



MEDCOF SEECOF - PRESANOR RCC forecast - 11/2014



Outline

- Latest Ocean analysis products :
- SSTs Seasonal forecast predictions from ECMWF, Météo-France and Euro-Sip
- Rainfall Seasonal Forecasts predictions from ECMWF, Météo-France and Euro-Sip,
- Summary



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17/11 – 22/11 – Antalya - Turkey*



Outline

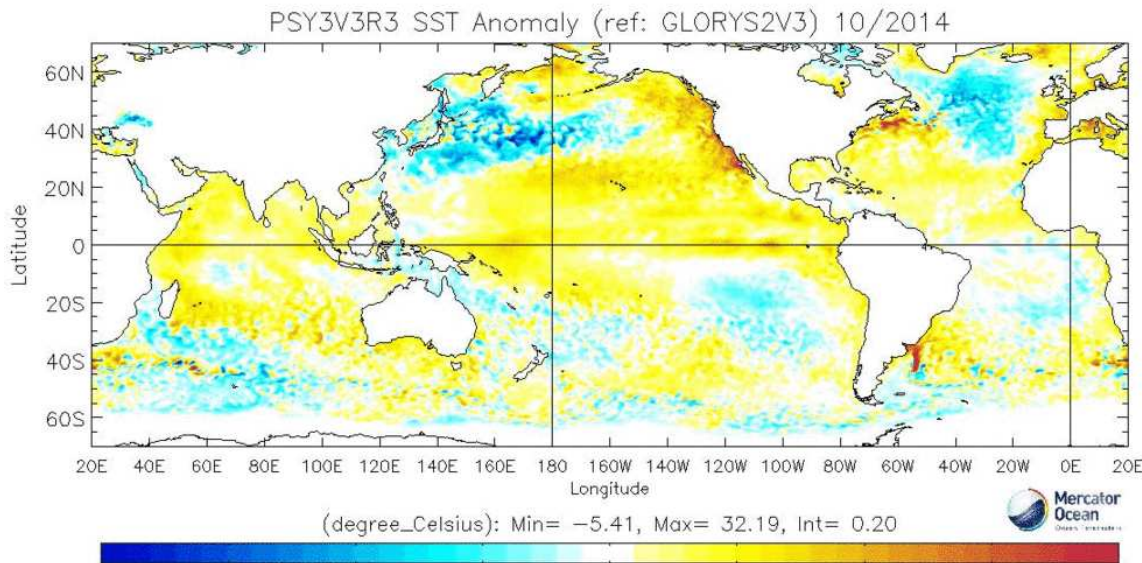
- Latest Ocean analysis products from Mercator and ECMWF:



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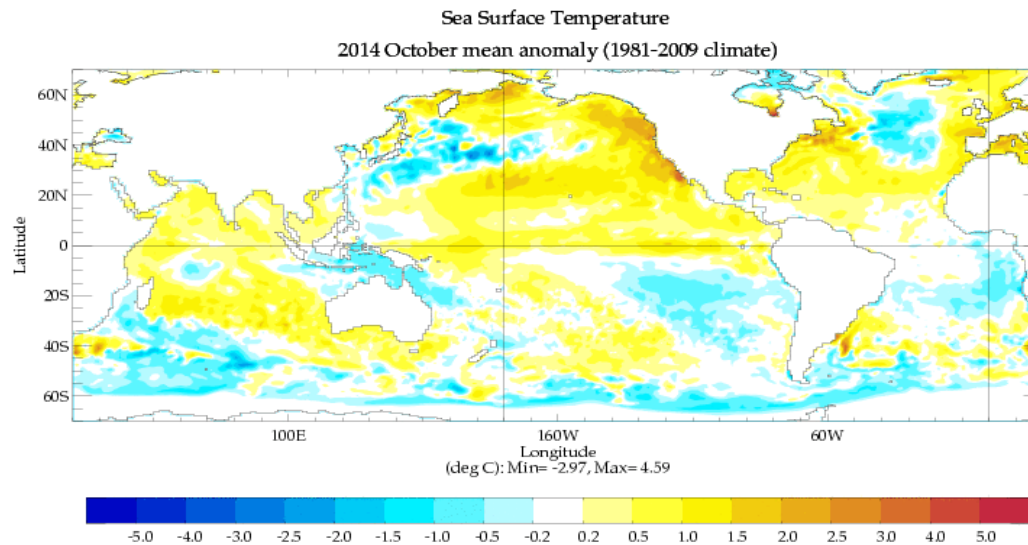


Ocean analysis



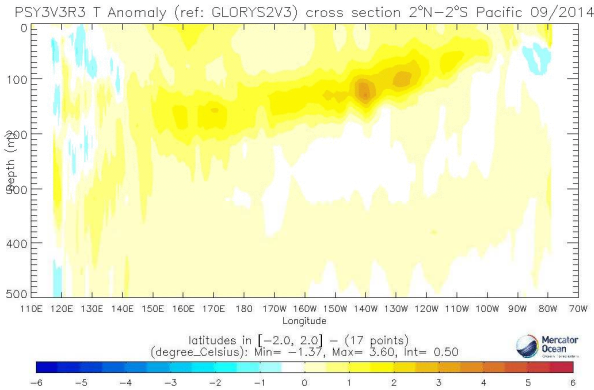
**Oceanic
analysis**

October 2014

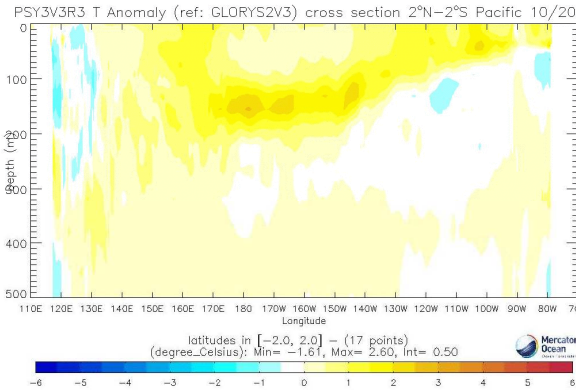


Ocean analysis

September

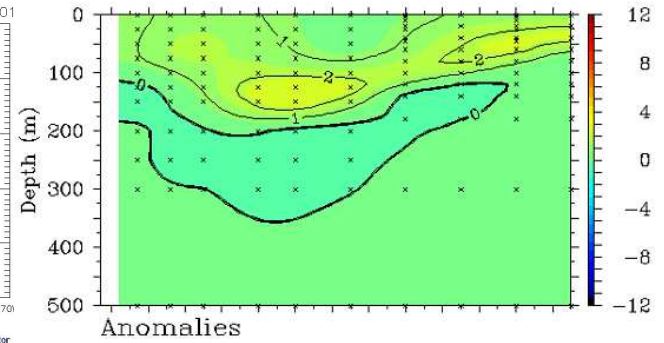


October



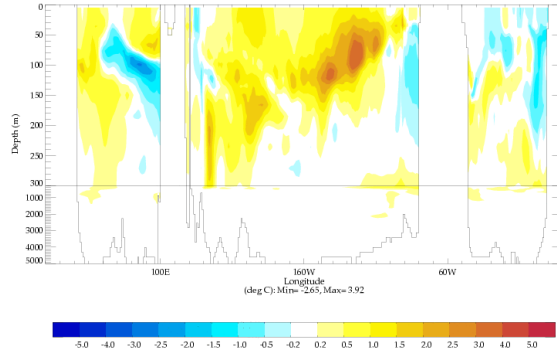
Mercator

October



TAO

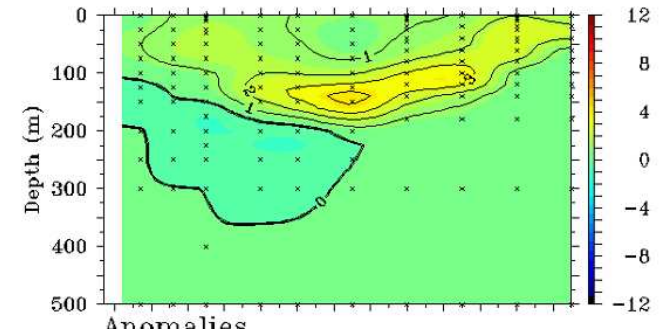
Ocean Potential Temperature Equatorial Section
2014 September mean anomaly (1981-2009 climate)



ECMWF Ocean Reanalysis CRAS4 Oct 7 2014

ECMWF

Last observation

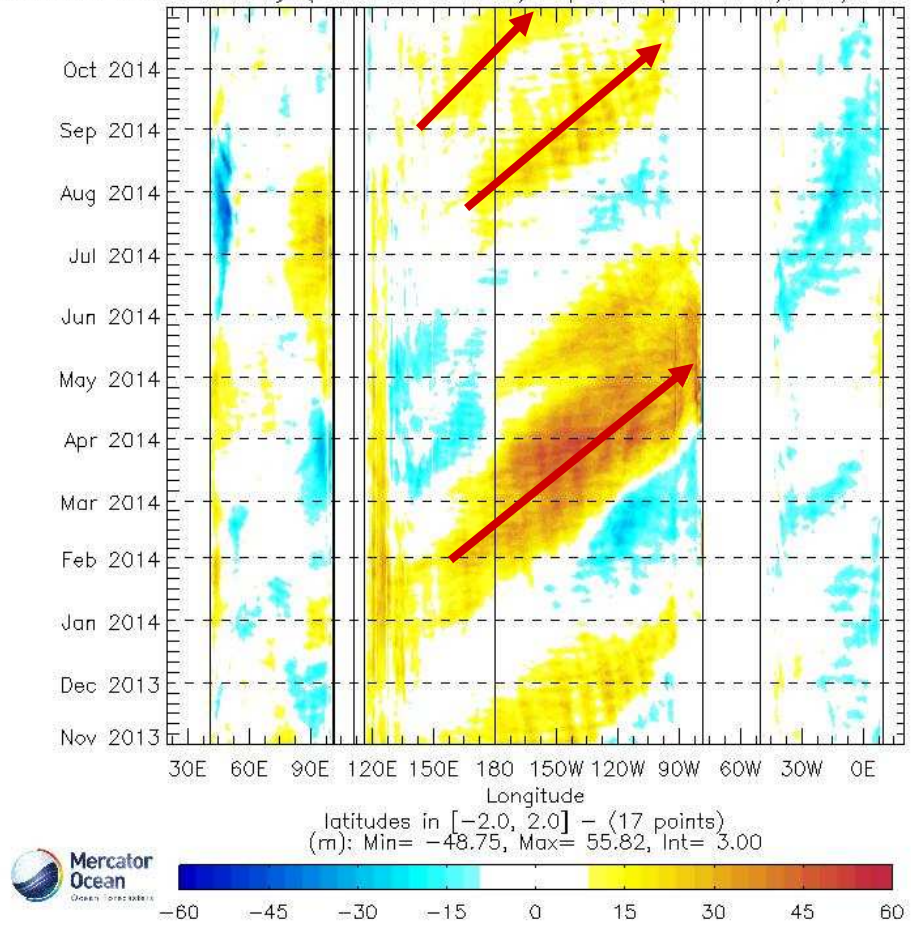


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Real time Ocean analysis:

PSY3V3R3 D20 Anomaly (ref: GLORYS2V3) Equator (2°S–2°N), 11/2013 to 10/2014



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Outline

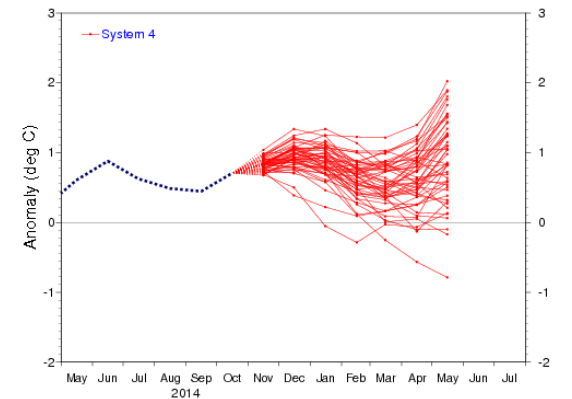
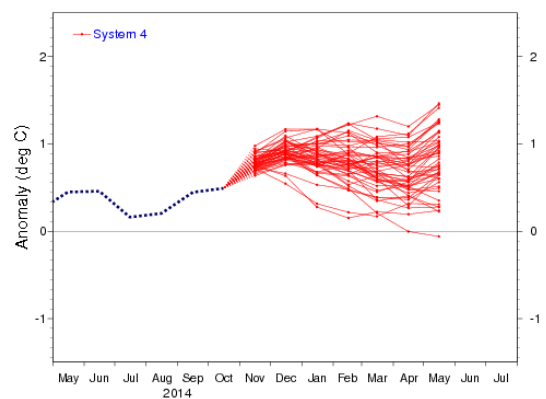
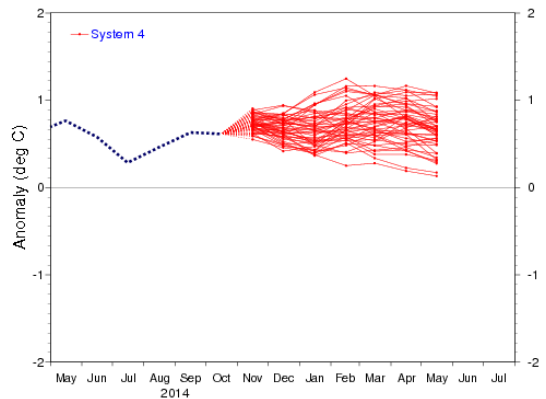
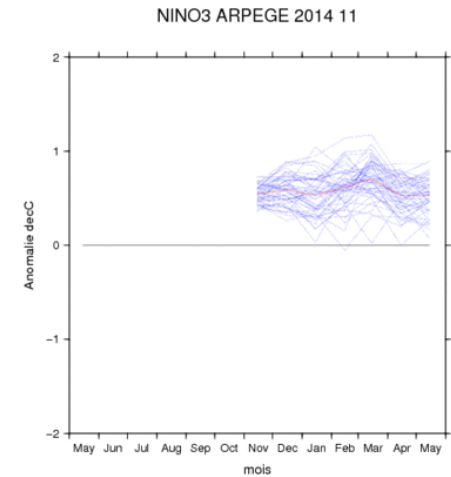
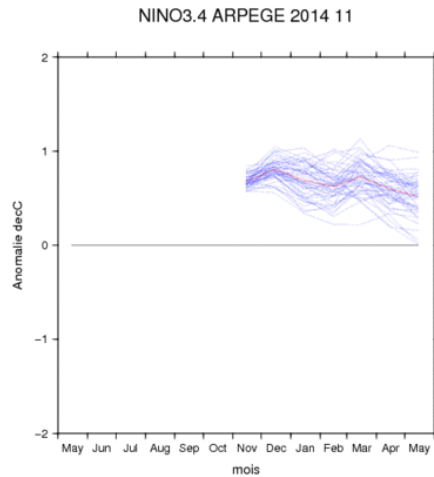
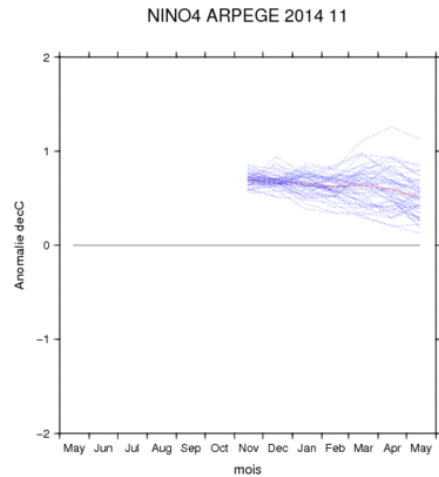
- SSTs Seasonal forecast predictions from ECMWF, Météo-France and Euro-Sip,



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SSTs Seasonal Forecast



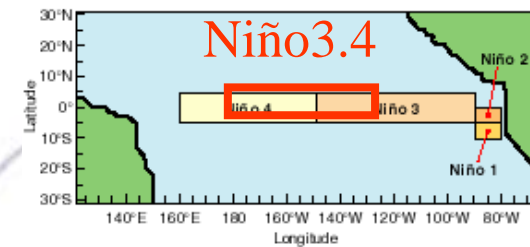
CEMWF

CEMWF

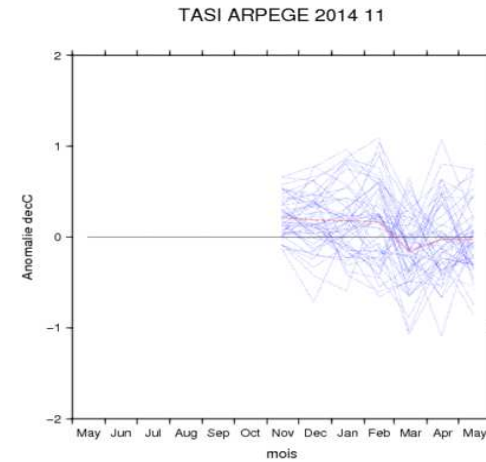
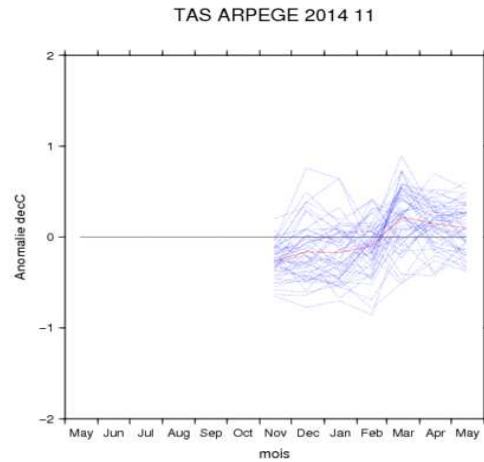
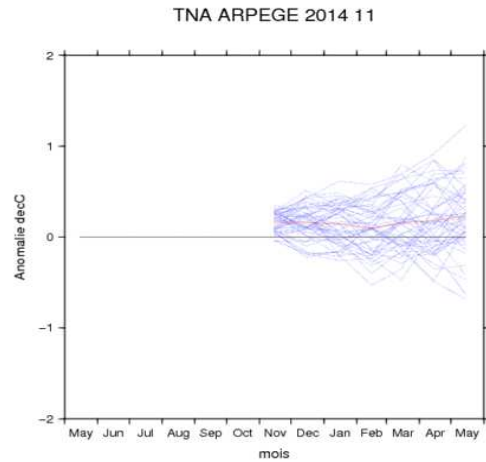
CEMWF



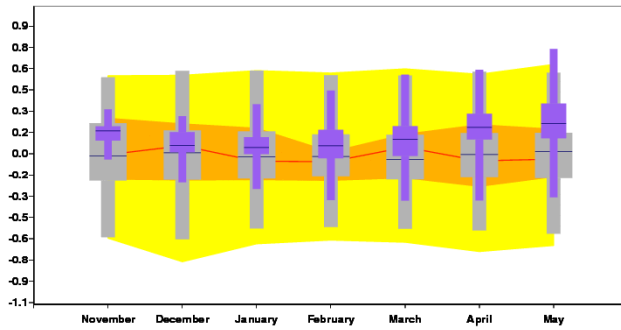
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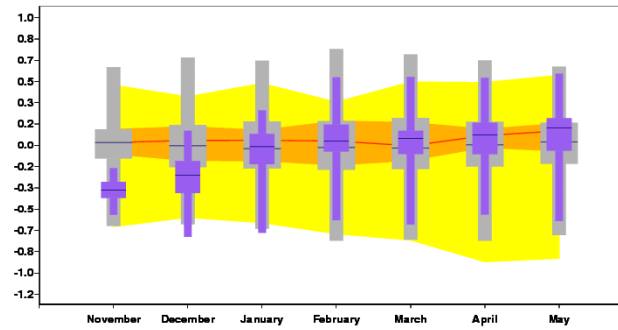
SSTs Seasonal Forecast



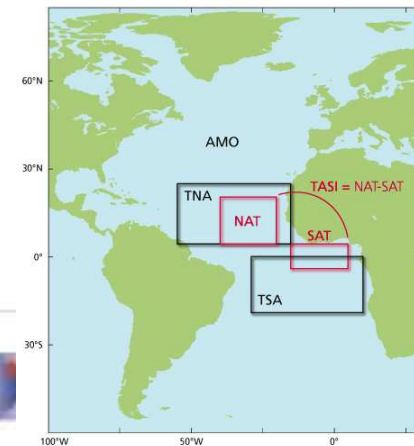
SST anomalies (K) latitude= 25.0 to 5.0 longitude= 300.0 to 345.0
 Forecast initial date: 20141101
 Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



SST anomalies (K) latitude= 0.0 to -20.0 longitude= 330.0 to 15.0
 Forecast initial date: 20141101
 Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



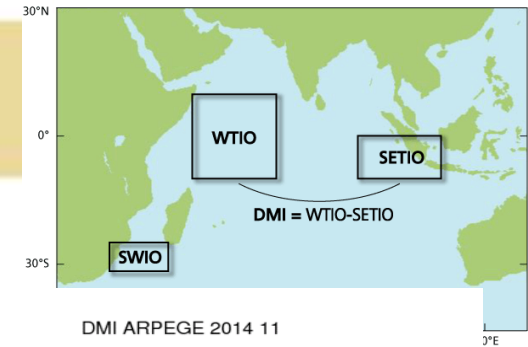
TASI ARPEGE 2014 11



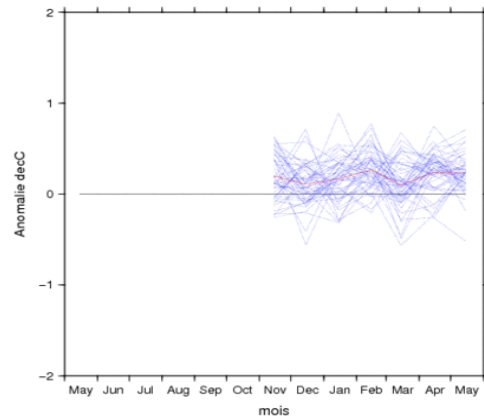
MedCOF, SEECOF & PresaNOR
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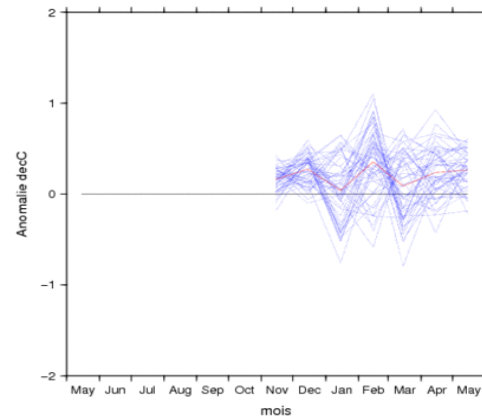
SSTs Seasonal Forecast



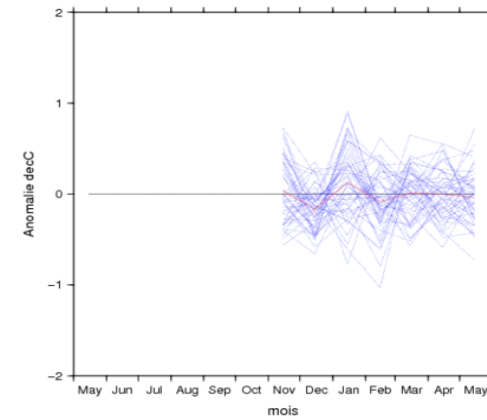
WTIO ARPEGE 2014 11



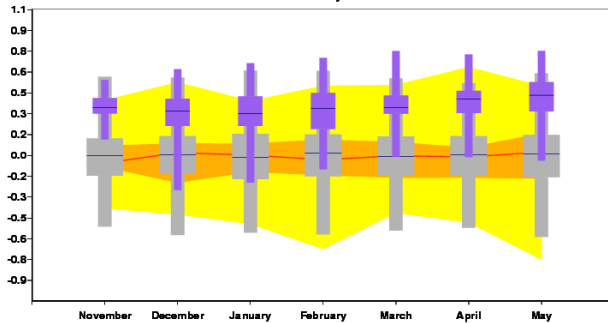
SETIO ARPEGE 2014 11



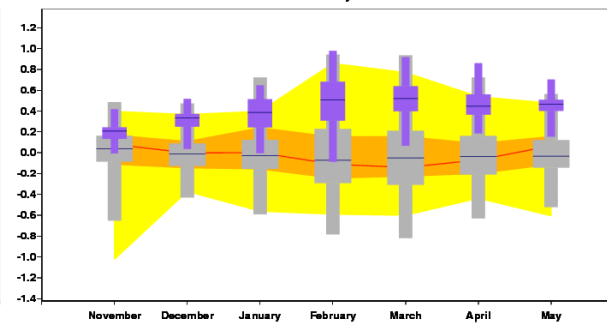
DMI ARPEGE 2014 11



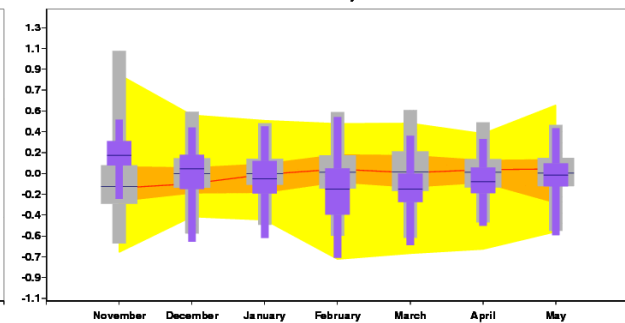
SST anomalies (K) latitude= 10.0 to -10.0 longitude= 50.0 to 70.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



SST anomalies (K) latitude= 0.0 to -10.0 longitude= 90.0 to 110.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



SST anomalies (K) 10.0 to -10.0 50.0 to 70.0 minus 0.0 to -10.0 90.0 to 110.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



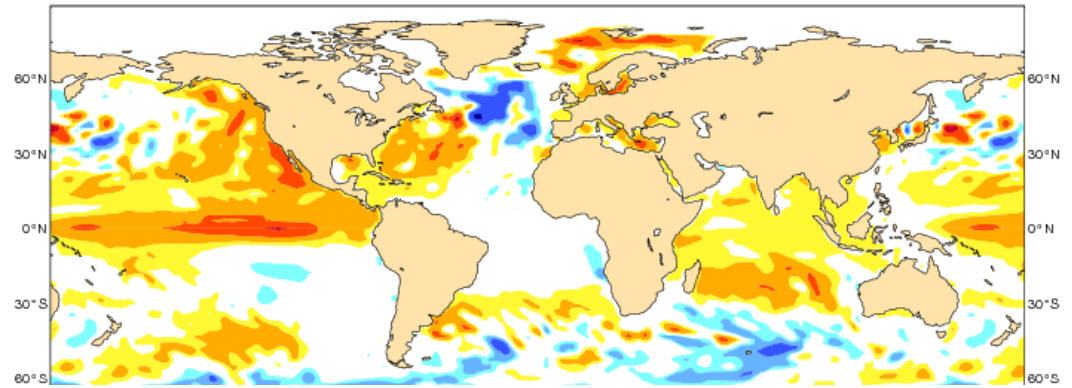
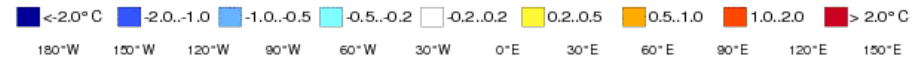
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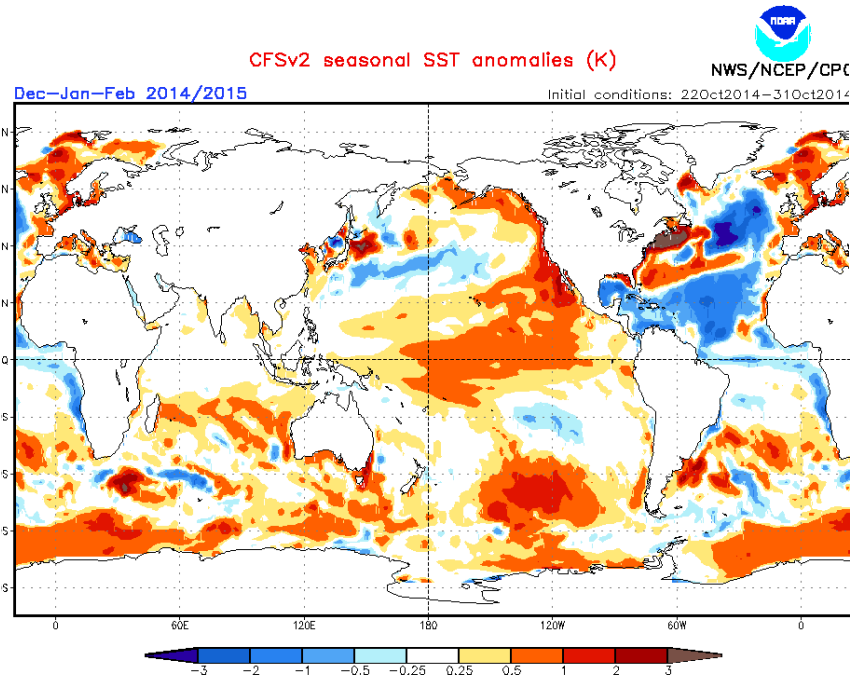
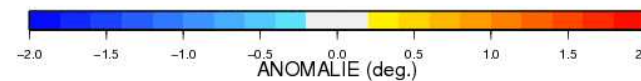
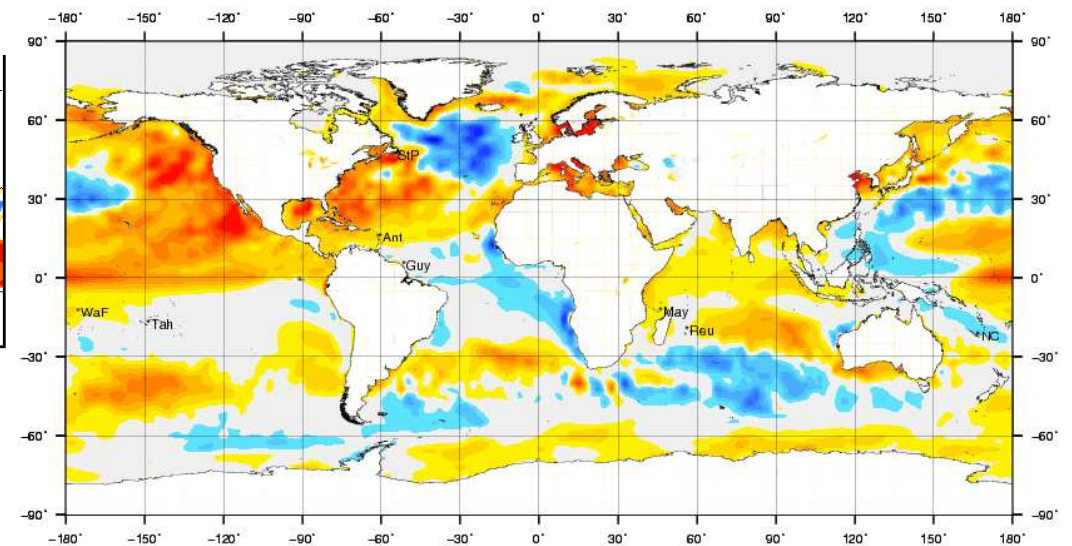
Latest SST predictions DJF

ECMWF Seasonal Forecast
 Mean forecast SST anomaly
 Forecast start reference is 01/11/14
 Ensemble size - 51, climate size - 450

System 4
 DJF 2014/15



SST PREVISION ARPS4 DECEMBRE-JANVIER-FEVRIER RUN DE NOVEMBRE 2014



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Latest SST predictions DJF

EUROSIP multi-model seasonal forecast

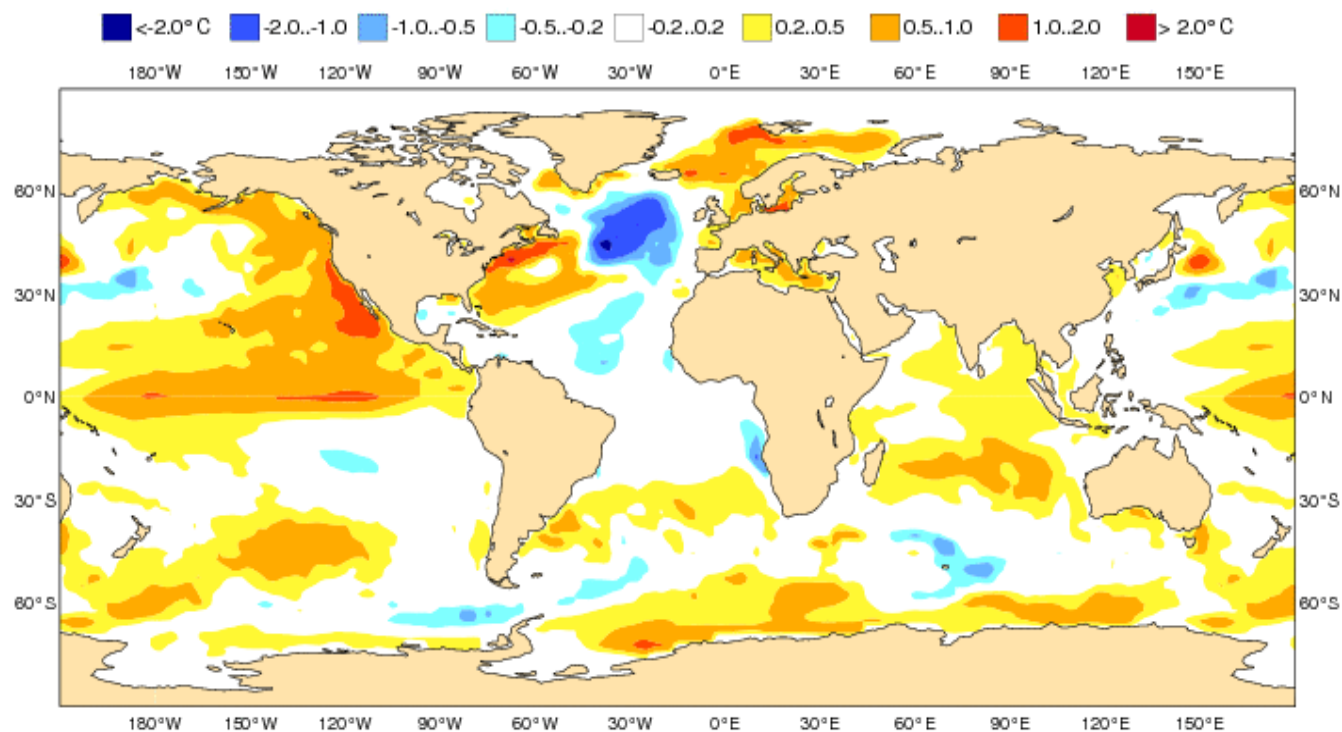
Mean forecast SST anomaly

Forecast start reference is 01/11/14

Variance-standardized mean

ECMWF/Met Office/Meteo-France/NCEP

DJF 2014/15



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 **METEO FRANCE**
Toujours un temps d'avance

Outline

- General Circulation from ECMWF, Météo-France

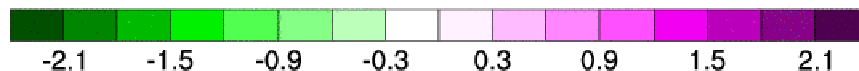
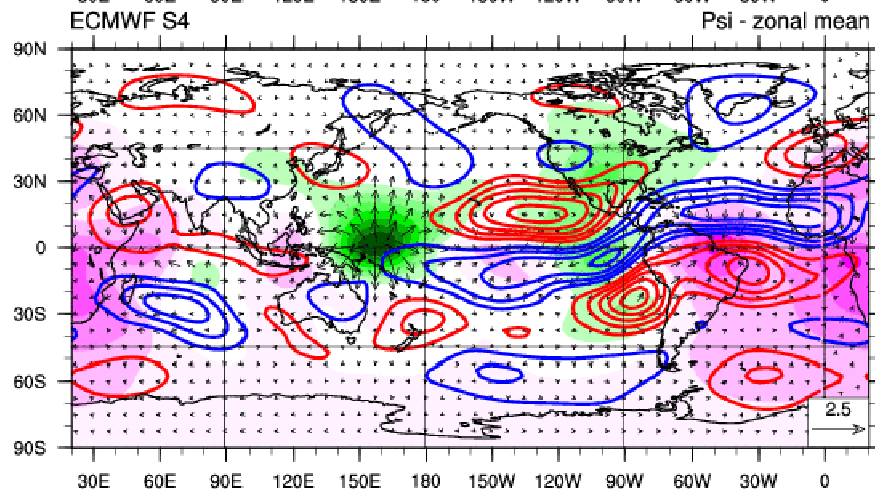
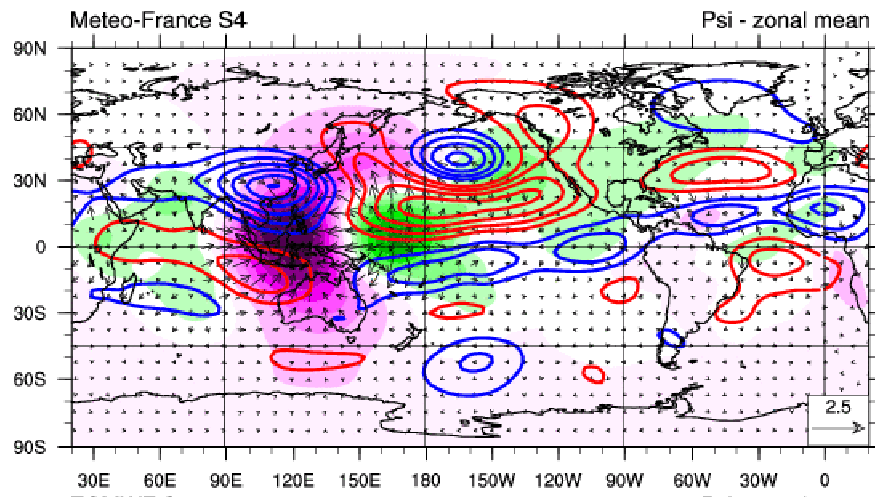


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Tropical response and forcing - DJF

DJF CHI&PSI@200 [IC = Nov. 2014]



Upper troposphere circulation fields (200 hPa)

Shaded area : velocity potential anomalies (divergent circulation anomalies)

green <-> upward motion anomaly

pink <-> downward motion anomaly

Isolines : stream function anomalies (rotational circulation anomalies)

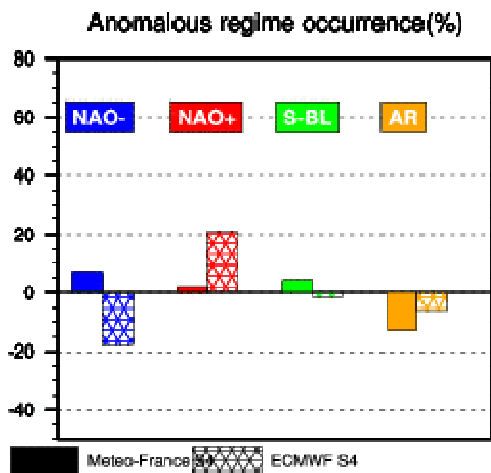
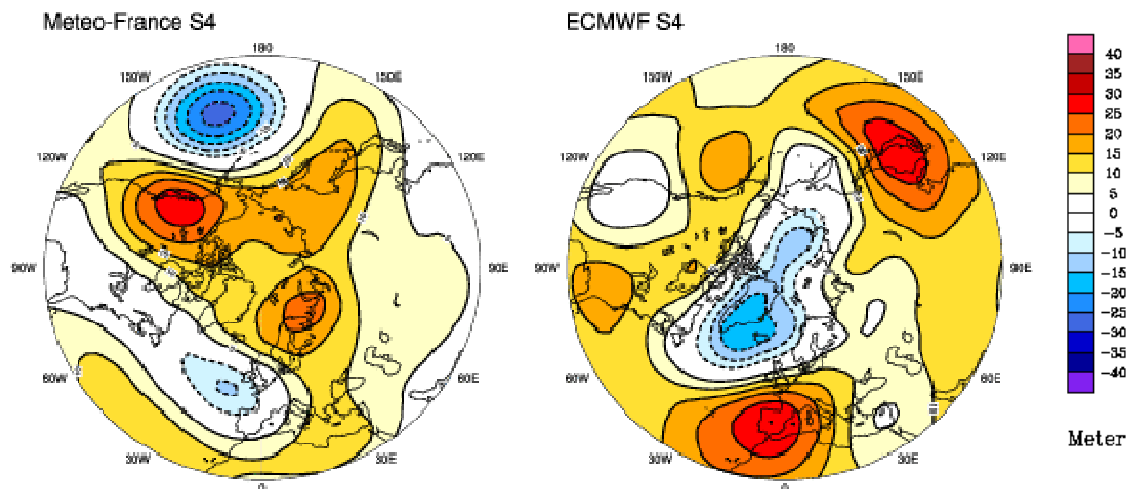
blue lines <-> cyclonic (in NH)

red lines <-> anticyclonic (in NH)



Mid-Latitude Response - DJF

DJF Z500 Forecast [IC = Nov. 2014]



Computed as departure from the 1993-2007 climatology



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Outline

- Rainfall Seasonal Forecasts predictions from ECMWF, Météo-France and Euro-Sip,

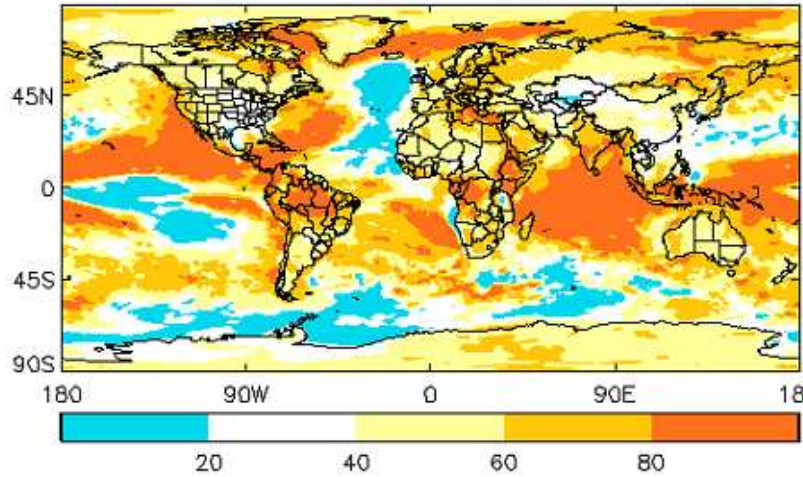


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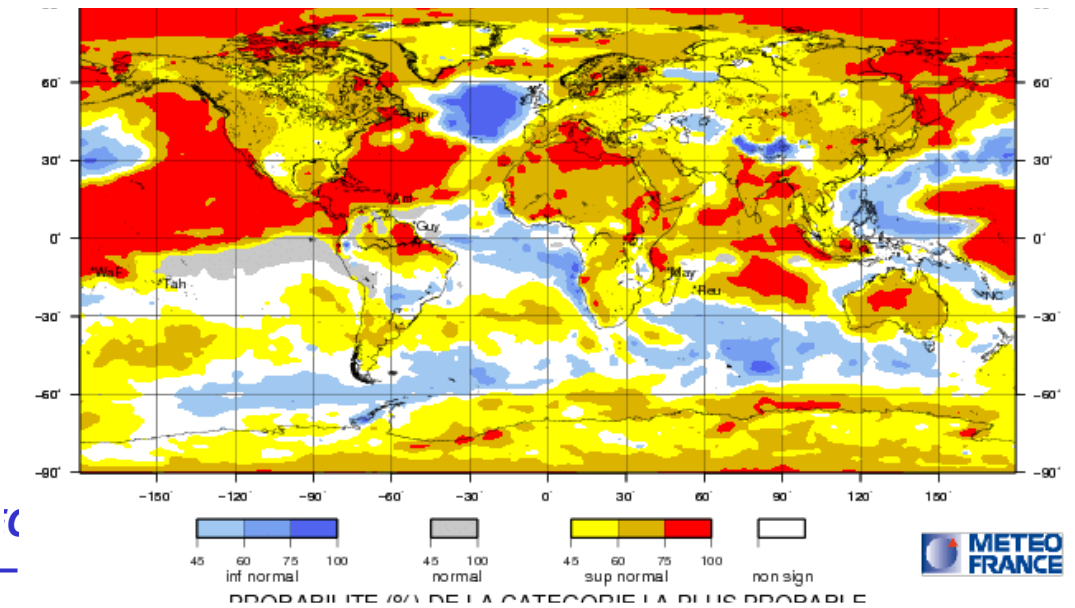
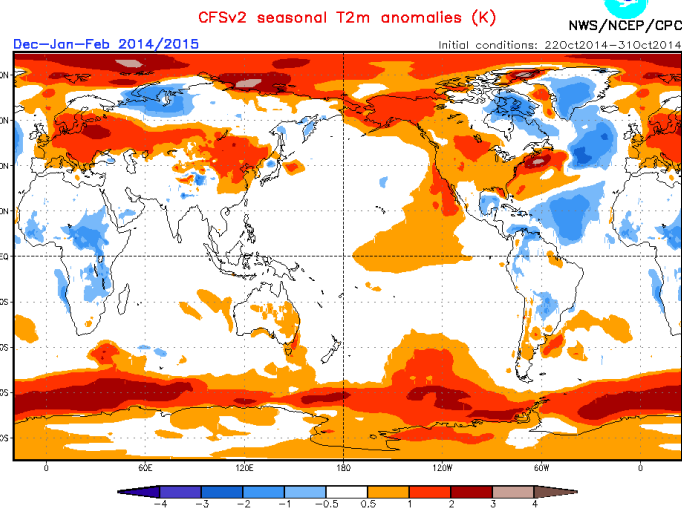
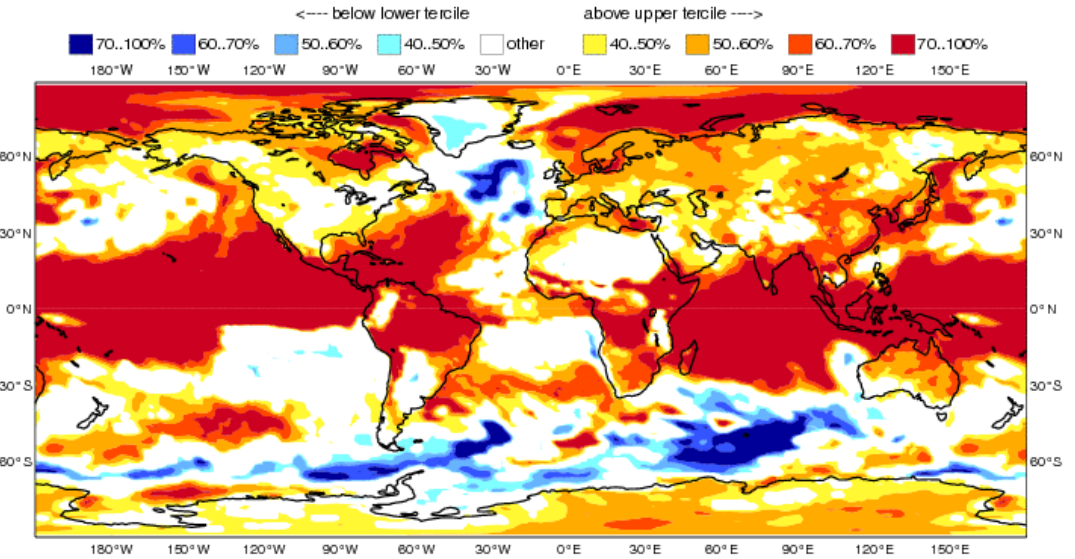
Temperature probability : DJF

Probability of tercile categories Dec/Jan/Feb Issued Nov
above-normal 2m temperature



ECMWF Seasonal Forecast
Prob(most likely category of 2m temperature)
Forecast start reference is 01/11/14
Ensemble size - 51, climate size - 450

System 4
DJF 2014/15



11/11 - 22/11 -

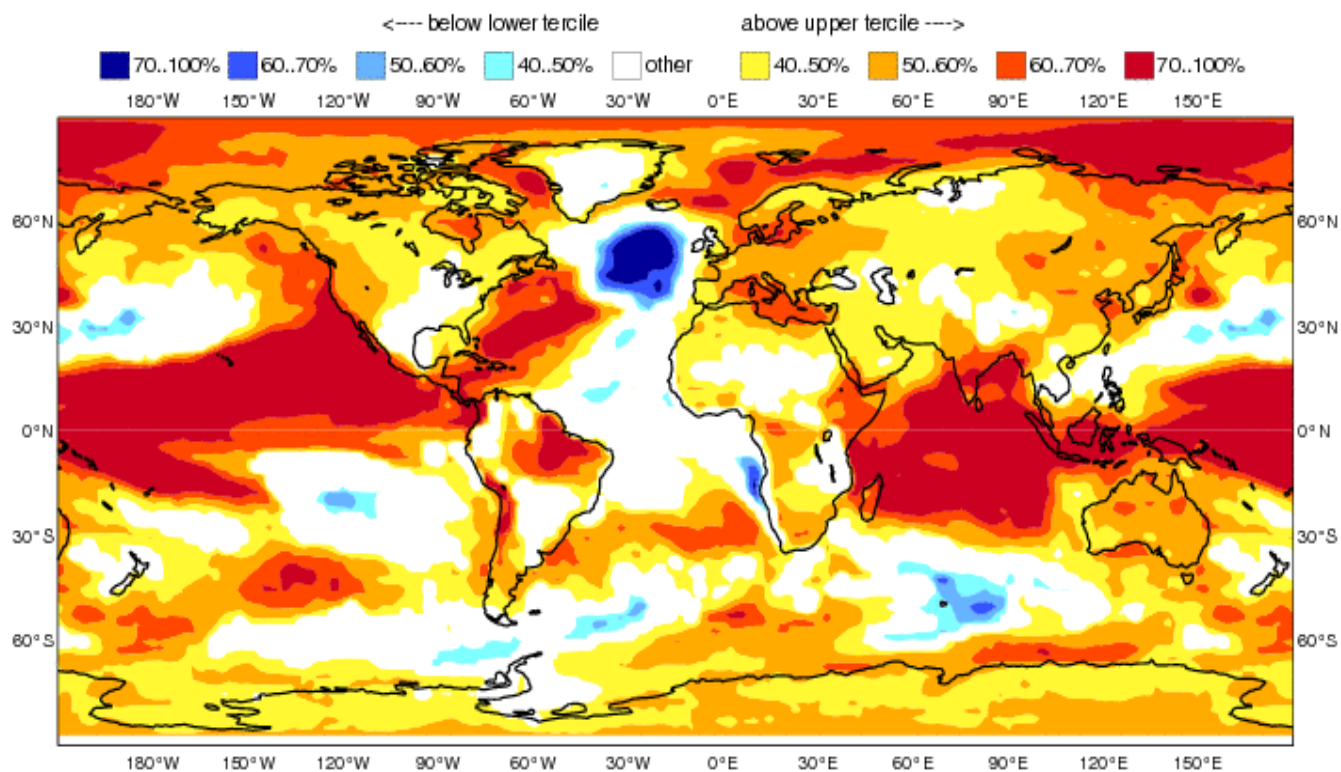


PROBABILITE (%) DE LA CATEGORIE LA PLUS PROBABLE

Temperature probability : DJF

EUROSIP multi-model seasonal forecast
Prob(most likely category of 2m temperature)
Forecast start reference is 01/11/14
Unweighted mean

ECMWF/Met Office/Meteo-France/NCEP
DJF 2014/15

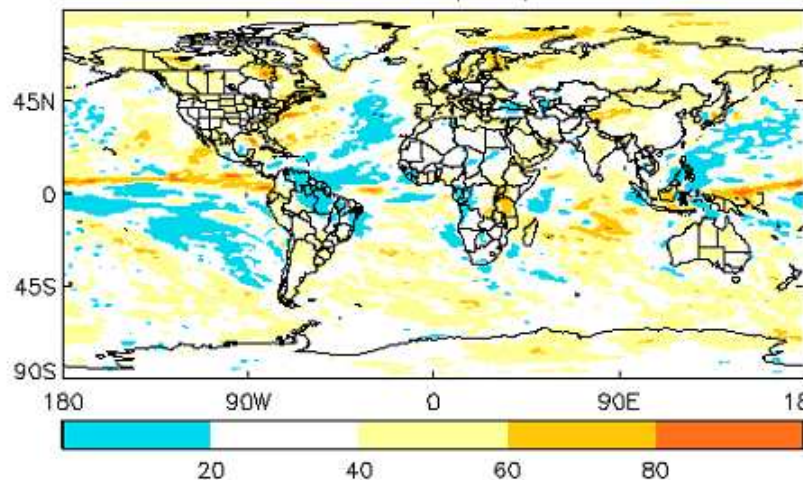


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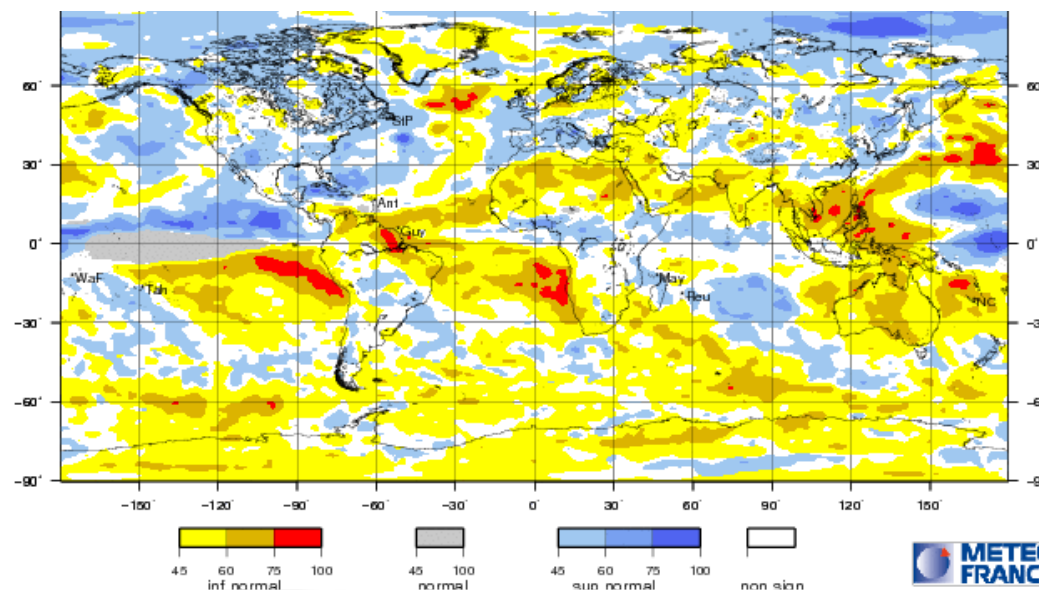
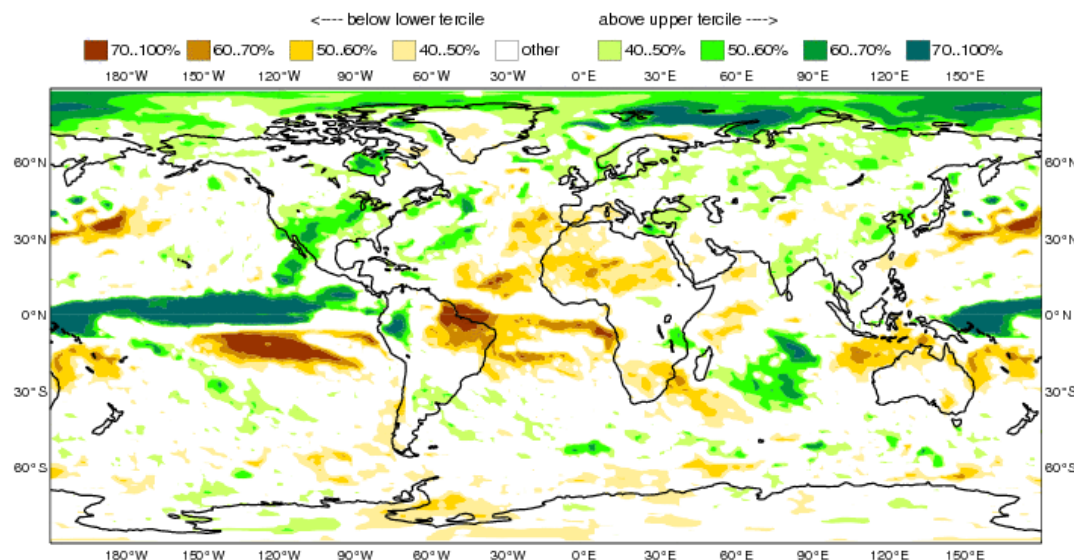
Precipitation probability : DJF

Probability of tercile categories Dec/Jan/Feb Issued Nov above-normal precipitation



ECMWF Seasonal Forecast
 Prob(most likely category of precipitation)
 Forecast start reference is 01/11/14
 Ensemble size - 51, climate size - 450

System 4
 DJF 2014/15



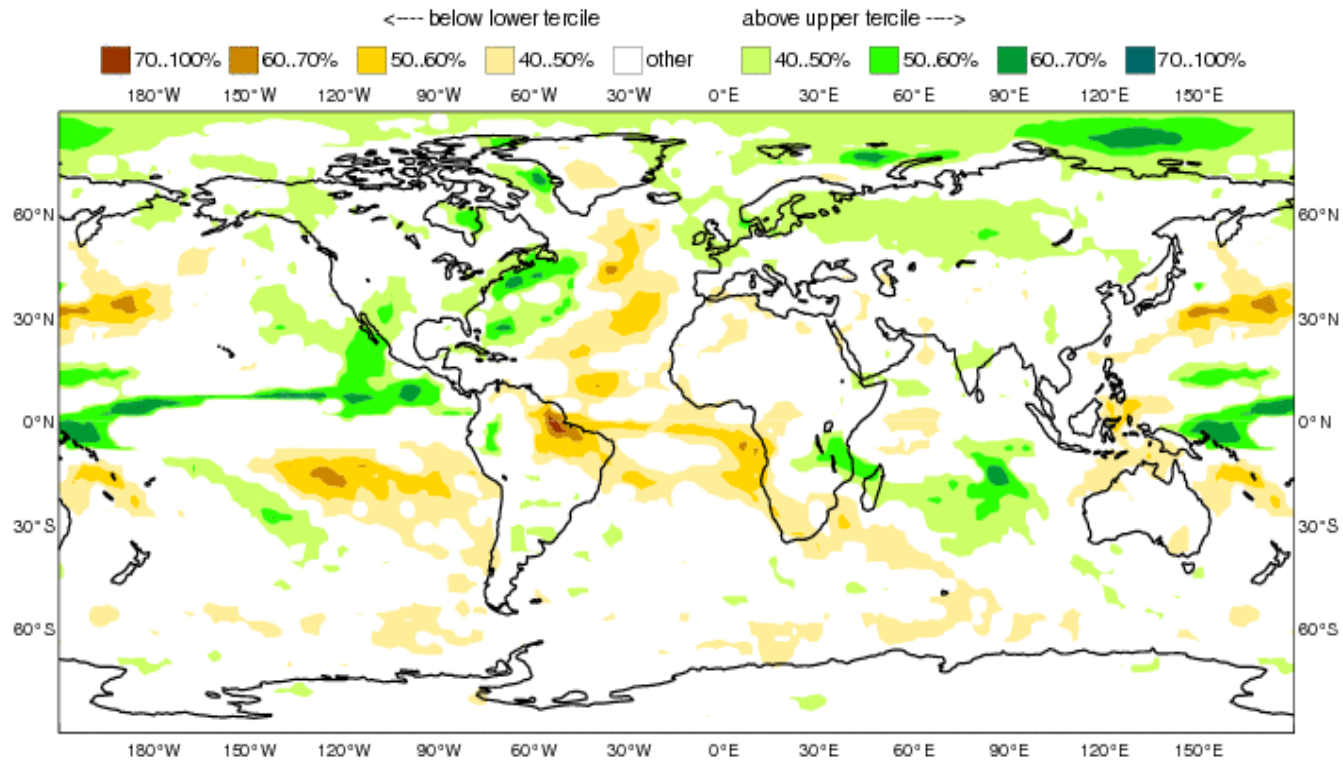
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 17/11 - 22/11 -



Precipitation probability : DJF

EUROSIP multi-model seasonal forecast
Prob(most likely category of precipitation)
Forecast start reference is 01/11/14
Unweighted mean

ECMWF/Met Office/Meteo-France/NCEP
DJF 2014/15



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17/11 – 22/11 – Antalya - Turkey



Outline

- Regional forecasts from ECMWF, Météo-France, NCEP

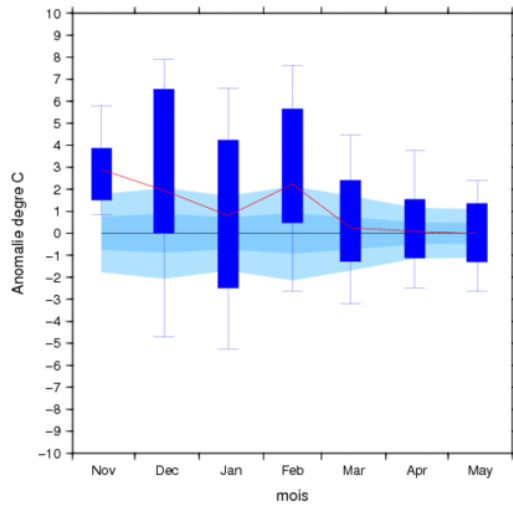


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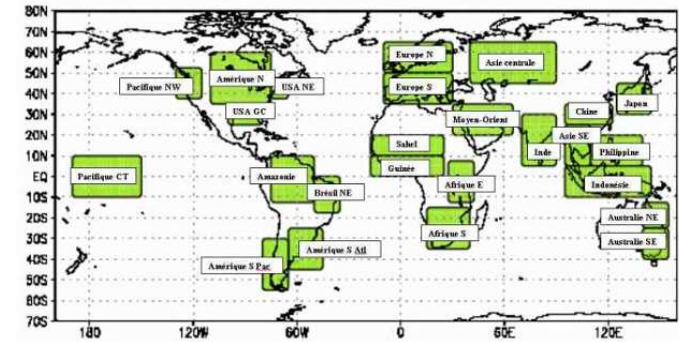
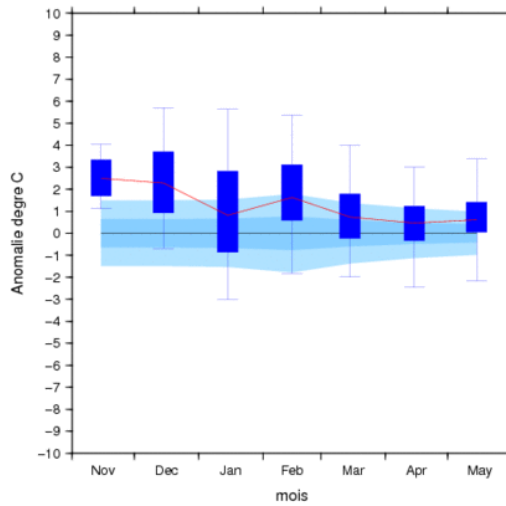


Regional indices : Temperature

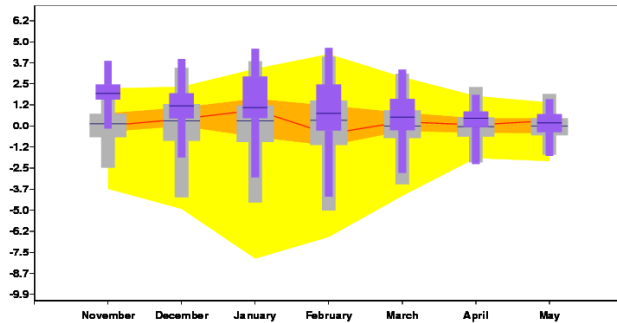
T2M Europe_N 2014 11



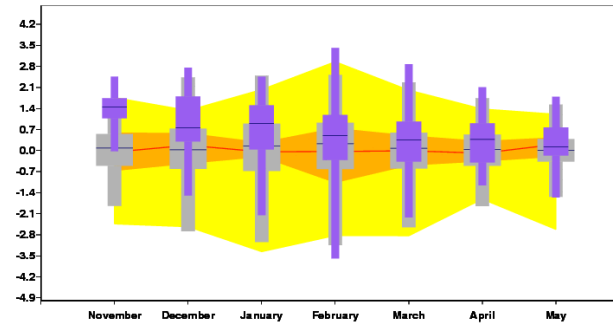
T2M Europe_S 2014 11



2m temp. anomalies (K) latitude= 65.0 to 50.0 longitude= -10.0 to 30.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=30



2m temp. anomalies (K) latitude= 50.0 to 35.0 longitude= -10.0 to 30.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=30

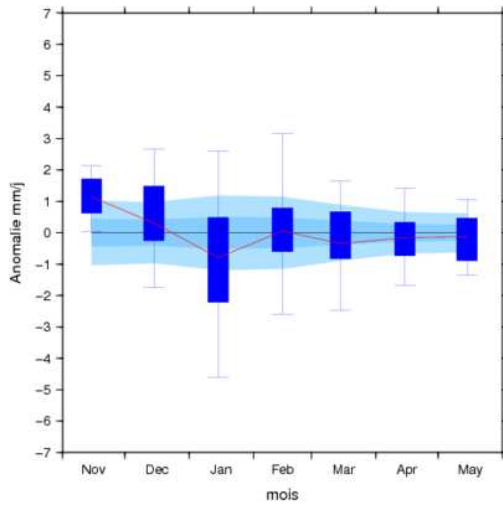


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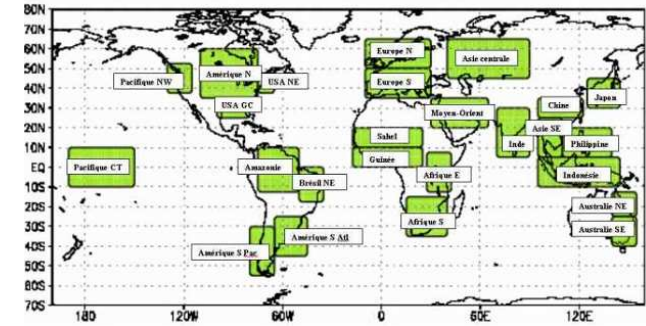
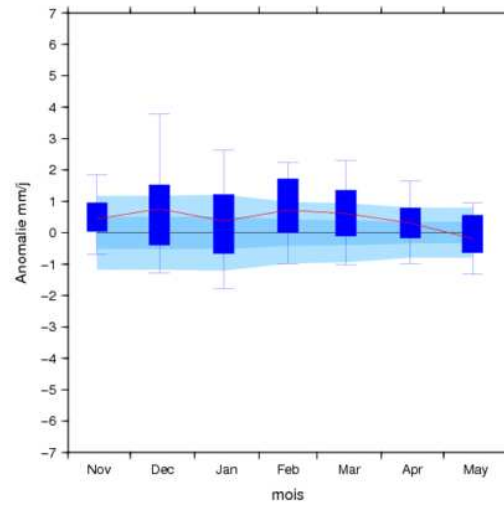


Regional indices : rainfall

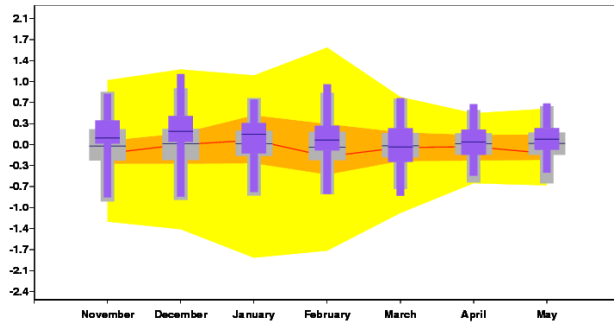
PRET Europe_N 2014 11



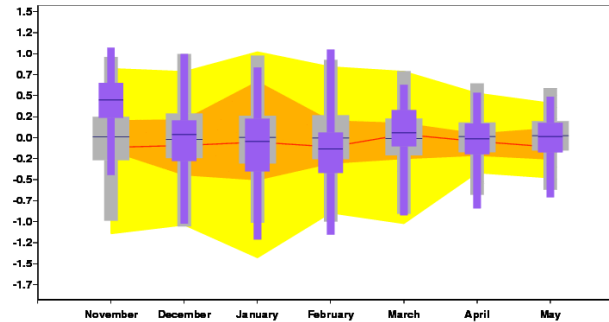
PRET Europe_S 2014 11



precip. anomalies (mm/day) latitude= 65.0 to 50.0 longitude= -10.0 to 30.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=25



precip. anomalies (mm/day) latitude= 50.0 to 35.0 longitude= -10.0 to 30.0
Forecast initial date: 20141101
Ensemble size: Forecast=51 Model climate=450 Analysis climate=25

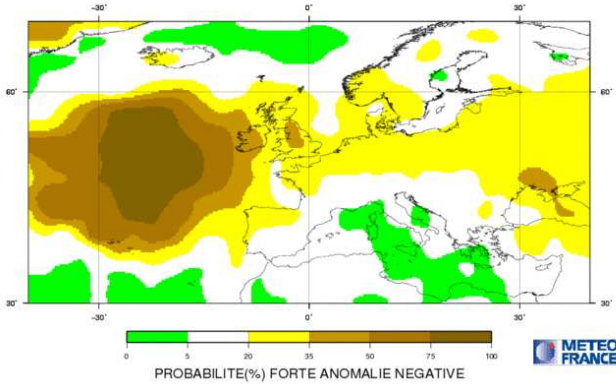


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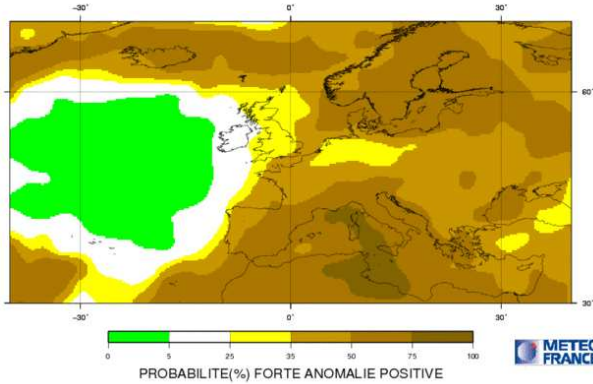


Regional Forecast : Extreme Scenarios

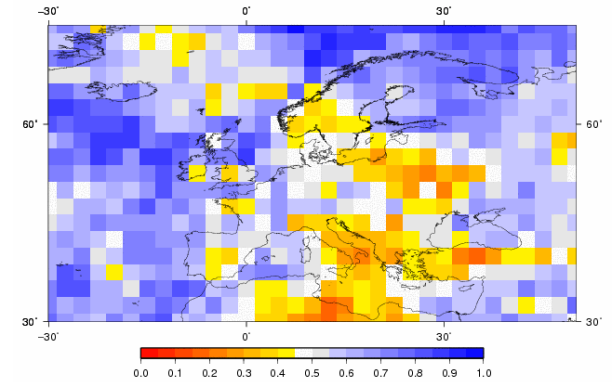
T 2 M PREVISION ARPS4 DECEMBRE-JANVIER-FEVRIER RUN DE NOVEMBRE 2014



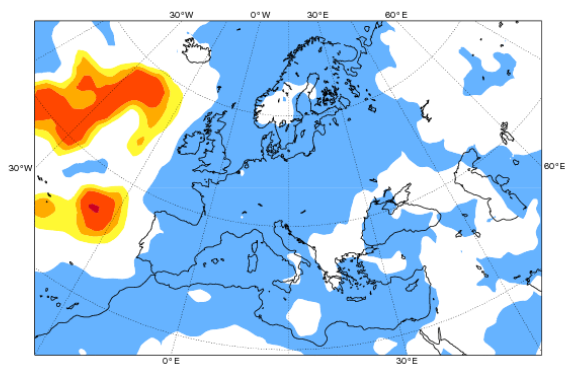
T 2 M PREVISION ARPS4 DECEMBRE-JANVIER-FEVRIER RUN DE NOVEMBRE 2014



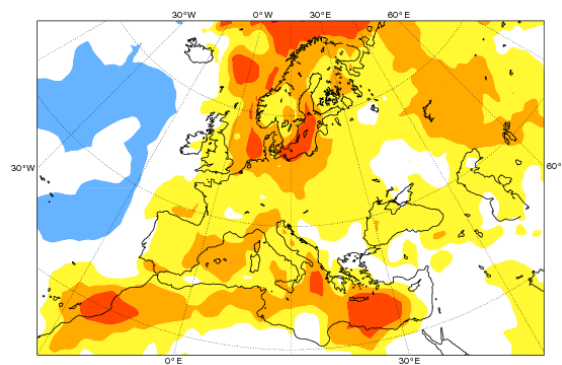
T_2M ARPEGE-COUPLE METEO-FRANCE ROC DJF LEAD=1 terc



ECMWF Seasonal Forecast
Prob(lowest 20% of climatology) - 2m temperature
Forecast start reference is 01/11/14
Ensemble size - 51, climate size - 450

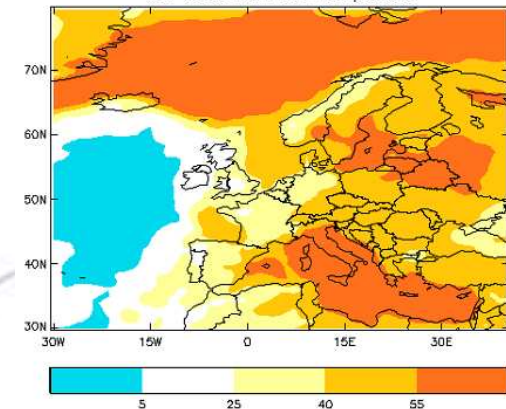


System 4
DJF 2014/15
ECMWF Seasonal Forecast
Prob(highest 20% of climatology) - 2m temperature
Forecast start reference is 01/11/14
Ensemble size - 51, climate size - 450



System 4
DJF 2014/15

Probability of outer quintile categories Dec/Jan/Feb Issued Nov 2014
well-above-normal 2m temperature



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Temperature Scenario for Europe : DJF

<i>MODELS</i>	Northern Europe	Southern Europe	Central Europe	Eastern Europe	SEE Region
<i>CEP</i>	Yellow	Yellow	Yellow	Yellow	Yellow
<i>MF</i>	Yellow	Yellow	Yellow	Yellow	Yellow
<i>Met Office</i>	Yellow	Yellow	Yellow	Yellow	Yellow
<i>CPC</i>	Yellow	Yellow	Yellow	Grey	Grey
<i>JMA</i>	Grey	Grey	Grey	Grey	Grey
<i>synthesis</i>	Yellow	Yellow	Yellow	Yellow	Yellow
<i>LC-MME</i>	Grey	Grey	Grey	Grey	Grey
<i>Eurosip</i>	Yellow	Yellow	Yellow	Yellow	Yellow
privileged scenario by RCC-LRF node	<i>above normal</i>	<i>above normal</i>	<i>above normal</i>	<i>above normal</i>	<i>above normal</i>



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Rainfall Scenario for Europe : DJF

<i>MODELS</i>	Northern Europe	Southern Europe	Central Europe	Eastern Europe	SEE Region
<i>CEP</i>	Grey	Yellow	Grey	Grey	Cyan
<i>MF</i>	Grey	Cyan	Grey	Grey	Yellow
<i>Met Office</i>	Cyan	Cyan	Grey	Grey	Grey
<i>CPC</i>	Grey	Grey	Grey	Grey	Grey
<i>JMA</i>	Grey	Grey	Grey	Grey	Grey
<i>synthesis</i>	Grey	Grey	Grey	Grey	Grey
<i>LC-MME</i>	Grey	Grey	Grey	Grey	Grey
<i>Eurosip</i>	Grey	Grey	Grey	Grey	Grey
privileged scenario by RCC-LRF node	<i>no privileged scenario</i>	<i>no privileged scenario</i>	<i>no privileged scenario</i>	<i>no privileged scenario</i>	<i>no privileged scenario</i>



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Thank you for attention

Summary

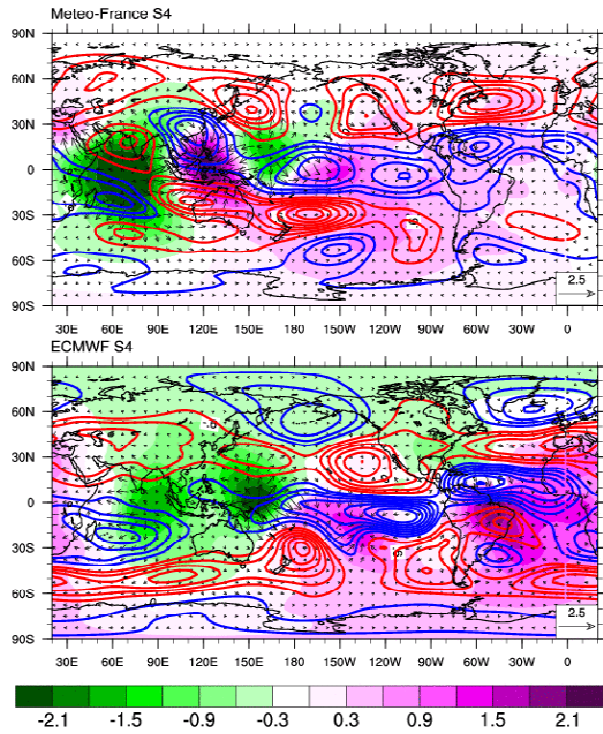


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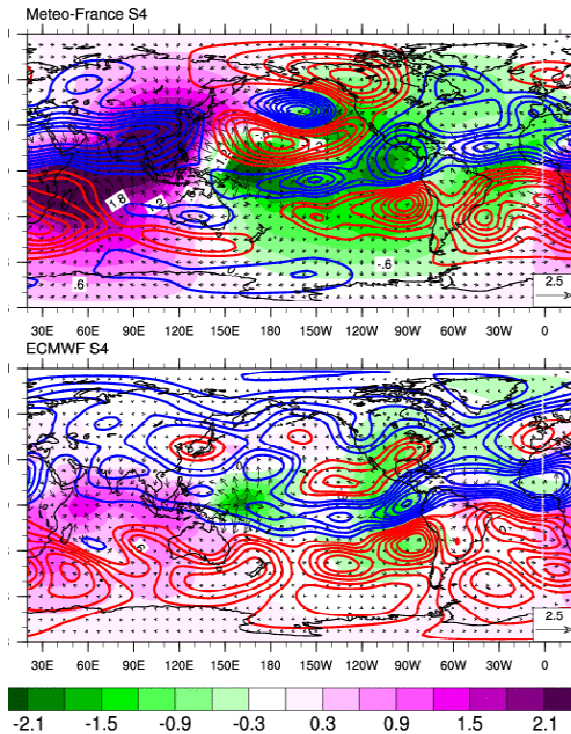


METEO FRANCE
Toujours un temps d'avance

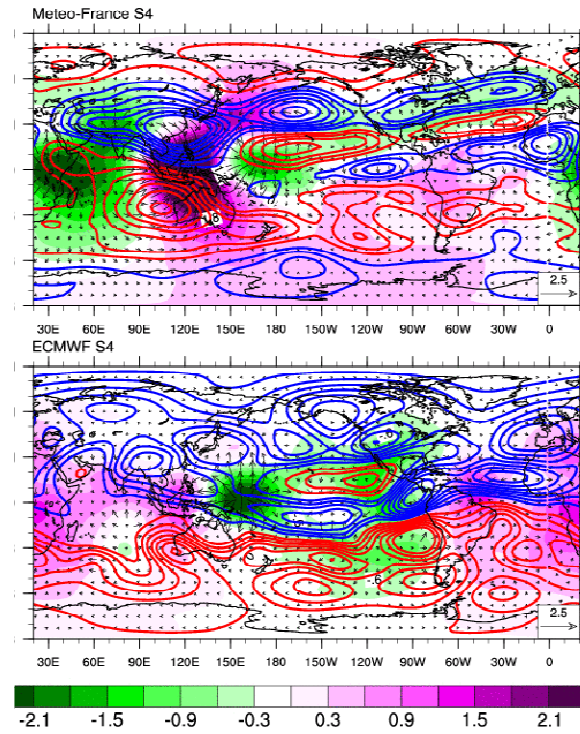
Dec CHI&PSI@200 [IC = Nov 2014]



Jan CHI&PSI@200 [IC = Nov 2014]



Feb CHI&PSI@200 [IC = Nov 2014]

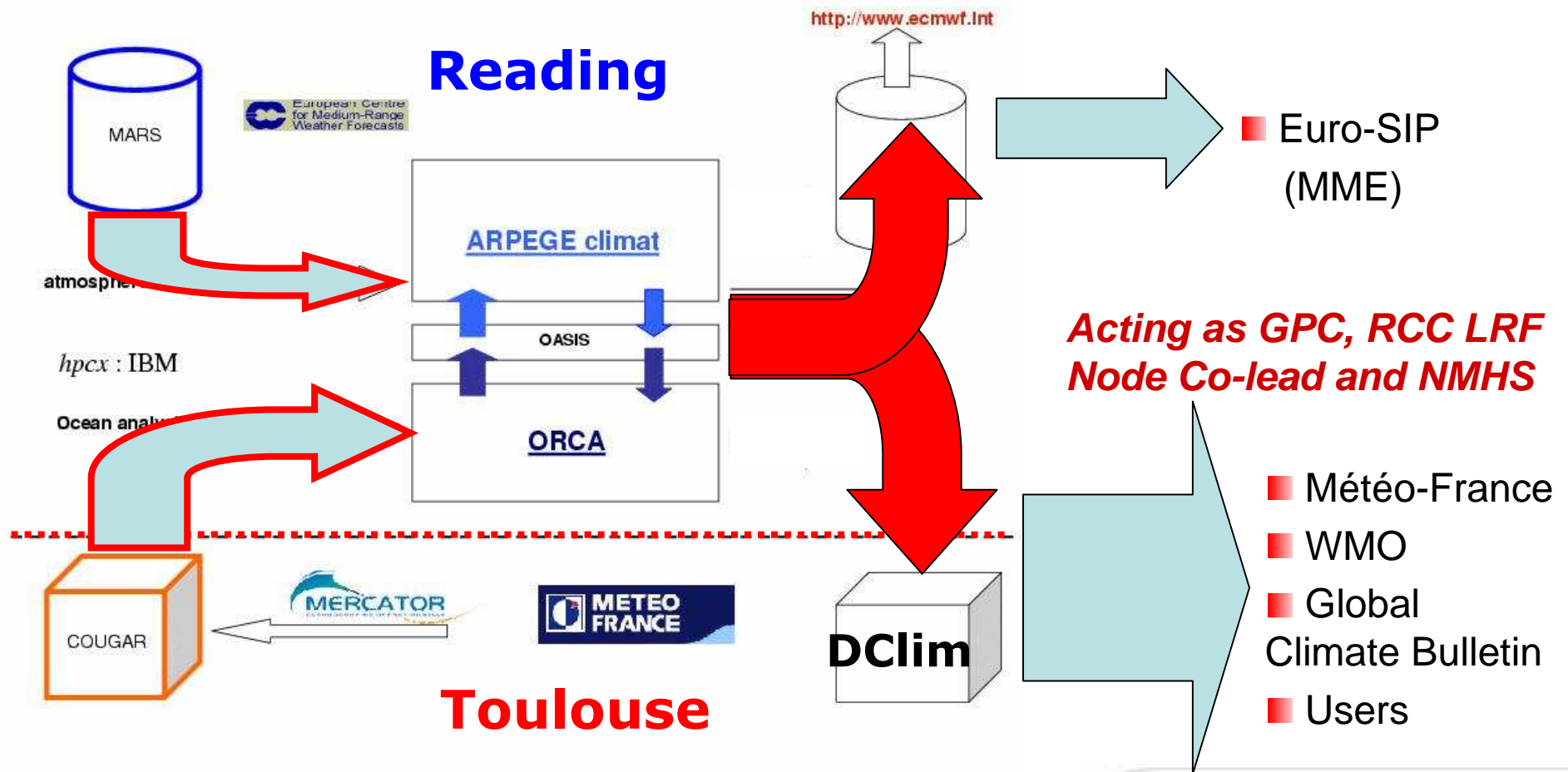


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Operationnal Forecasting Suite

■ Arpège model (v 5) - Mercator initialisation (Ocean) :



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Products

■ Deterministic products :

- Ensemble mean : **Anomalies, Indices (Standardized anomalies)** and **recalibrated Anomalies**
- Significance Test (T test)

■ Probabilistic products :

- Ensemble Member frequency into the **tercile** categories,
- Ensemble Member frequency into « **extreme** » categories
- **Probabilistic forecast synthesis** (most likely category)

