

OMJ Medium Range European Weather Forecast

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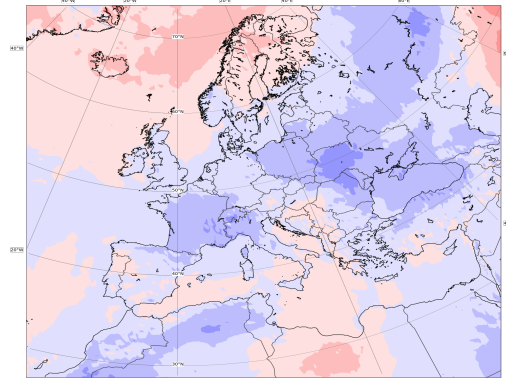
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Temperature Forecasts

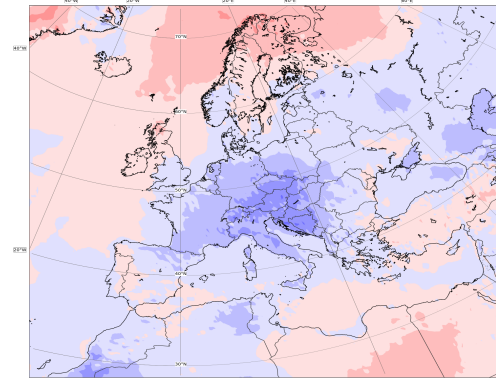
European 15 day Temperature Overview

Temperature
anomaly compared
to ten year average

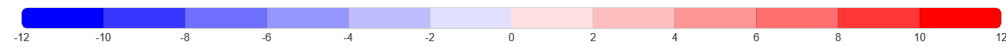
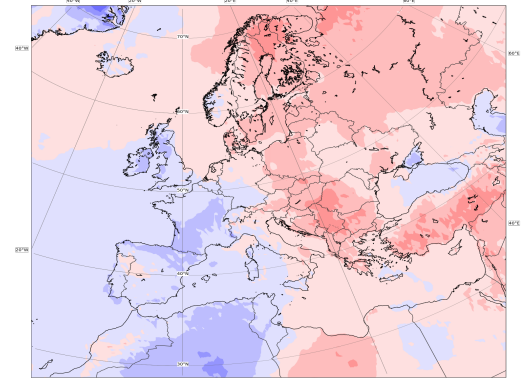
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct

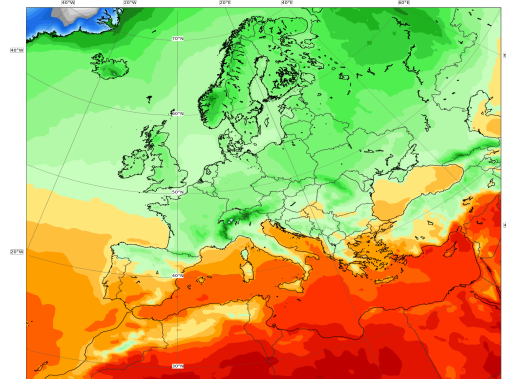


Day 11-15 6th to 10th Oct

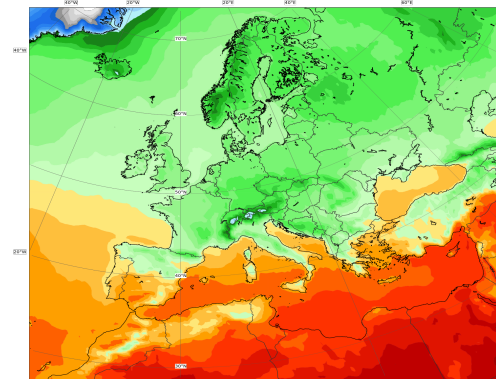


Average
Temperatures

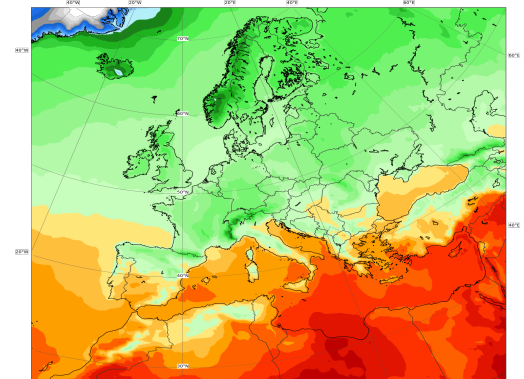
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct



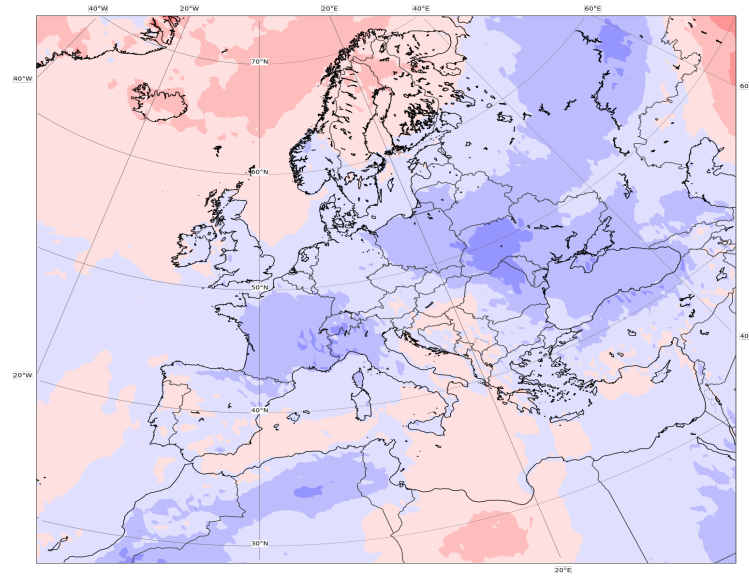
Day 11-15 6th to 10th Oct



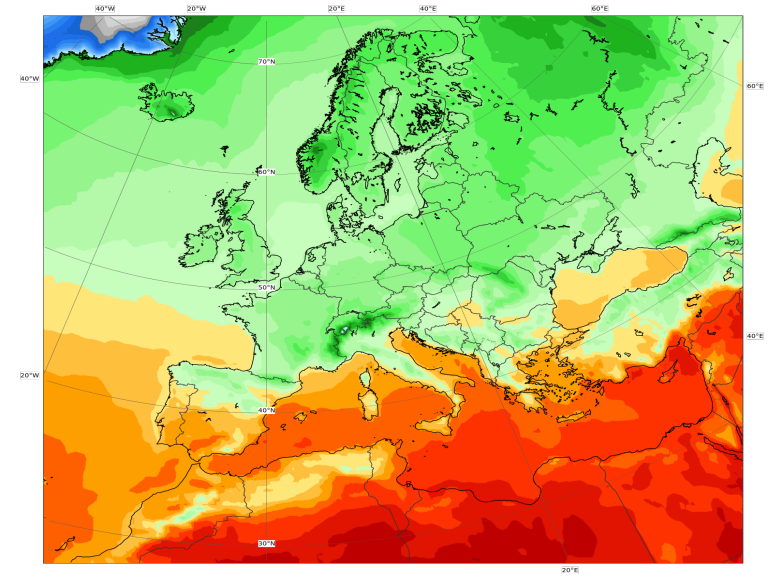
Day 1-5

25th to 30th Sept

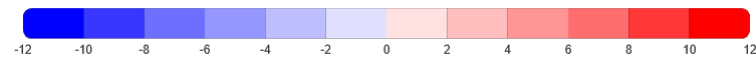
Temperature anomaly compared to 10 year average



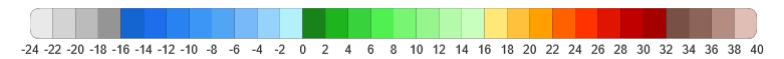
Average temperature over period



Anomaly compared to 10 year average



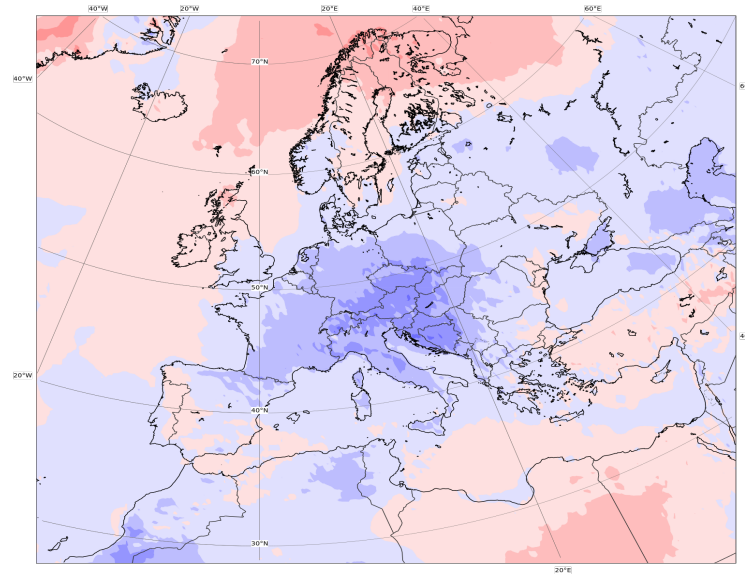
Temperature °C



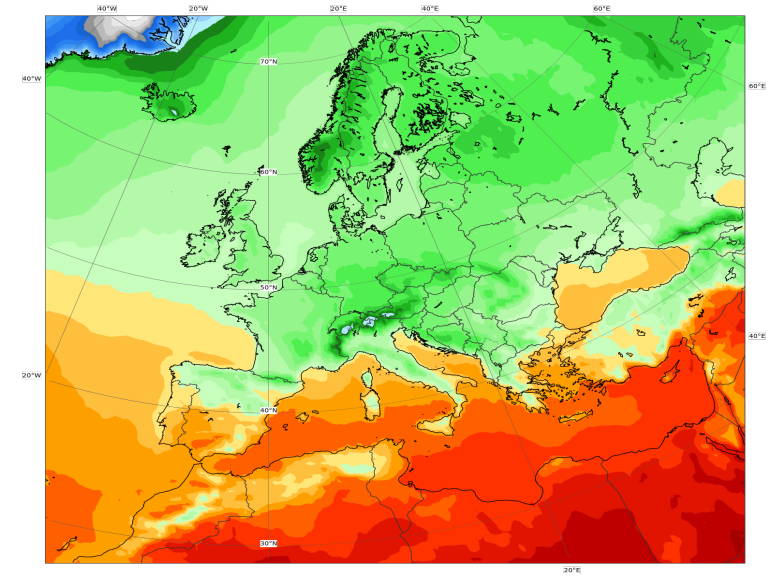
Day 6-10

1st to 5th Oct

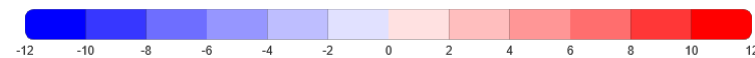
Temperature anomaly compared to 10 year average



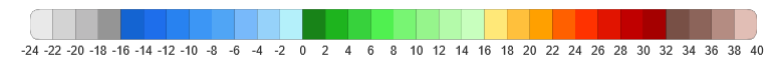
Average temperature over period



Anomaly compared to 10 year average



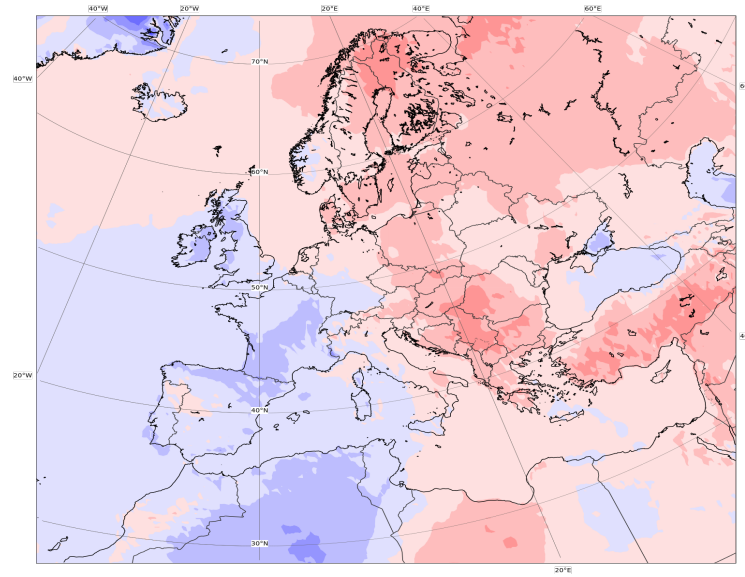
Temperature °C



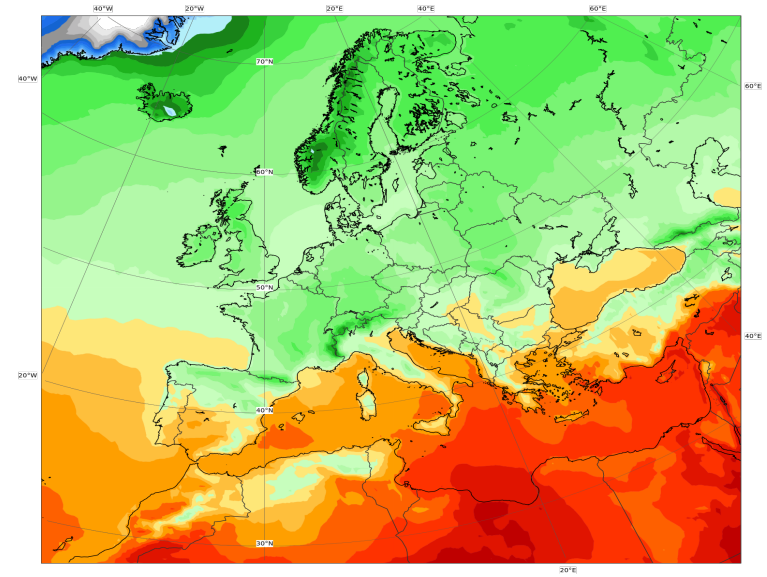
Day 11-15

6th to 10th Oct

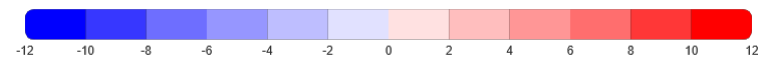
Temperature anomaly compared to 10 year average



Average temperature over period



Anomaly compared to 10 year average



Temperature °C

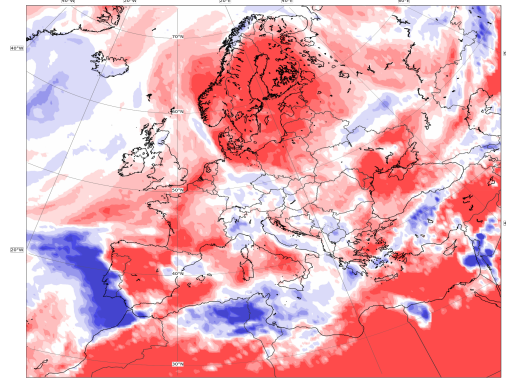


Rainfall Forecasts

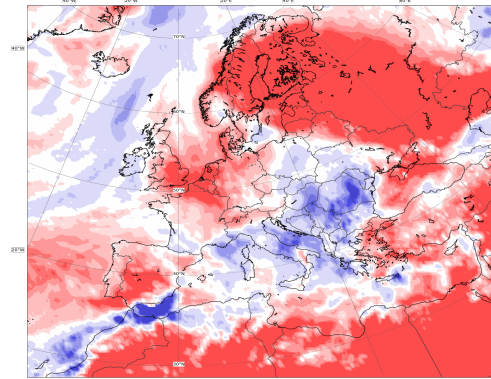
European 15 day Rainfall Overview

Rainfall anomaly
compared to 10 year
average

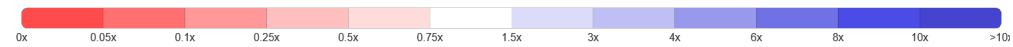
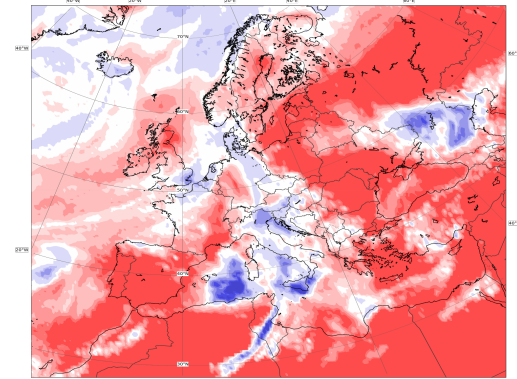
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct

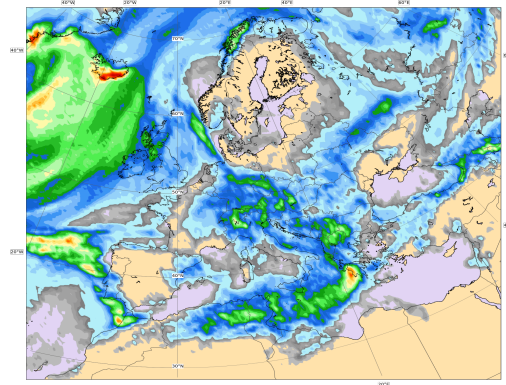


Day 11-15 6th to 10th Oct

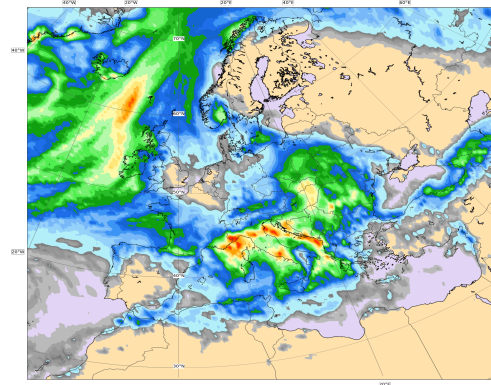


Total volumes of
rainfall for period

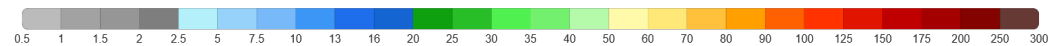
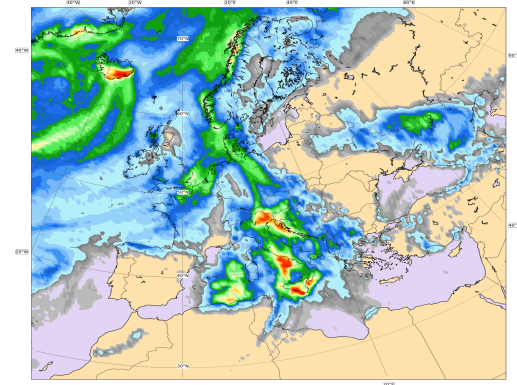
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct



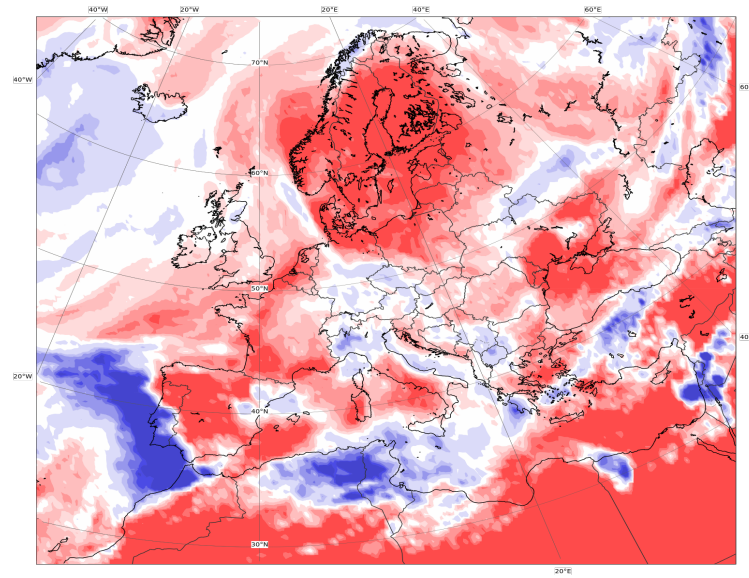
Day 11-15 6th to 10th Oct



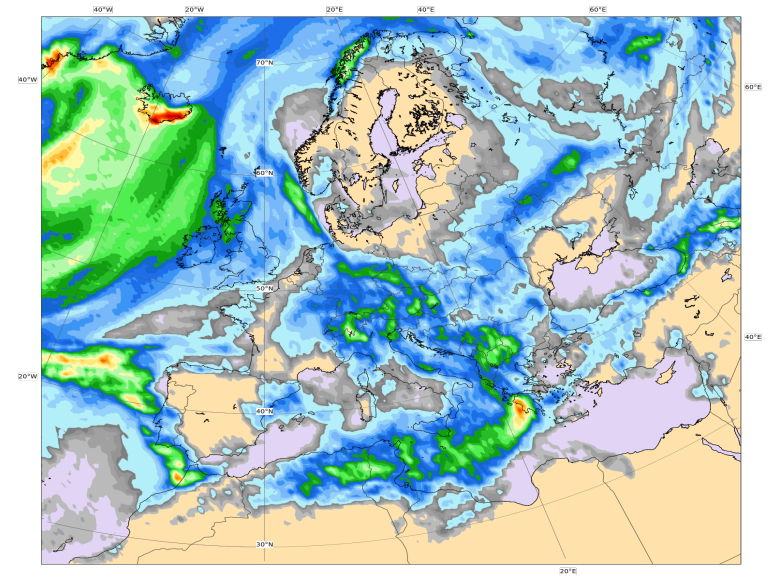
Day 1-5

25th to 30th Sept

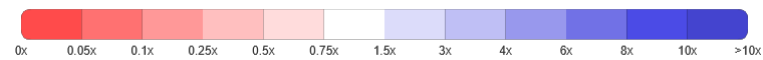
Rainfall anomaly compared to 10 year average



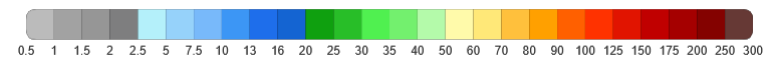
Total rainfall for period



Anomaly compared to 10 year average



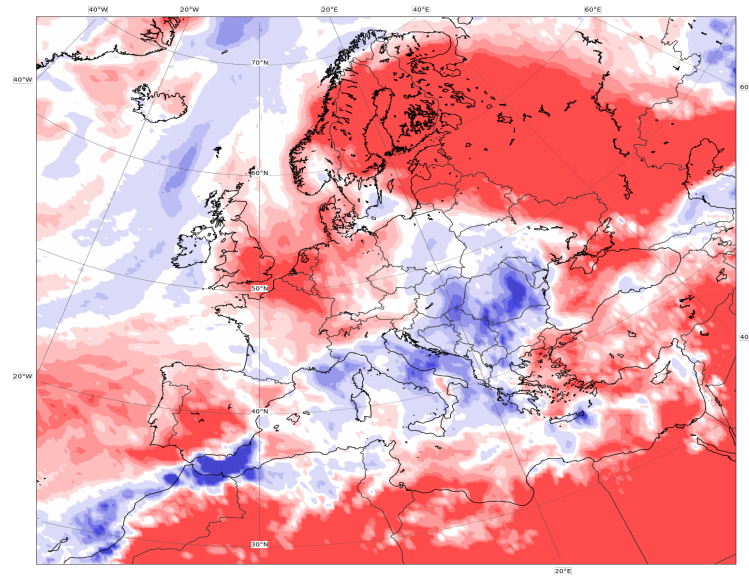
Rainfall mm



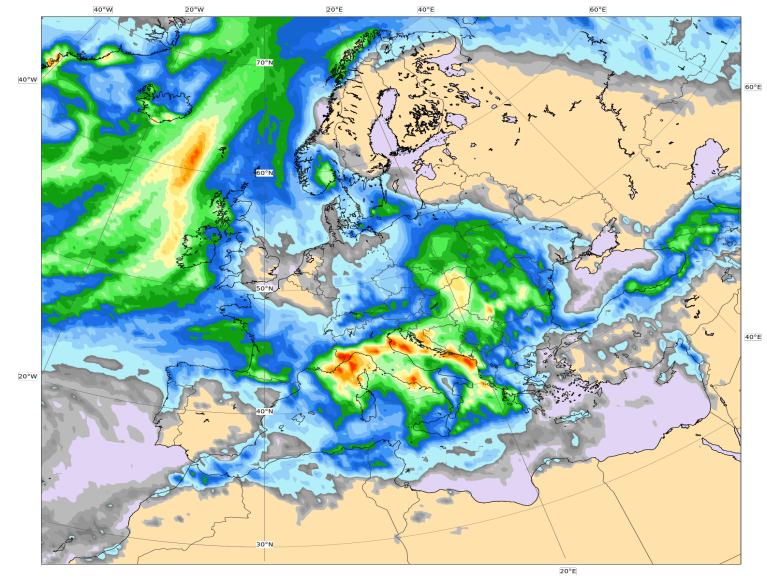
Day 6-10

1st to 5th Oct

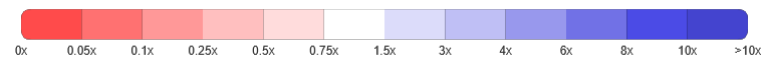
Rainfall anomaly compared to 10 year average



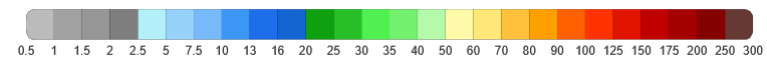
Total rainfall for period



Anomaly compared to 10 year average



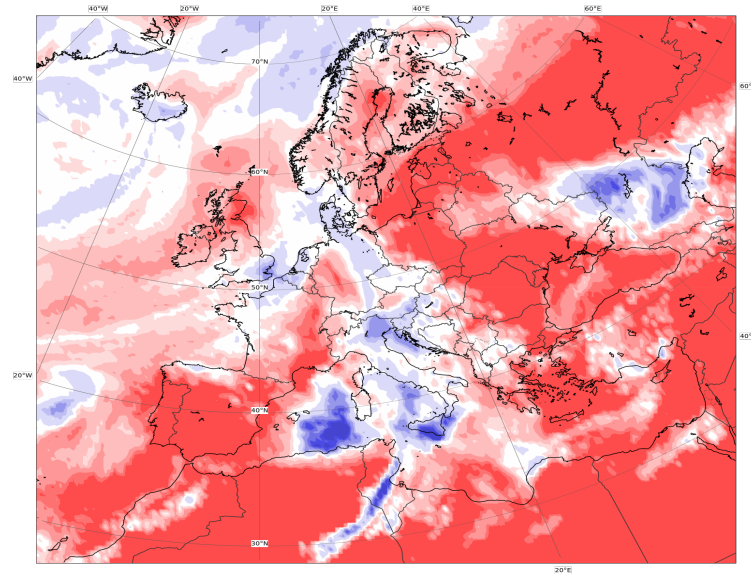
Rainfall mm



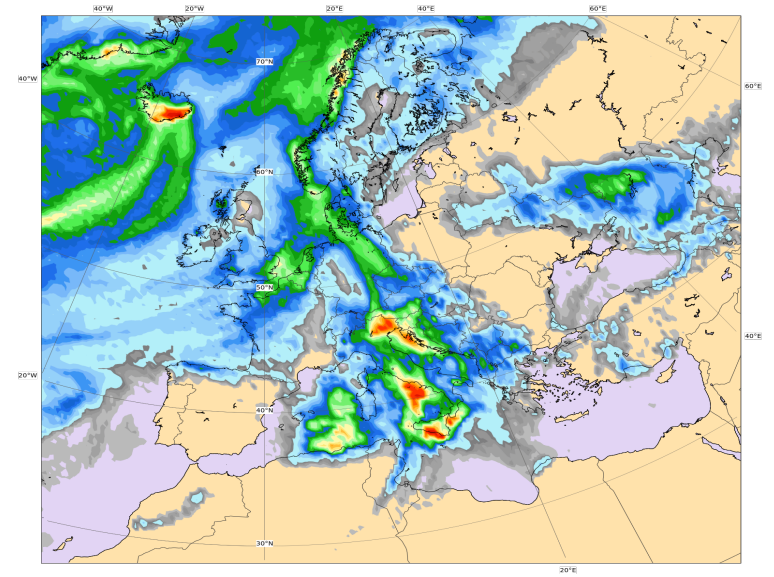
Day 11-15

6th to 10th Oct

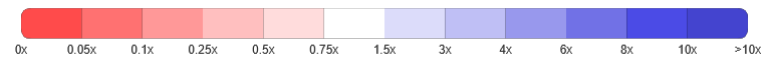
Rainfall anomaly compared to 10 year average



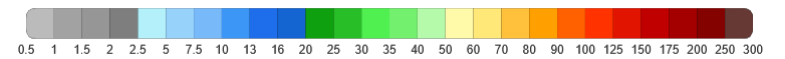
Total rainfall for period



Anomaly compared to 10 year average



Rainfall mm

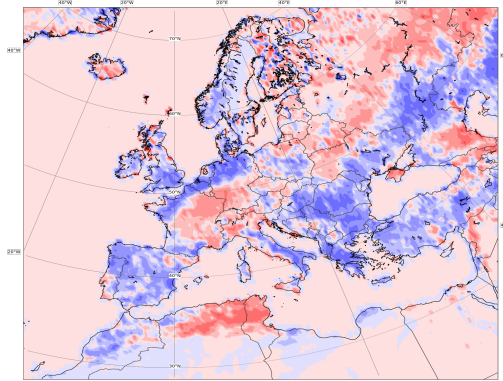


Soil Moisture

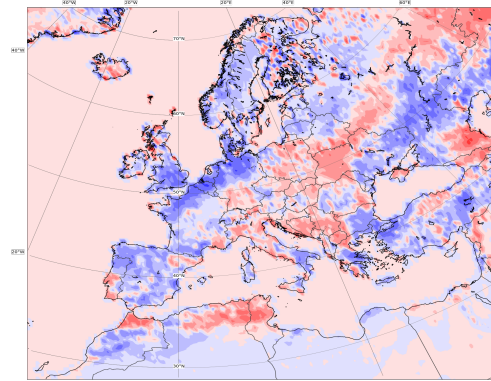
European 15 day Soil Moisture Overview

Soil moisture
anomaly compared
to 10 year average

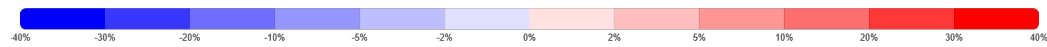
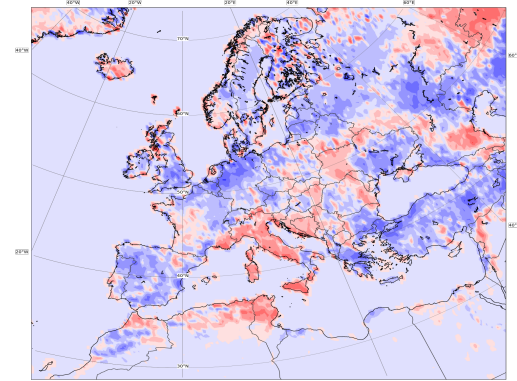
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct

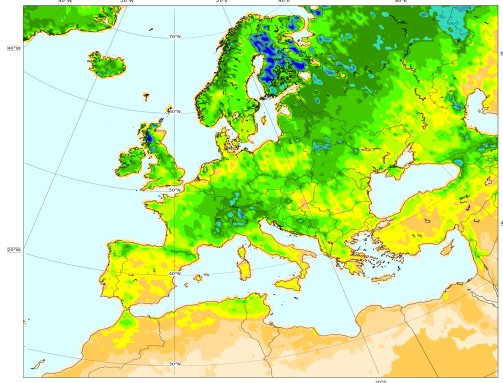


Day 11-15 6th to 10th Oct

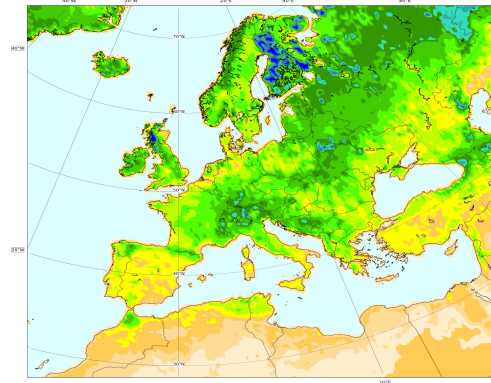


Soil moisture forecast

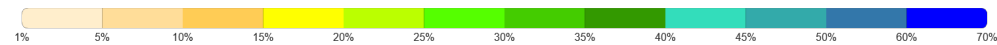
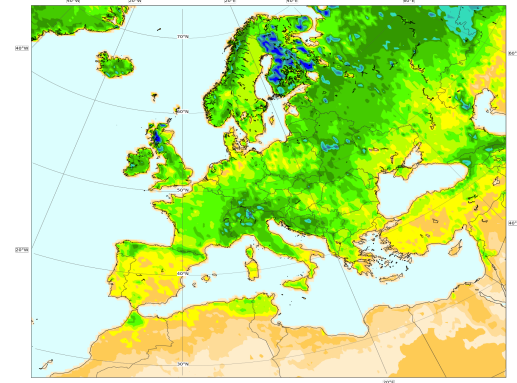
Day 1-5 25th to 30th Sept



Day 6-10 1st to 5th Oct



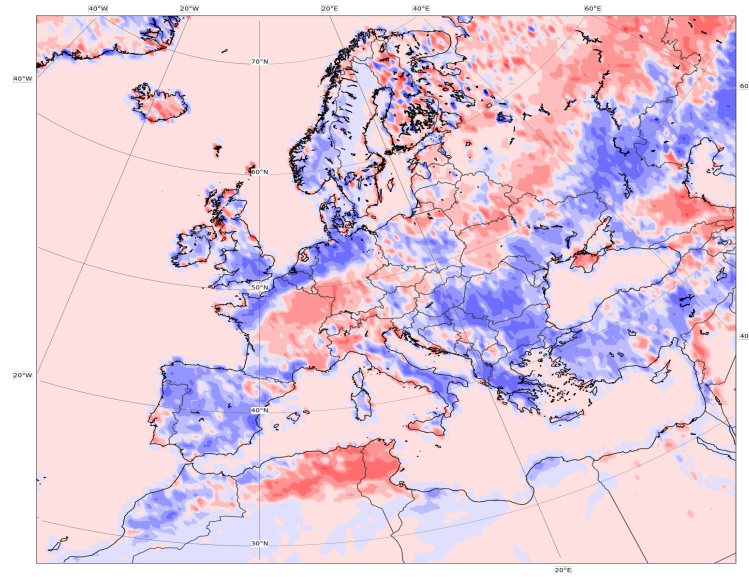
Day 11-15 6th to 10th Oct



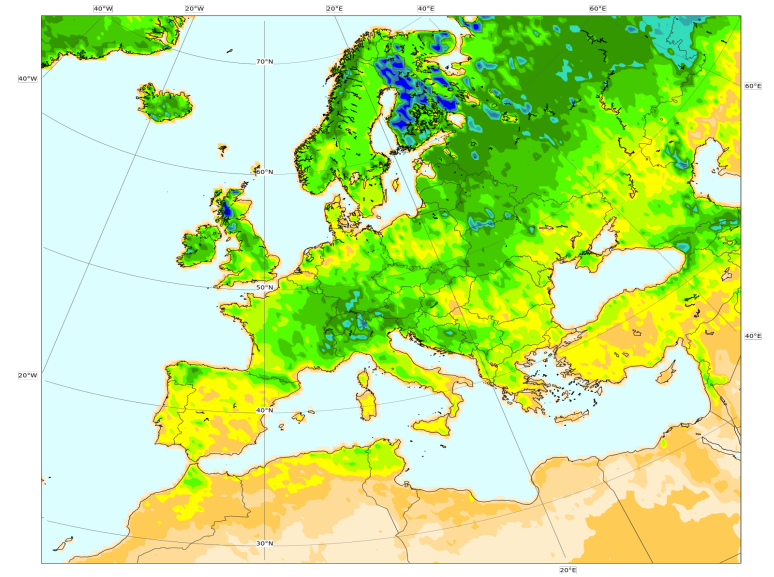
Day 1-5

25th to 30th Sept

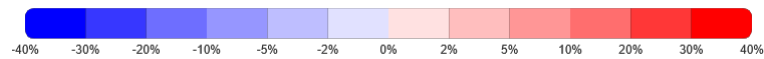
Soil moisture anomaly compared to 10 year average



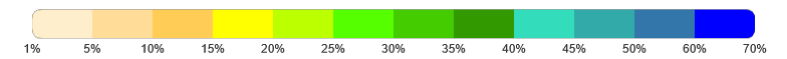
Average soil moisture over period



Anomaly compared to 10 year average



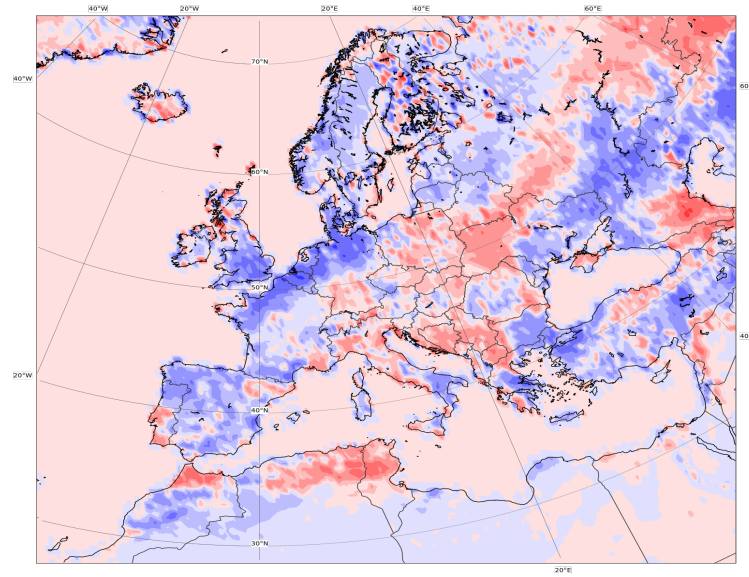
Surface soil saturation %



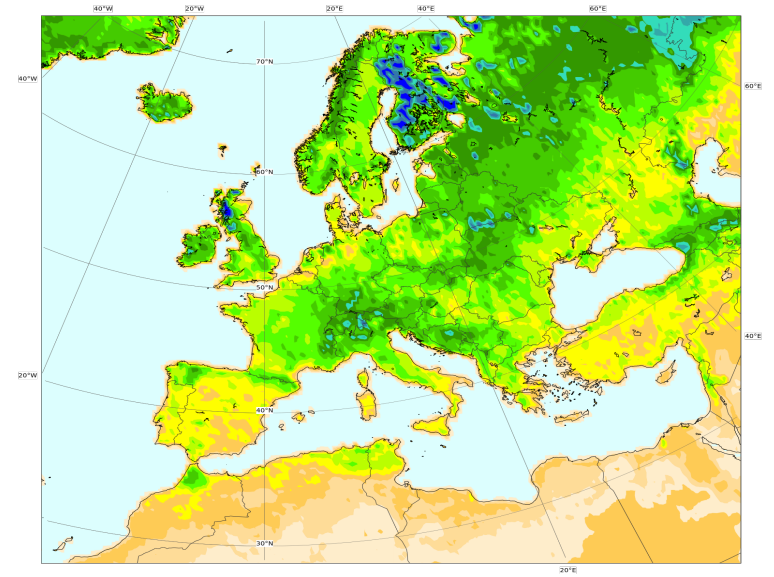
Day 6-10

1st to 5th Oct

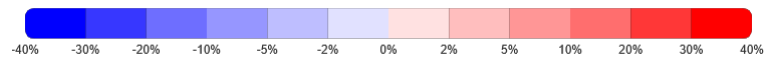
Soil moisture anomaly compared to 10 year average



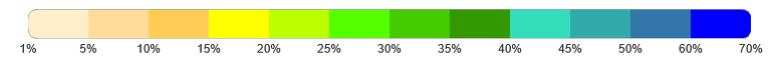
Average soil moisture over period



Anomaly compared to 10 year average



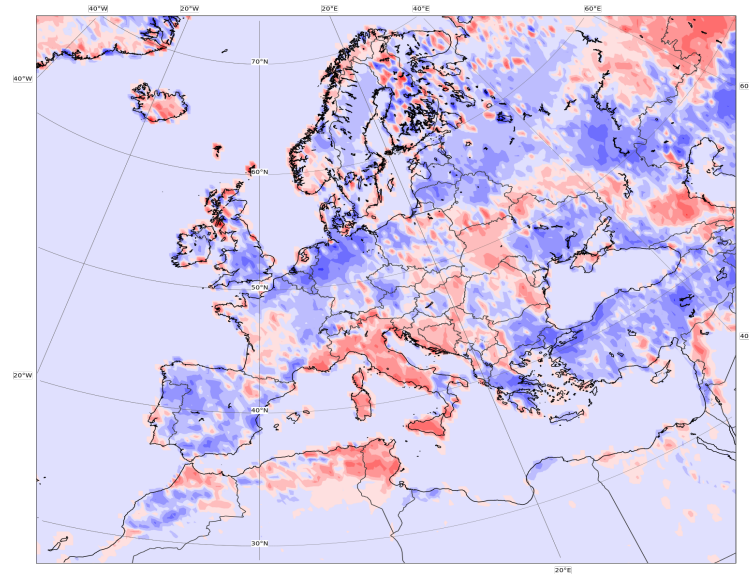
Surface soil saturation %



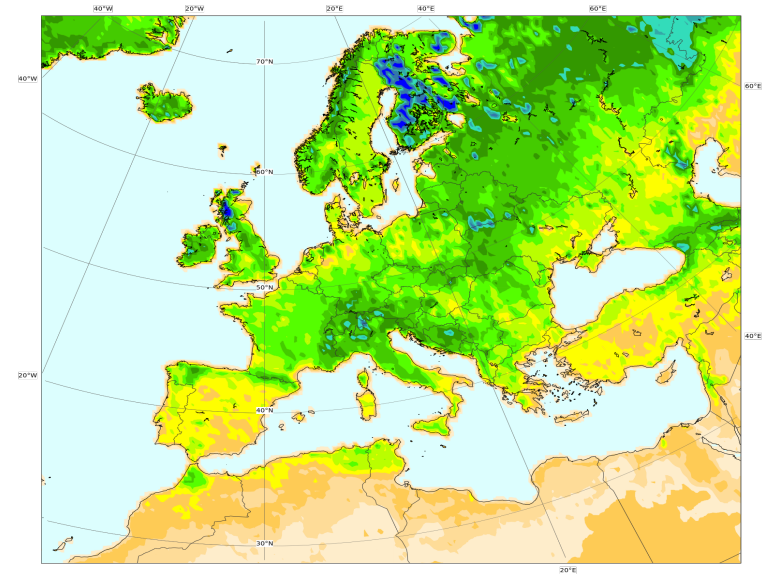
Day 11-15

6th to 10th Oct

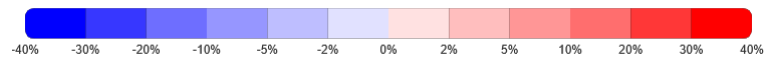
Soil moisture anomaly compared to 10 year average



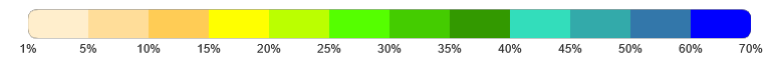
Average soil moisture over period



Anomaly compared to 10 year average



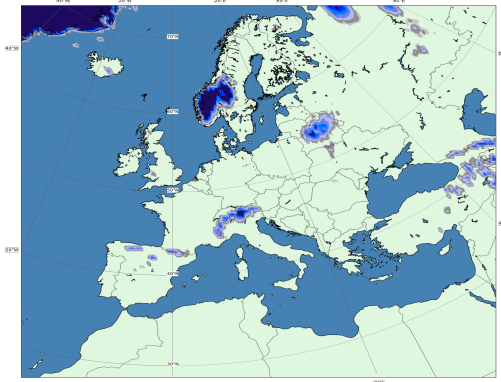
Surface soil saturation %



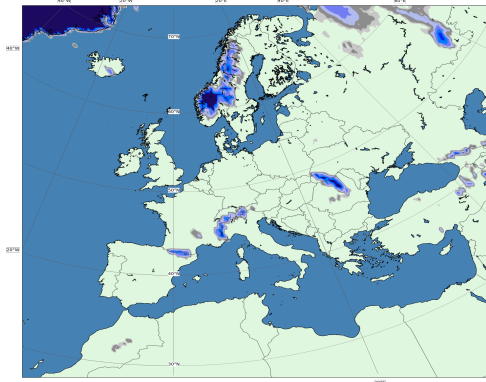
Frost Probabilities

Frost probabilities

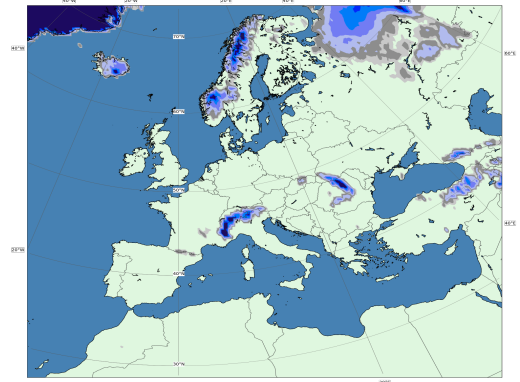
Day 1 25th Sept



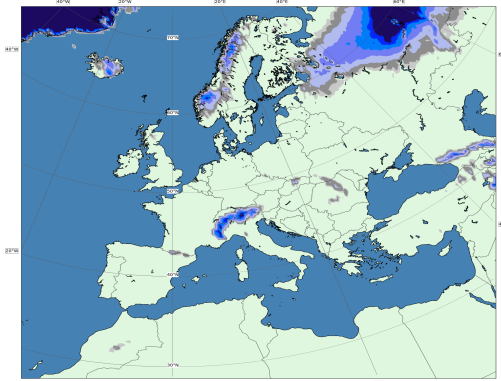
Day 2 26th Sept



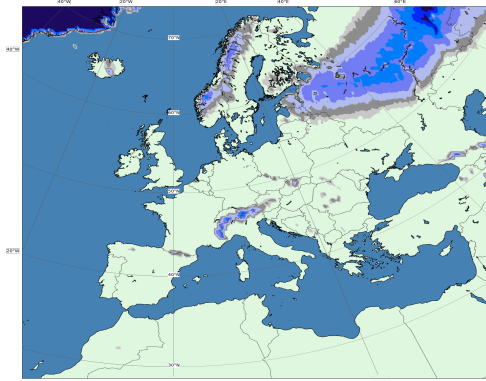
Day 3 27th Sept



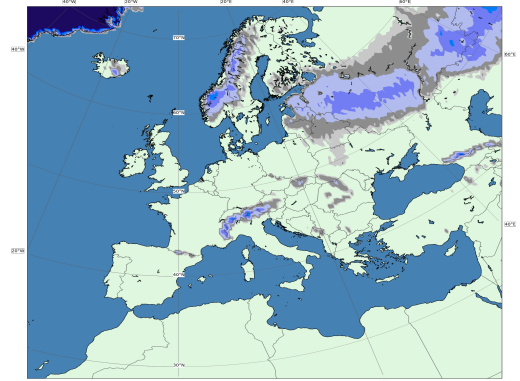
Day 4 28th Sept



Day 5 29th Sept

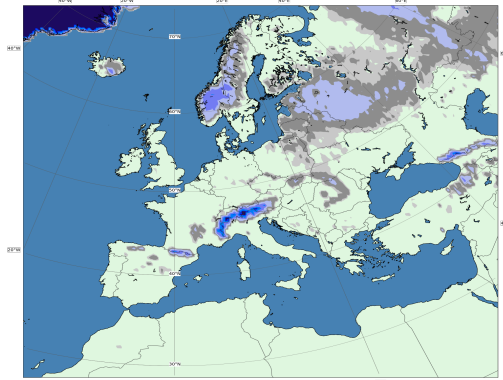


Day 6 30th Sept

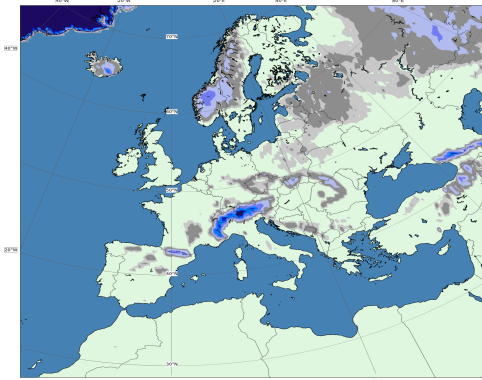


Frost probabilities

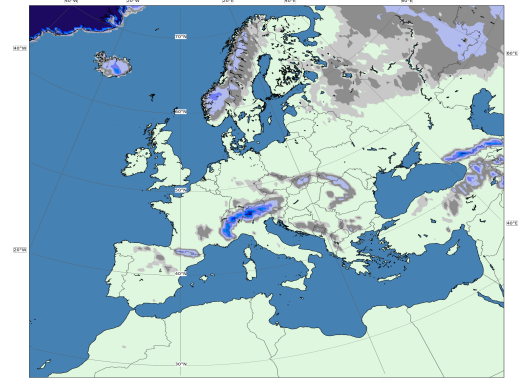
Day 7 1st Oct



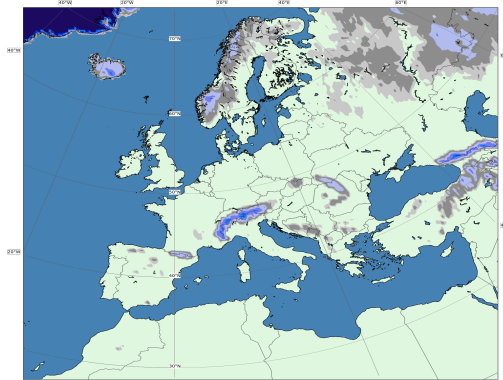
Day 8 2nd Oct



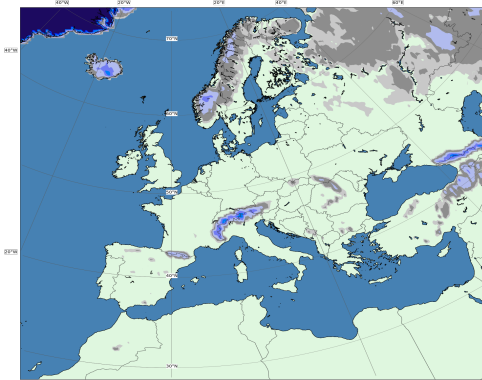
Day 9 3rd Oct



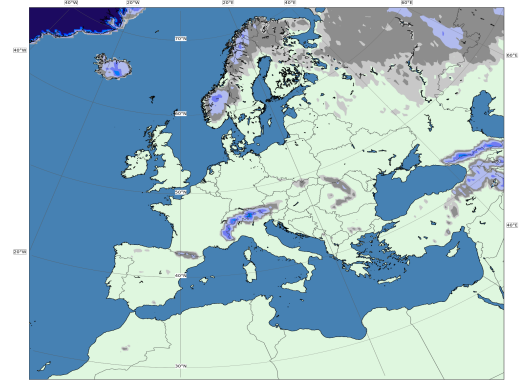
Day 10 4th Oct



Day 11 5th Oct



Day 12 6th Oct



Methodology Guide

About the OMJ Weather Service

The OMJ Weather Service provides a wide range of weather forecasts online and in pdf format.

In addition to this report, weather forecast reports are available in pdf format on a daily basis for:

- Heating Degree Days
- Precipitation
- Average Surface Soil Moisture
- Average Temperature
- Maximum Temperature
- Minimum temperature

The reports provide detailed forecasts for the next 1-5, 6-10 and 11-15 days with the data available for each county for England, Scotland, Wales, Northern Ireland and the Republic of Ireland.

This guide describes the calculation methods used to derive the forecast values and anomalies presented in this report. All climatologies referenced are derived from actual recorded observations over the prior 10 years (see "Climatology definition" below). The forecast data used for the calculations are provided on a regular spatial grid at 0.25° longitude × 0.25° latitude; very localized weather phenomena (e.g., small-scale convective storms) may not be fully captured at this resolution.

Climatology definition

When we refer to the 10-year climatology, we mean the record of actually observed/recorded values for the same calendar dates over the previous ten years. The climatological average for a given variable and period is calculated by aggregating the recorded values from those ten previous years (for the same calendar days) and then taking the appropriate statistic (mean, minimum-of-period mean, maximum-of-period mean, or total) as described for each variable below.

Spatial resolution and limitations

Data points are available on a regular grid with a nominal spacing of 0.25° in longitude and 0.25° in latitude. Users should be aware that features smaller than the grid spacing (very localised storms, narrow convective lines, or highly localised temperature or precipitation extremes) may not be fully resolved by this dataset; reported values represent the grid-box scale.

Average Temperature

Forecast

Data are provided at regular temporal intervals (3-hourly for the near-term and 6-hourly in later lead times).

For each 5-day period (days 1–5, 6–10, 11–15), compute the arithmetic mean of all available temperature samples within the period.

Data are timestamped at 00:00 UTC. For days 1–5 use hours 0–117 to avoid double-counting the start of day 6 when assembling the 5-day block.

Anomaly

Use the same temporal aggregation as the forecast (period mean).

Compare the period mean to the 10-year climatologi-

cal mean computed from actual recorded observations on the same calendar dates.

The anomaly is: $\text{anomaly} = \text{forecast_period_mean} - \text{climatological_period_mean}$.

Minimum Temperature

Forecast

Data are provided at 3-hourly intervals for the immediate days and 6-hourly onward where applicable; values represent the minimum temperature over the preceding 3- or 6-hour window.

For each 5-day period (days 1–5, 6–10, 11–15), select the lowest temperature value recorded within the period.

Data are timestamped at 00:00 UTC. For days 1–5, use hours 3–120 to ensure coverage of the full 5-day block.

Anomaly

The anomaly uses the same minimum-selection method.

Compare the period's minimum to the climatological minimum derived from actual recorded observations for the same calendar dates over the prior 10 years.

The anomaly is: $\text{anomaly} = \text{forecast_period_minimum} - \text{climatological_period_minimum}$.

Maximum Temperature

Forecast

Data are provided at 3-hourly intervals for the near term and 6-hourly later, representing the maximum temperature over the preceding 3- or 6-hour window.

For each 5-day period (days 1–5, 6–10, 11–15), select the highest temperature value within the period.

Data are timestamped at 00:00 UTC. For days 1–5, use

hours 3–120 to ensure the full 5-day block is covered.

Anomaly

The anomaly uses the same maximum-selection method.

Compare the period's maximum to the climatological maximum derived from actual recorded observations for the same calendar dates over the prior 10 years.

The anomaly is: $\text{anomaly} = \text{forecast_period_maximum} - \text{climatological_period_maximum}$.

Total Precipitation

Forecast

Precipitation is supplied as cumulative totals from the start time (hour 0), recorded at 00:00 UTC.

For each 5-day period, compute the total precipitation by subtracting the cumulative precipitation at the start of the period from the cumulative precipitation at the end of the period:

Days 1–5: $\text{total} = \text{cumulative}(\text{hour } 120) - \text{cumulative}(\text{hour } 0)$

Days 6–10: $\text{total} = \text{cumulative}(\text{hour } 240) - \text{cumulative}(\text{hour } 120)$

Days 11–15: $\text{total} = \text{cumulative}(\text{hour } 360) - \text{cumulative}(\text{hour } 240)$

Anomaly

Use the same total-precipitation calculation method.

Compare the forecast period total to the 10-year climatological total computed from actual recorded observations for the same calendar dates.

The anomaly is: $\text{anomaly} = (\text{forecast_period_total} / (\text{climatological_period_total} + \text{epsilon}))$ to avoid division by 0.

Average Soil Moisture

Forecast

Data are provided at regular temporal intervals (3-hourly for days 1–5 and 6-hourly thereafter), matching the same temporal frequency and lead-time intervals used for temperature.

Soil moisture is provided as an instantaneous value for the surface layer (~10 cm depth), expressed as a volumetric fraction (e.g., mm³ water per mm³ soil) or percentage.

For each 5-day period (days 1–5, 6–10, 11–15), compute the arithmetic mean of all available soil moisture samples within the period.

Data are timestamped at 00:00 UTC. For days 1–5 use hours 0–117 to avoid double-counting the start of day 6 when assembling the 5-day block; use hours 120–240 for days 6–10 and 240–360 for days 11–15.

Anomaly

Use the same averaging method.

Compare the period mean to the 10-year climatological mean derived from actual recorded observations for the same calendar dates.

The anomaly is: $\text{anomaly} = \text{forecast_period_mean} - \text{climatological_period_mean}$.

Frost Probability

Forecast

Frost probability is derived from the surface temperature ensemble (control forecast + ensemble members). The ensemble typically contains the control plus a set of perturbed forecasts intended to represent model uncertainty.

For each calendar day, define the frost window as 18:00 UTC to 06:00 UTC the following morning.

For each ensemble member, determine whether the surface temperature within the frost window falls below 0°C. This is done by checking the values at the following times:

- Days 1-6: 6pm, 9pm, 12am, 3am & 6am
- Days 7 onwards: 6pm, 12am & 6am

The reported frost probability for that day is: $(\text{number of members below } 0^{\circ}\text{C} / \text{total number of members}) \times 100\%$.

Notes on ensemble and probability

The ensemble-based probability reflects the fraction of ensemble members predicting frost during the defined night-time window. It is an expression of forecast uncertainty rather than a deterministic guarantee.

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