

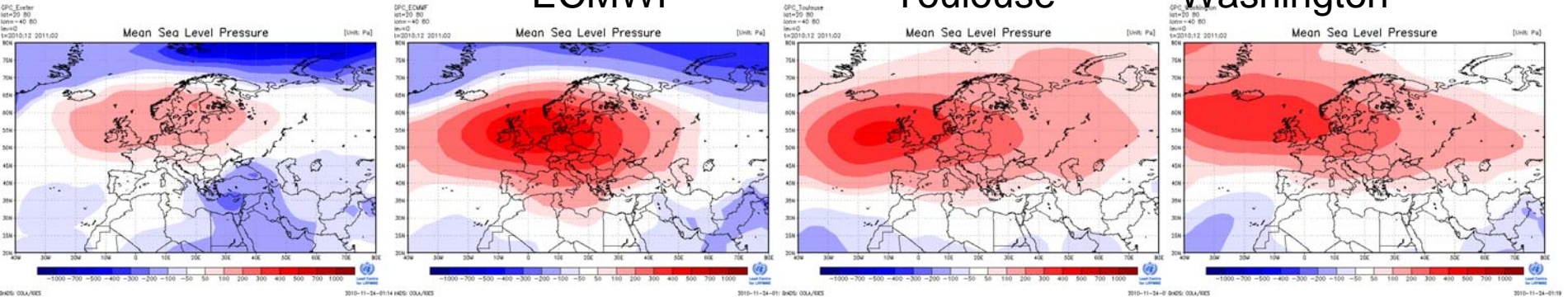


Met Office
Hadley Centre

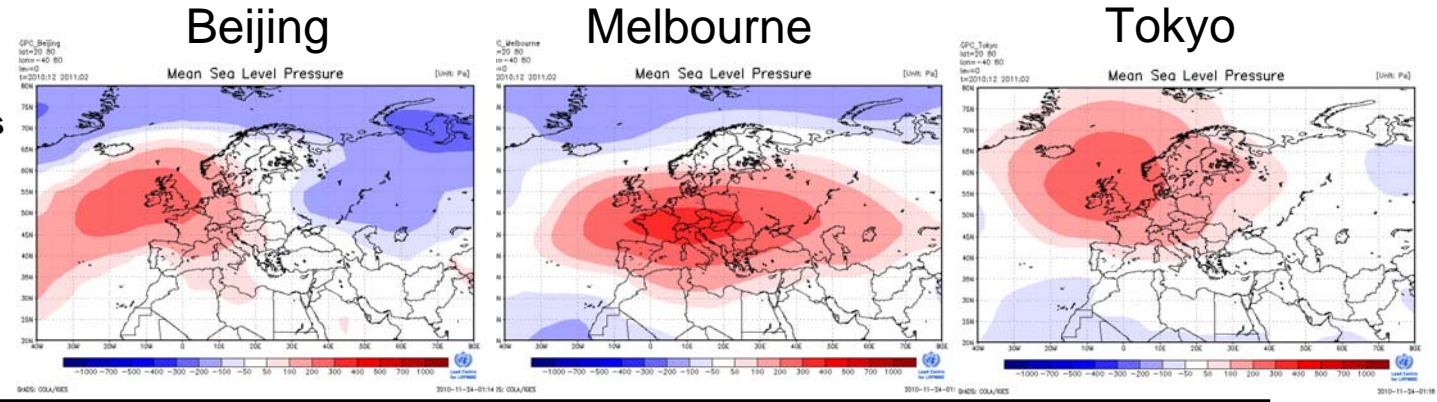
GPC and LC-LRFMME output: Europe DJF 2010/11

SEECOF winter forum 2010

GPC forecasts for DJF 2010/11: ensemble mean pmsl anomaly (from LC-LRFMME web)

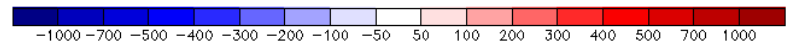
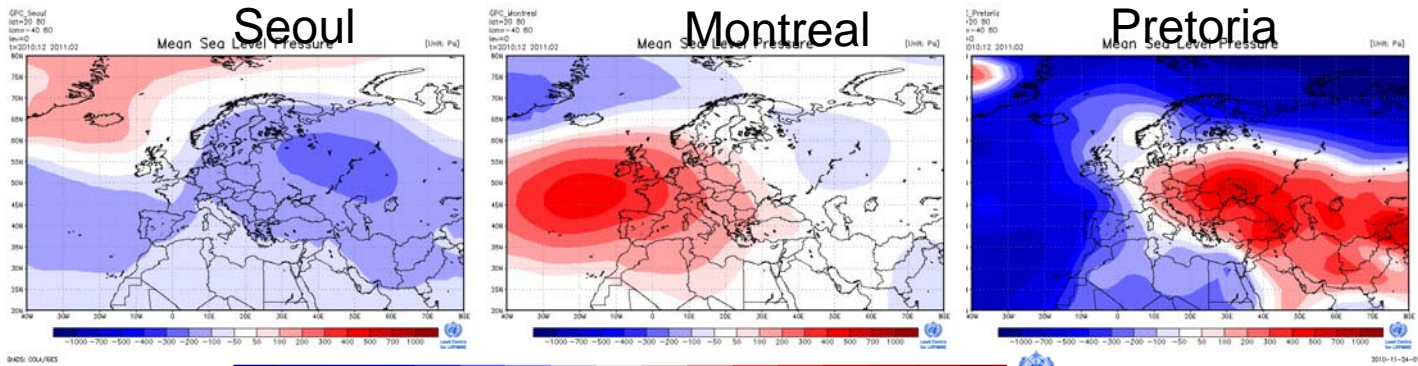


**Coupled systems
(interactive
ocean-
atmosphere;
evolving ocean)**



(Moscow)

**Un-coupled
systems (non-
interactive
ocean-
atmosphere;
'static' ocean)**

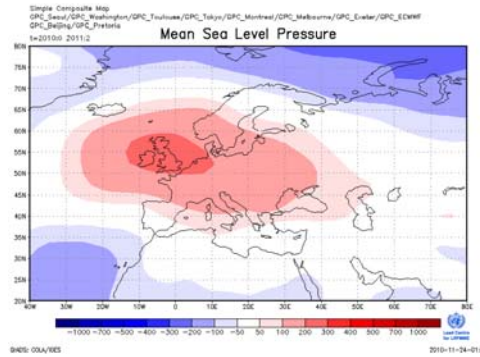




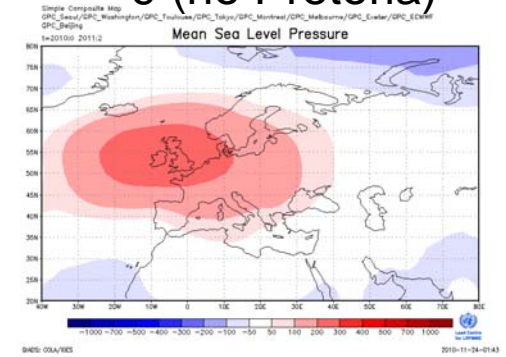
Met Office
Hadley Centre

Multi-model GPC pmsl forecasts, DJF 2010/11 from LC-LRFMME website

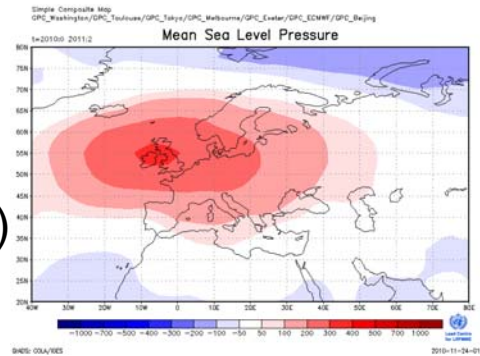
Ensemble mean of 10 GPCs



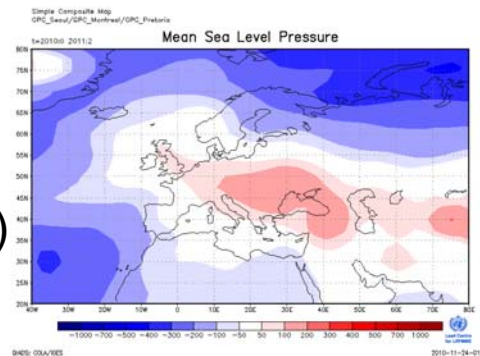
9 (no Pretoria)



Ensemble mean of 7 GPCs (coupled systems)



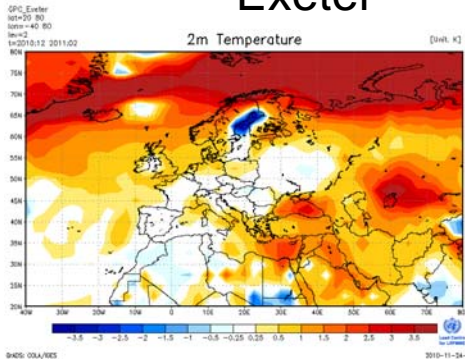
Ensemble mean of 3 GPCs (un-coupled systems)



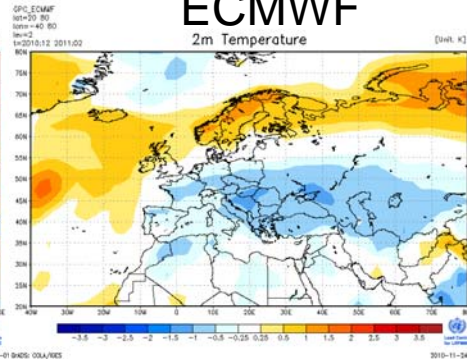
GPC forecasts for DJF 2010/11: ensemble mean 2mT anomaly (from LC-LRFMME web)



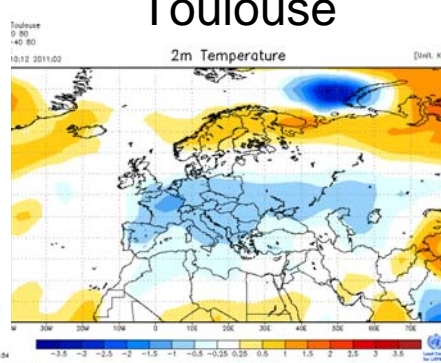
Exeter



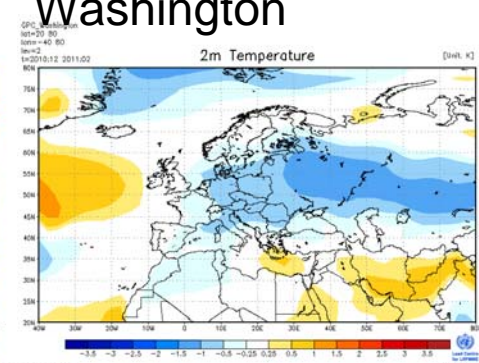
ECMWF



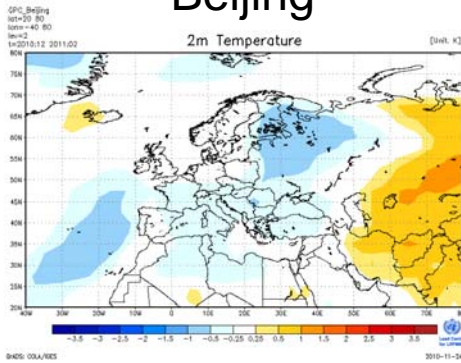
Toulouse



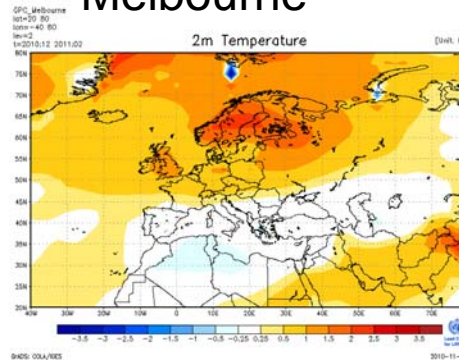
Washington



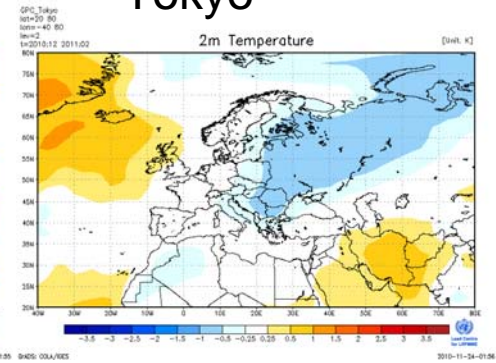
Beijing



Melbourne

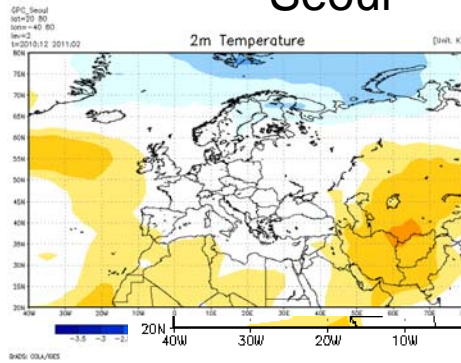


Tokyo

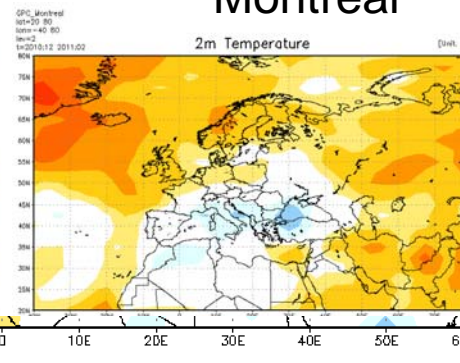


Coupled systems
(interactive
ocean-
atmosphere;
evolving ocean)

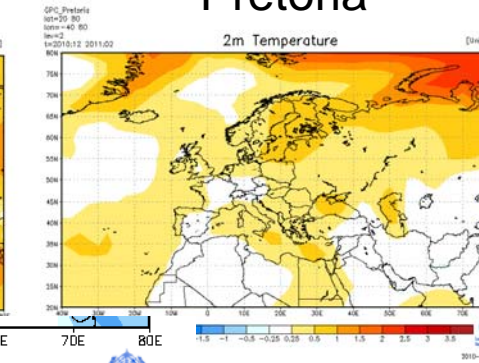
(Moscow)



Seoul

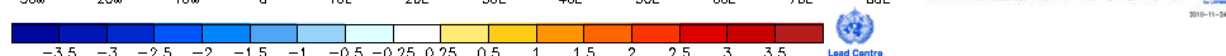


Montreal



Pretoria

Un-coupled systems (non-
interactive
ocean-
atmosphere;
'static' ocean)

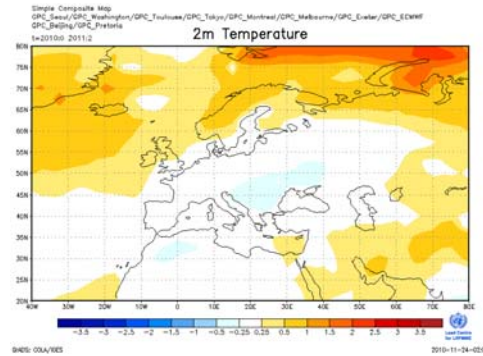




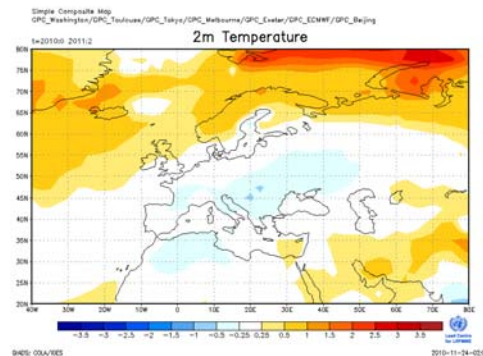
Met Office
Hadley Centre

Multi-model GPC 2mT forecasts, DJF 2010/11 from LC-LRFMME website

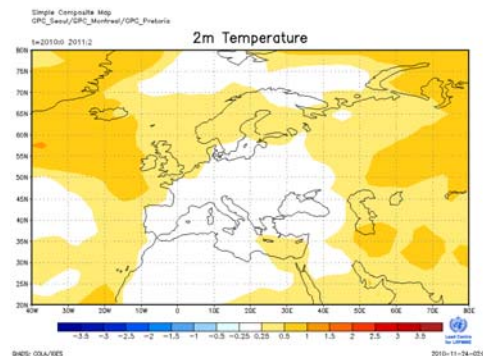
Ensemble mean
of 10 GPCs



Ensemble mean
of 7 GPCs
(coupled systems)



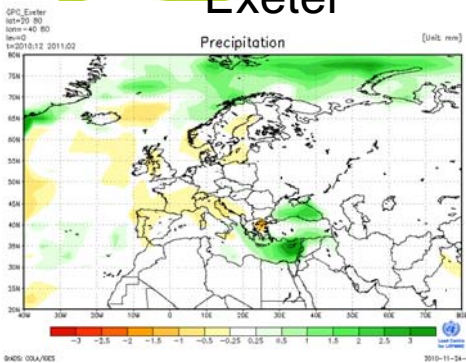
Ensemble mean
of 3 GPCs (un-
coupled systems)



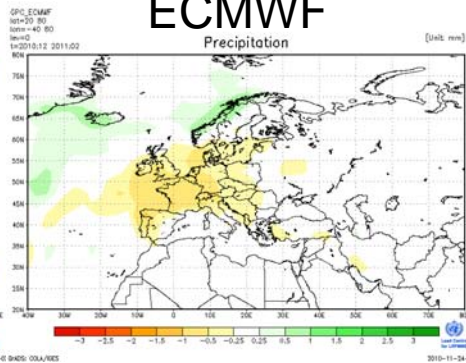
GPC forecasts for DJF 2010/11: ensemble mean precip anomaly (from LC-LRFMME web)



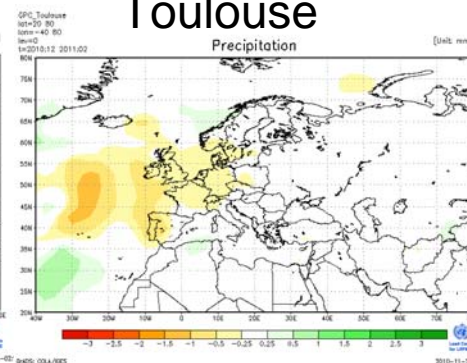
Exeter



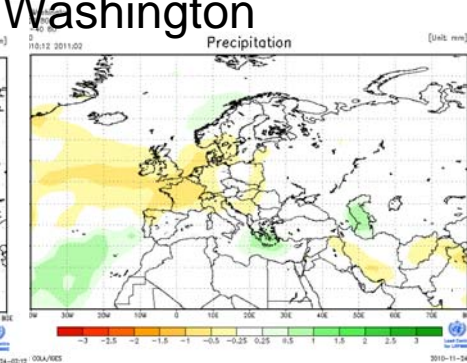
ECMWF



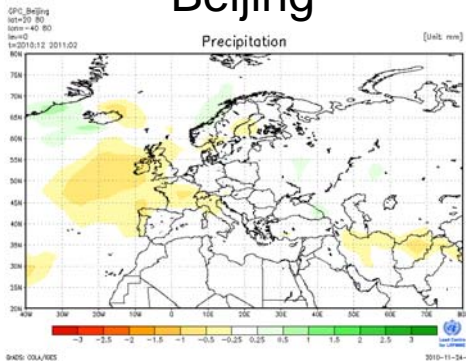
Toulouse



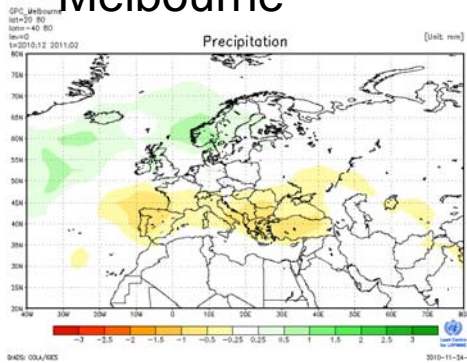
Washington



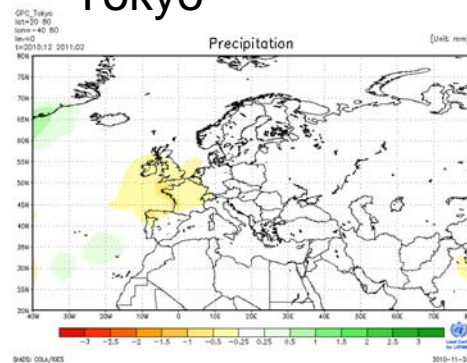
Beijing



Melbourne



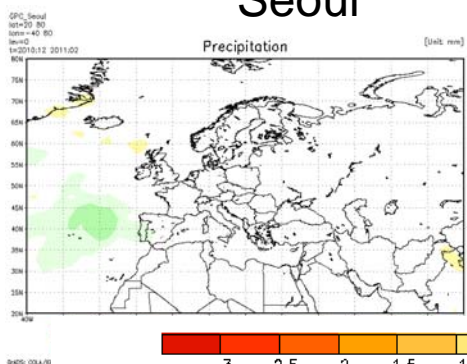
Tokyo



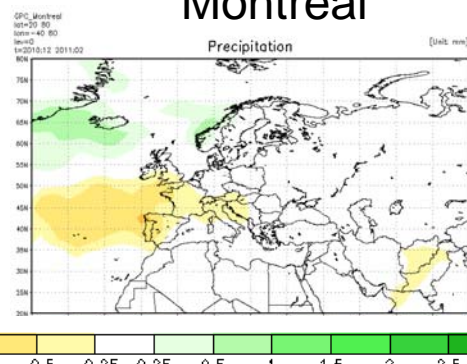
Coupled systems
(interactive
ocean-
atmosphere;
evolving ocean)

(Moscow)

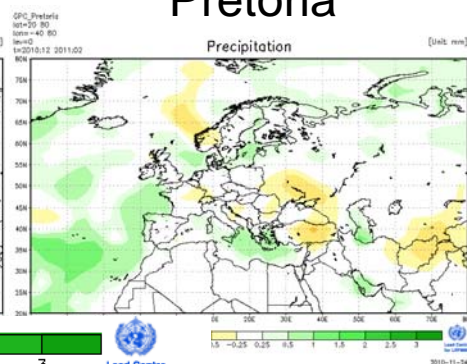
Seoul



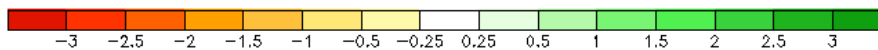
Montreal



Pretoria



Un-coupled
systems (non-
interactive
ocean-
atmosphere;
'static' ocean)

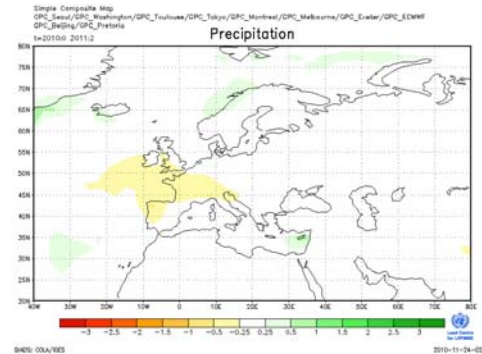




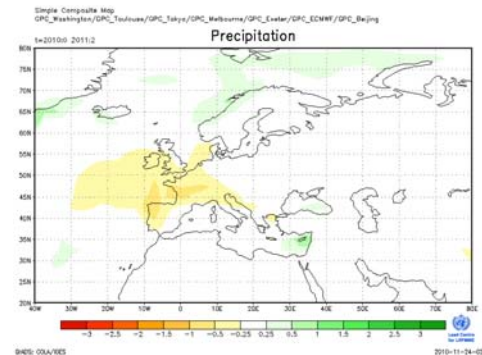
Met Office
Hadley Centre

Multi-model GPC 2mT forecasts, DJF 2010/11 from LC-LRFMME website

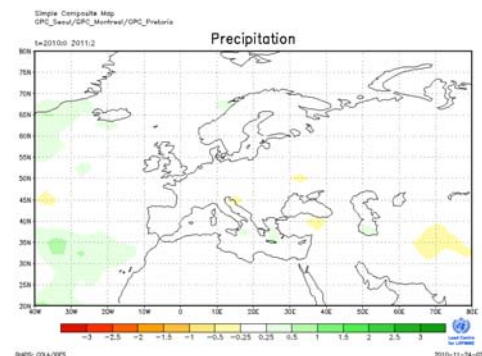
Ensemble mean
of 10 GPCs



Ensemble mean
of 7 GPCs
(coupled systems)



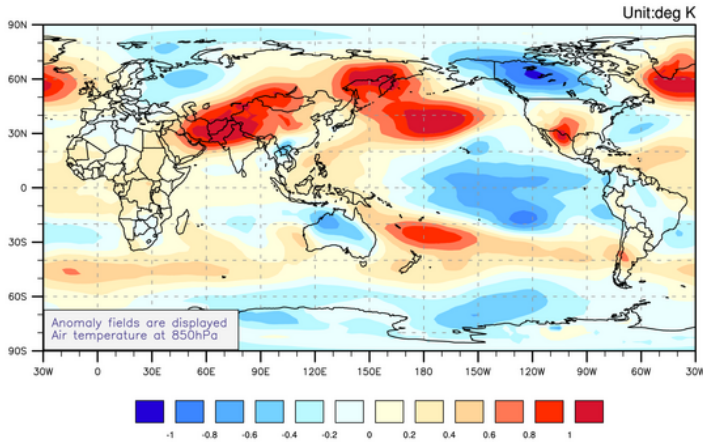
Ensemble mean
of 3 GPCs (un-
coupled systems)





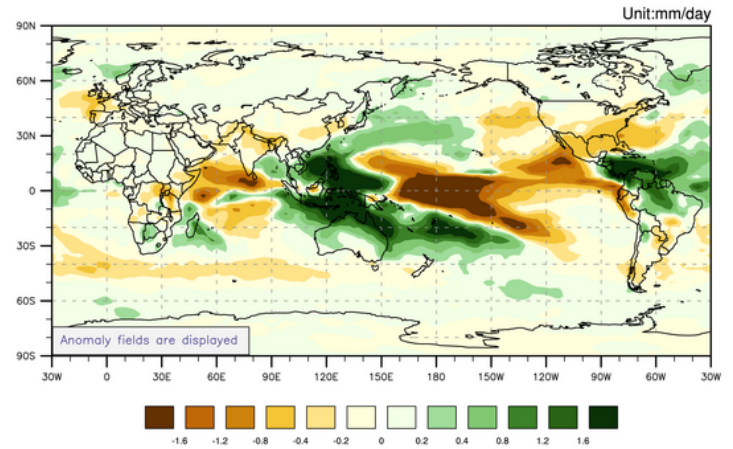
APCC

Temperature for DEC 2010



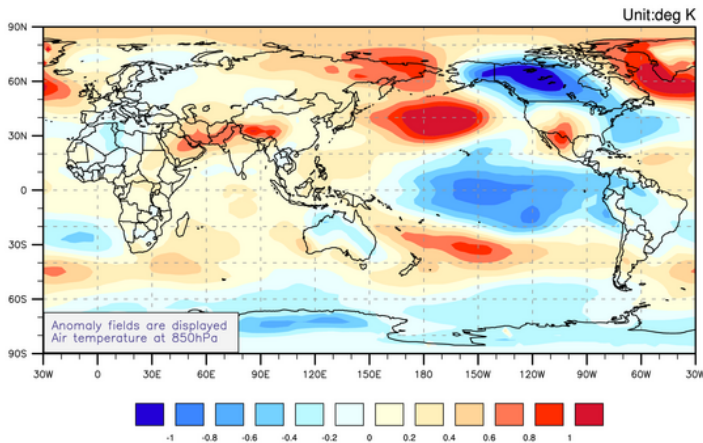
© APEC Climate Center

Precipitation for DEC 2010



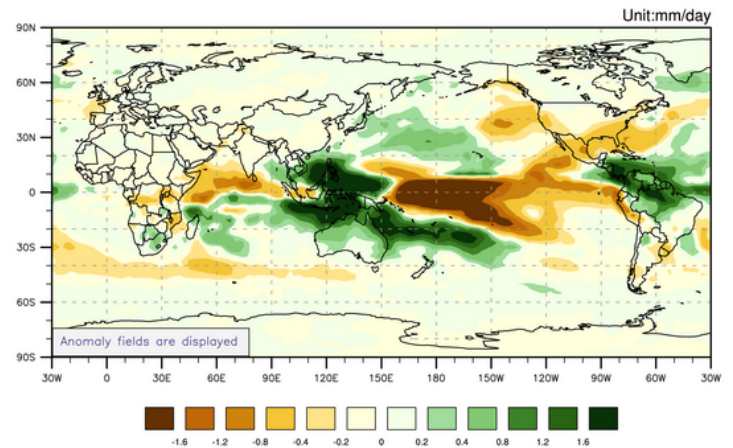
© APEC Climate Center

Temperature for JAN 2011



© APEC Climate Center

Precipitation for JAN 2011



© APEC Climate Center



Met Office
Hadley Centre



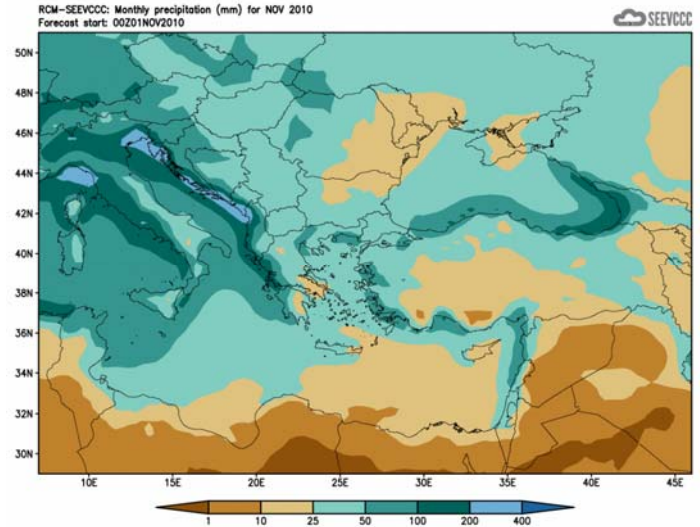
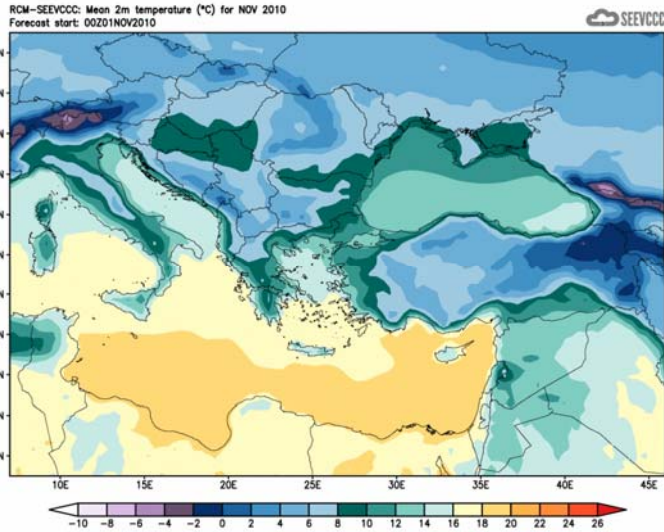
Regional models - SEEVCCC

Monitoring: November 2010

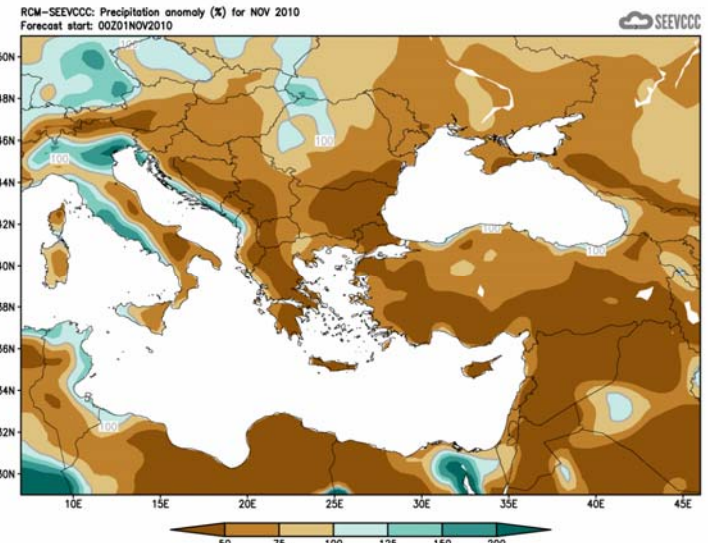
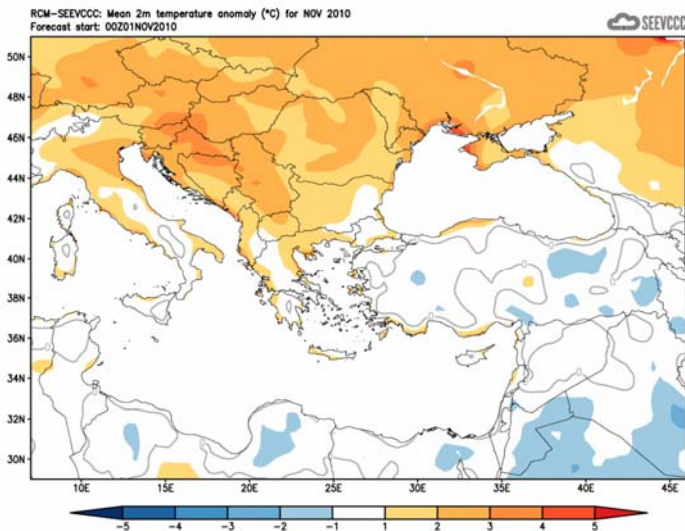
temperature

precipitation

absolute

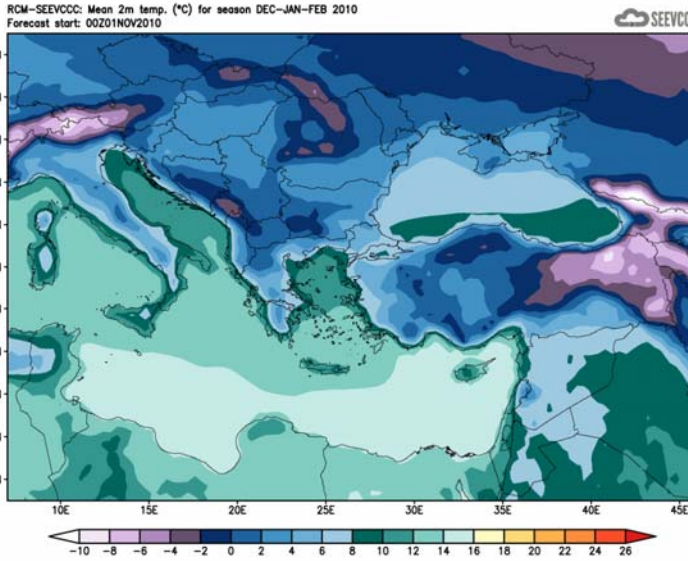


anomaly

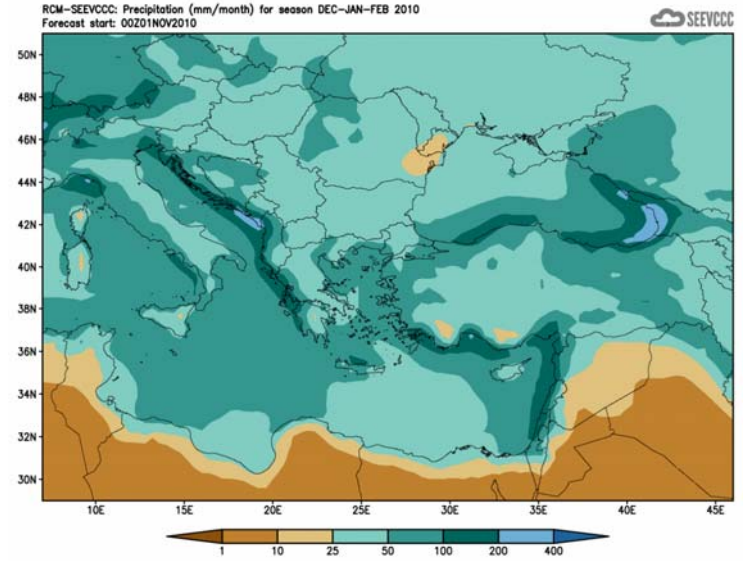


Prediction: seasonal mean, ensemble mean

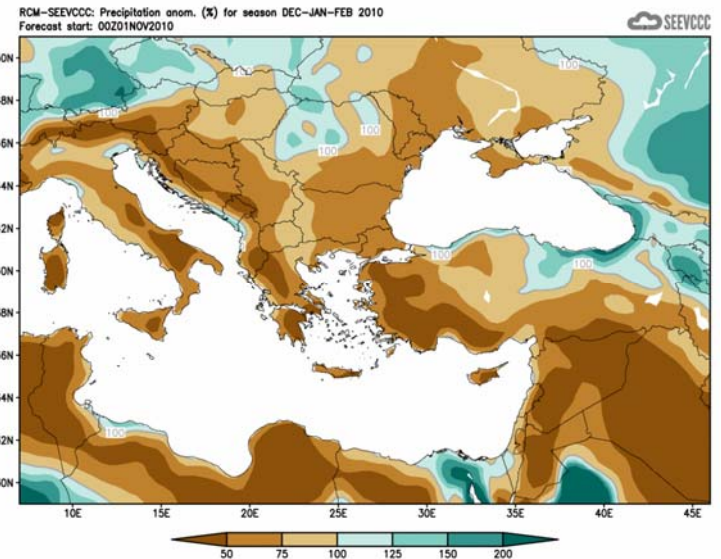
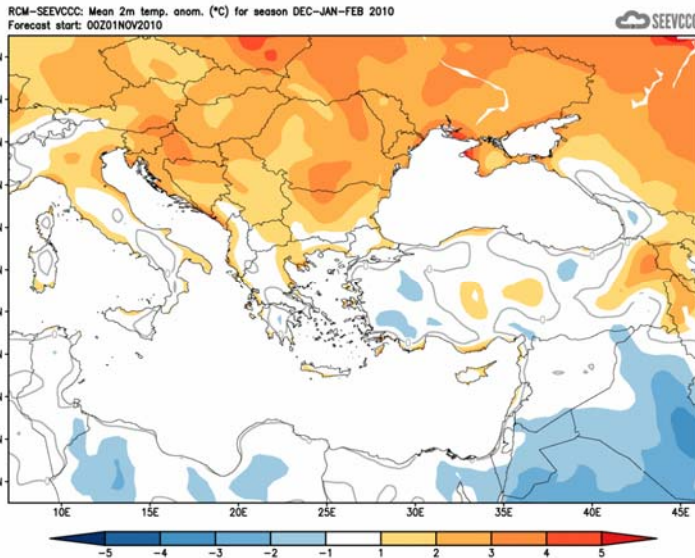
temperature



precipitation



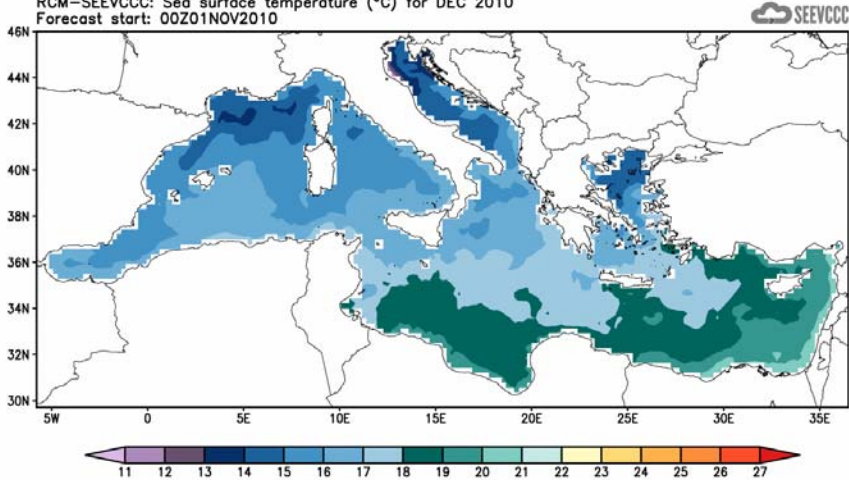
absolute



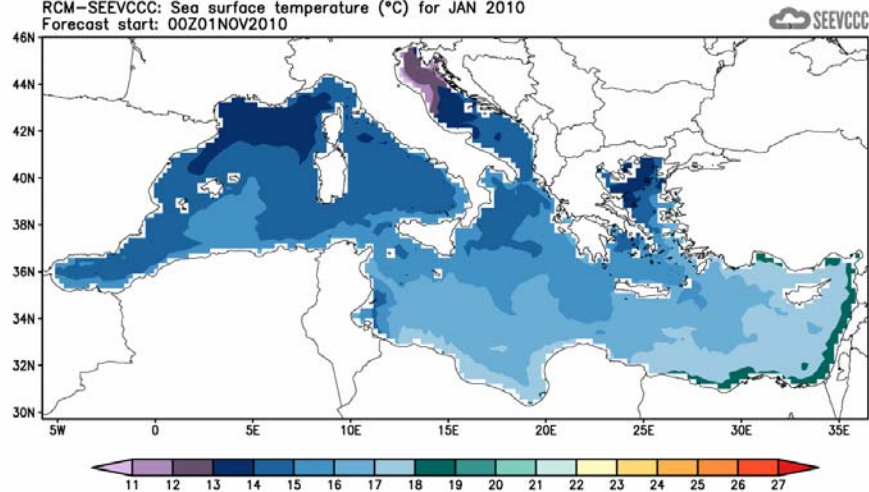
anomaly

Prediction: monthly means, SST

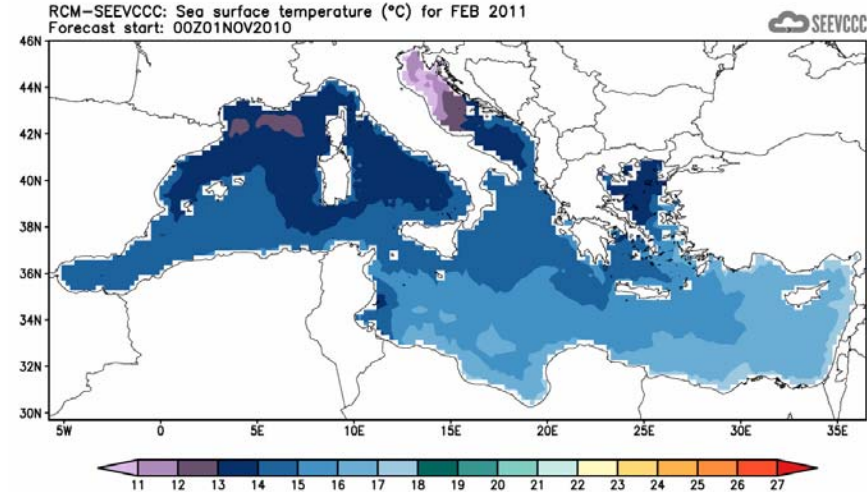
RCM-SEEVCCC: Sea surface temperature (°C) for DEC 2010
Forecast start: 00Z01NOV2010



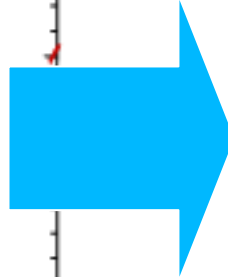
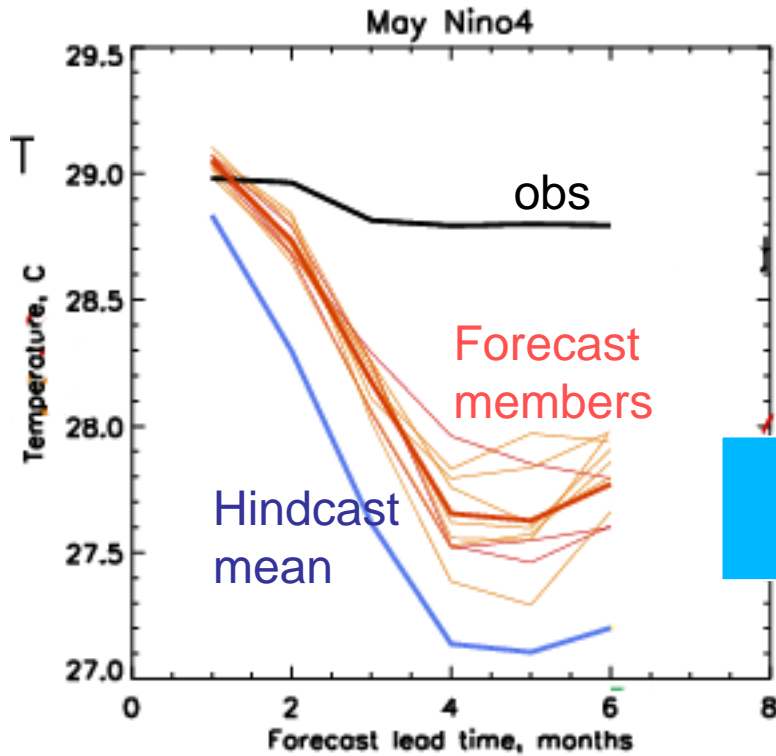
RCM-SEEVCCC: Sea surface temperature (°C) for JAN 2010
Forecast start: 00Z01NOV2010



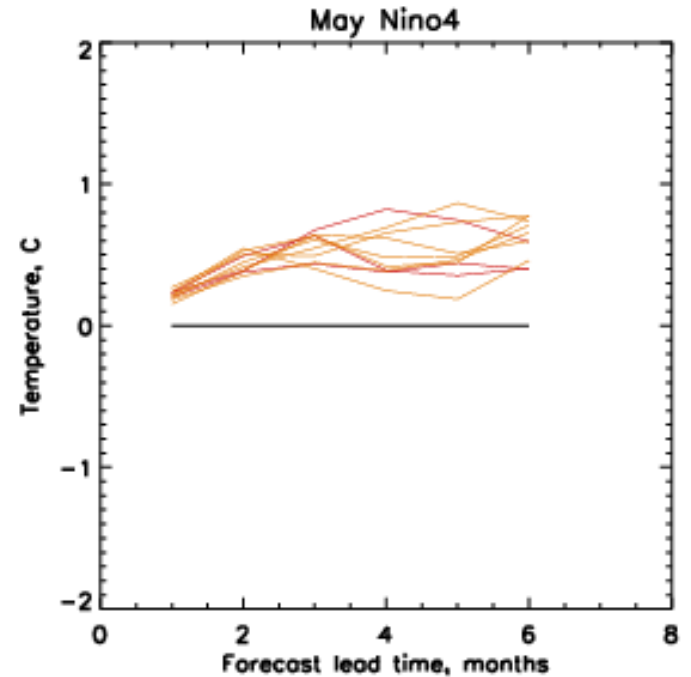
RCM-SEEVCCC: Sea surface temperature (°C) for FEB 2011
Forecast start: 00Z01NOV2010



Caveat: model bias



Calibrated forecast



At long range, predict anomalies



Met Office
Hadley Centre



Probabilistic forecasts

Summary: DJF

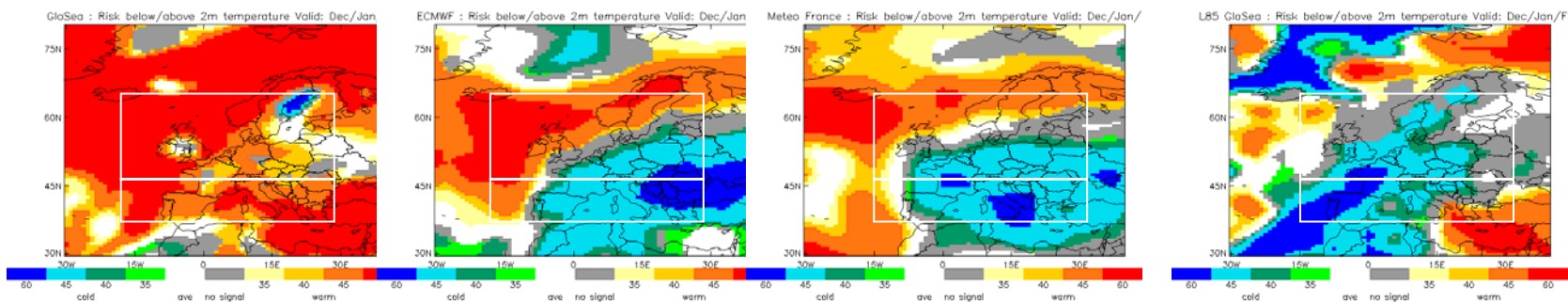
GloSea4

ECMWF

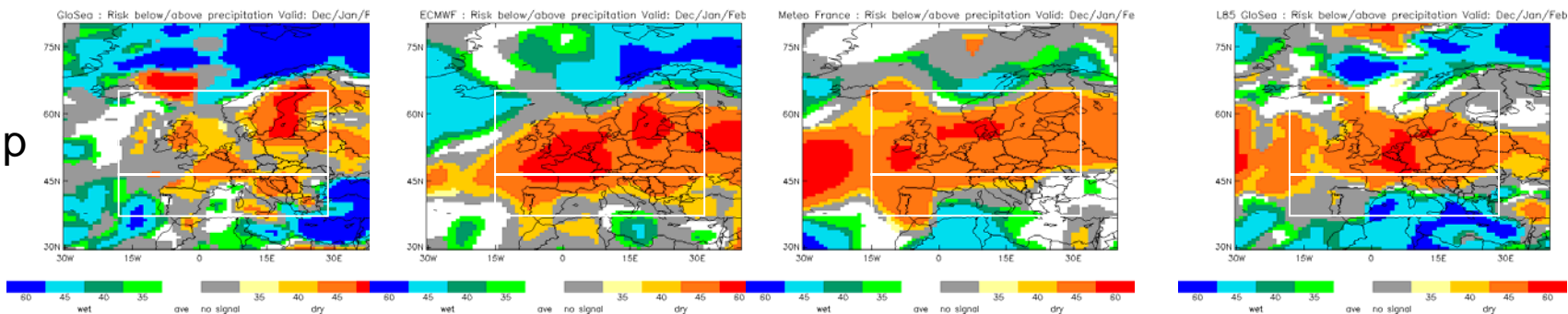
Meteo France

L85 GloSea

temp



precip





Summary – N.Europe area-averaged probabilities

Temperature

- GloSea Above 55%, Near 25%, Below 20%
- ECWMF Above 40%, Near 25%, Below 35%
- Met France Above 30%, Near 35%, Below 35%
- L85 GloSea Above 25%, Near 35%, Below 40%

Anomaly GI +0.50, EC -0.03, MF -0.14 L85 -0.35

Rainfall

- GloSea Above 25%, Near 30%, Below 45%
- ECMWF Above 20%, Near 30%, Below 50%
- Met France Above 20%, Near 30%, Below 50%
- L85 GloSea Above 20%, Near 30%, Below 50%

Anomaly GI -0.18, EC -0.30, MF -0.28, L85 -0.27

Summary – S.Europe area-averaged probabilities

Temperature

- GloSea Above 55%, Near 30%, Below 15%
- ECWMF Above 20%, Near 30%, Below 50%
- Met France Above 20%, Near 35%, Below 45%
- L85 GloSea Above 25%, Near 30%, Below 45%

Rainfall

GloSea	Above 35%, Near 30%, Below 35%
ECMWF	Above 30%, Near 30%, Below 40%
Met.France	Above 30%, Near 35%, Below 35%
L85 GloSea	Above 40%, Near 30%, Below 30%



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22 -28 Nov

Europe T2m / precip terciles probabilities

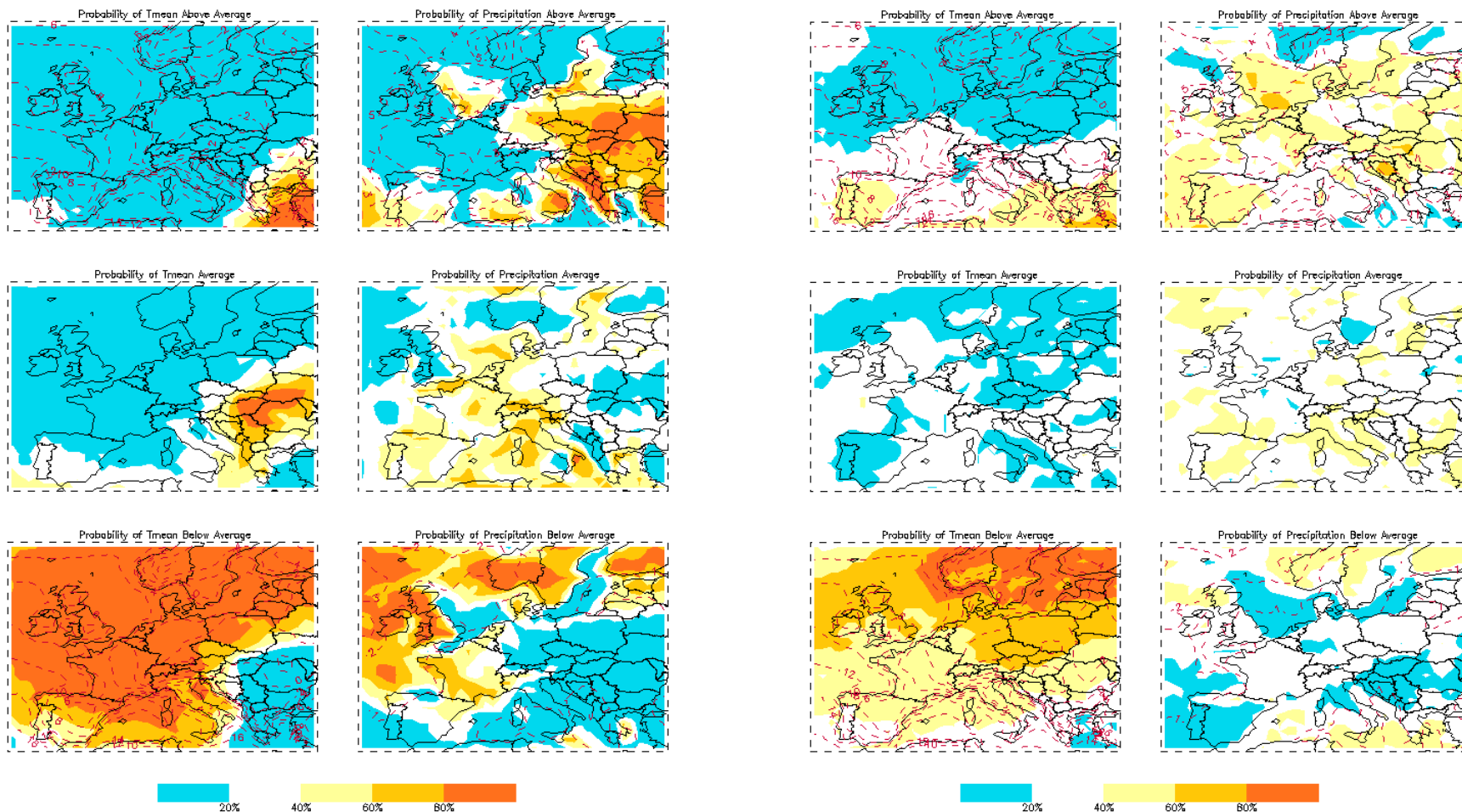
29 Nov – 5 Dec

The Monthly Outlook for Europe

Days 05–11: 22 November 2010 – 28 November 2010

The Monthly Outlook for Europe

Days 12–18: 29 November 2010 – 05 December 2010

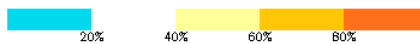
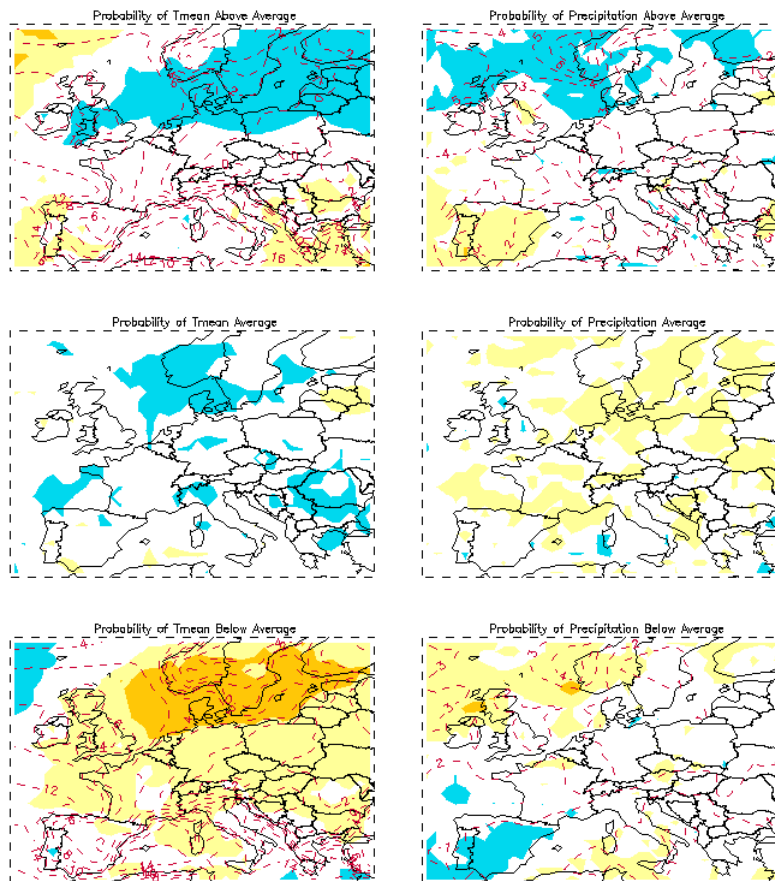


Europe T2m / precip terciles probabilities

6-19 Dec

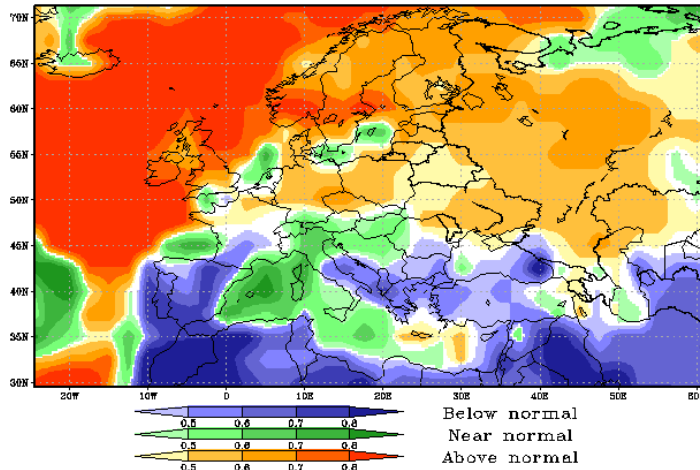
The Monthly Outlook for Europe

Days 19–32: 06 December 2010 – 19 December 2010

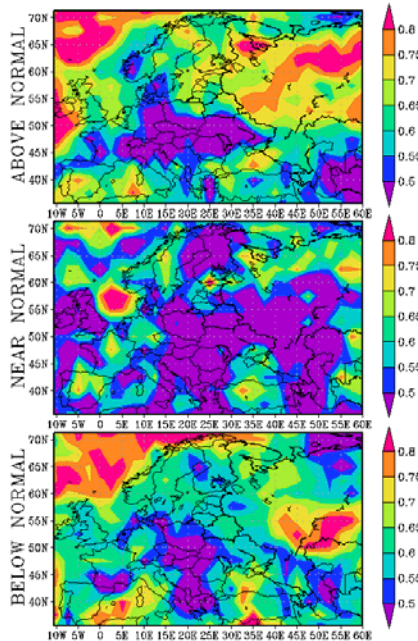


HMC

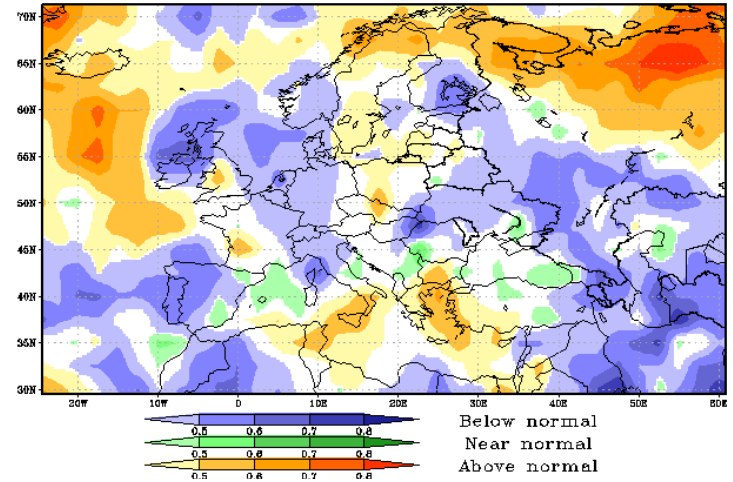
Composite probabilities of categorical forecast outcomes for T2m seasonal anomalies. Producer: HMC
Forecast period: December_January_February_2010



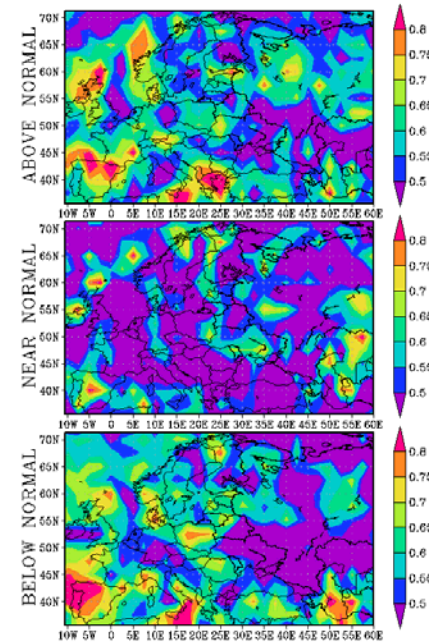
ROC score for T2m seasonal anomalies. Period: DJF (1979-2003). Lead time: 0



Composite probabilities of categorical forecast outcomes for Precipitation seasonal anomalies. Producer: HMC+MGO
Forecast period: November_December_January_2010

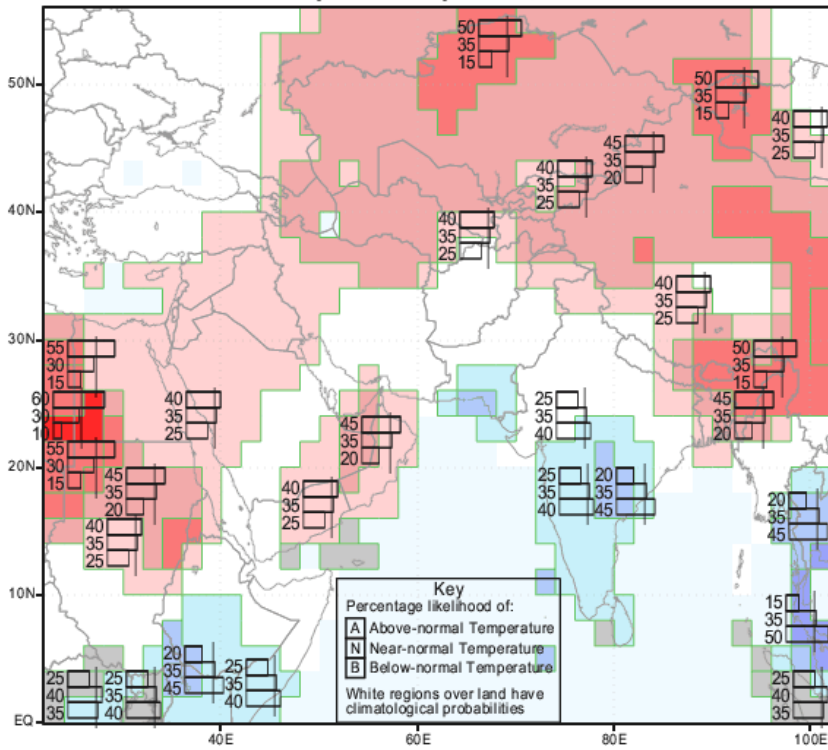


ROC score for Precipitation seasonal anomalies. Period: DJF (1979-2003). Lead time: 0

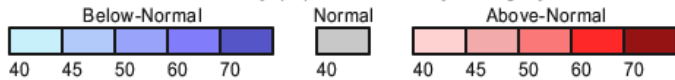


IRI (for Asia)

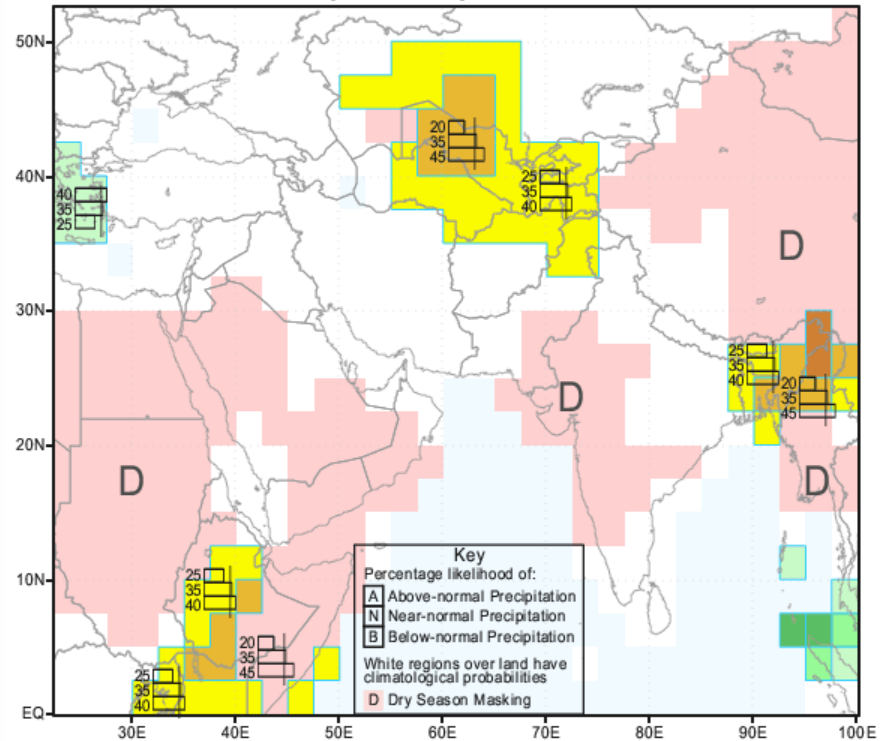
IRI Multi-Model Probability Forecast for Temperature for December-January-February 2011, Issued October 2010



Probability (%) of Most Likely Category



IRI Multi-Model Probability Forecast for Precipitation for December-January-February 2011, Issued October 2010

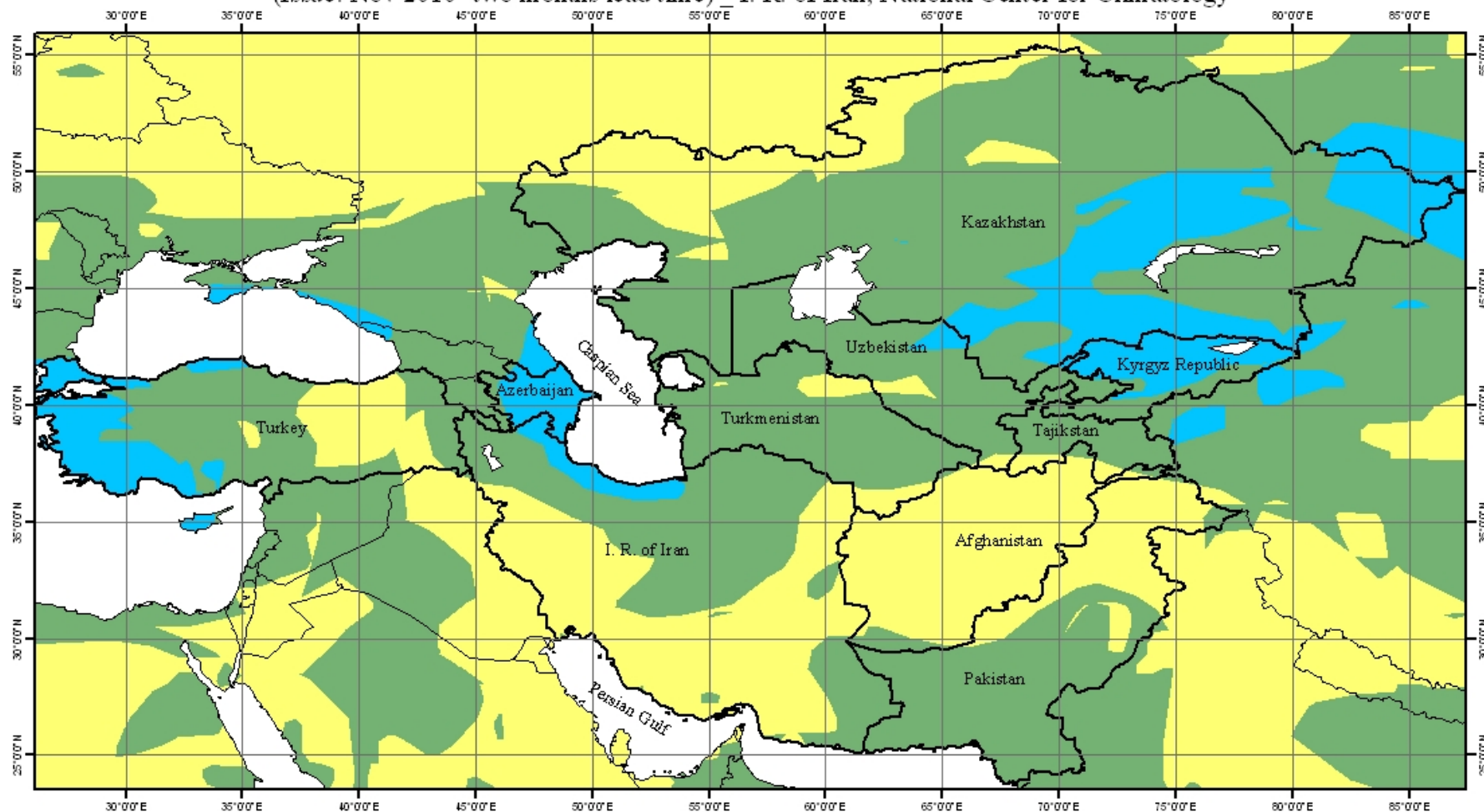



Probability (%) of Most Likely Category



Mean Seasonal Precipitation Forecast for Dec 2010, Jan/Feb 2011

(Issue: Nov 2010- two months lead time) I. R. of Iran, National Center for Climatology





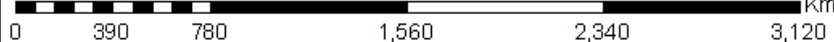
wet more likely


wet or average more likely


average more likely


dry or average more likely


dry more likely













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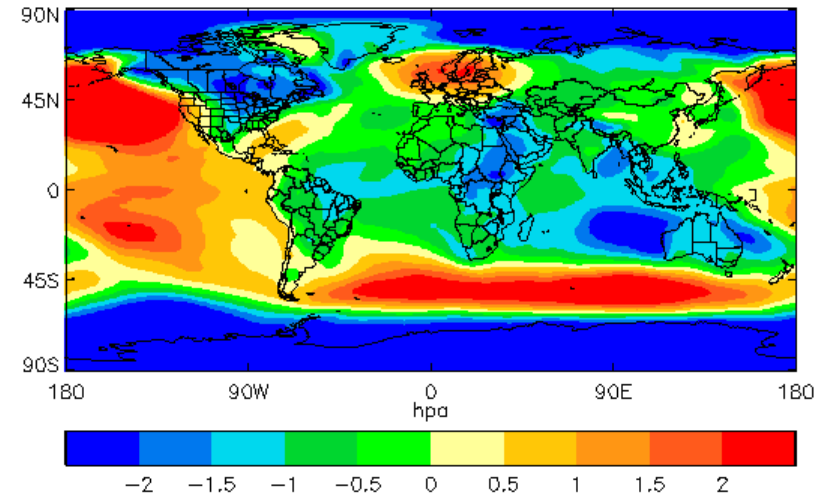


Longer lead-time

Sea-level pressure – ensemble mean

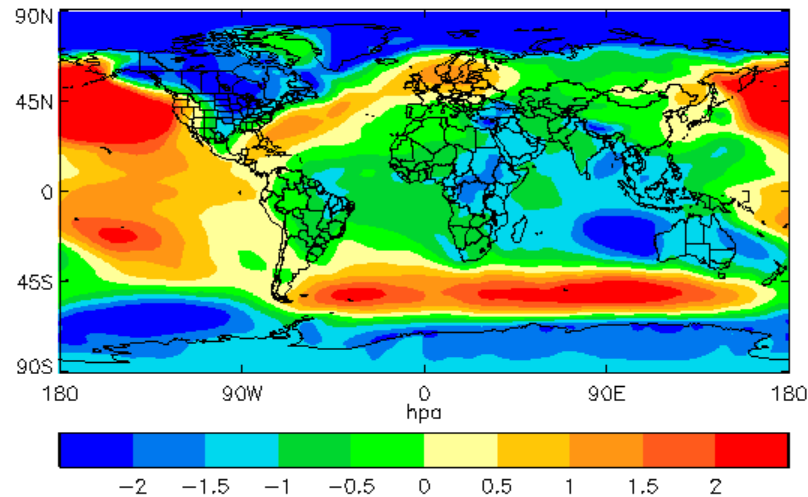
DJF

Ensemble mean anomaly : mean sea level pressure : Dec/Jan/Fe
Issued November 2010



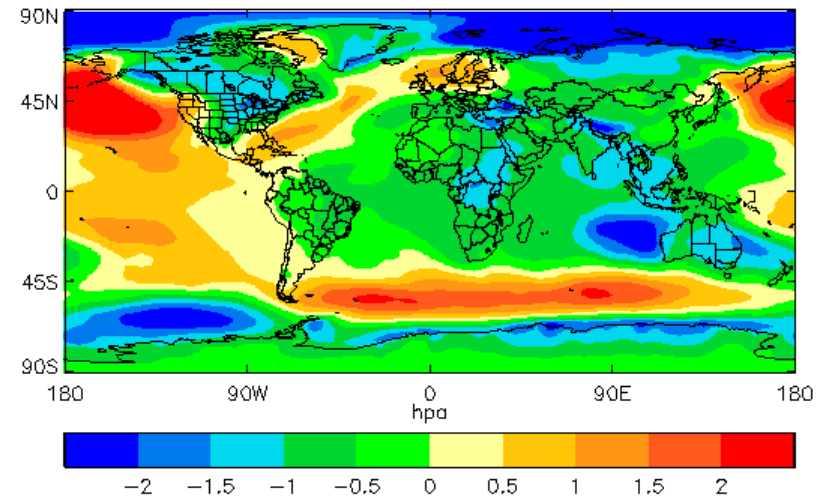
JFM

Ensemble mean anomaly : mean sea level pressure : Jan/Feb/Ma
Issued November 2010



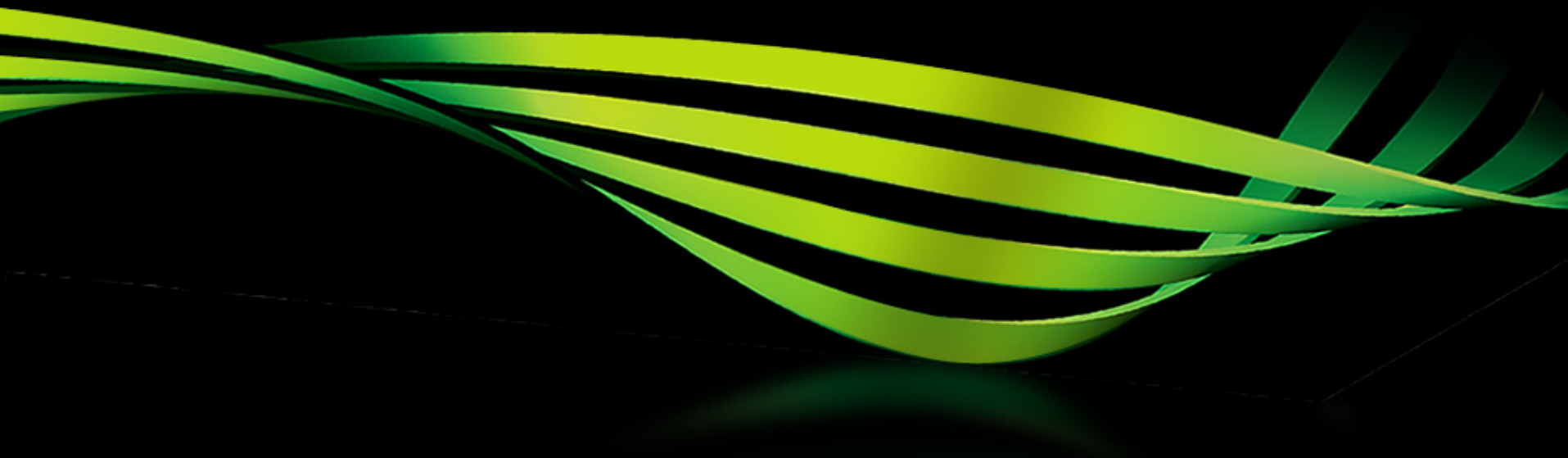
FMA

Ensemble mean anomaly : mean sea level pressure : Feb/Mar/Ap
Issued November 2010





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Discussion



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Hadley Centre



Consensus

Suggestion for presentation of forecast

