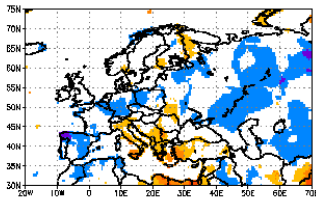# La Niña forcing on European Regions
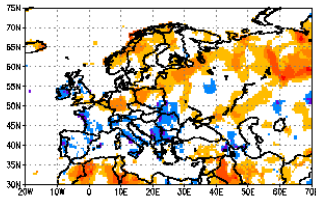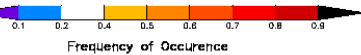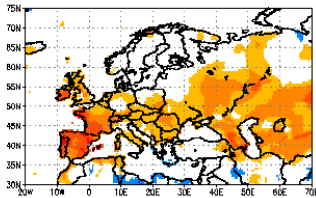
Temperature Probabilities for DJF
associated with La Nina (Min. 10 NINO3.4 SSTa DJF 1950-1995)
"ABOVE-NORMAL"

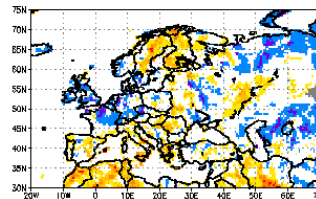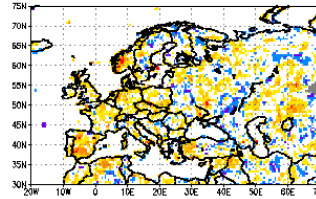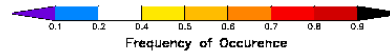Precipitation Probabilities for DJF
associated with La Nina (Min. 10 NINO3.4 SSTa DJF 1950-1995)
"ABOVE-NORMAL"

"NEAR-NORMAL"
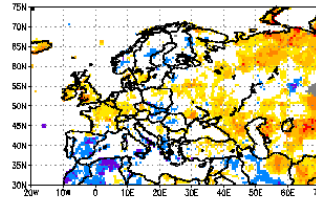
"NEAR-NORMAL"

"BELOW-NORMAL"

"BELOW-NORMAL"

Frequency of Occurence

Frequency of Occurence

GREY areas indicate dry season (seasonal avg. <5cm & <15% annual avg.)

Cold NINO3.4 Yrs (incr. magnitude): 1963, 1985, 1965, 1951, 1955, 1956, 1989, 1976, 1971, 1974

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IRI International Research Institute for climate prediction

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The Niña influence is more visible on temperature than on precipitations. As a matter of evidence, when a strong La Niña forcing occurs, a below normal situation is most likely on a large part of Europe including SEE regions. For the precipitation, the influence is less clear. However there is some traces of influence (below normal situation) for the eastern part of the SEE region (and also on France and North Africa)
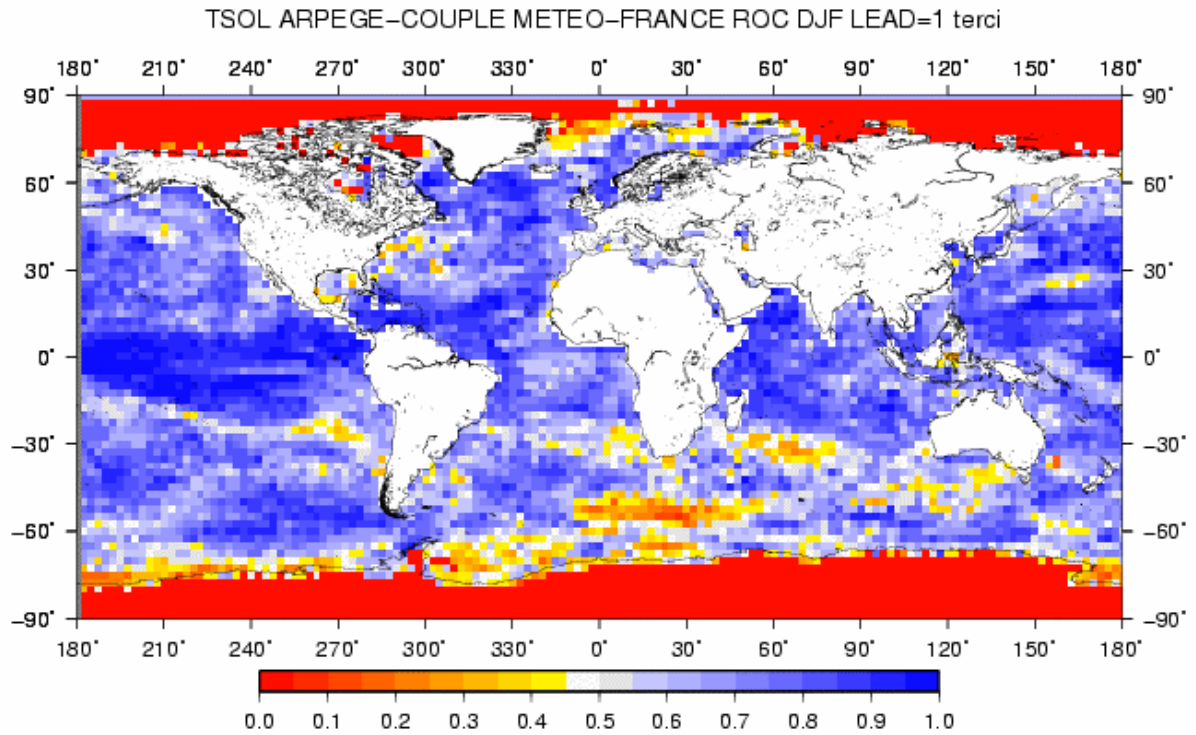
North Atlantic circulation regimes influence
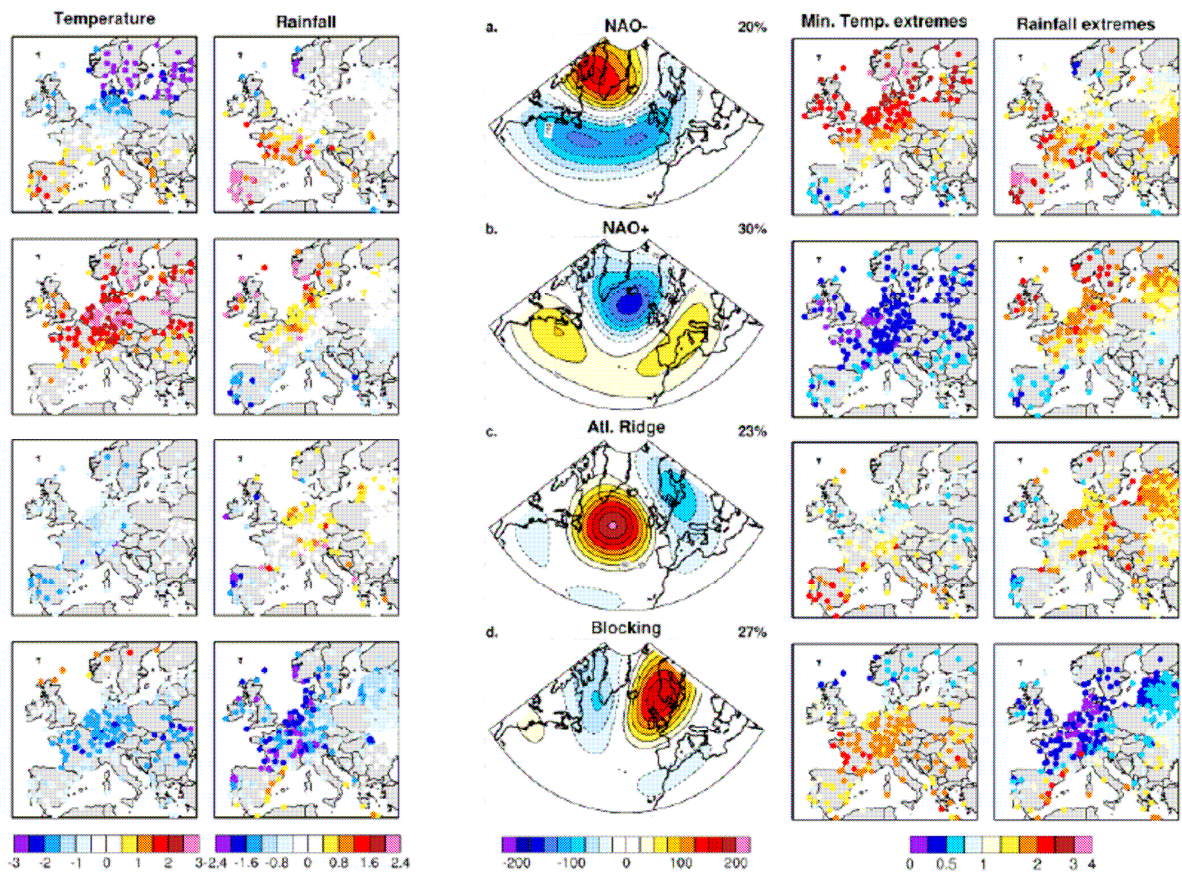
Patterns of the geopotential height at 500 hPa for the 4 main circulation regimes in winter relevant for the North Atlantic sector (middle panel).

On the left pannel, one can see the averaged effect on the seasonal mean for both temperature and rainfall. Positive anomalies (in °C for temperature and mm/days for the rainfall) are in yellow to red colours while negative anomalies are in light to dark blue. They correspond to the average of the conditional climatology.
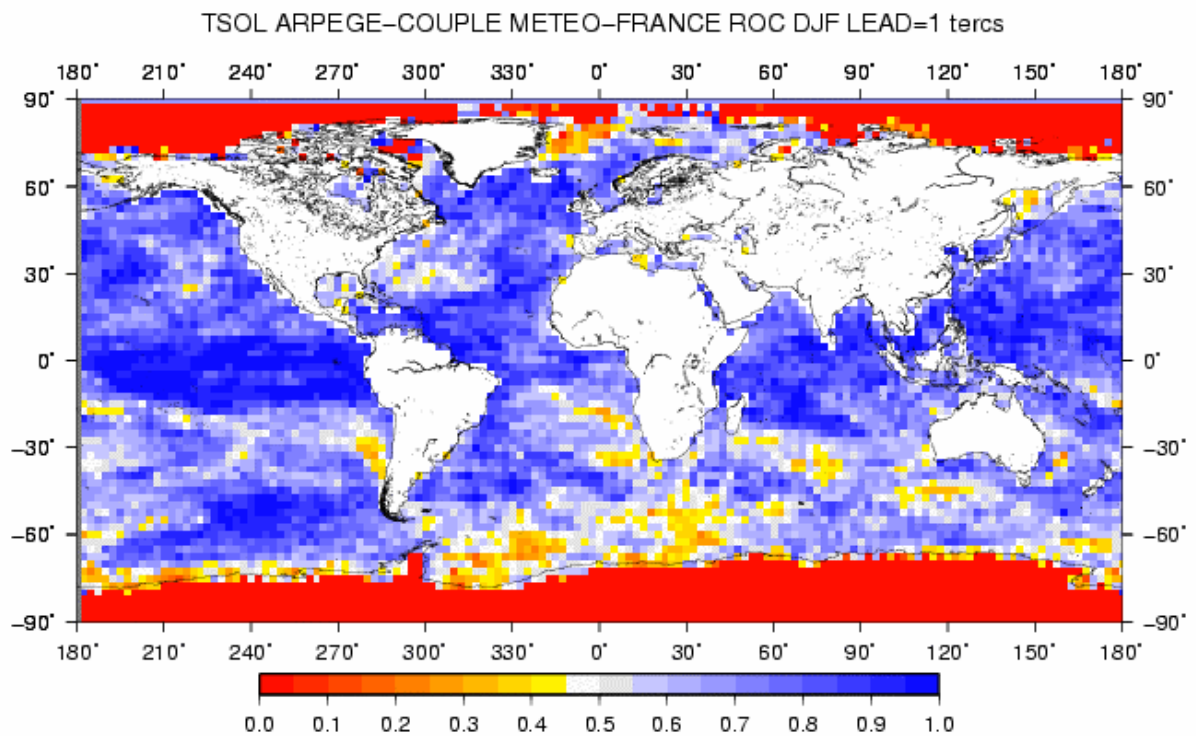
On the right, colors indicate the conditional effect on the probability of occurrence of minimum temperature and rainfall extremes. Extremes are defined with respect of the 5th of the climatologic distribution. A yellow to red color indicate an increased probability of occurrence of extreme events (e.g. a value of 2 means that the climatologic probability – of 5% – is increased by factor of 2). The blue to purple colours indicate a decreased probability of occurrence of extreme events.
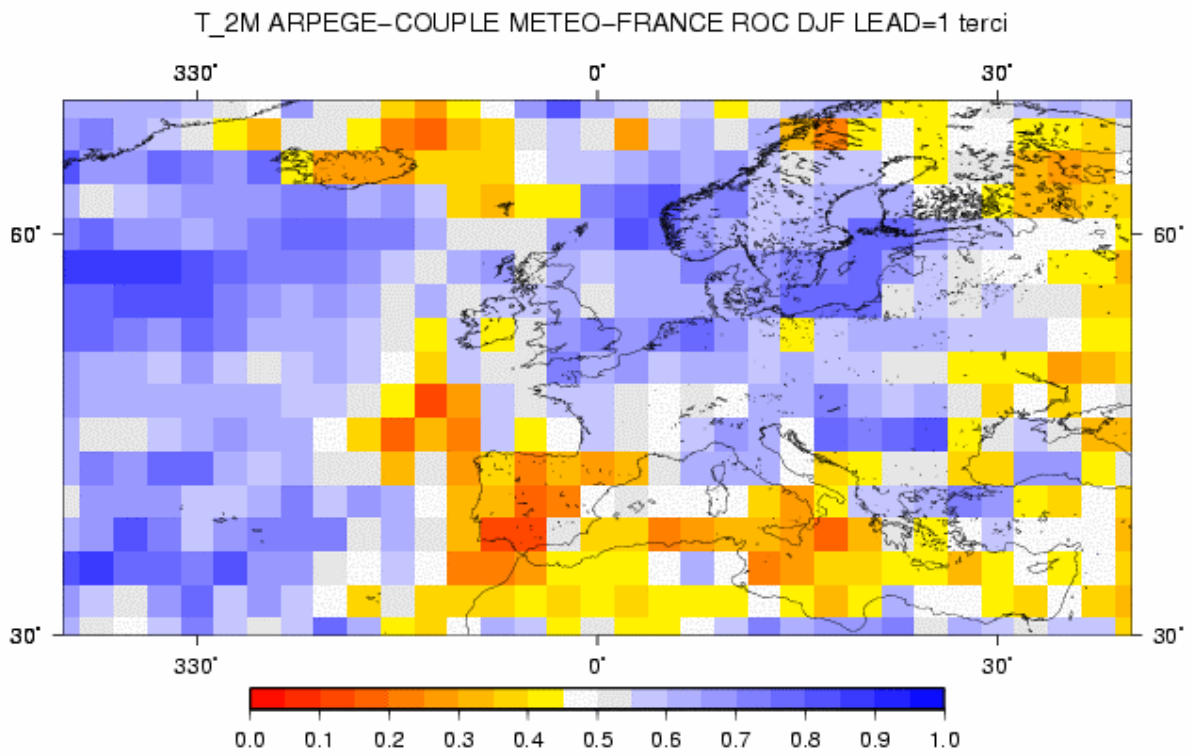
Scores of the Météo-France model : ROC Scores

SST :

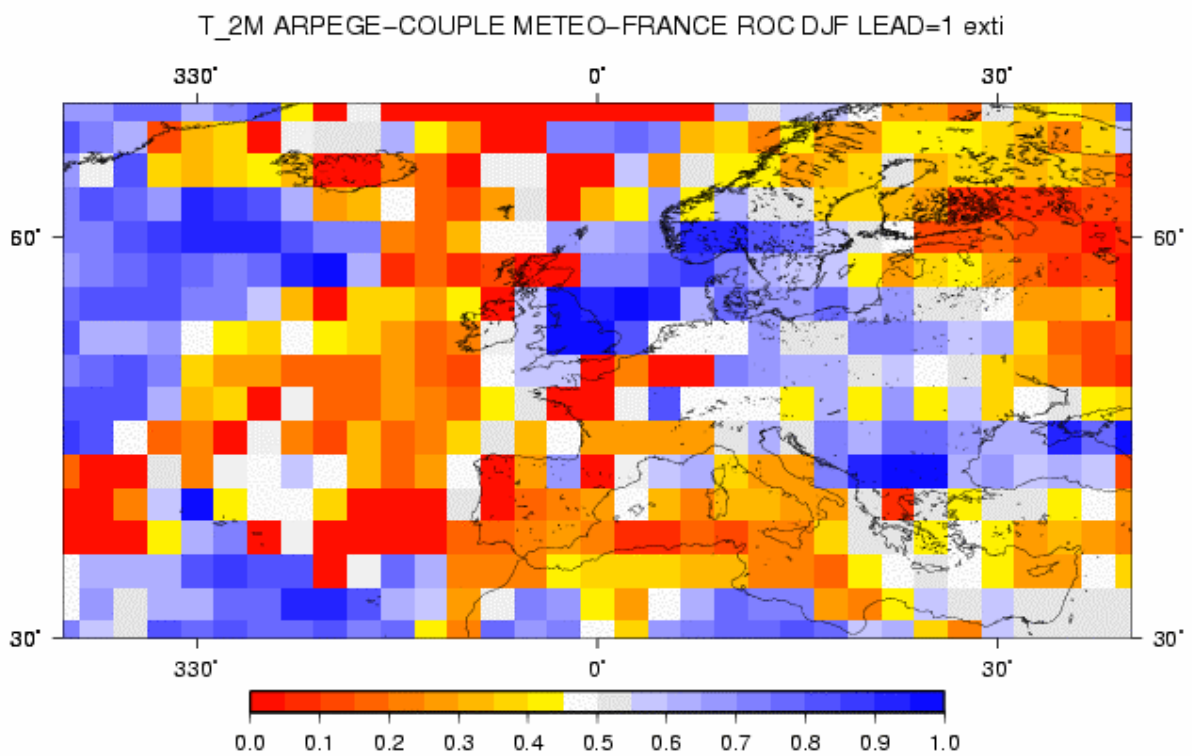TSOL ARPEGE-COUPLE METEO-FRANCE ROC DJF LEAD=1 terci

Roc score for the lower tercile

TSOL ARPEGE-COUPLE METEO-FRANCE ROC DJF LEAD=1 tercs

Roc score for the upper tercile

Temperature at 2 meters :

T_2M ARPEGE–COUPLE METEO–FRANCE ROC DJF LEAD=1 terci

Roc score for the lower tercile

T_2M ARPEGE–COUPLE METEO–FRANCE ROC DJF LEAD=1 exti

Roc score for the "Extreme" lower category (below – 1 std)

Precipitation :

PRET ARPEGE–COUPLE METEO–FRANCE ROC DJF LEAD=1 terci

Roc score for the lower tercile

PRET ARPEGE–COUPLE METEO–FRANCE ROC DJF LEAD=1 exti

Roc score for the "Extreme" lower category (below – 1 std)