2006)



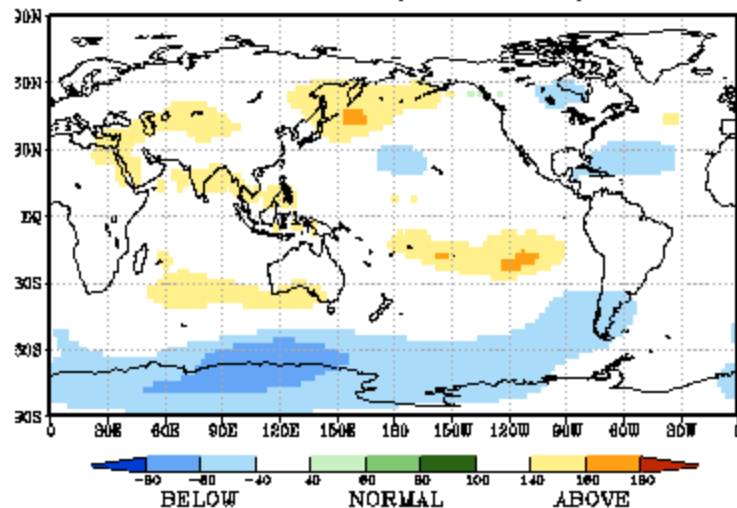
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)



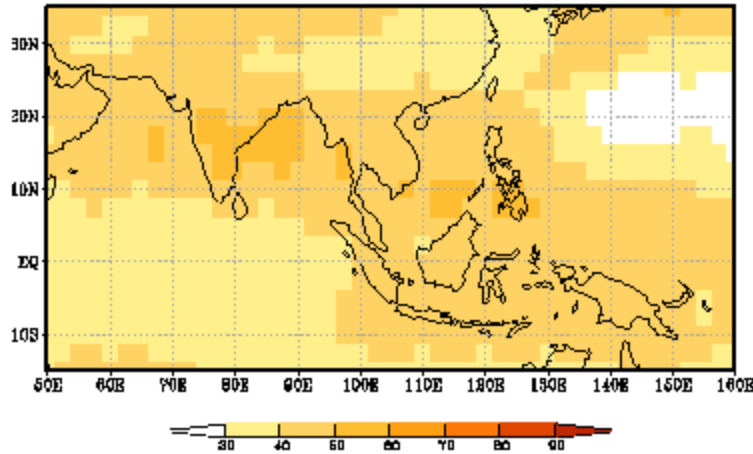
COMBINED (SON 2006)



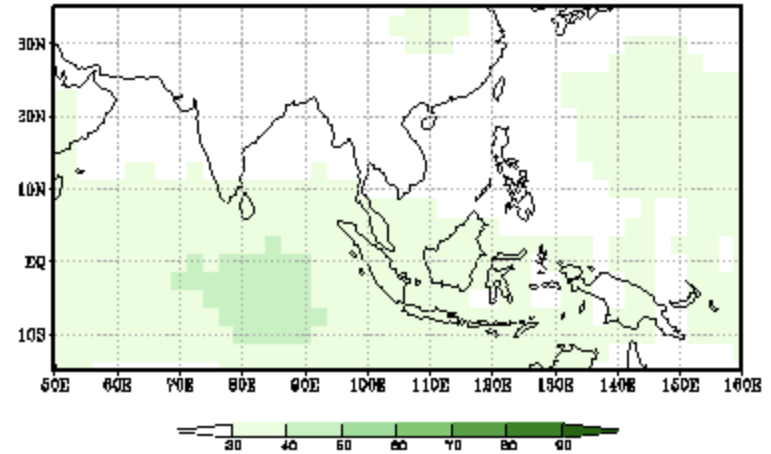


Probabilistic Z500 Forecast for 2006 Autumn(%)

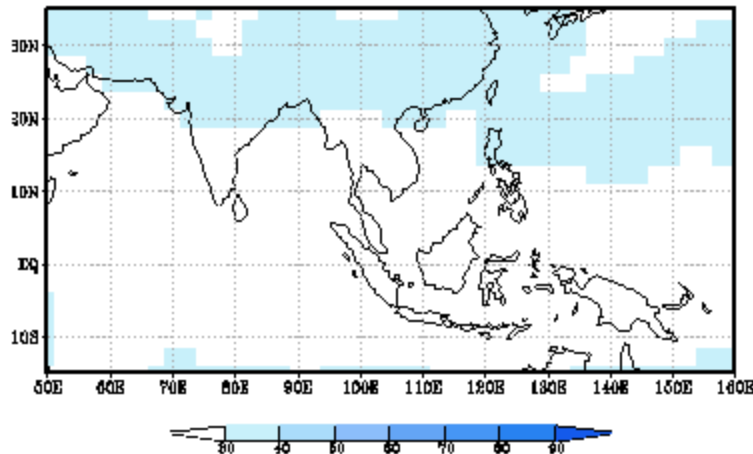
ABOVE NORMAL (SON 2006)



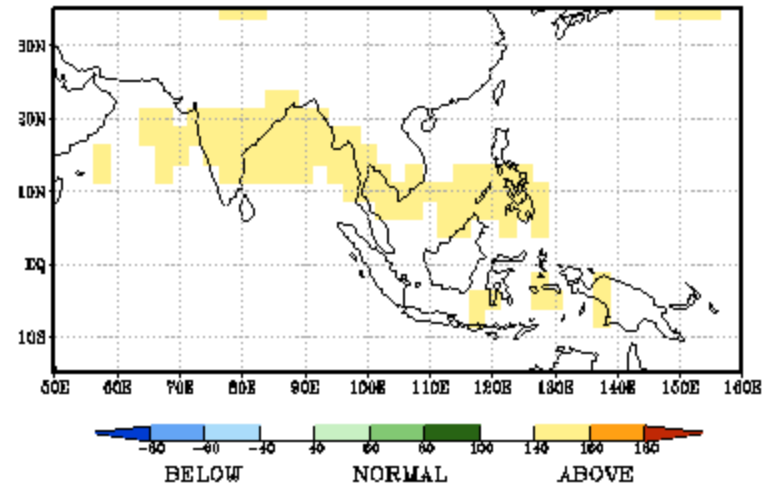
NORMAL (SON 2006)



BELOW NORMAL (SON 2006)



COMBINED (SON 2006)





SumMary

Forecast over South Asia:

- **Precipitation: Prevailing of below normal precipitation over Western Pacific ocean, Northern Indian ocean and above normal over equator area.**
- **Temperature: Prevailing of normal and above normal temperature over maritime continent.**

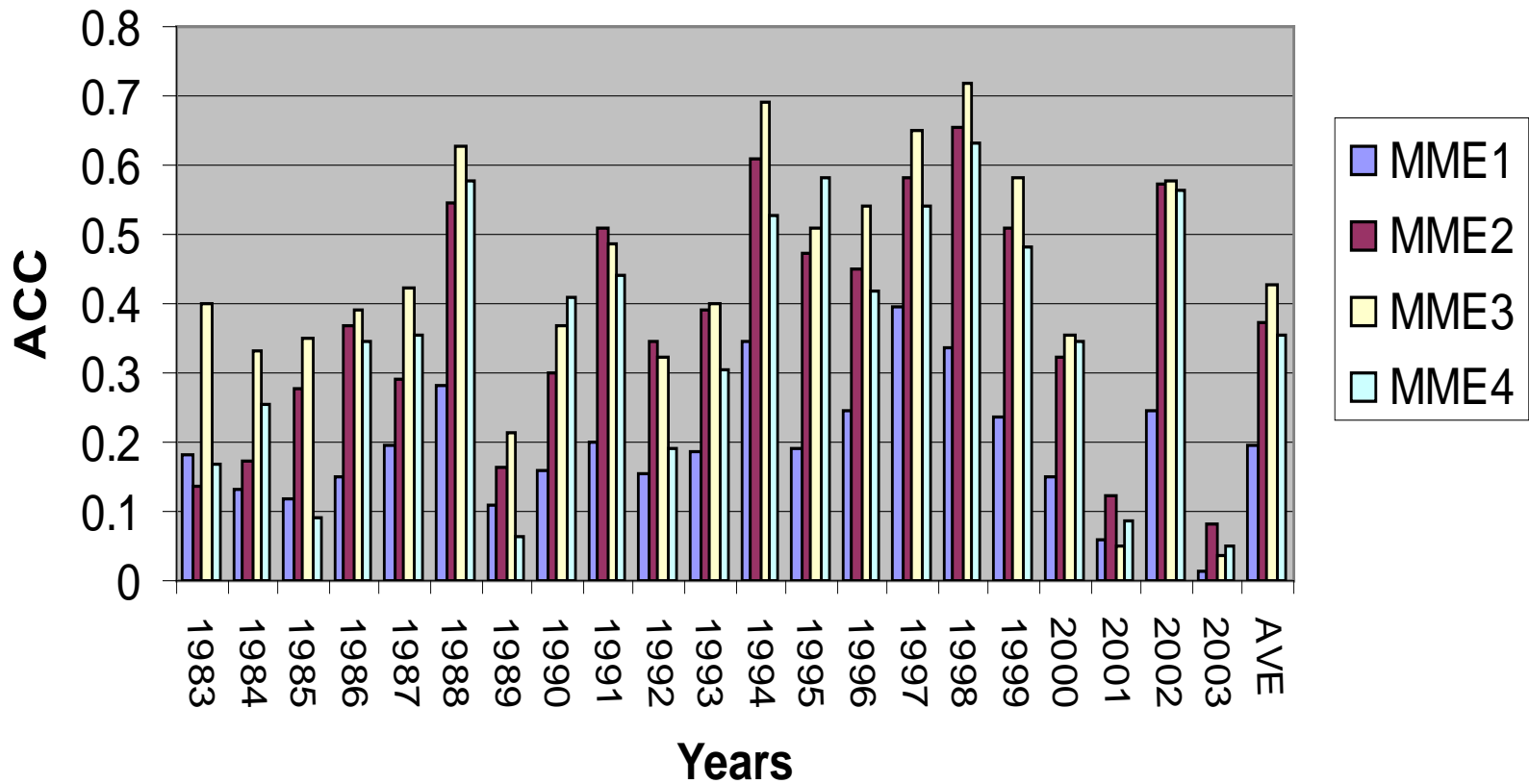


Hindcast skill for SON 2006

NCHMF

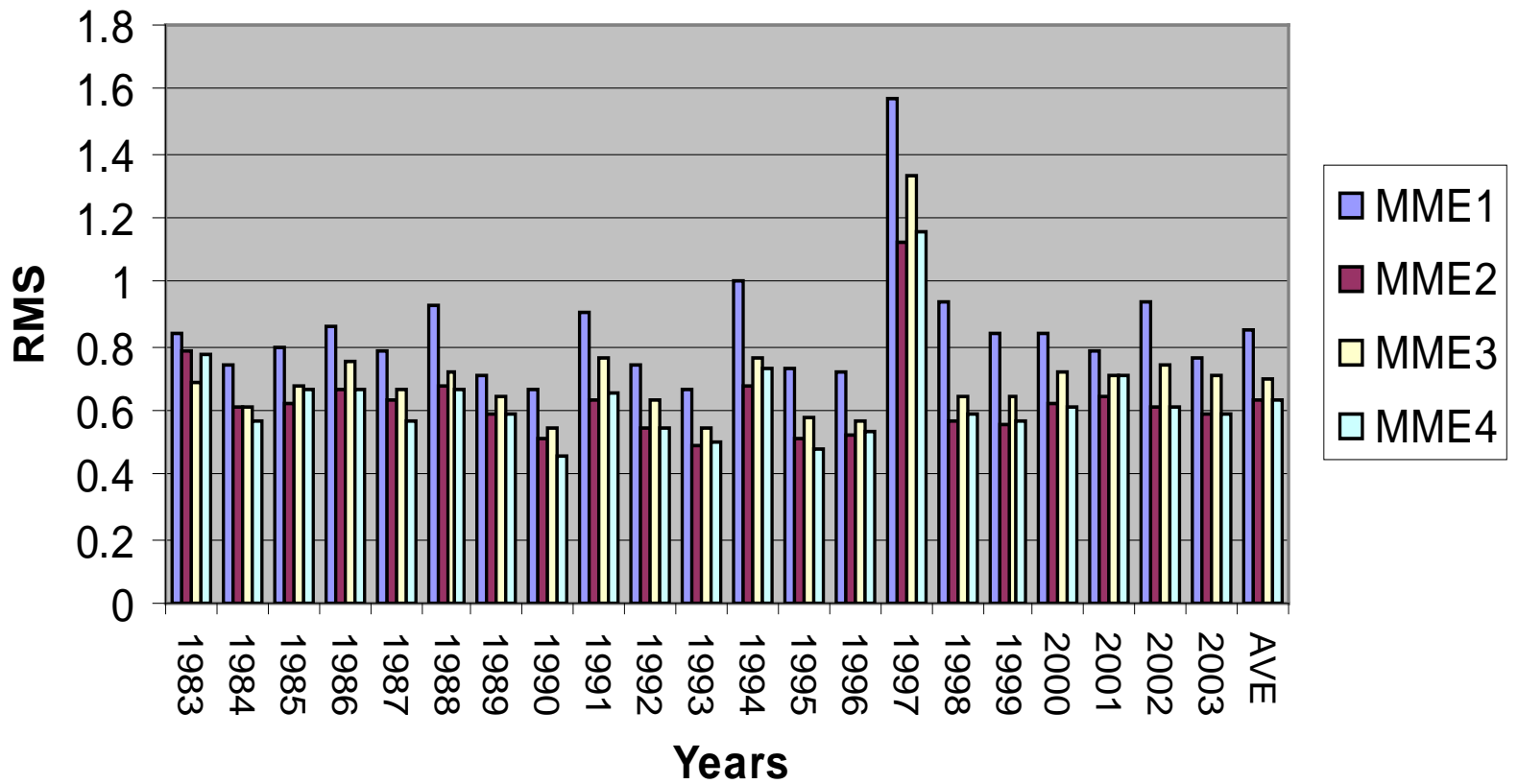


Anomaly correlation coefficient precipitation over global for SON



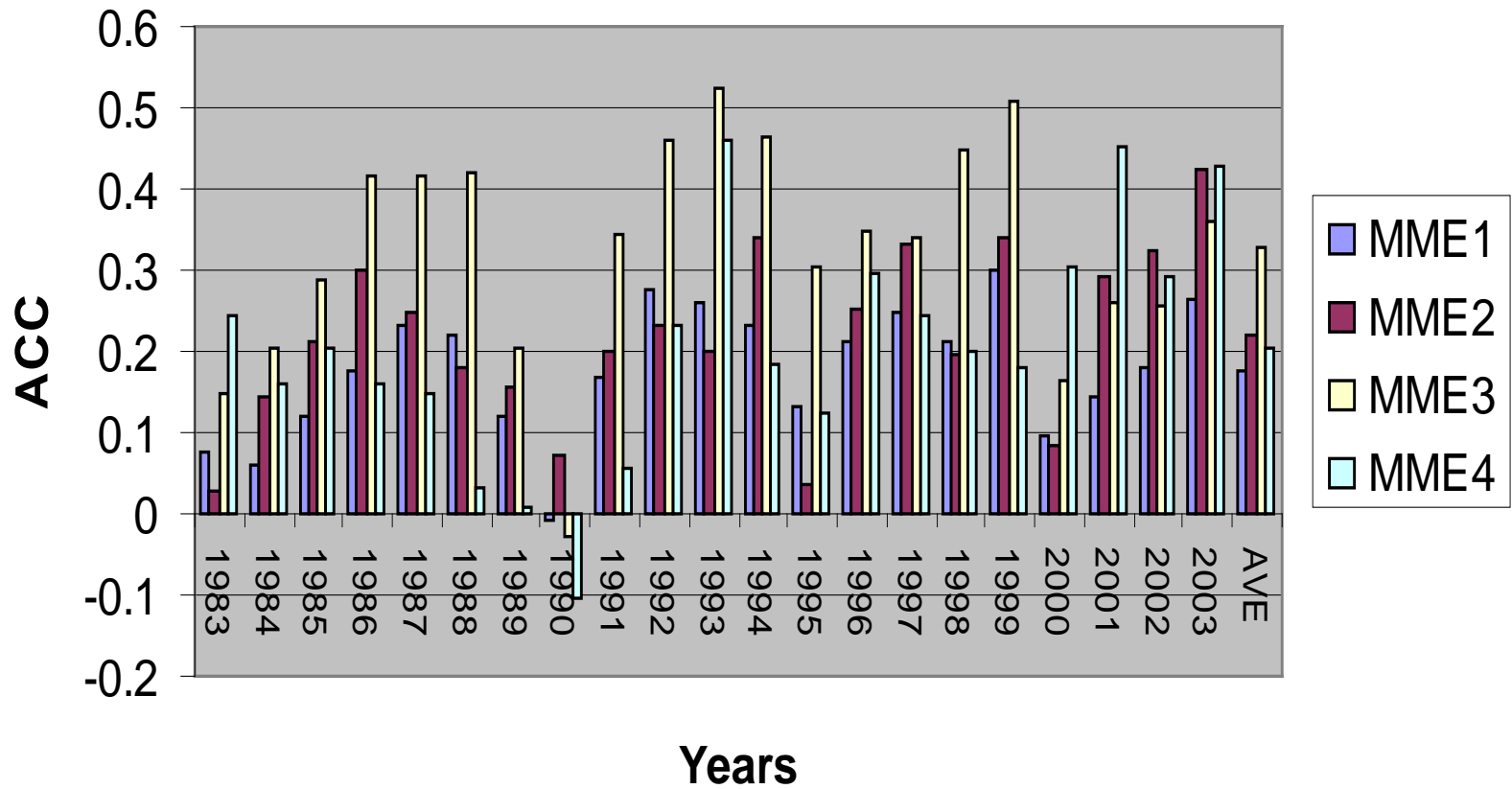


Root mean square precipitation over global for SON



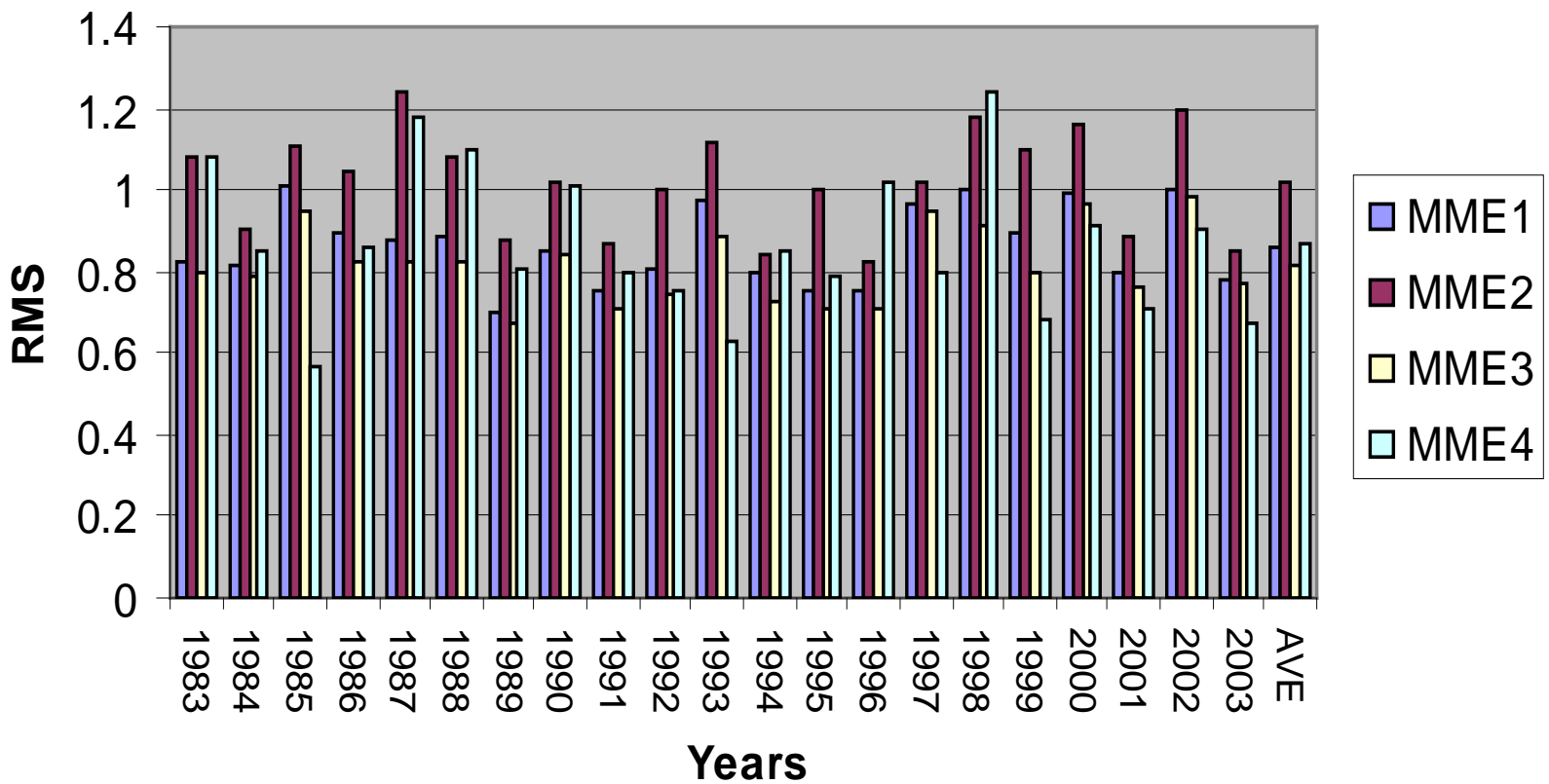


Anomaly correlation coefficient temperature at 850 hPa over global for SON





Root mean square temperature at 850hPa over global for SON





Conclusion

- MME technique is objective.**
- MME is to avoid model inherent error by using a number of independent and skillful models.**
- MME methods can be necessary to make downscaling for member countries.**
- In brief, MME seasonal forecast product is very necessary for organizing production and conducts various economic activities of many branches as well as many other socio-activities.**

NCHMF



Thanks for your attention!

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