

## Lab-Session

**On this lab-session you will be looking at ECMWF products in relation to an interesting meteorological case. The purpose of the lab-session is to get a practical experience in the usage of the products.**

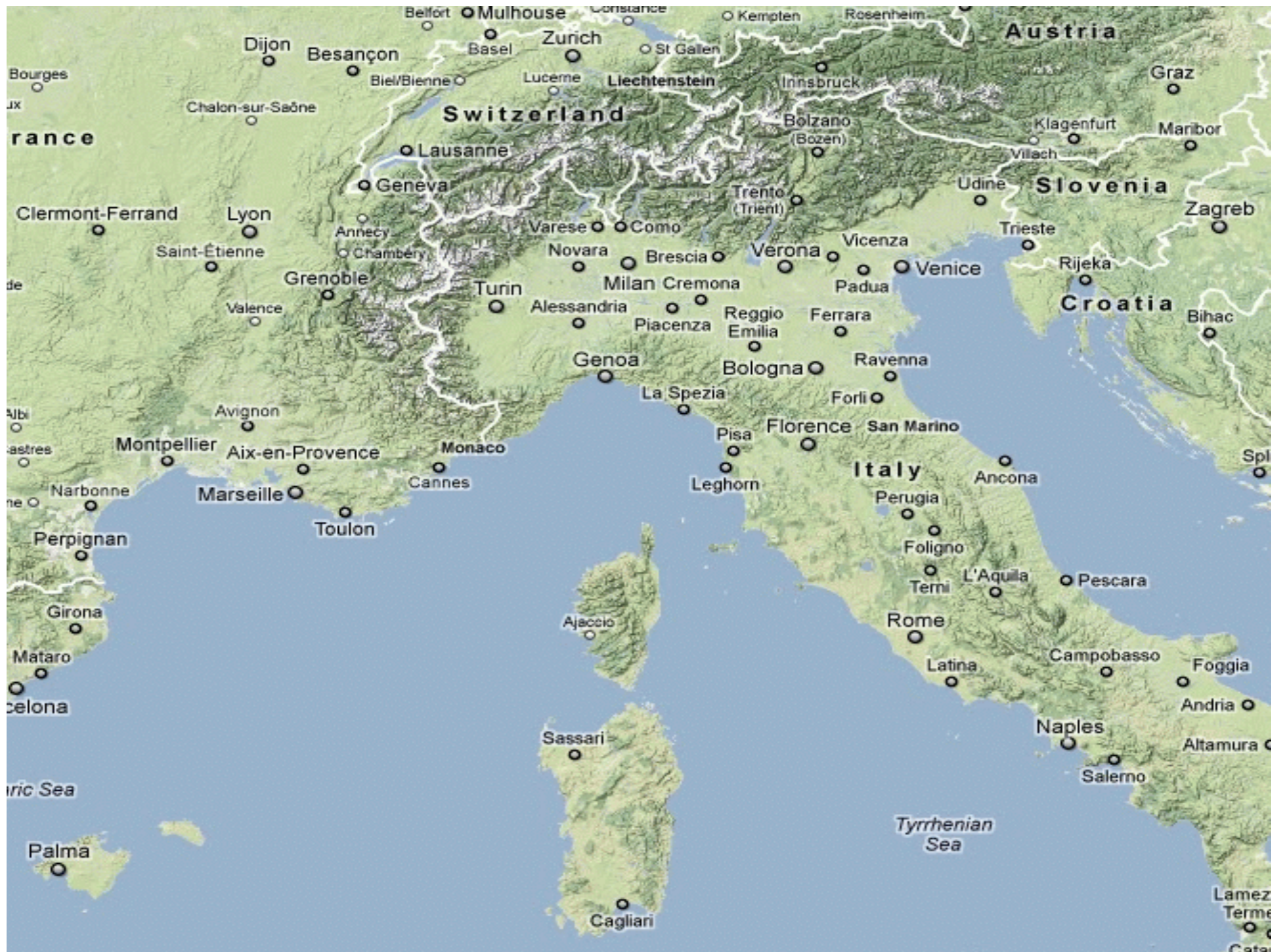
# **Assignement**

**A French school is planning to organize a visit to Genoa/Italy during the first week-end of November 2011 (4 to 6 Nov). The organizers believe that the weather conditions that can compromise the visit are heavy rainfall.**

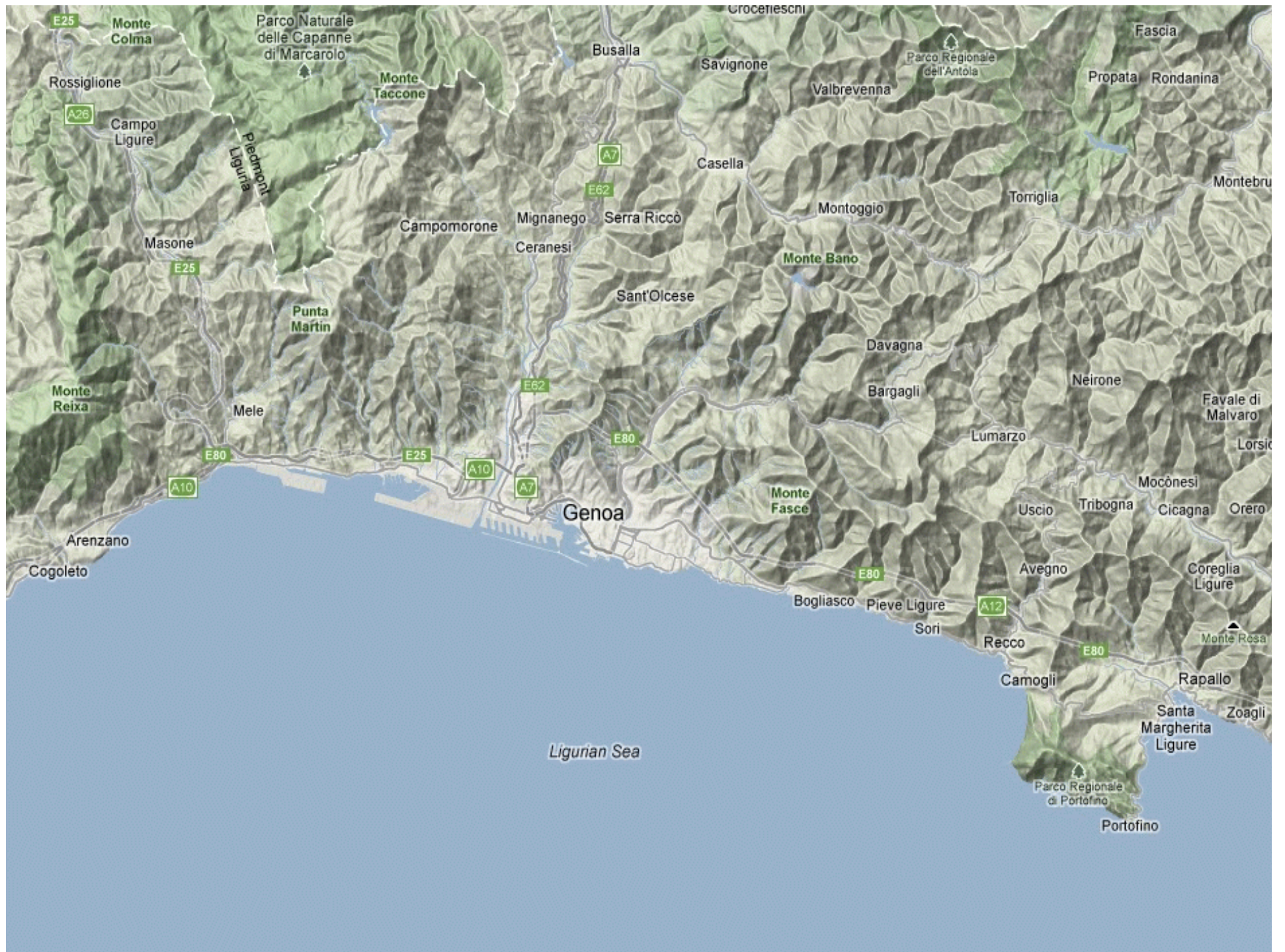
**You belong to a group of forecasters from the Met Service that is responsible for giving meteorological guidance for that day. The forecast/guidance has to be prepared well in advance. Updates are needed at specific times:**

- 2 months**
- 1 month**
- 2 weeks**
- 7 days**
- 5 days...**
- 3, 2 and 1 day before the event**



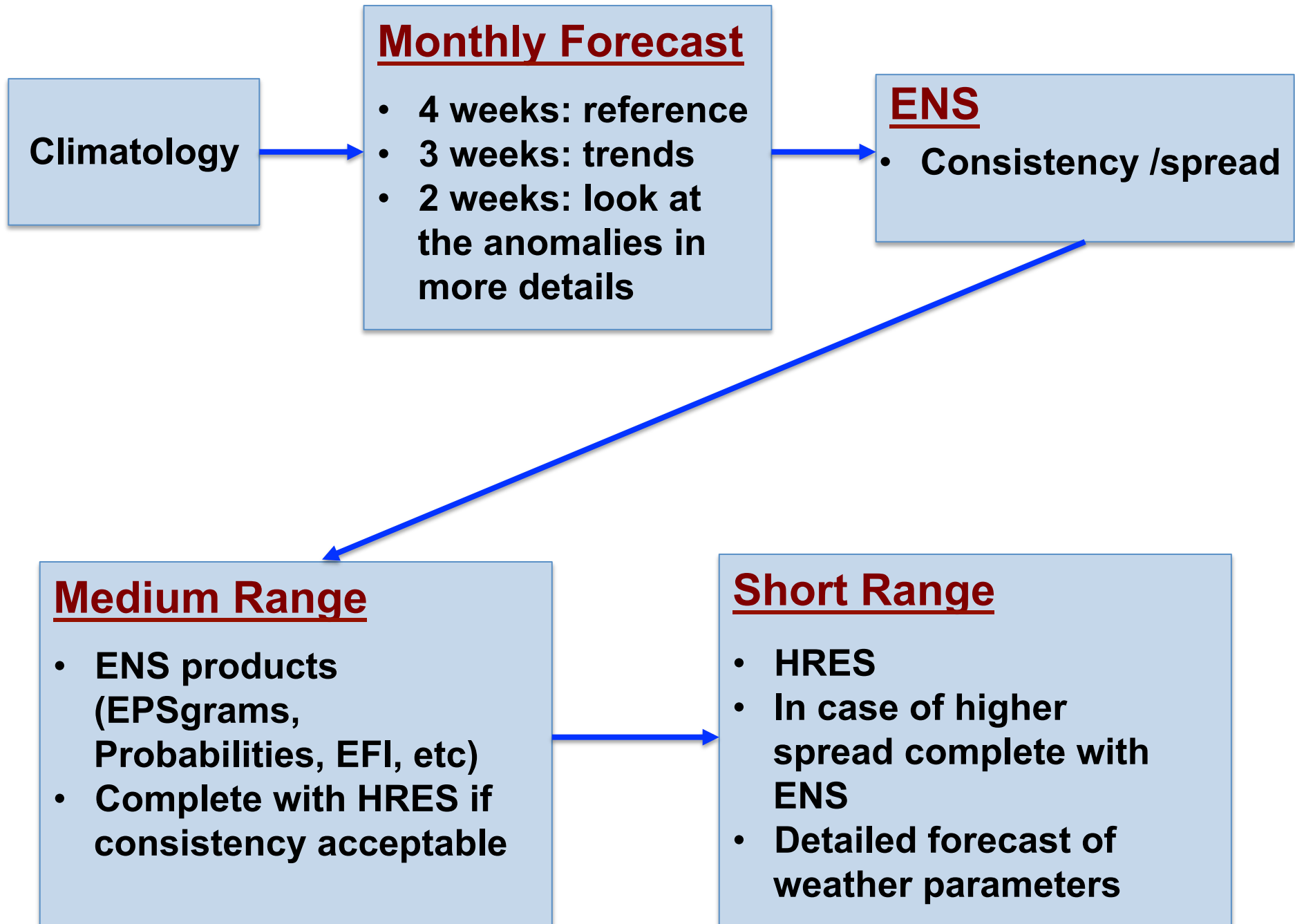






# Products

- **Model Climatology**
- **Monthly forecast**
- **ENS forecasts combined with the HRES model**
  - **EPSgrams**
  - **Probabilities**
  - **Spread charts**
  - **Clusters**
  - **Features tracking**
- **EFI (extreme forecast index)**
- **HRES model**
  - **Model fields**
  - **Meteorological parameters: precipitation, ...**

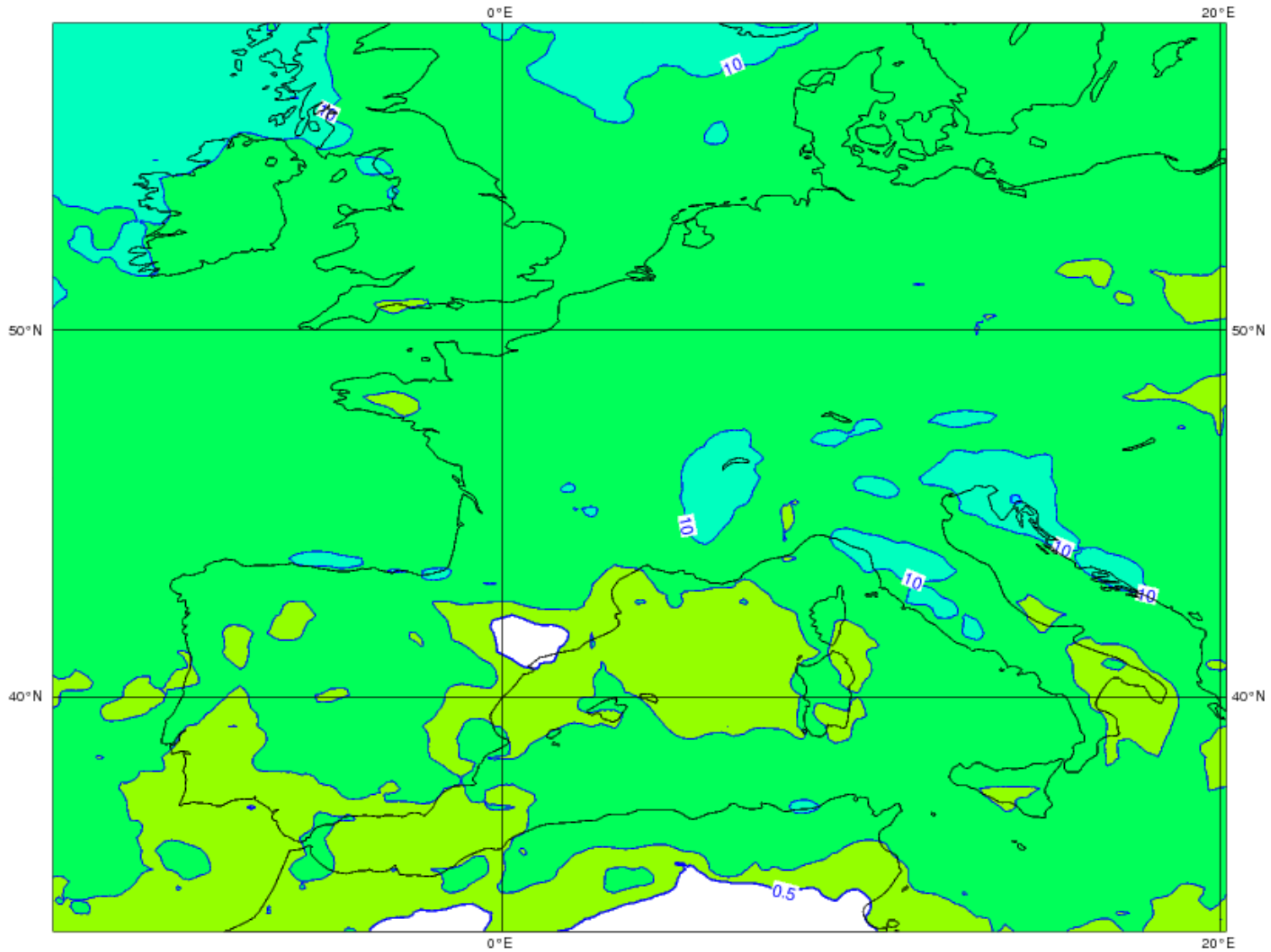
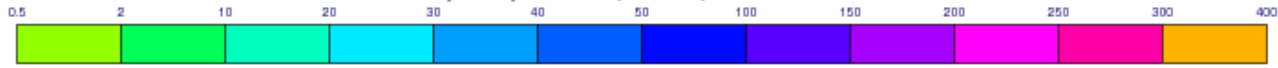




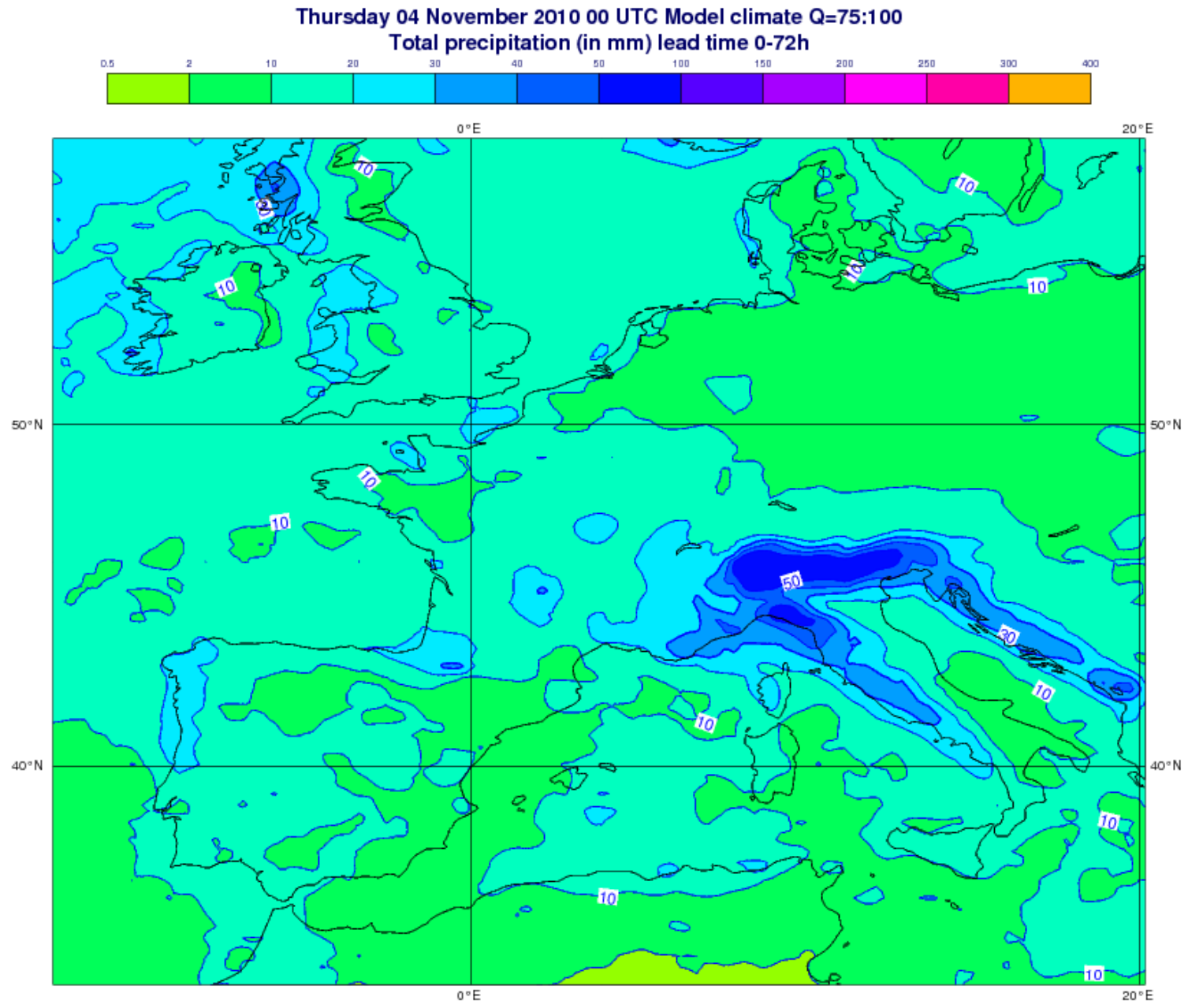
# Model Climate : Precipitation (Q=50:100)

Thursday 04 November 2010 00 UTC Model climate Q=50:100

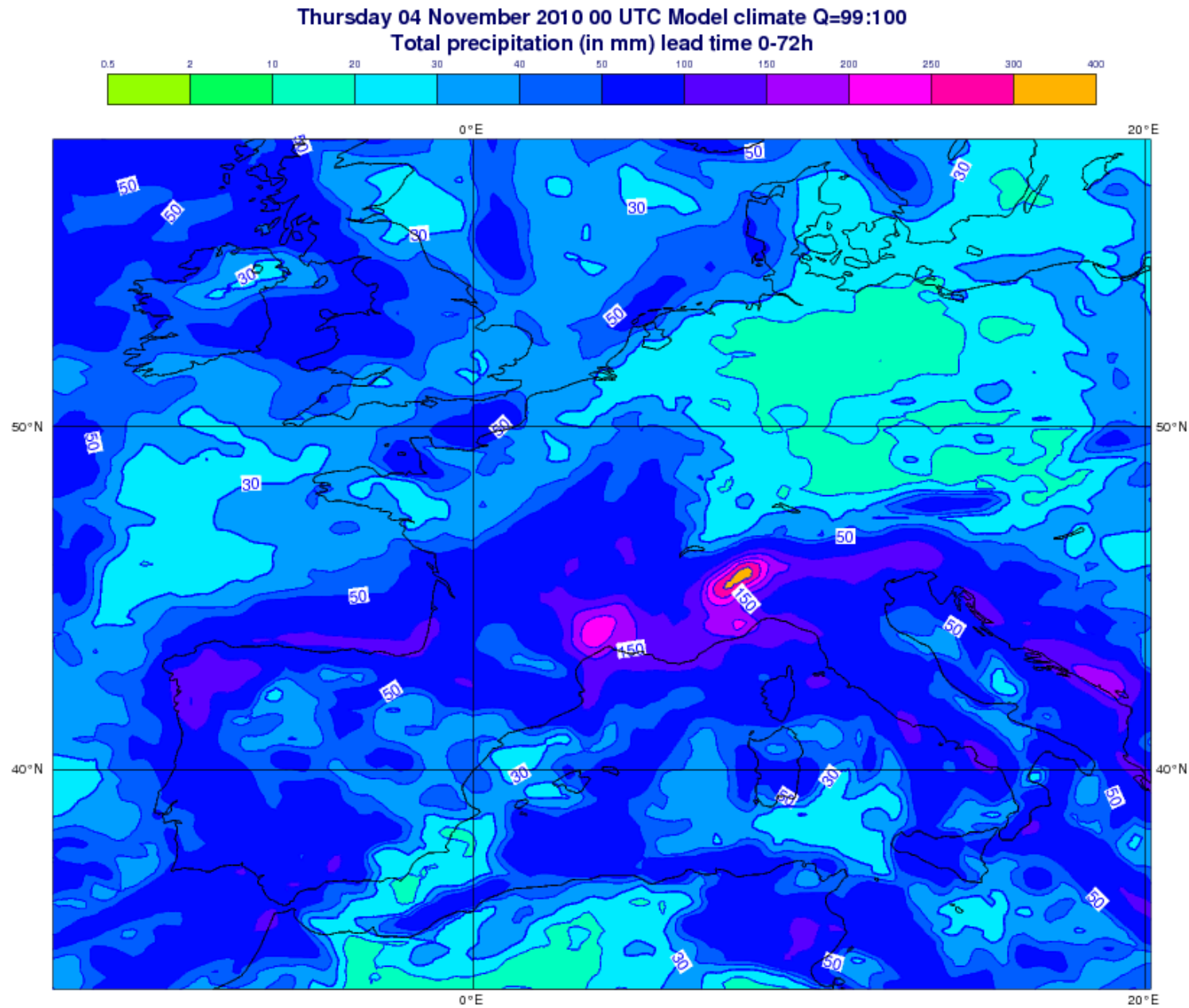
Total precipitation (in mm) lead time 0-72h



# Model Climate : Precipitation (Q=75:100)



# Model Climate : Precipitation (Q=99:100)



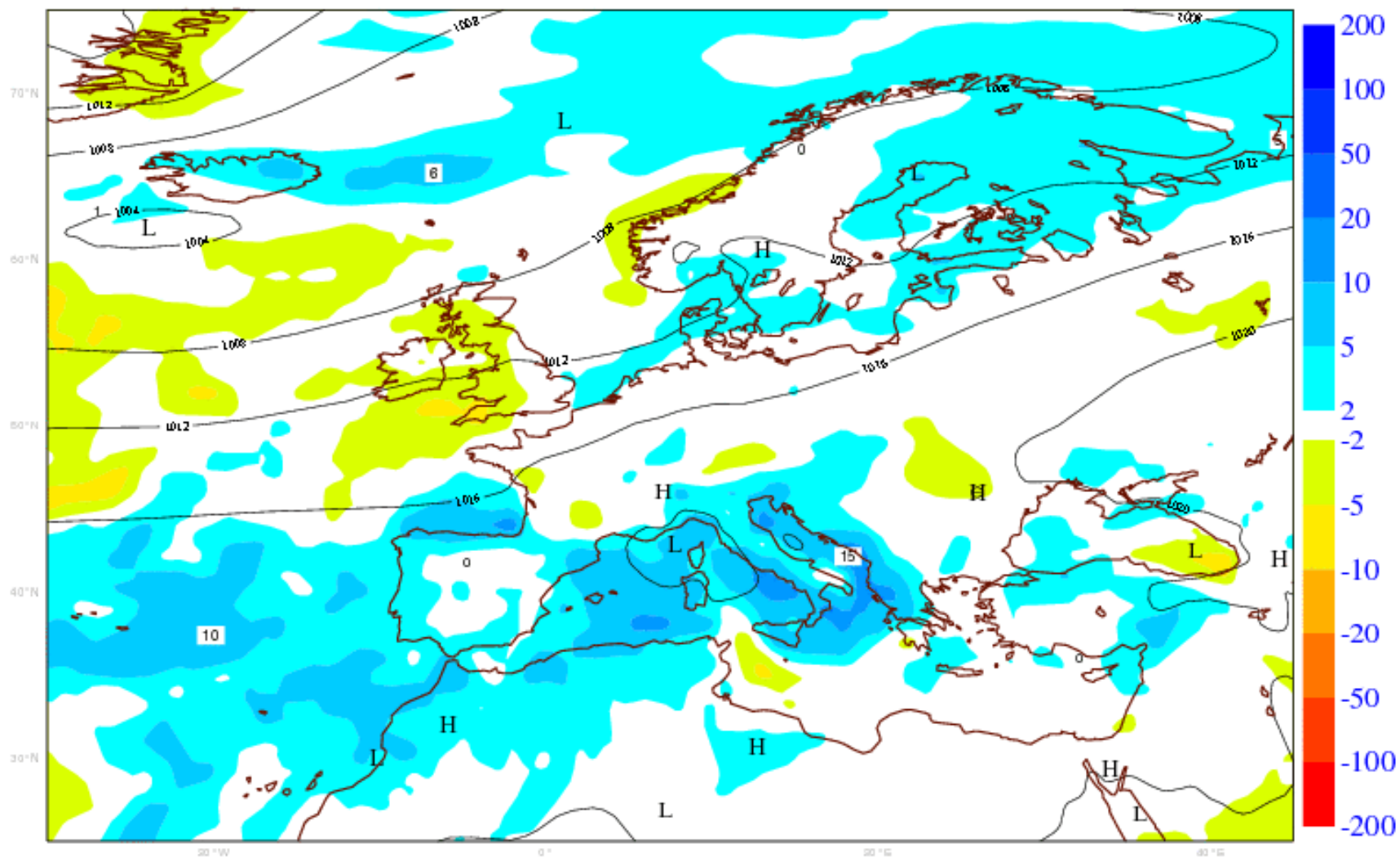
## **Comment : climatology**





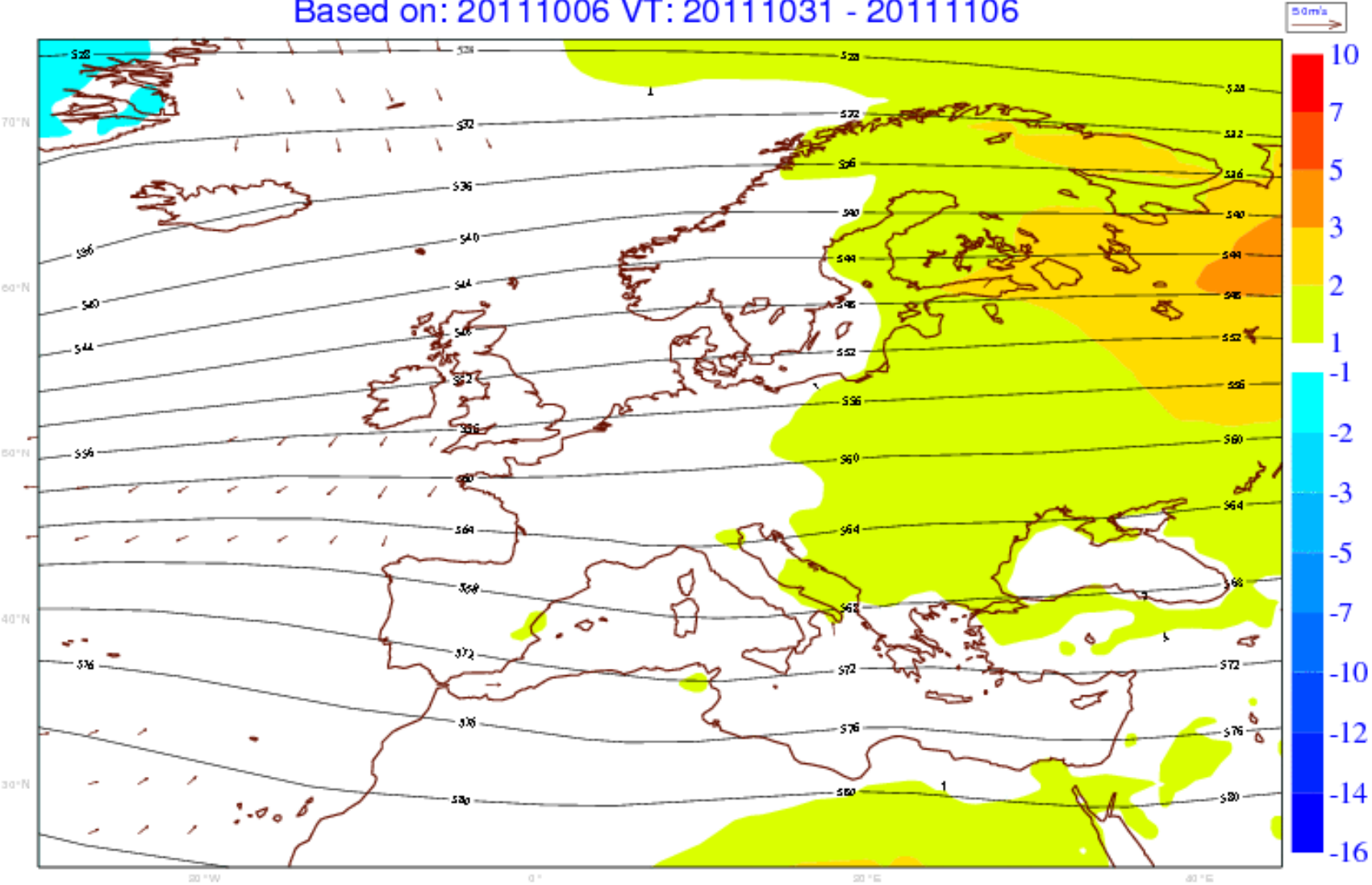
# Monthly Forecast: Week 4

Weekly means of MSLP , and Total precipitation anomaly  
Based on: 20111006 VT: 20111031 - 20111106



# Monthly Forecast: Week 4

Weekly means of 500 hPa height , 10m wind anomaly , 2m temperature anomaly  
Based on: 20111006 VT: 20111031 - 20111106

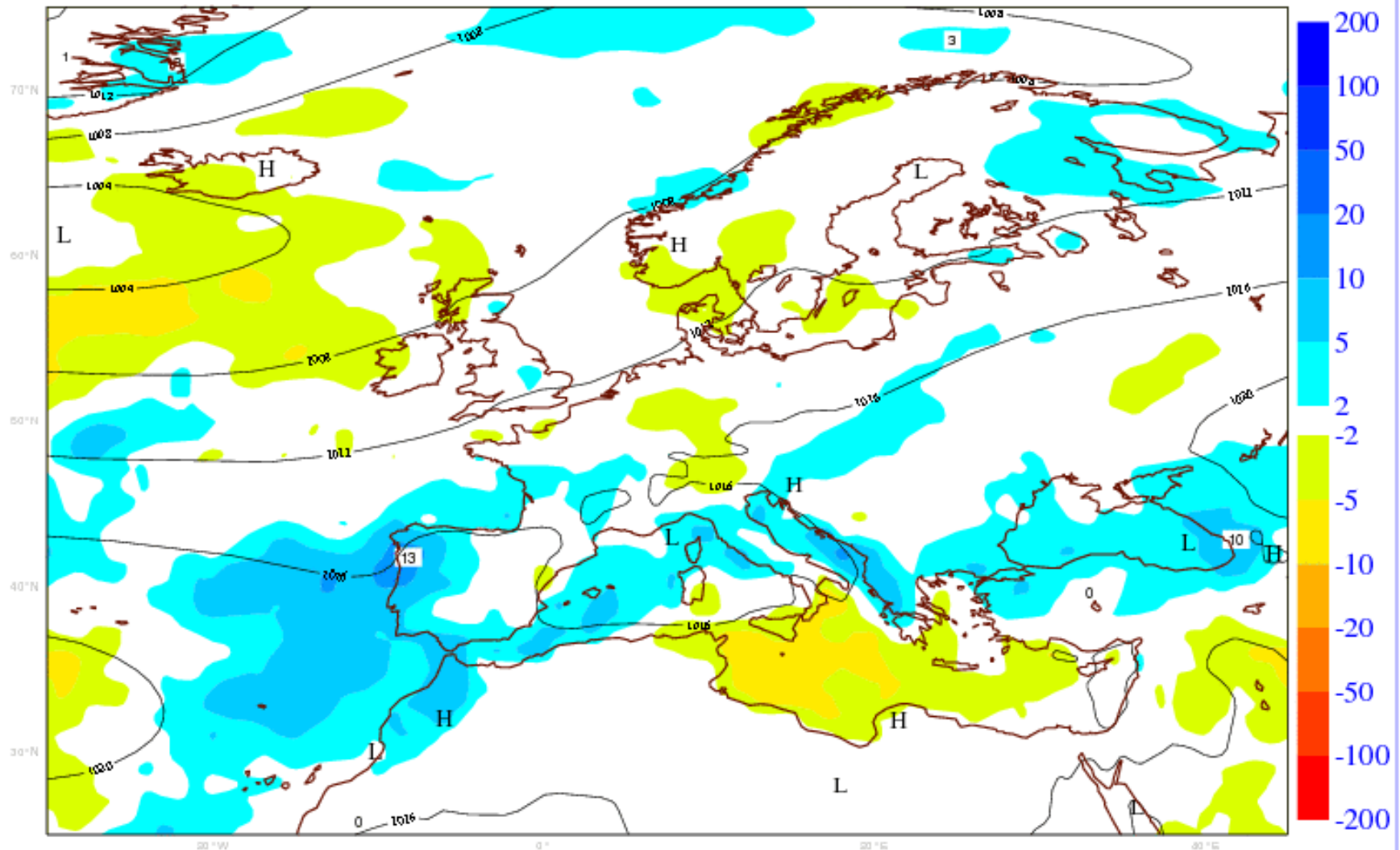


## **Comment : Monthly forecast (week 4)**



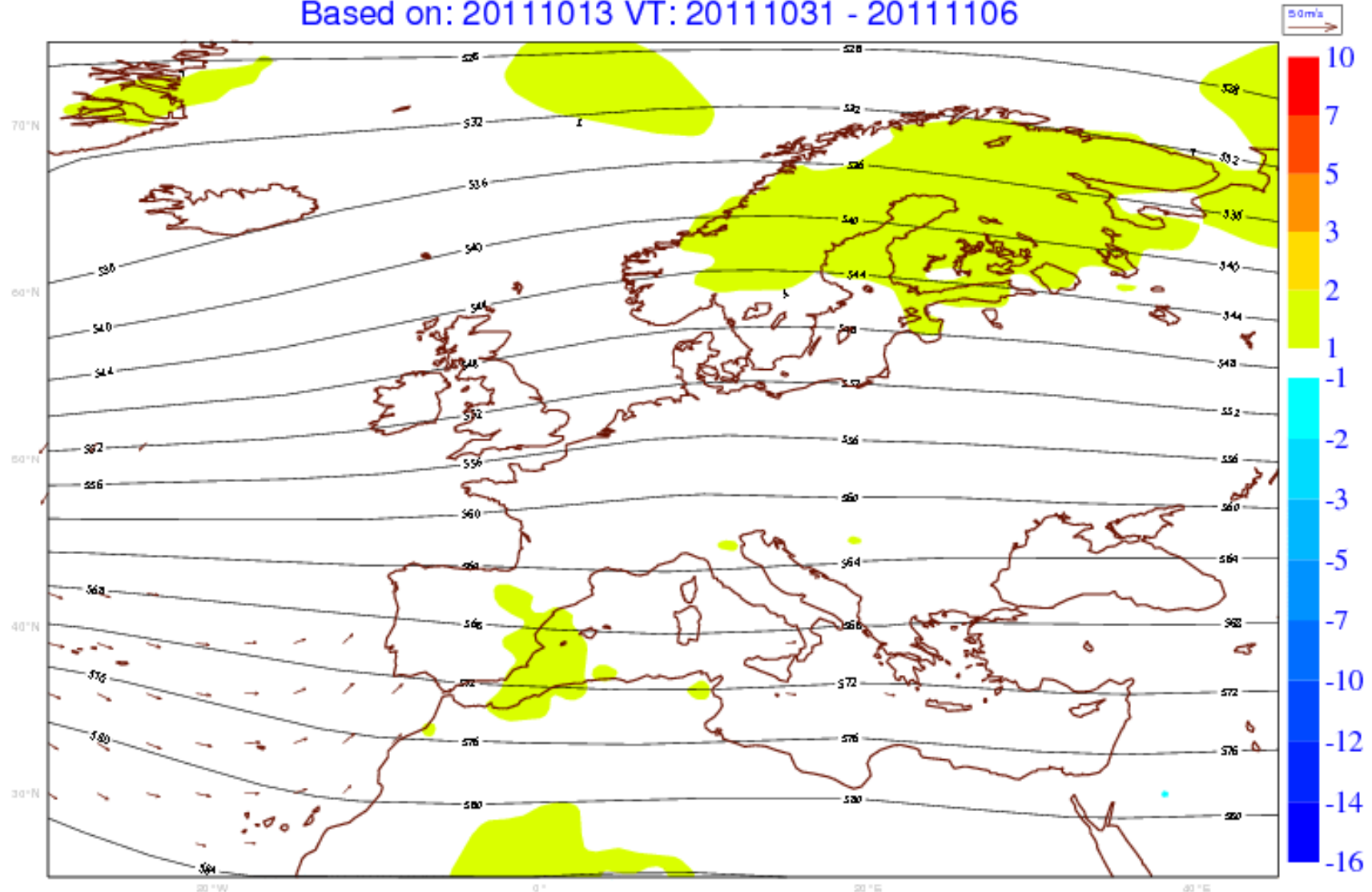
# Monthly Forecast: Week 3

Weekly means of MSLP , and Total precipitation anomaly  
Based on: 20111013 VT: 20111031 - 20111106



# Monthly Forecast: Week 3

Weekly means of 500 hPa height , 10m wind anomaly , 2m temperature anomaly  
Based on: 20111013 VT: 20111031 - 20111106

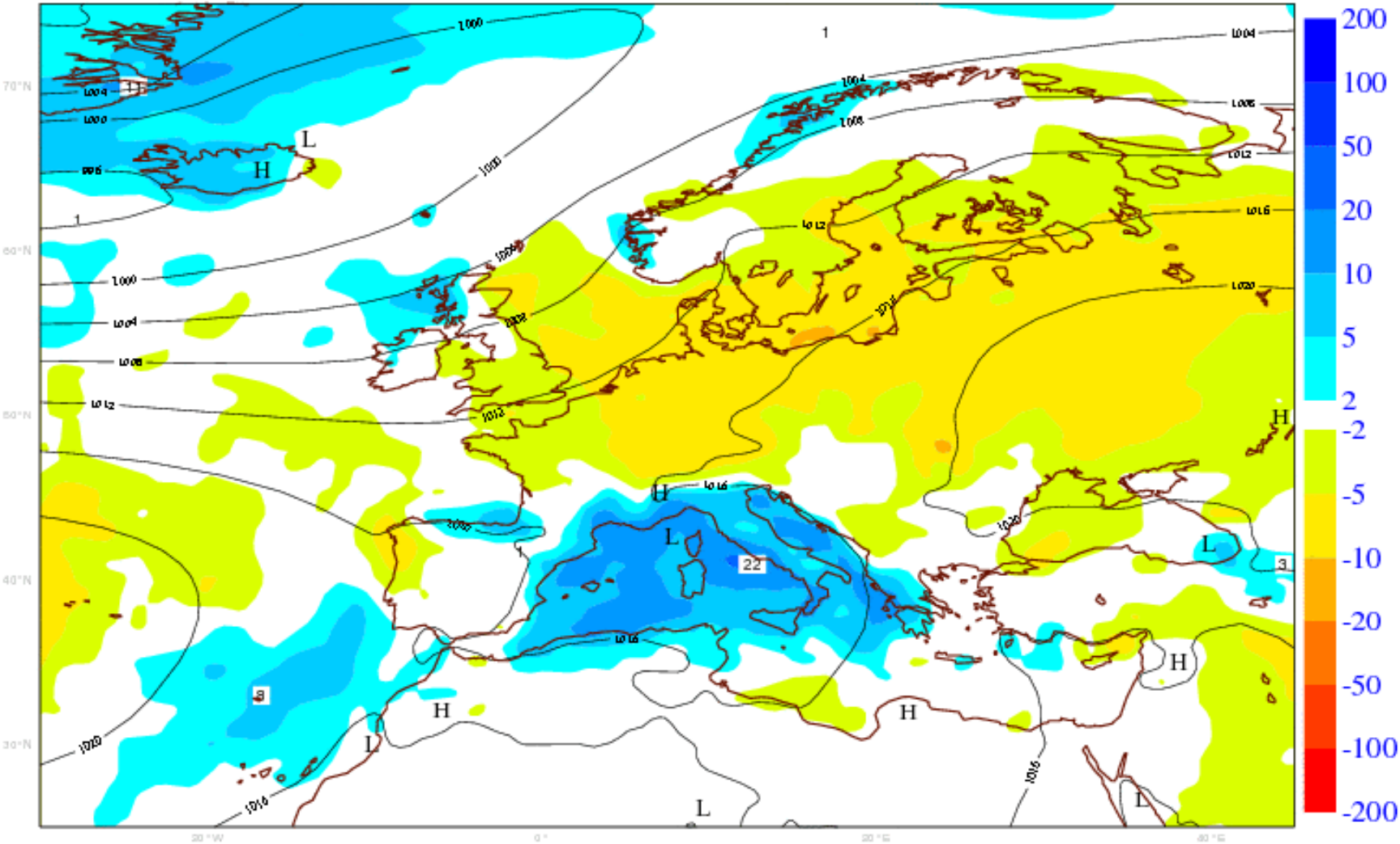


## Comment : Monthly forecast (week 3)



# Monthly Forecast: Week 2

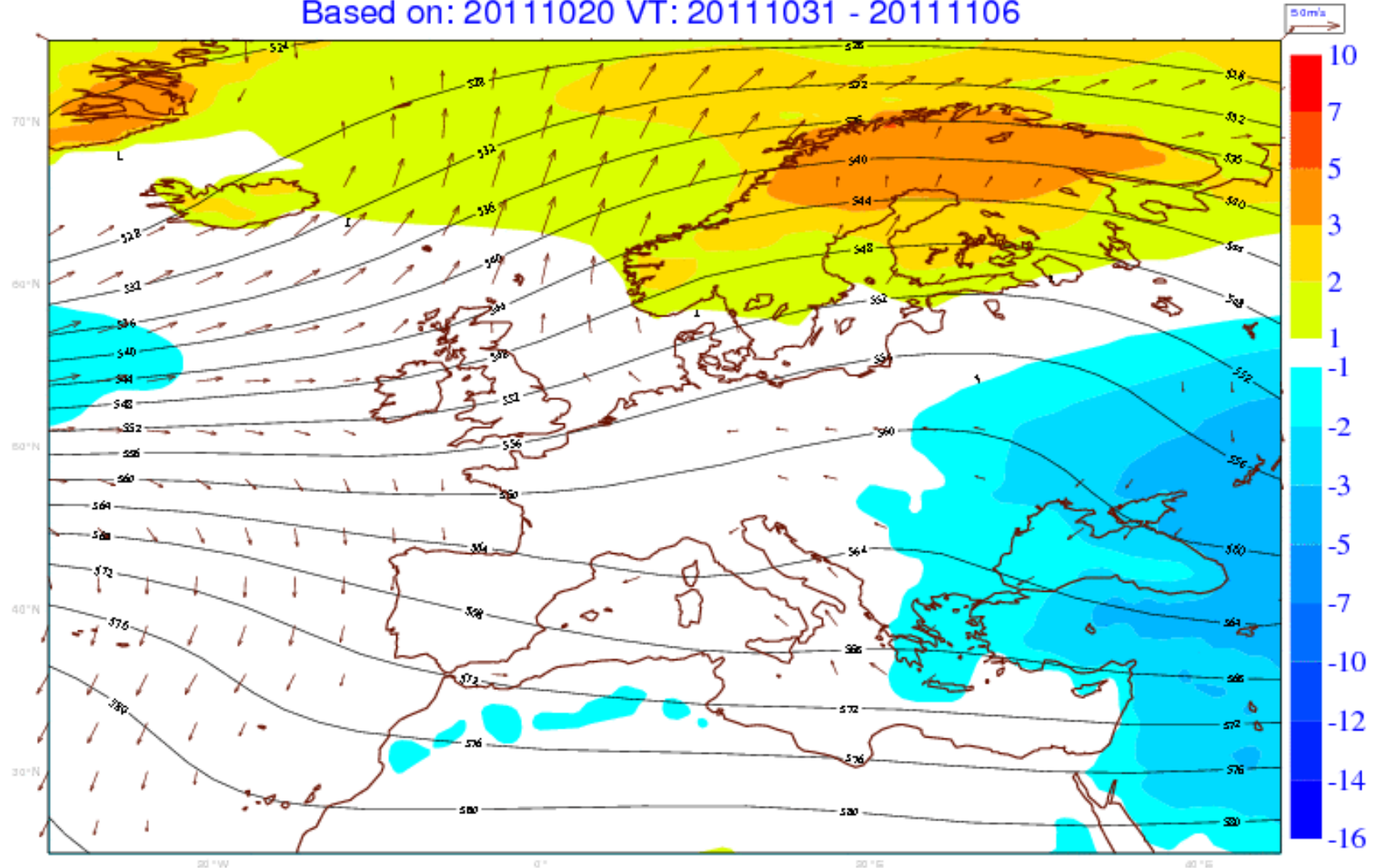
Weekly means of MSLP , and Total precipitation anomaly  
Based on: 20111020 VT: 20111031 - 20111106





# Monthly Forecast: Week 2

Weekly means of 500 hPa height , 10m wind anomaly , 2m temperature anomaly  
Based on: 20111020 VT: 20111031 - 20111106

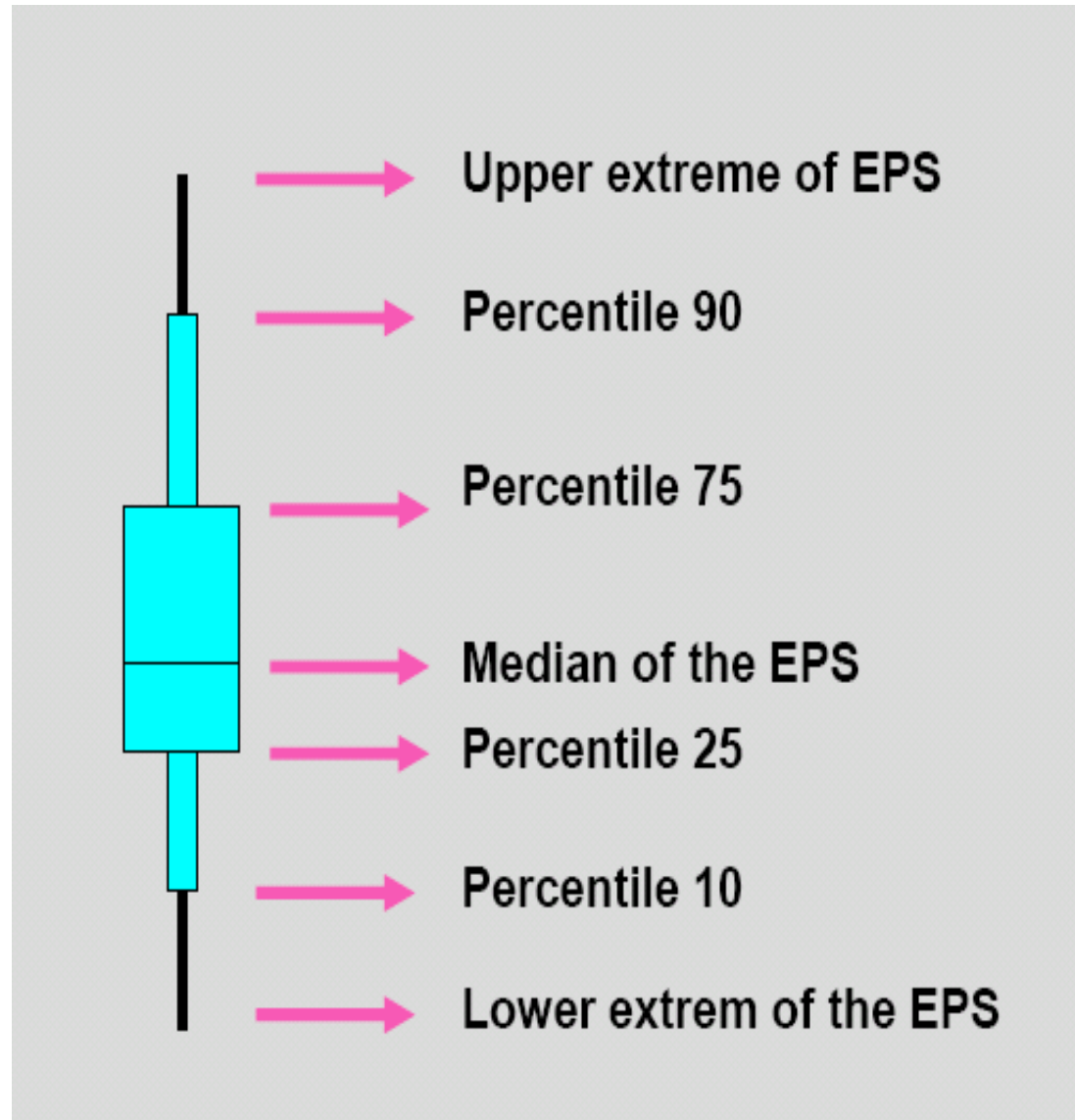




## **Comment : Monthly forecast (week 2)**



# EPSgrams: meaning of box and whiskers

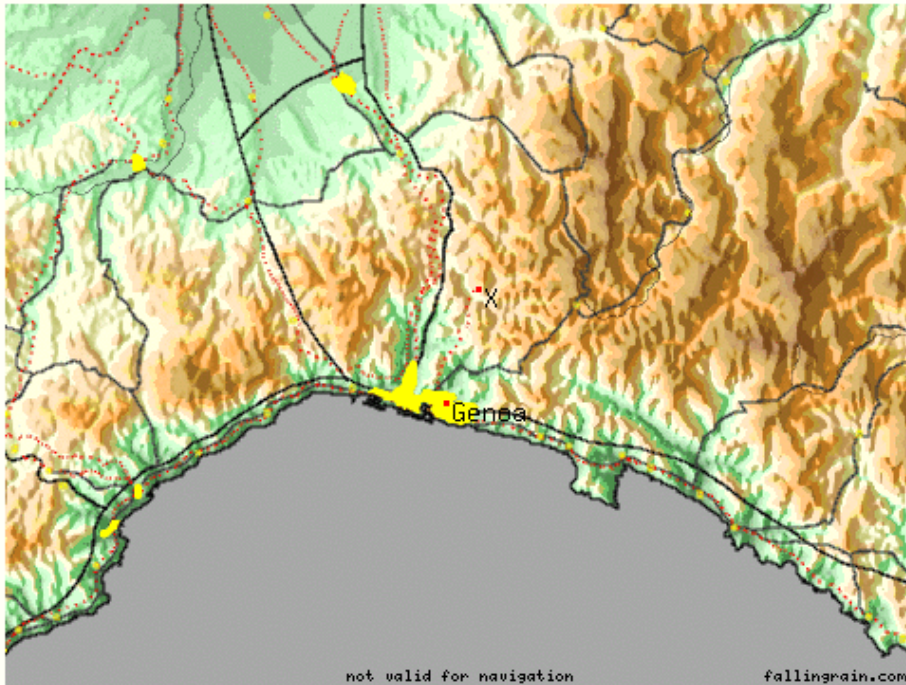


# EPS grams for Genoa, Italy – geographical location

## 10-day EPSgram

### Genoa

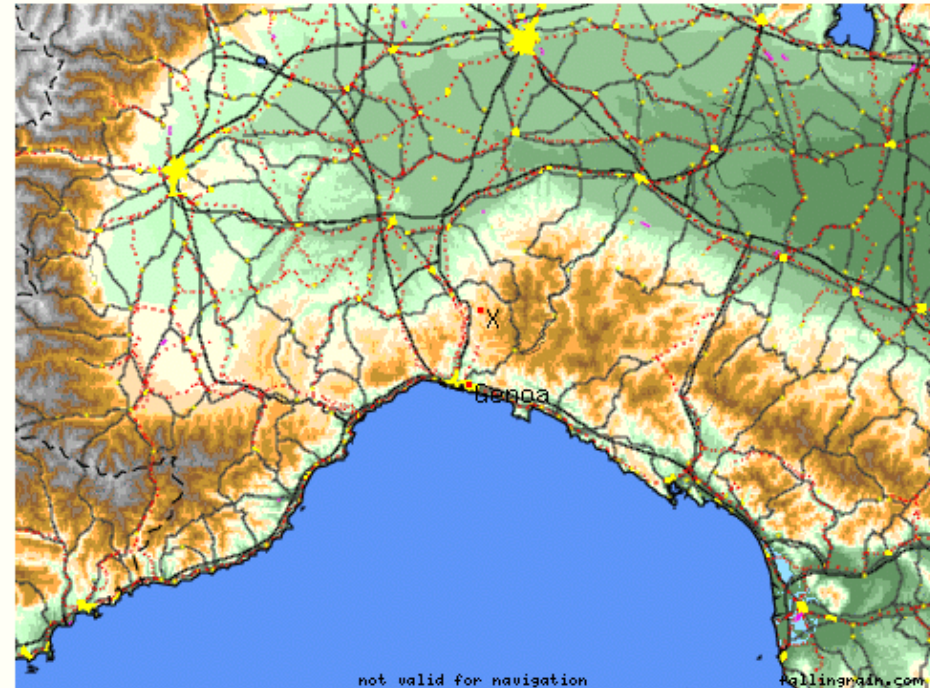
The grid point is located 15 km north of the required location.



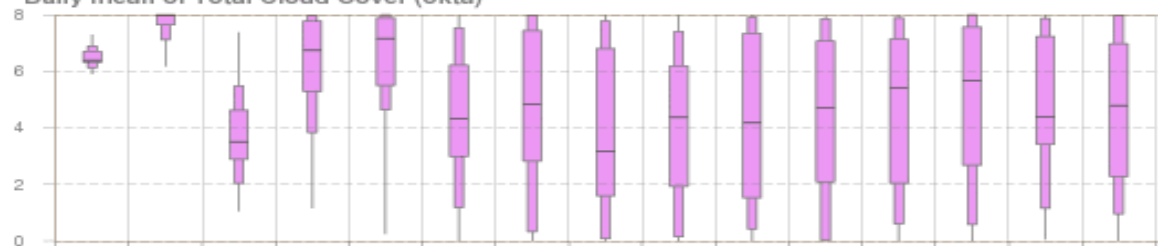
## 15-day EPSgram

### Genoa

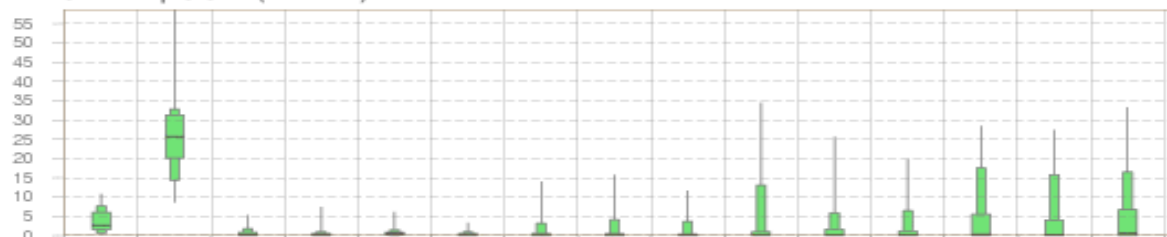
The grid point is located 26 km north of the required location.



EPS Meteogram  
 Genoa 44.65°N 9° E (EPS land point) 616 m (T639)  
 Extended Range Forecast based on EPS Distribution Monday 24 October 2011 00 UTC  
 Daily mean of Total Cloud Cover (okta)



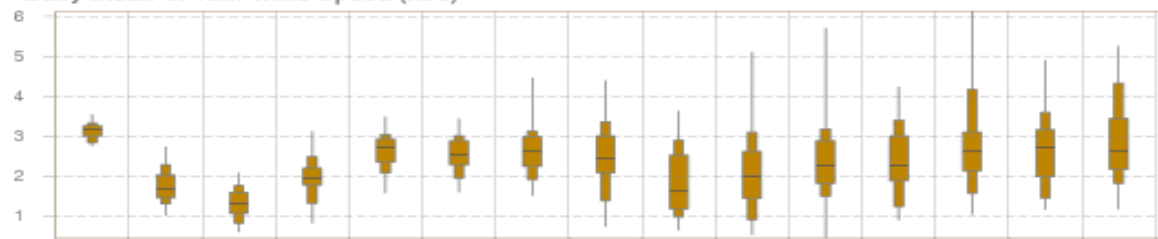
Total Precipitation (mm/24h)



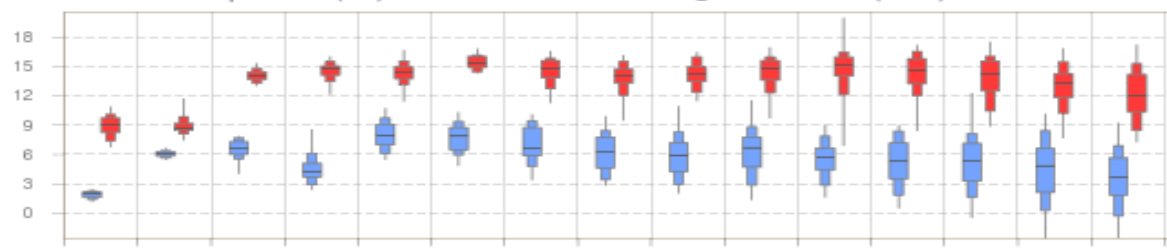
Daily distribution of 10m Wind Direction



Daily mean of 10m Wind Speed (m/s)



2m min/max temperature (°C) reduced to the station height from 521m (T319)



Mon 24 Tue 25 Wed 26 Thu 27 Fri 28 Sat 29 Sun 30 Mon 31 Tue 1 Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7

November 2011

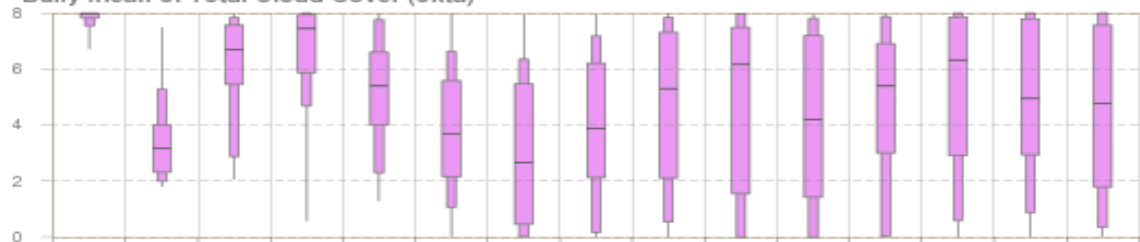


EPS Meteogram

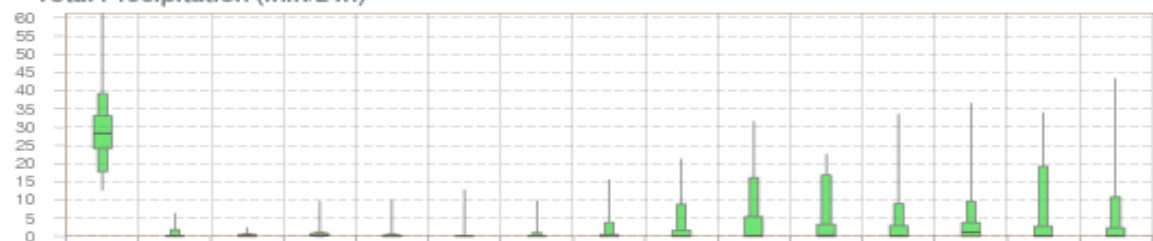
Genoa 44.65°N 9° E (EPS land point) 616 m (T639)

Extended Range Forecast based on EPS Distribution Tuesday 25 October 2011 00 UTC

Daily mean of Total Cloud Cover (okta)



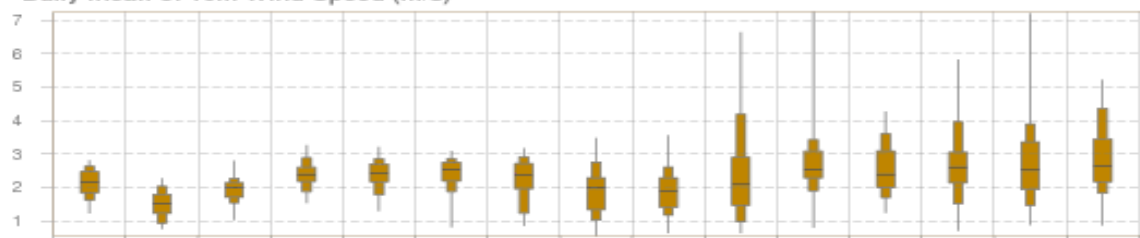
Total Precipitation (mm/24h)



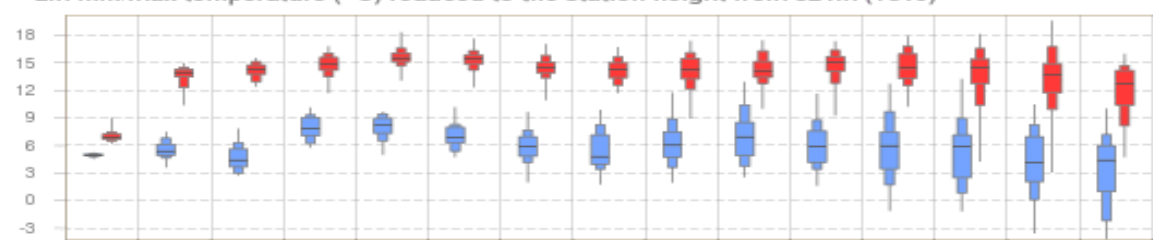
Daily distribution of 10m Wind Direction



Daily mean of 10m Wind Speed (m/s)



2m min/max temperature (°C) reduced to the station height from 521m (T319)



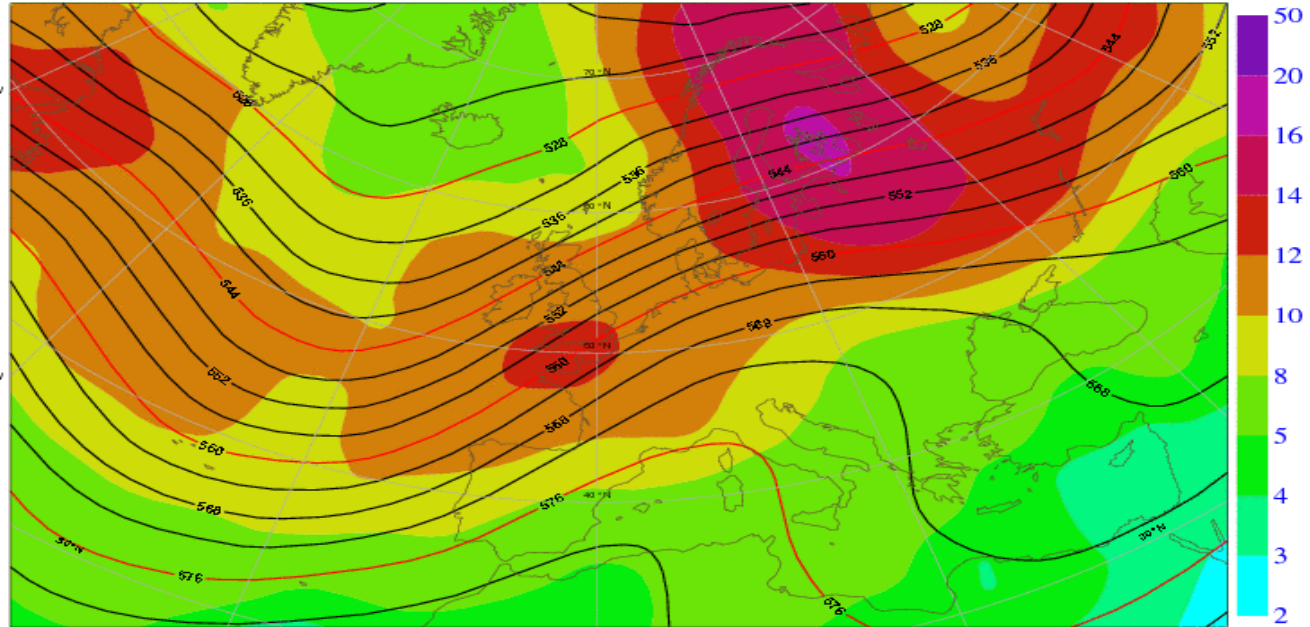
Tue 25 Wed 26 Thu 27 Fri 28 Sat 29 Sun 30 Mon 31 Tue 1 Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7 Tue 8  
November 2011



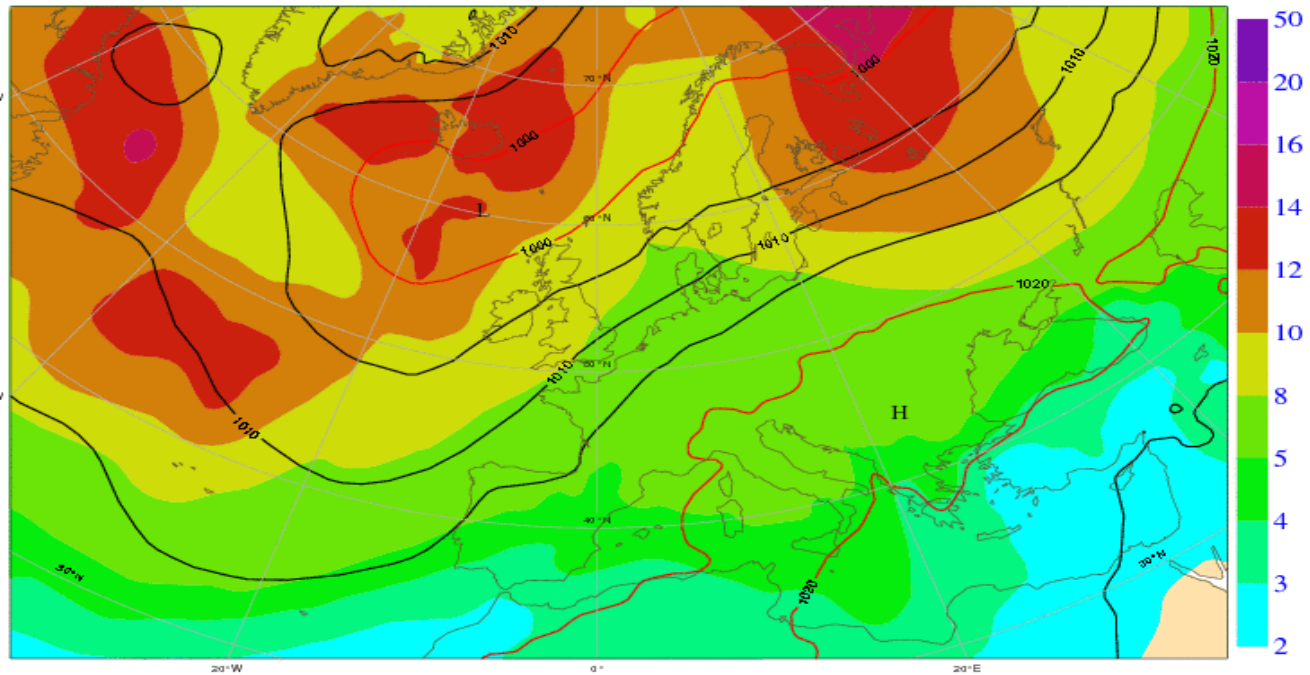
**2011-10-26 00UTC**



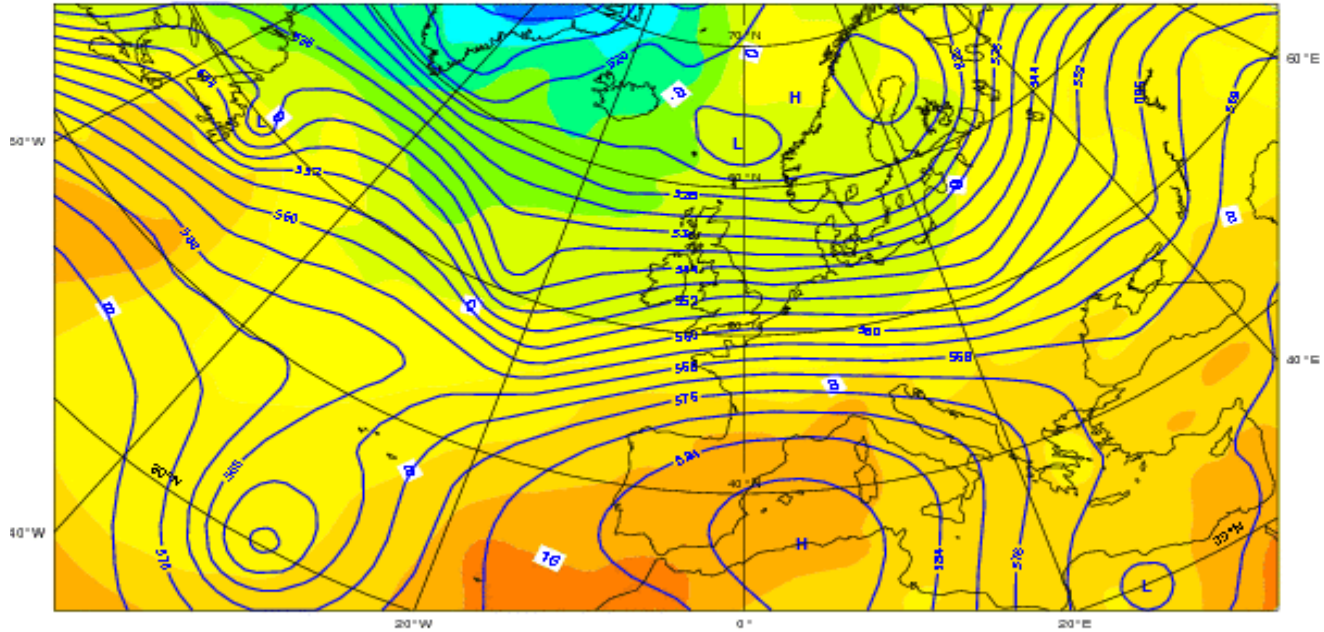
Wednesday 26 October 2011 00UTC ECMWF T+228 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



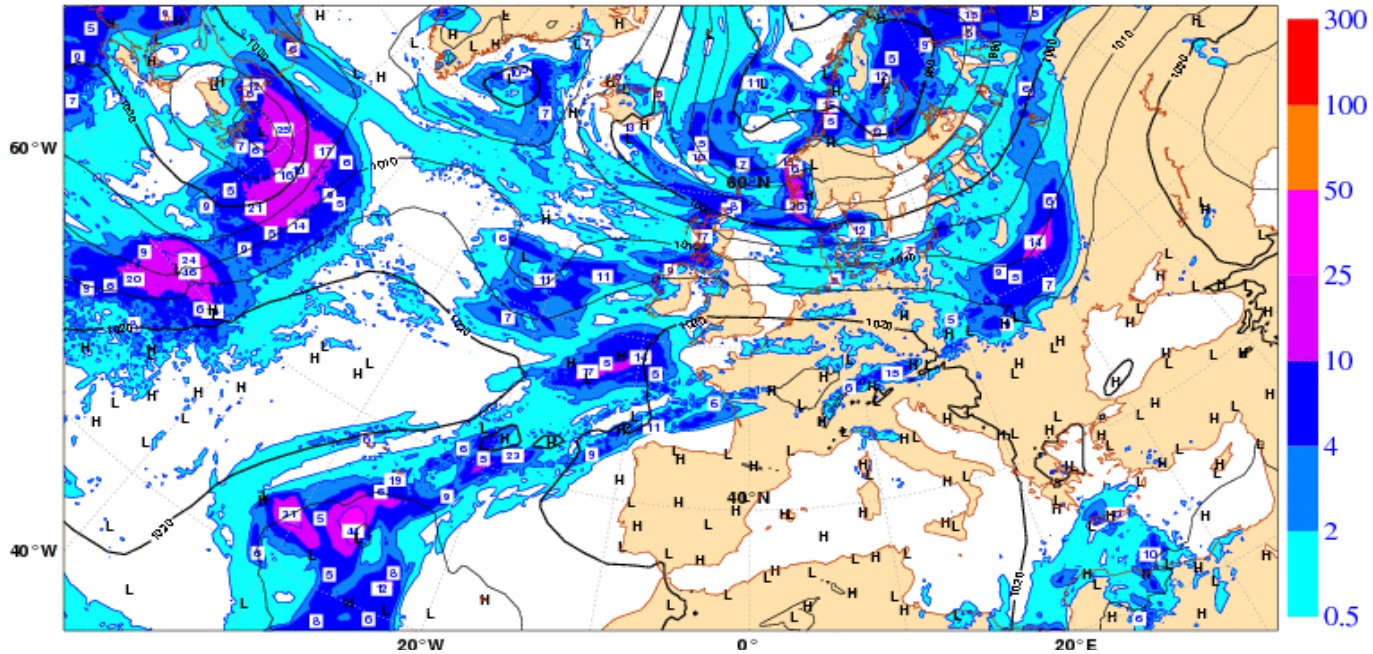
Wednesday 26 October 2011 00UTC ECMWF T+228 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Wednesday 26 October 2011 00UTC ECMWF Forecast t+228 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature

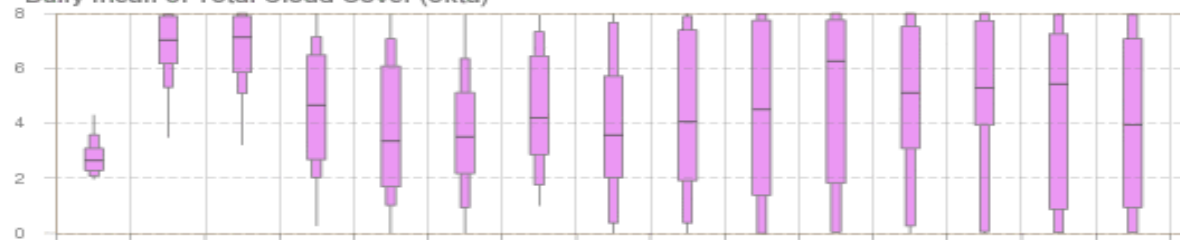


Wednesday 26 October 2011 00UTC @ECMWF MSLP T+228 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

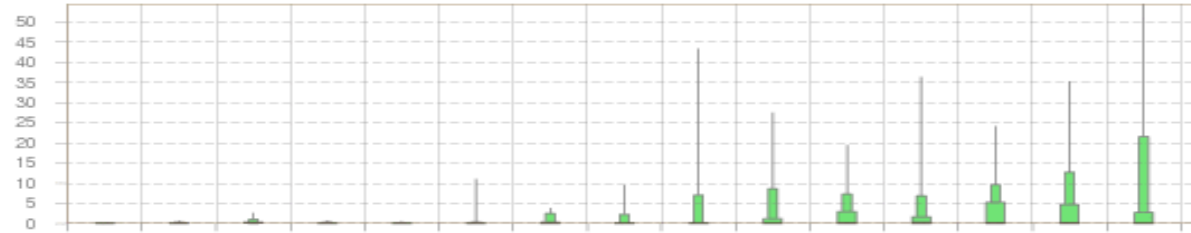




**EPS Meteogram**  
 Genoa 44.65°N 9°E (EPS land point) 616 m (T639)  
 Extended Range Forecast based on EPS Distribution Wednesday 26 October 2011 00 UTC  
 Daily mean of Total Cloud Cover (okta)



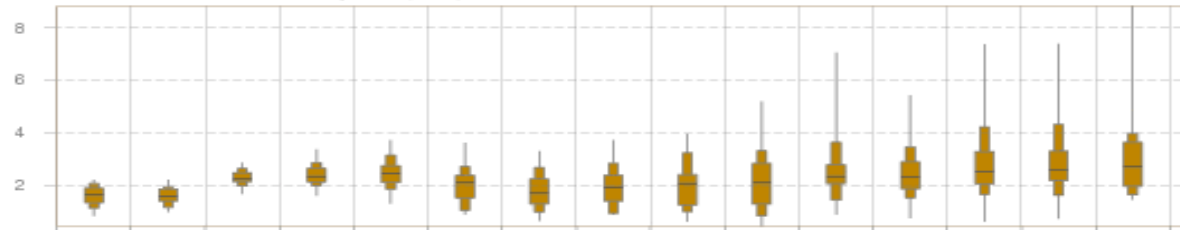
**Total Precipitation (mm/24h)**



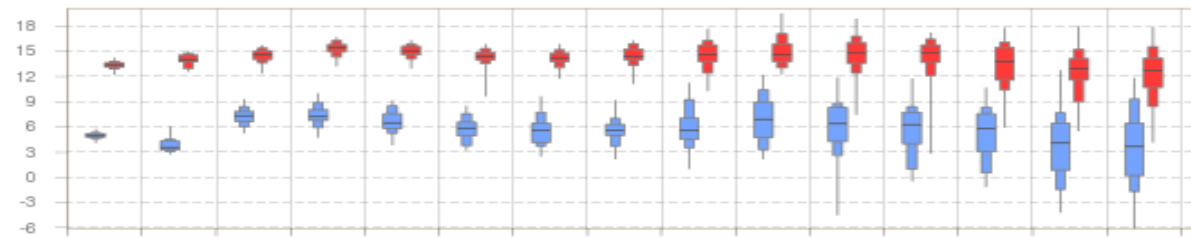
**Daily distribution of 10m Wind Direction**



**Daily mean of 10m Wind Speed (m/s)**



**2m min/max temperature (°C) reduced to the station height from 521m (T319)**

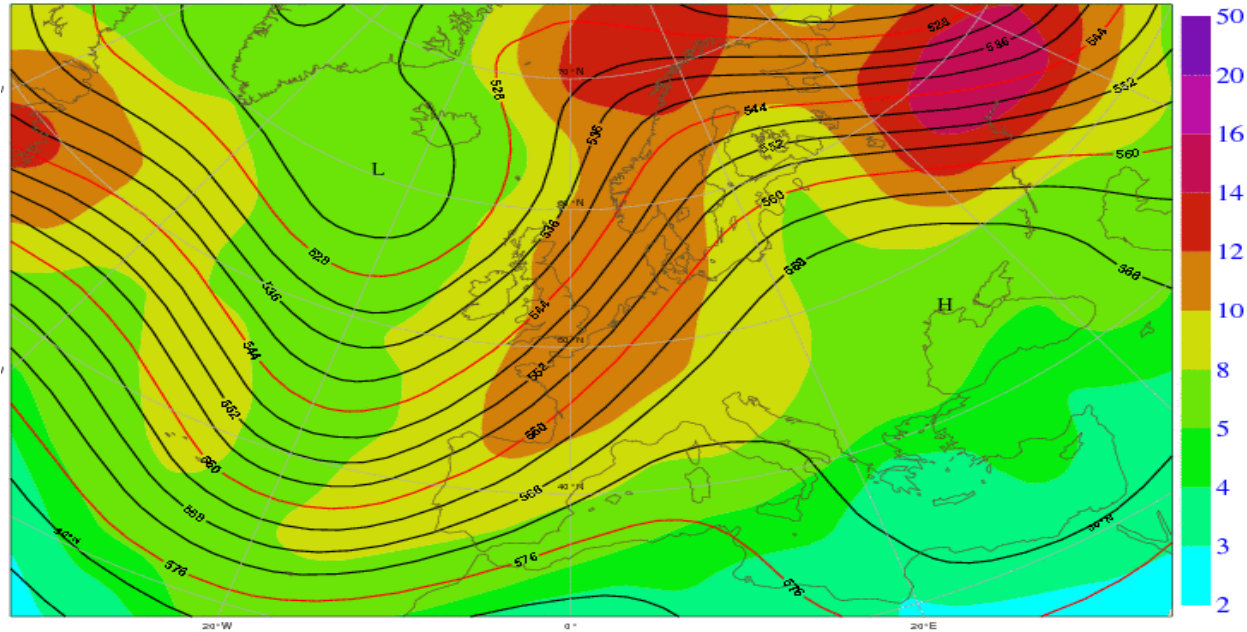


Wed 26 Thu 27 Fri 28 Sat 29 **Sun 30** Mon 31 Tue 1 Wed 2 Thu 3 Fri 4 Sat 5 **Sun 6** Mon 7 Tue 8 Wed 9  
 November 2011

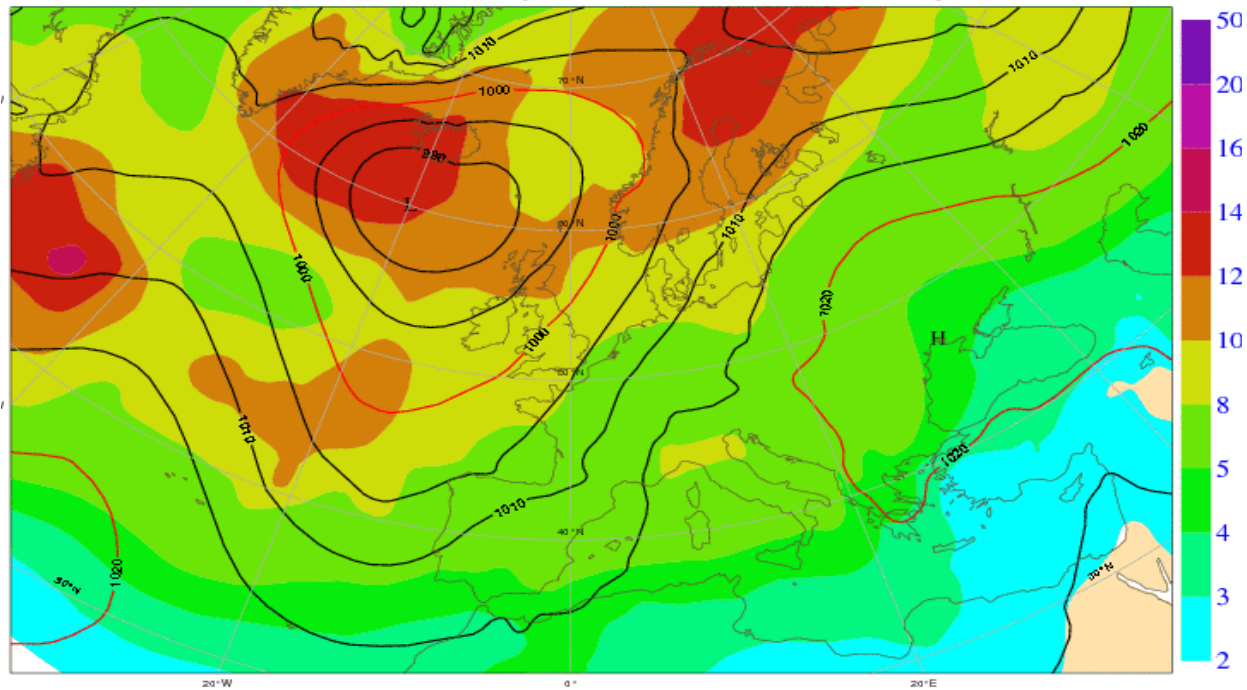


**2011-10-27 00UTC**

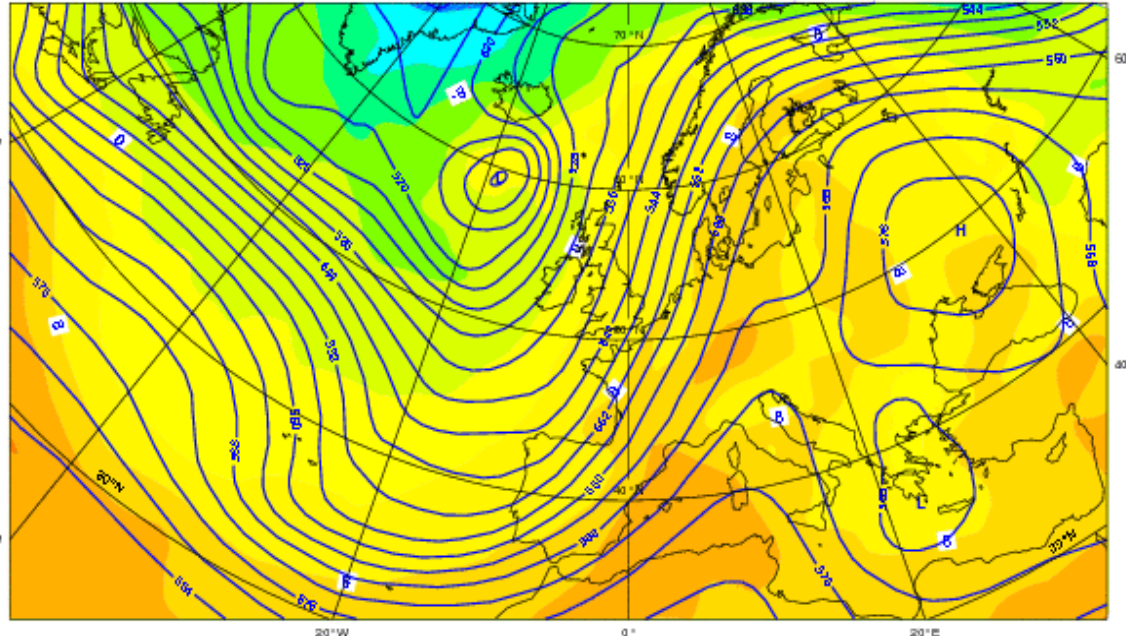
Thursday 27 October 2011 00UTC ECMWF T+204 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



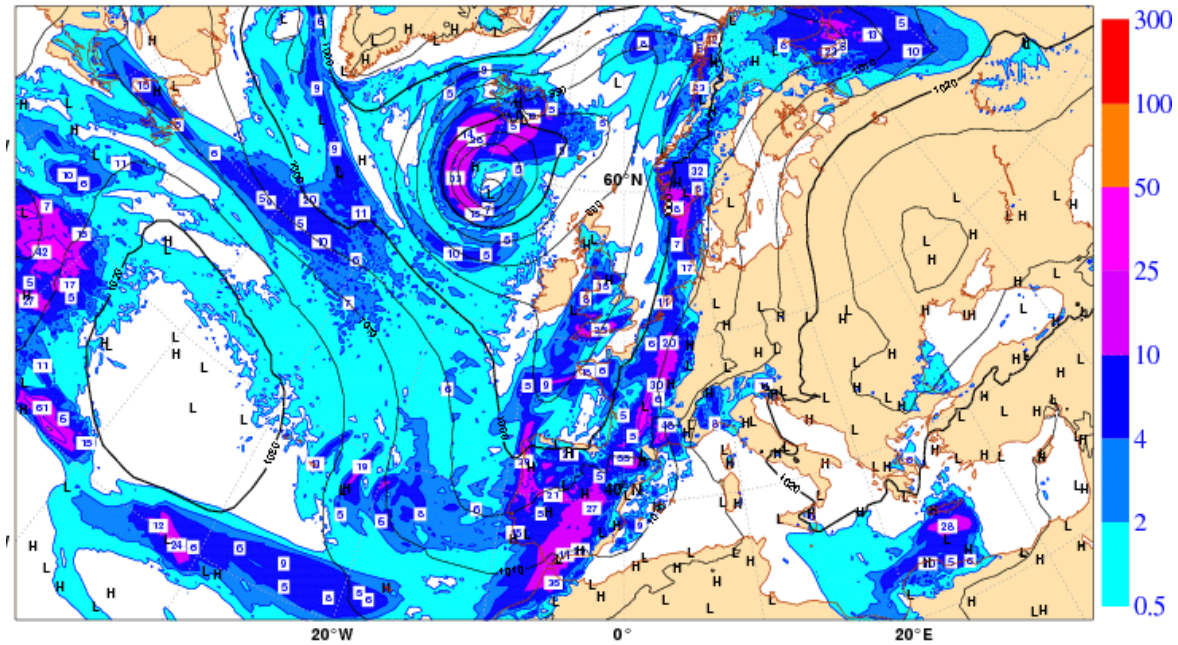
Thursday 27 October 2011 00UTC ECMWF T+204 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Thursday 27 October 2011 00UTC ECMWF Forecast t+204 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature

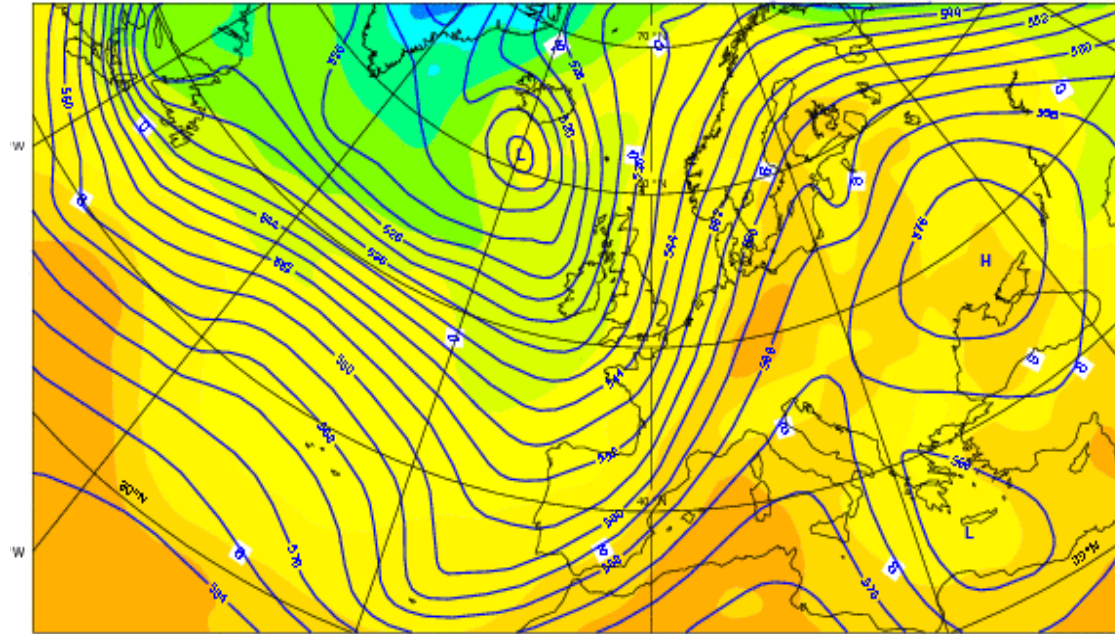


Thursday 27 October 2011 00UTC @ECMWF MSLP T+204 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

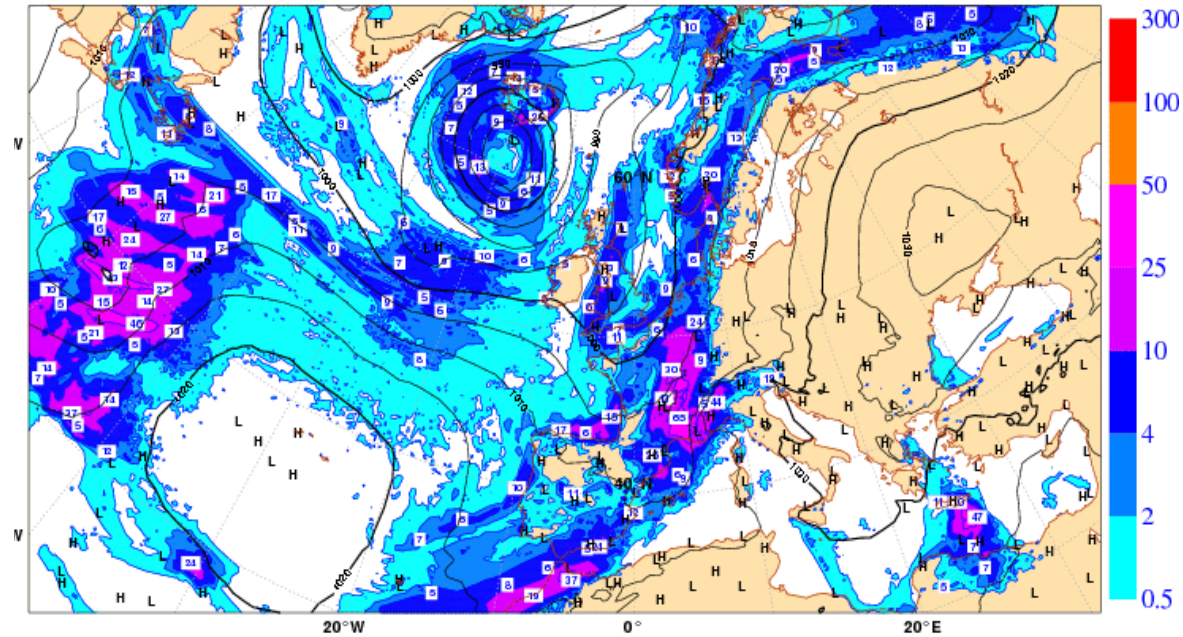




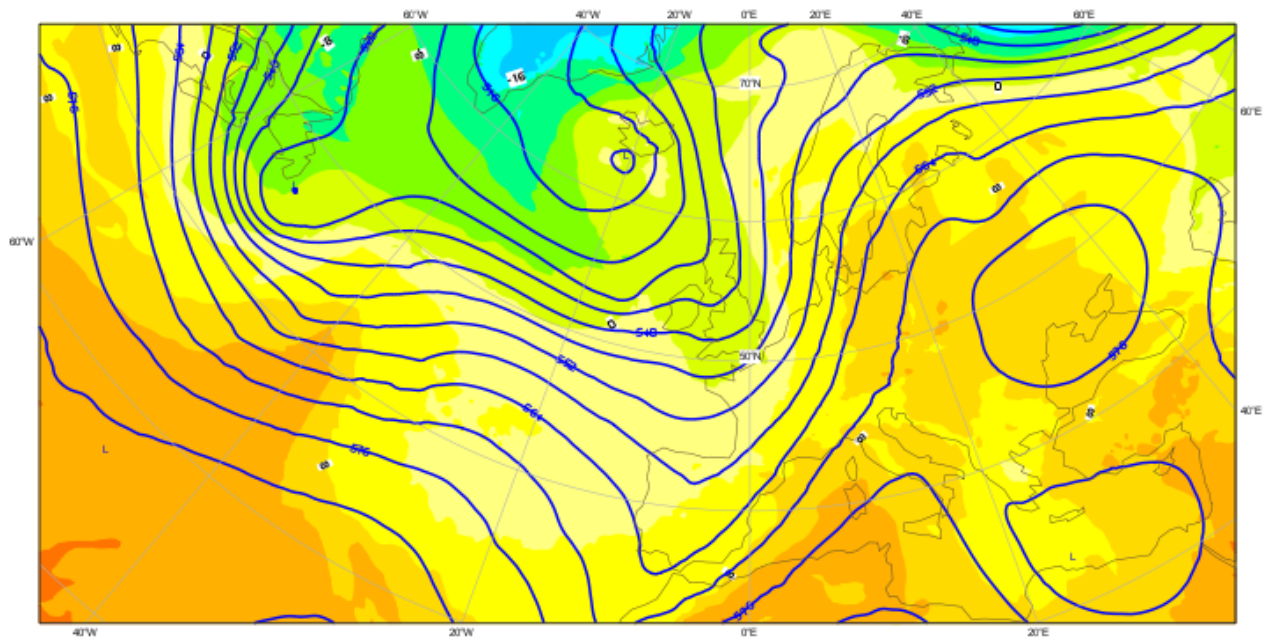
Thursday 27 October 2011 00UTC ECMWF Forecast t+216 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



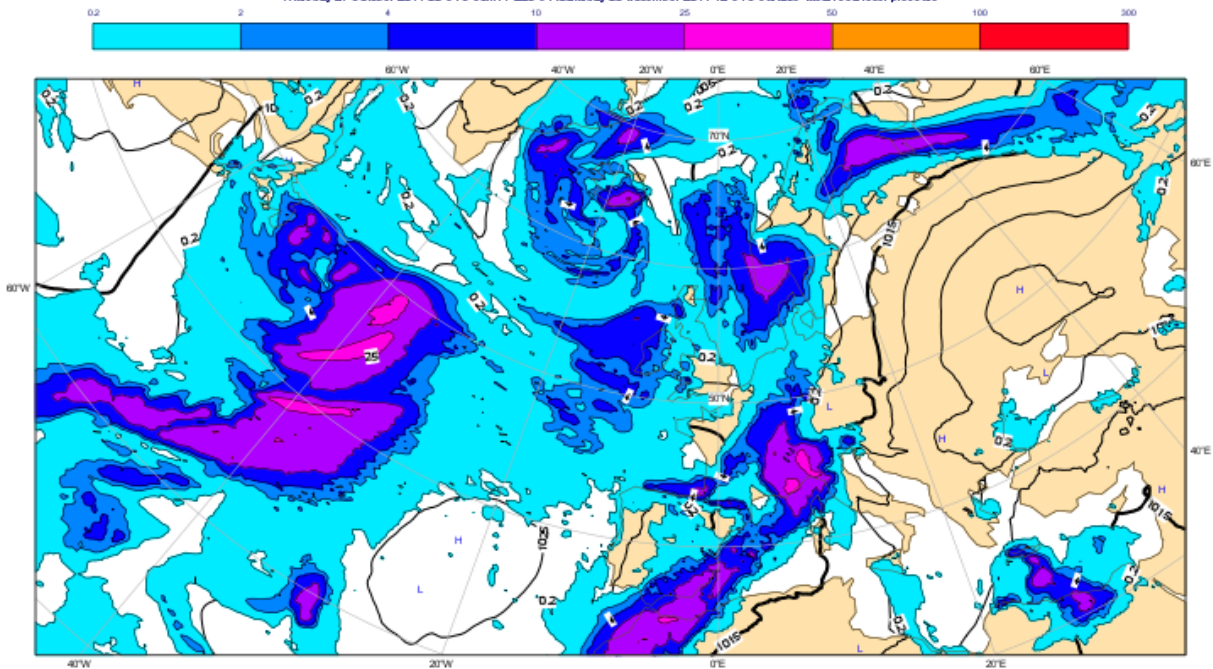
Thursday 27 October 2011 00UTC @ECMWF MSLP T+216 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



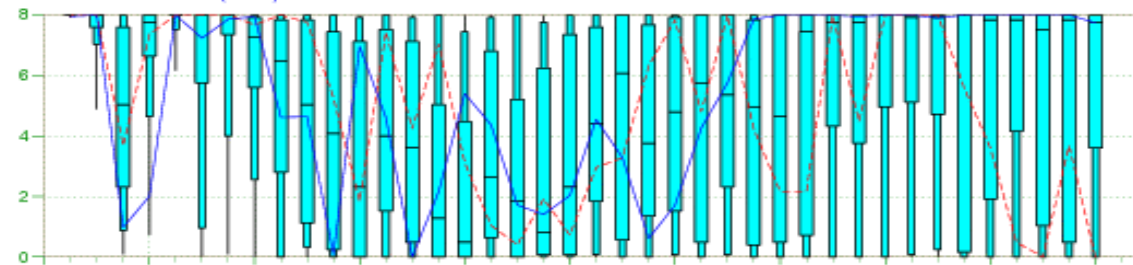
Thursday 27 October 2011 00 UTC ecmf-h228 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Thursday 27 October 2011 00 UTC ecmf-h228 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



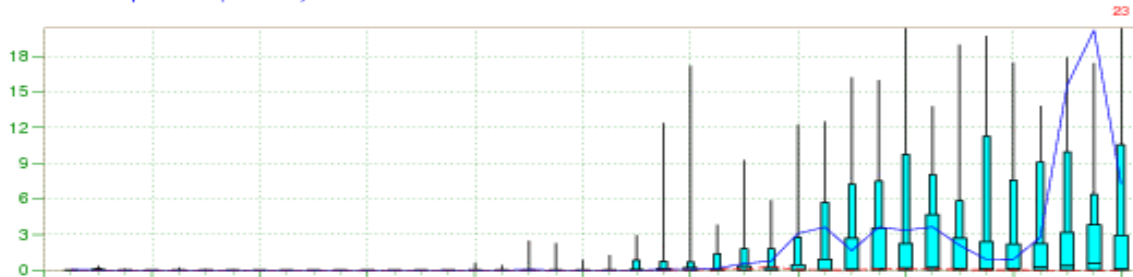
Thursday 27 October 2011 00 UTC ecmf-h234 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 27 October 2011 00 UTC ecmf-h228 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



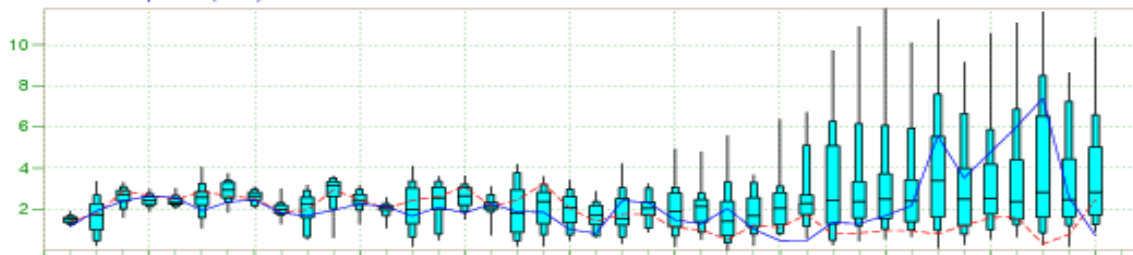
EPS Meteogram  
Genoa 44.54°N 9° E (EPS land point) 533 m (T1279)  
Deterministic Forecast and EPS Distribution Thursday 27 October 2011 00 UTC  
Total Cloud Cover (okta)



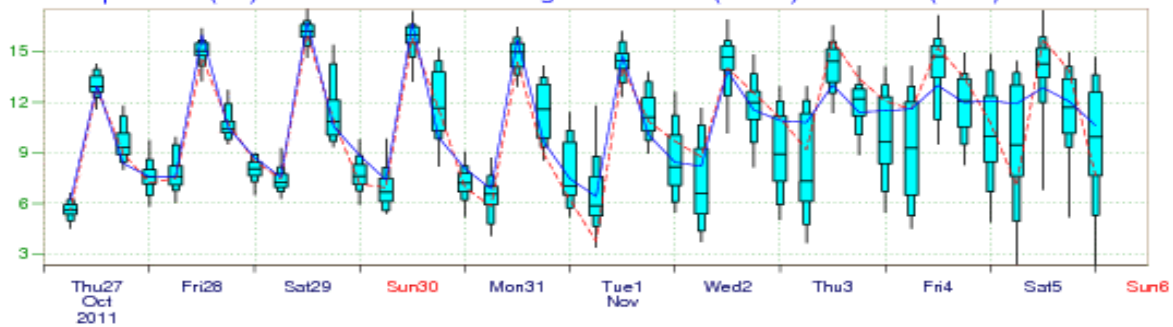
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



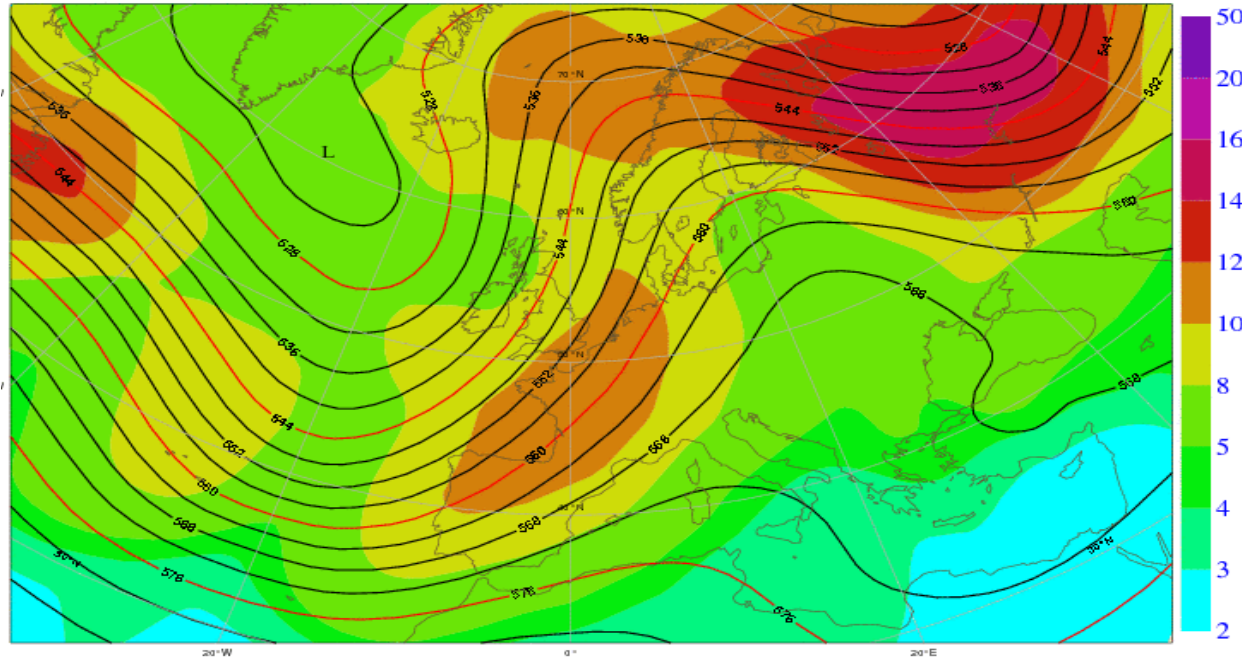
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



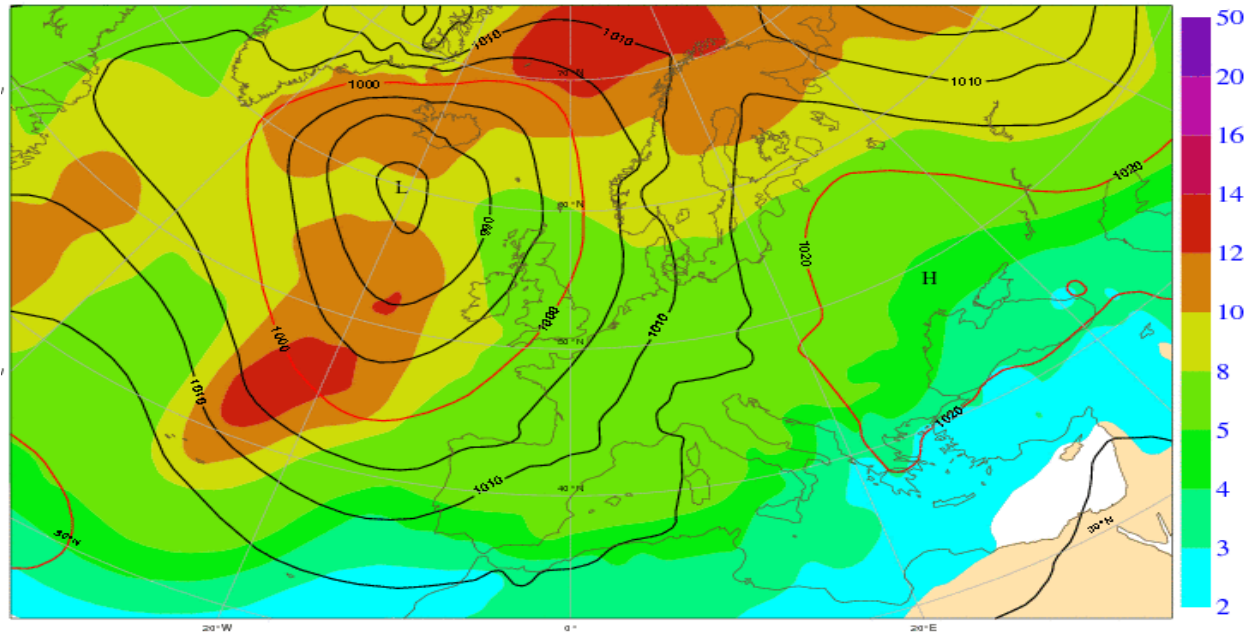
**2011-10-27 12UTC**



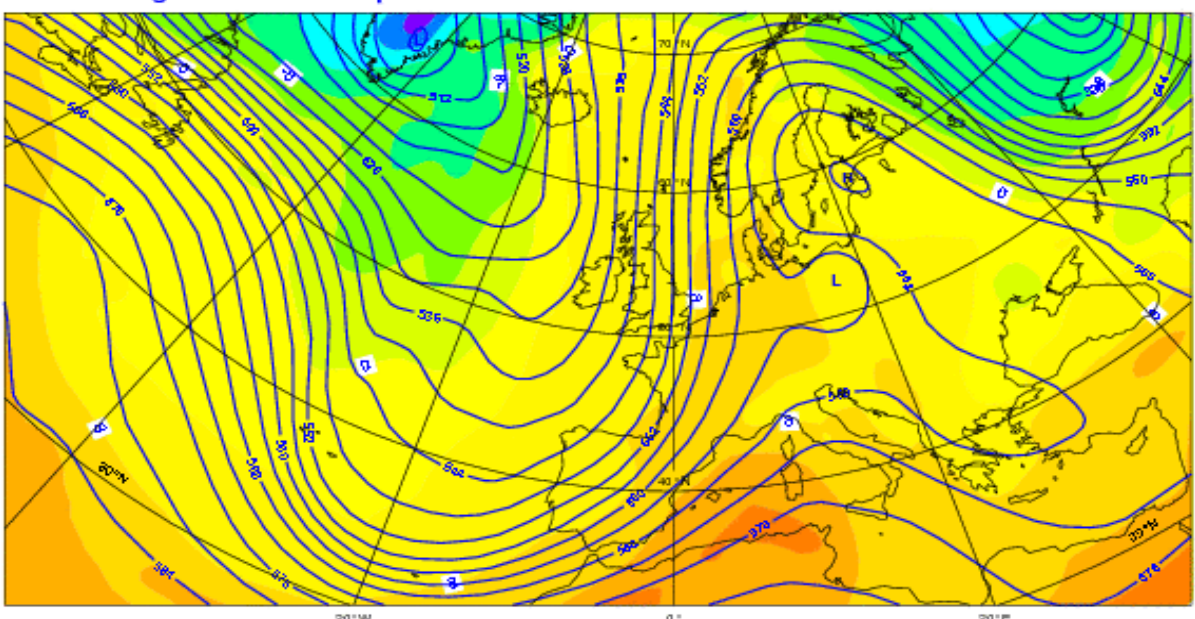
Thursday 27 October 2011 12UTC ECMWF T+192 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



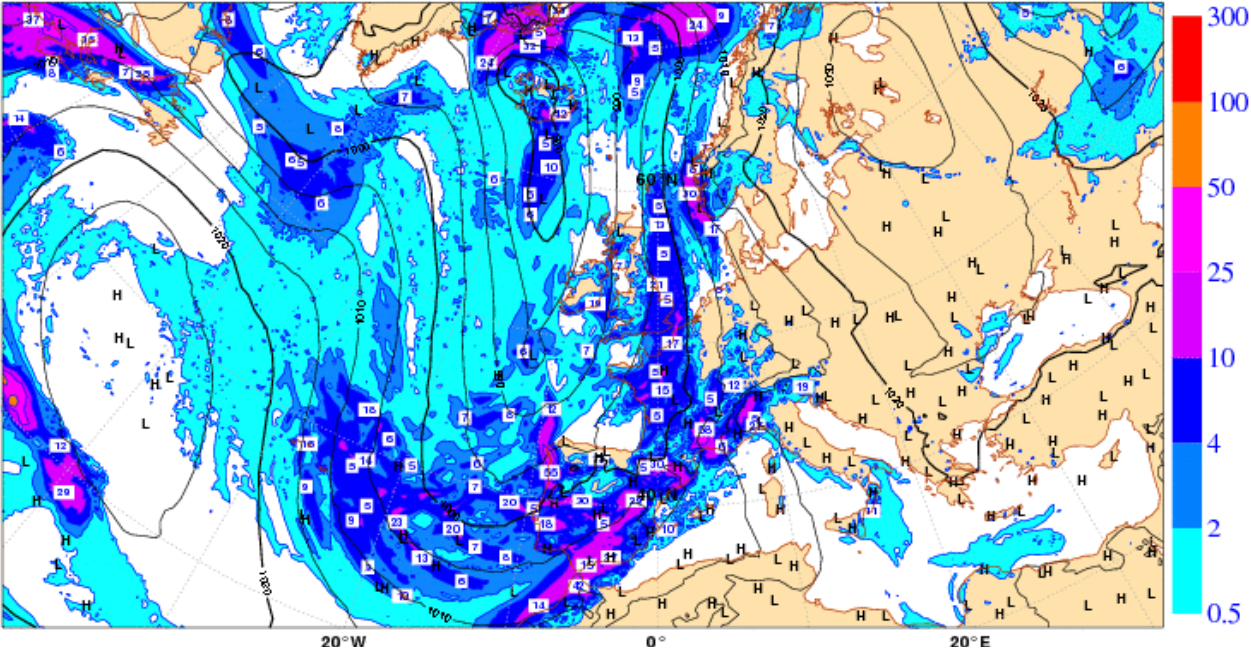
Thursday 27 October 2011 12UTC ECMWF T+192 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Thursday 27 October 2011 12UTC ECMWF Forecast t+192 VT: Friday 4 November 2011 12UTC

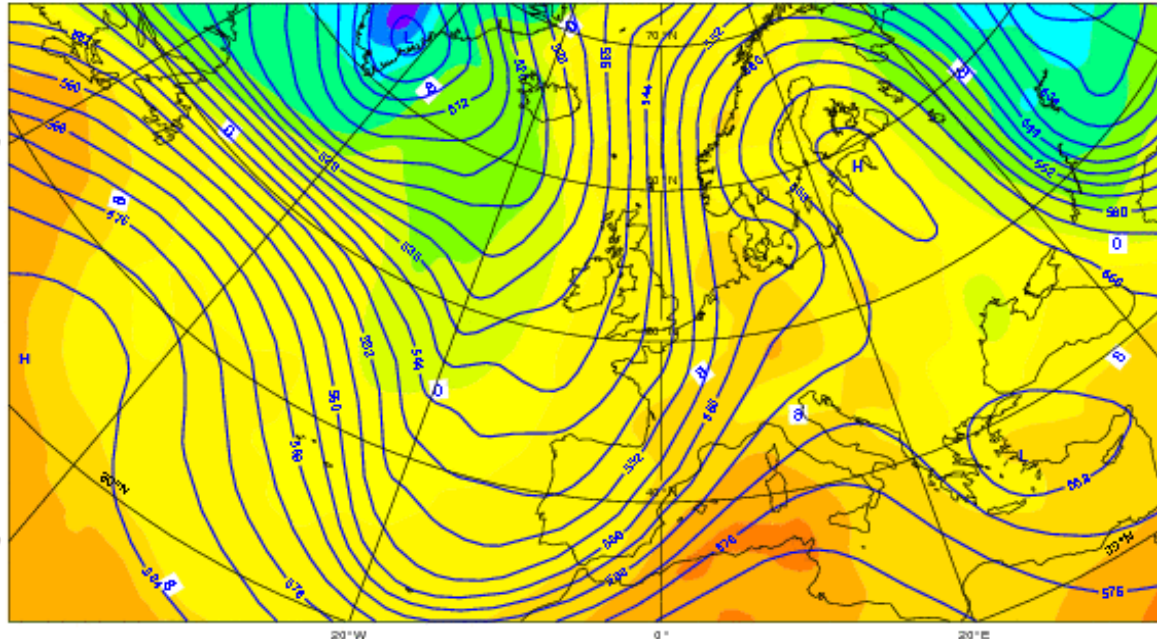


Thursday 27 October 2011 12UTC @ECMWF MSLP T+192 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

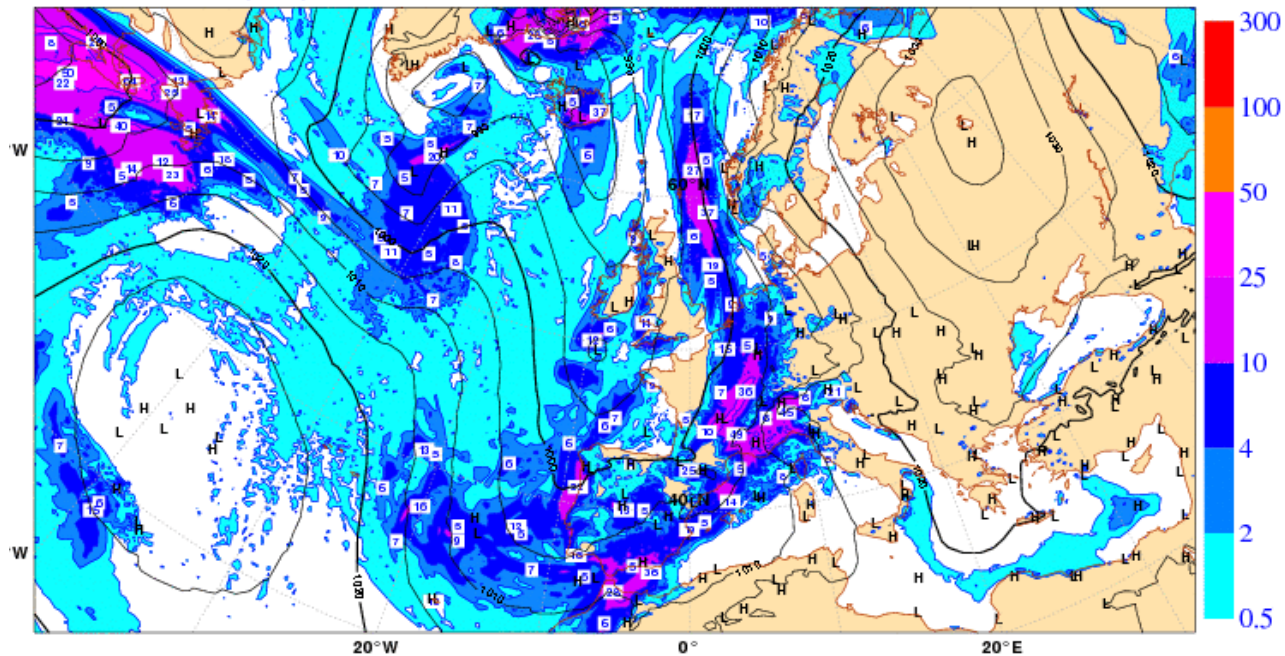




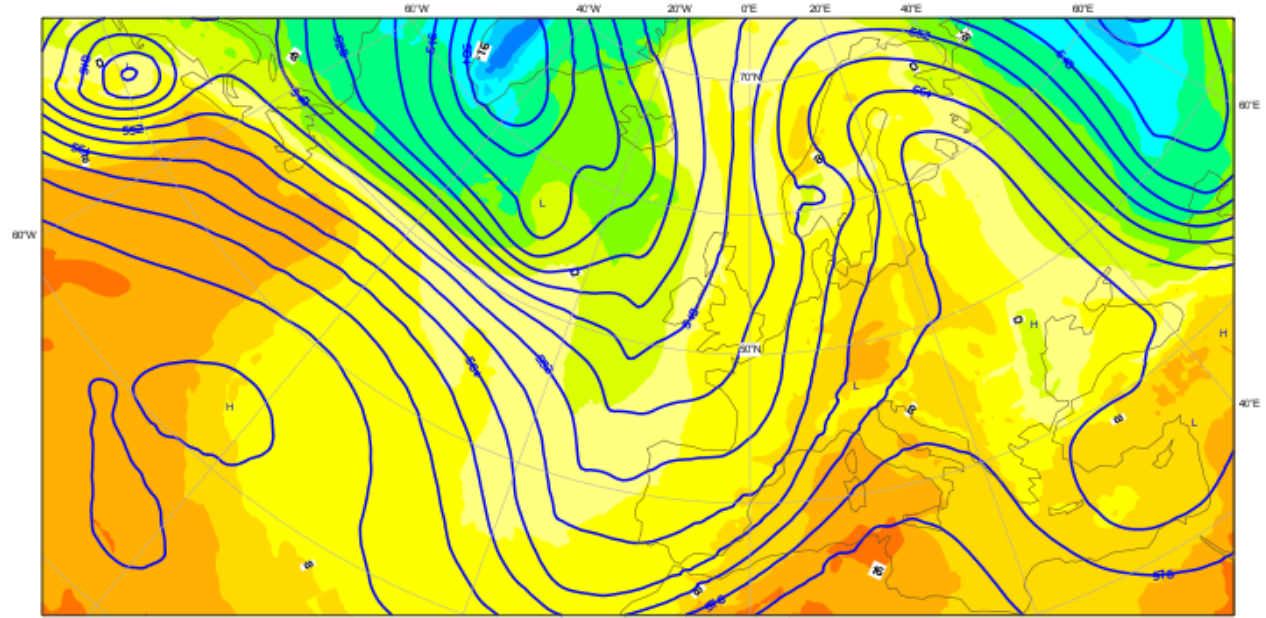
Thursday 27 October 2011 12UTC ECMWF Forecast t+204 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



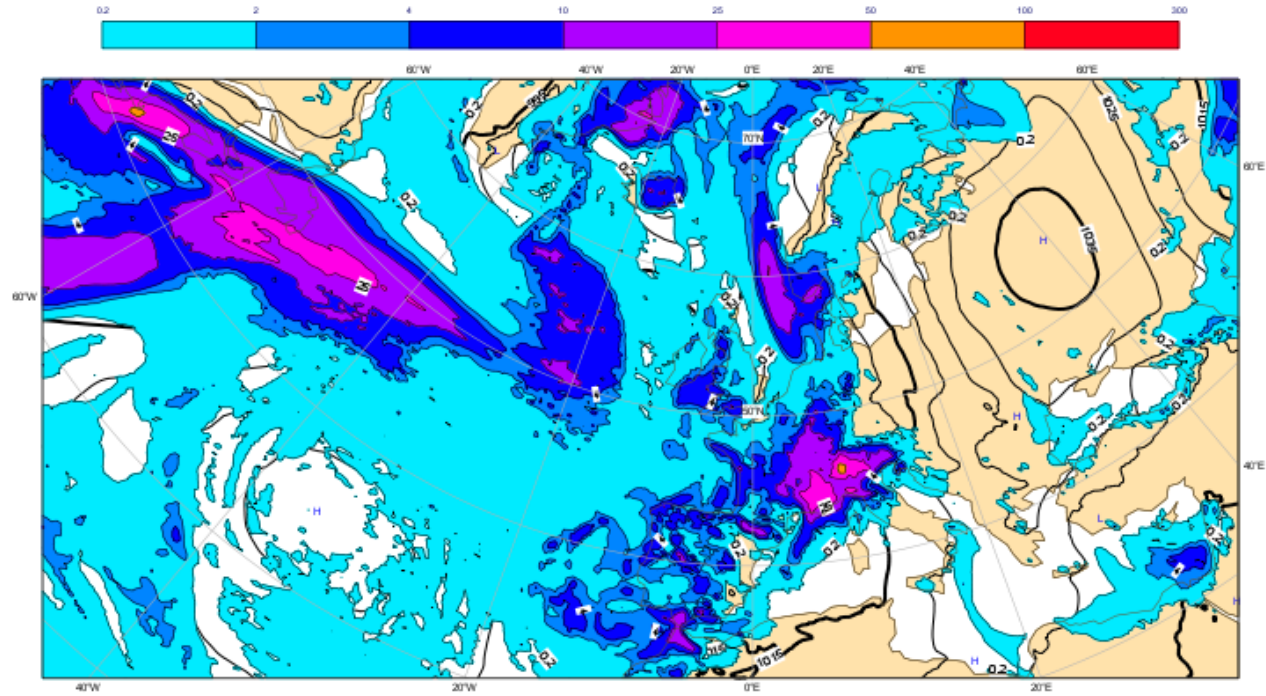
Thursday 27 October 2011 12UTC @ECMWF MSLP T+204 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



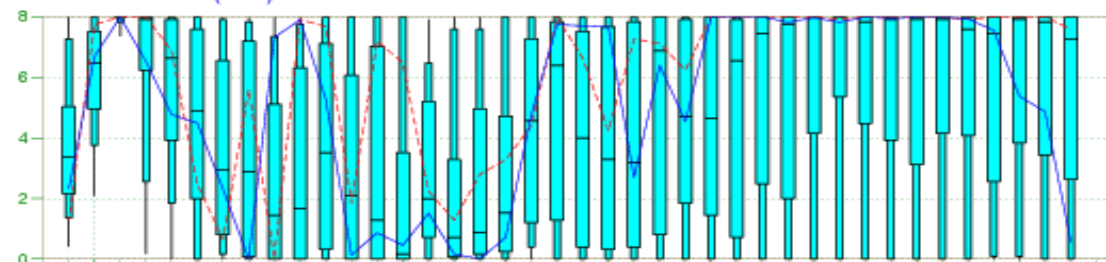
Thursday 27 October 2011 12 UTC ecmf-h216 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Thursday 27 October 2011 12 UTC ecmf-h216 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



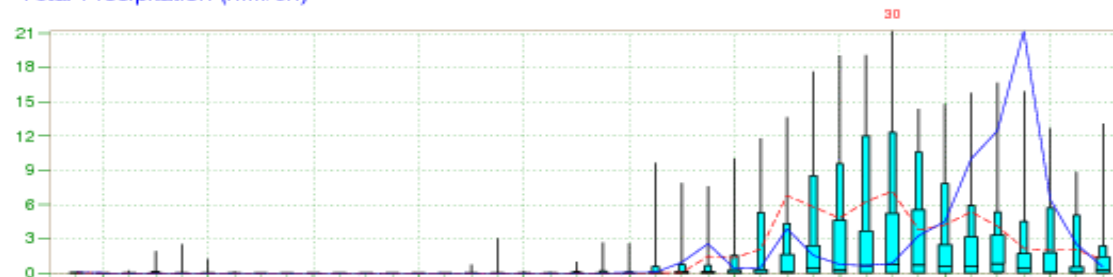
Thursday 27 October 2011 12 UTC ecmf-h222 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 27 October 2011 12 UTC ecmf-h216 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



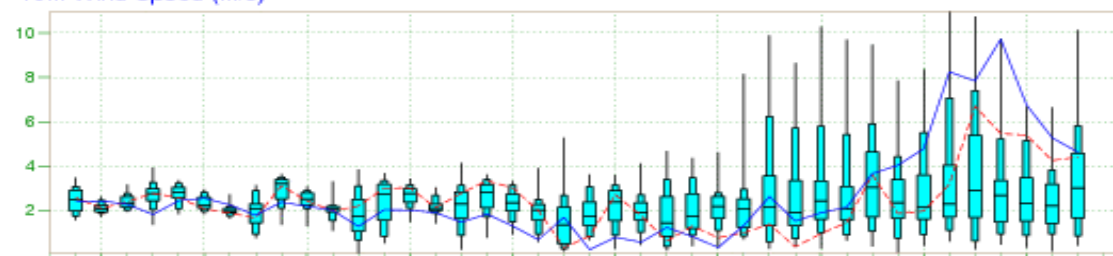
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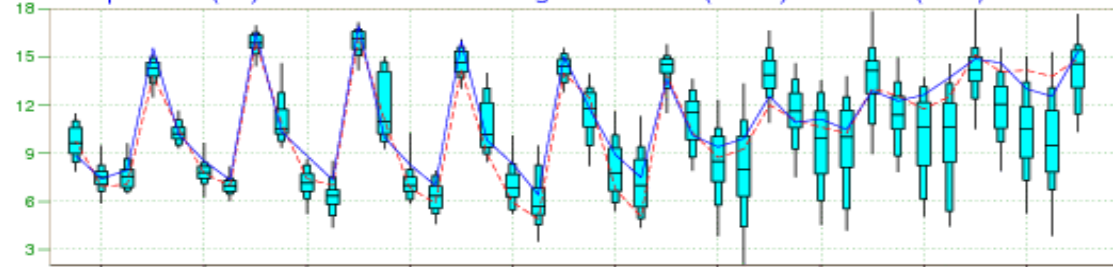
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



Thu27 Oct 2011    Fri28    Sat29    Sun30    Mon31    Tue1 Nov    Wed2    Thu3    Fri4    Sat5    Sun8



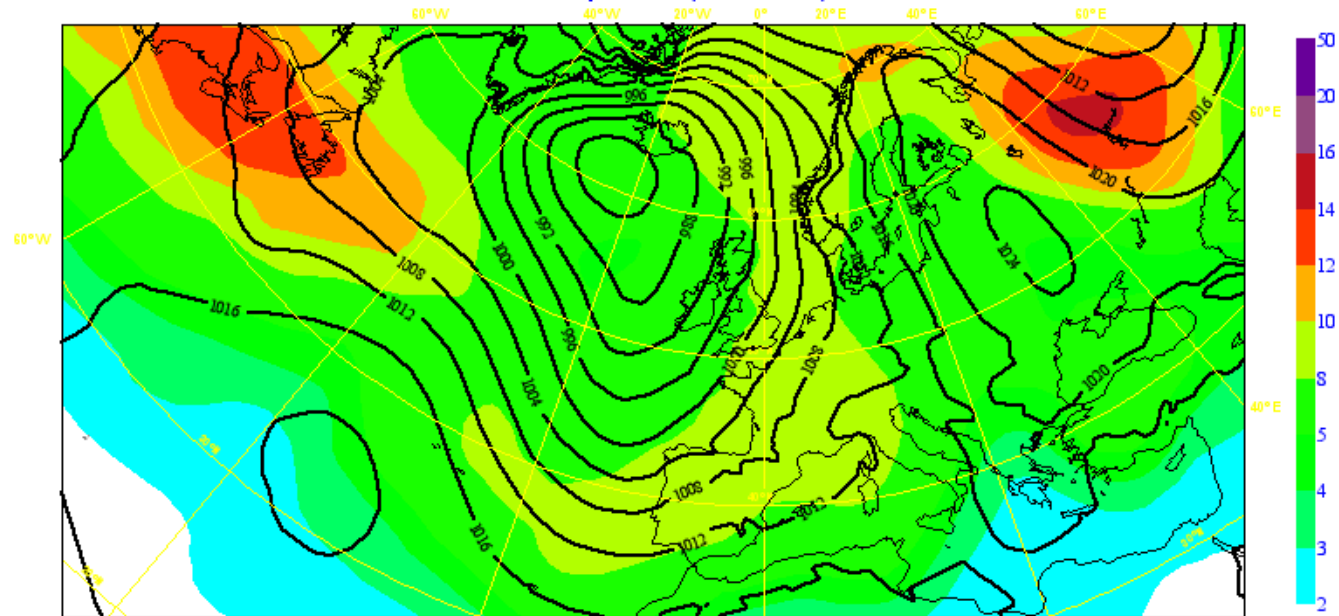
**2011-10-28 00UTC**

Friday 28 October 2011 00UTC ECMWF EPS Ensemble Mean Forecast t+180 VT: Friday 4 November 2011 12UTC

Surface: Mean sea level pressure (51 Members)

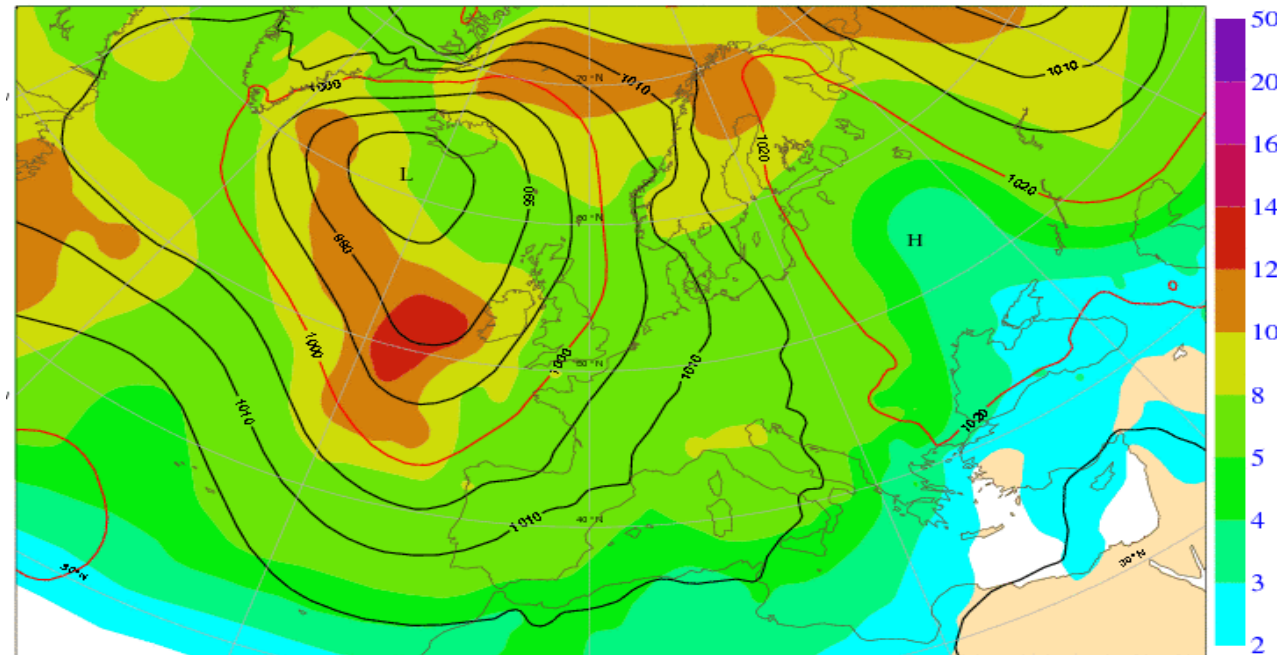
Friday 28 October 2011 00UTC ECMWF EPS Ensemble Std Dev t+180 VT: Friday 4 November 2011 12UTC

500hPa Geopotential (51 Members)

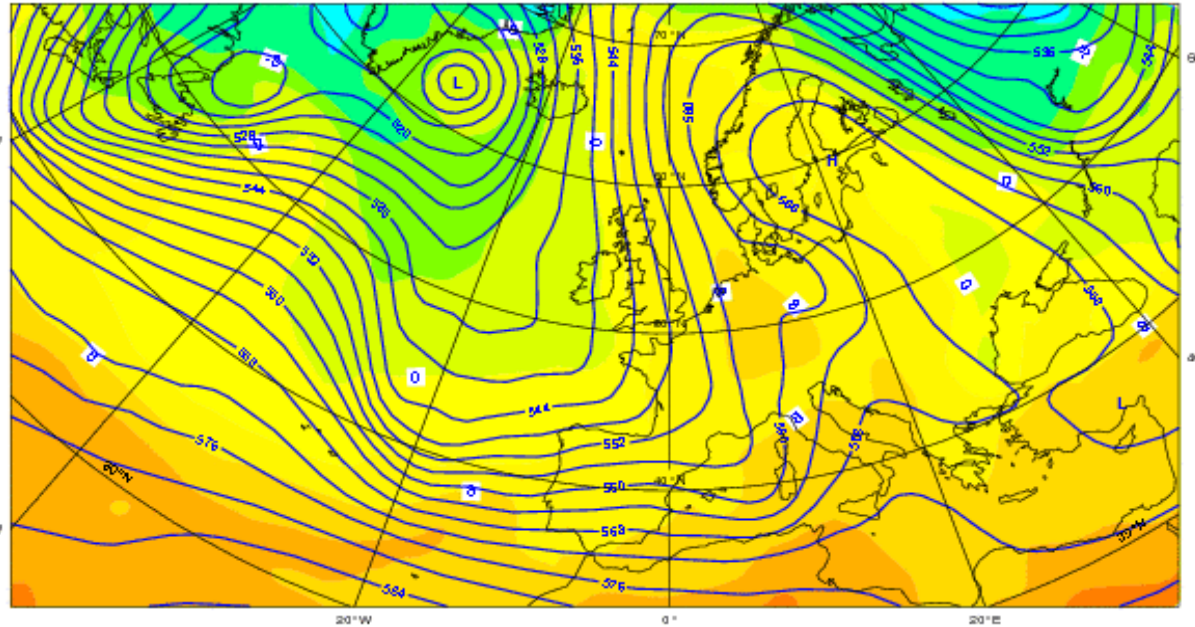


Friday 28 October 2011 00UTC ECMWF T+180 VT: Friday 4 November 2011 12UTC

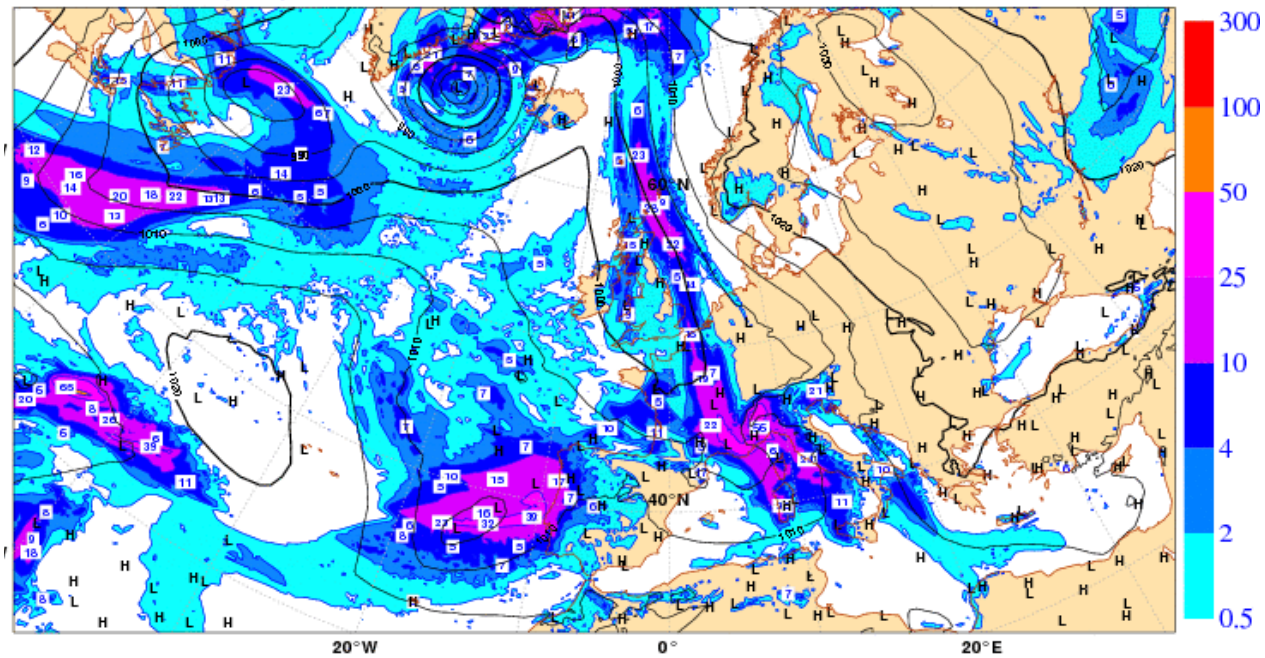
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Friday 28 October 2011 00UTC ECMWF Forecast t+180 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



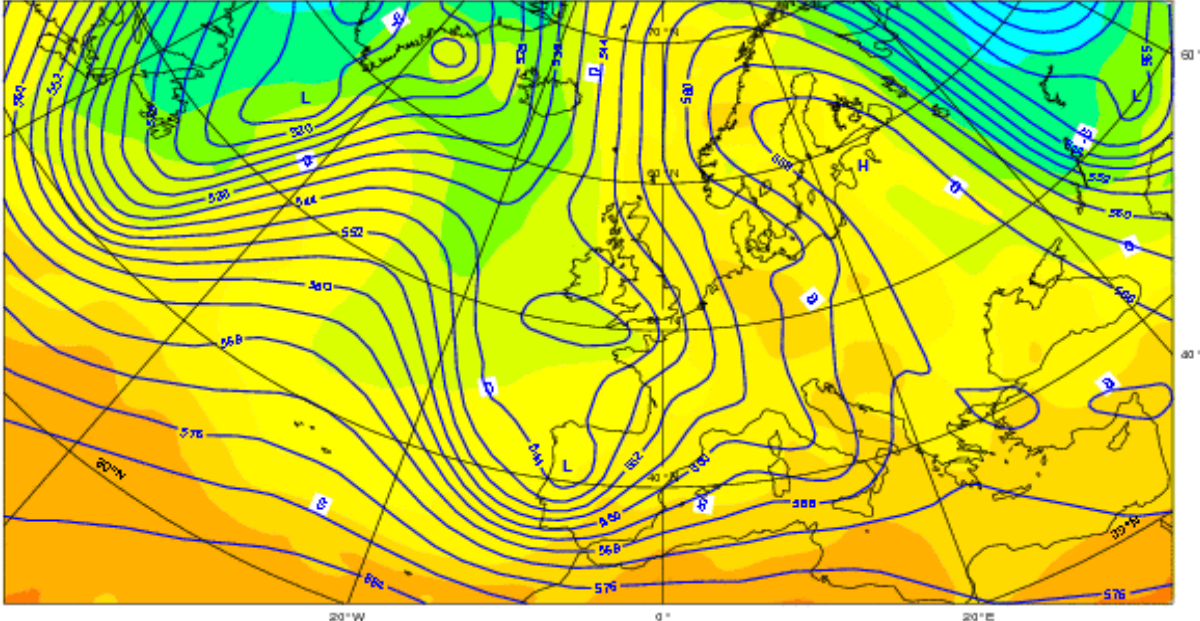
Friday 28 October 2011 00UTC @ECMWF MSLP T+180 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



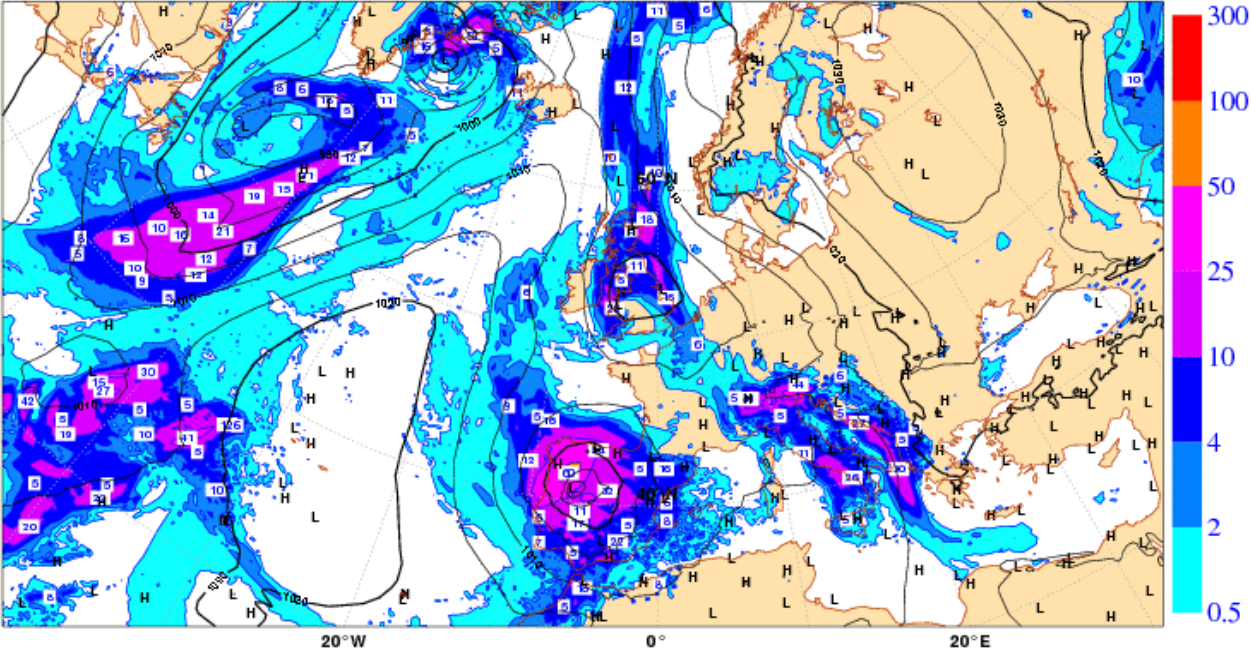


Friday 28 October 2011 00UTC ECMWF Forecast t+192 VT: Saturday 5 November 2011 00UTC

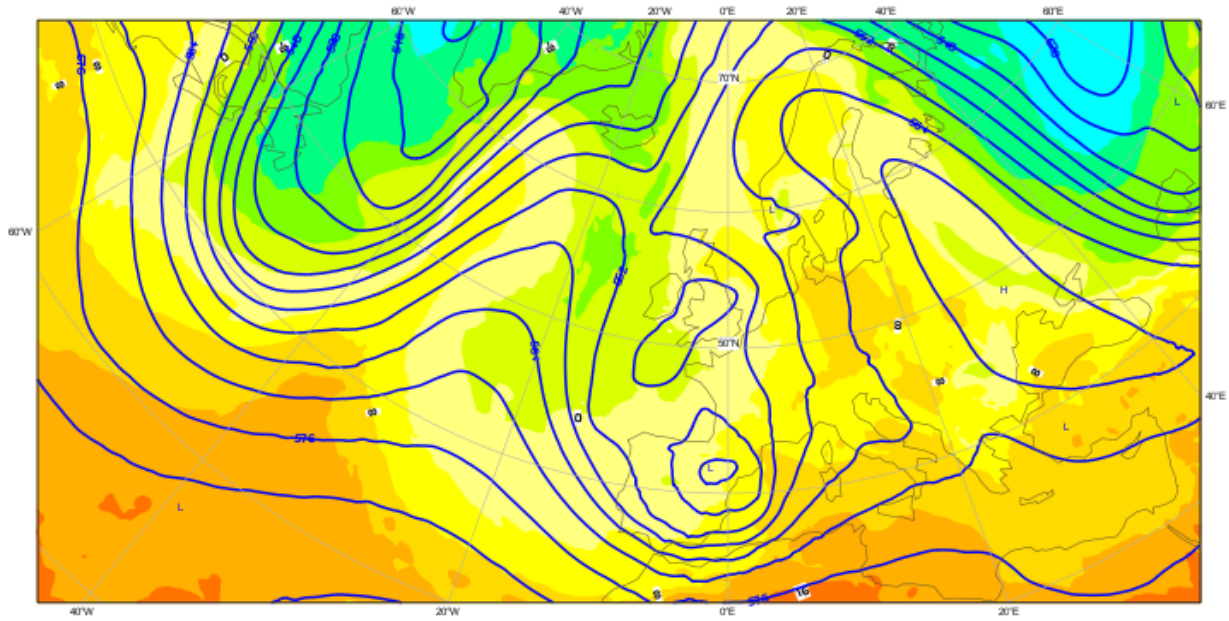
500 hPa Height / 850 hPa Temperature



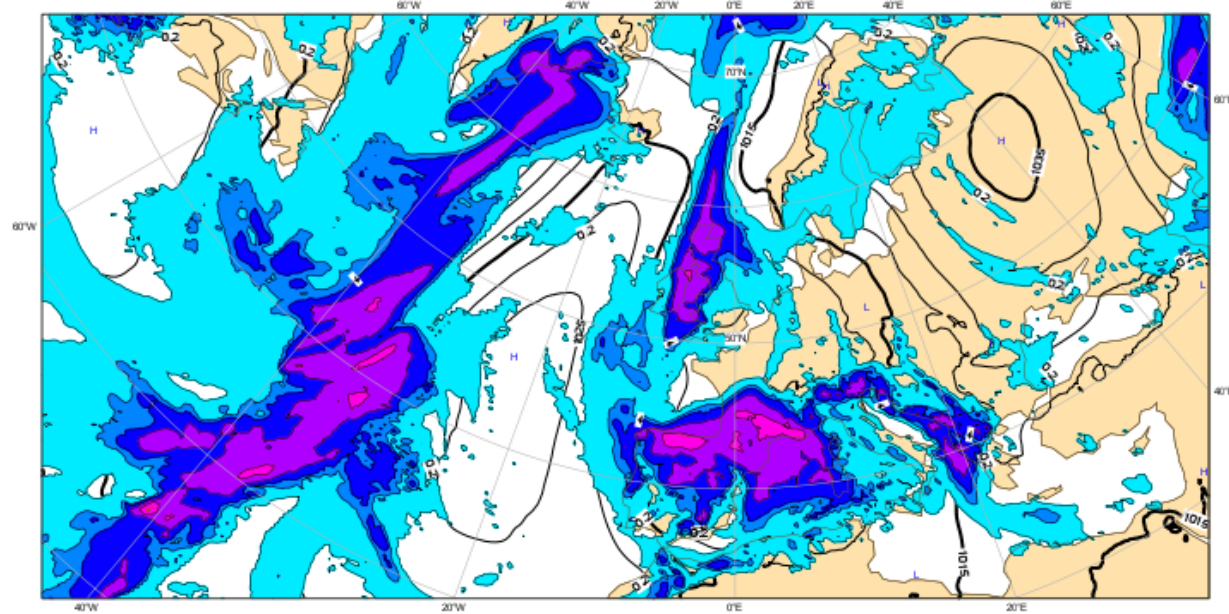
Friday 28 October 2011 00UTC @ECMWF MSLP T+192 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



Friday 28 October 2011 00 UTC ecmf-h204-VT/Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Friday 28 October 2011 00 UTC ecmf-h204-VT/Saturday 05 November 2011 12 UTC 850 hPa Temperature

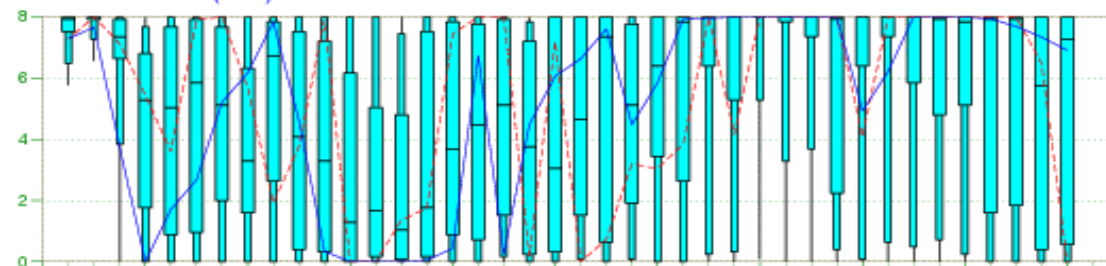


Friday 28 October 2011 00 UTC ecmf-h210-VT/Saturday 05 November 2011 18 UTC surface Total precipitation  
Friday 28 October 2011 00 UTC ecmf-h204-VT/Saturday 05 November 2011 12 UTC surface Mean sea level pressure

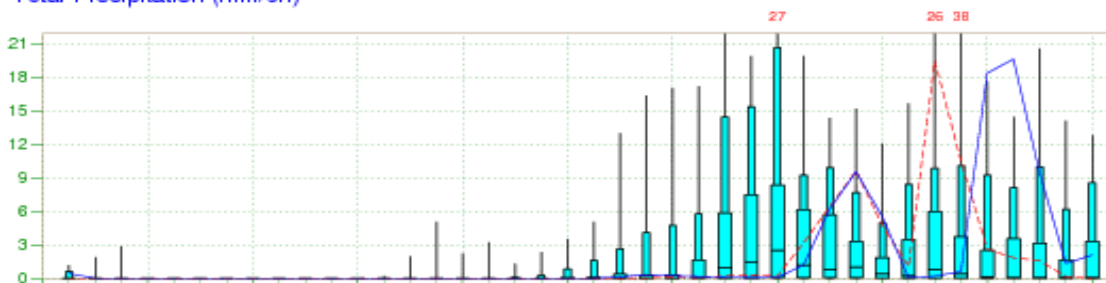




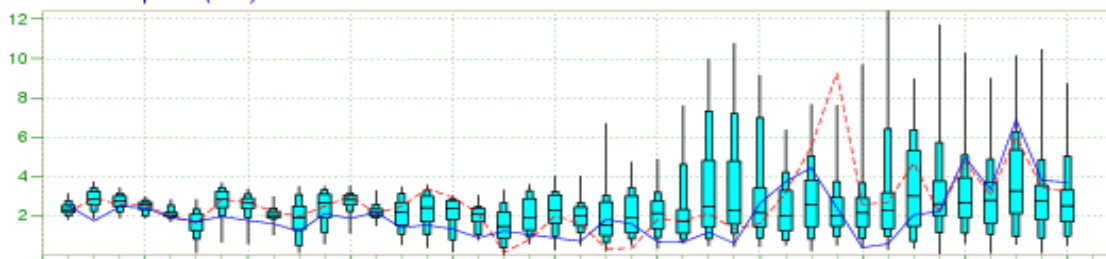
EPS Meteogram  
 Genoa 44.54°N 9° E (EPS land point) 533 m (T1279)  
 Deterministic Forecast and EPS Distribution Friday 28 October 2011 00 UTC  
 Total Cloud Cover (okta)



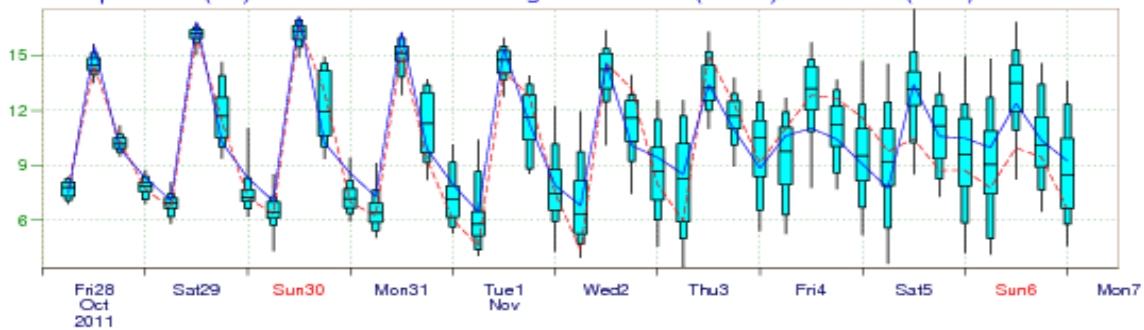
Total Precipitation (mm/6h)

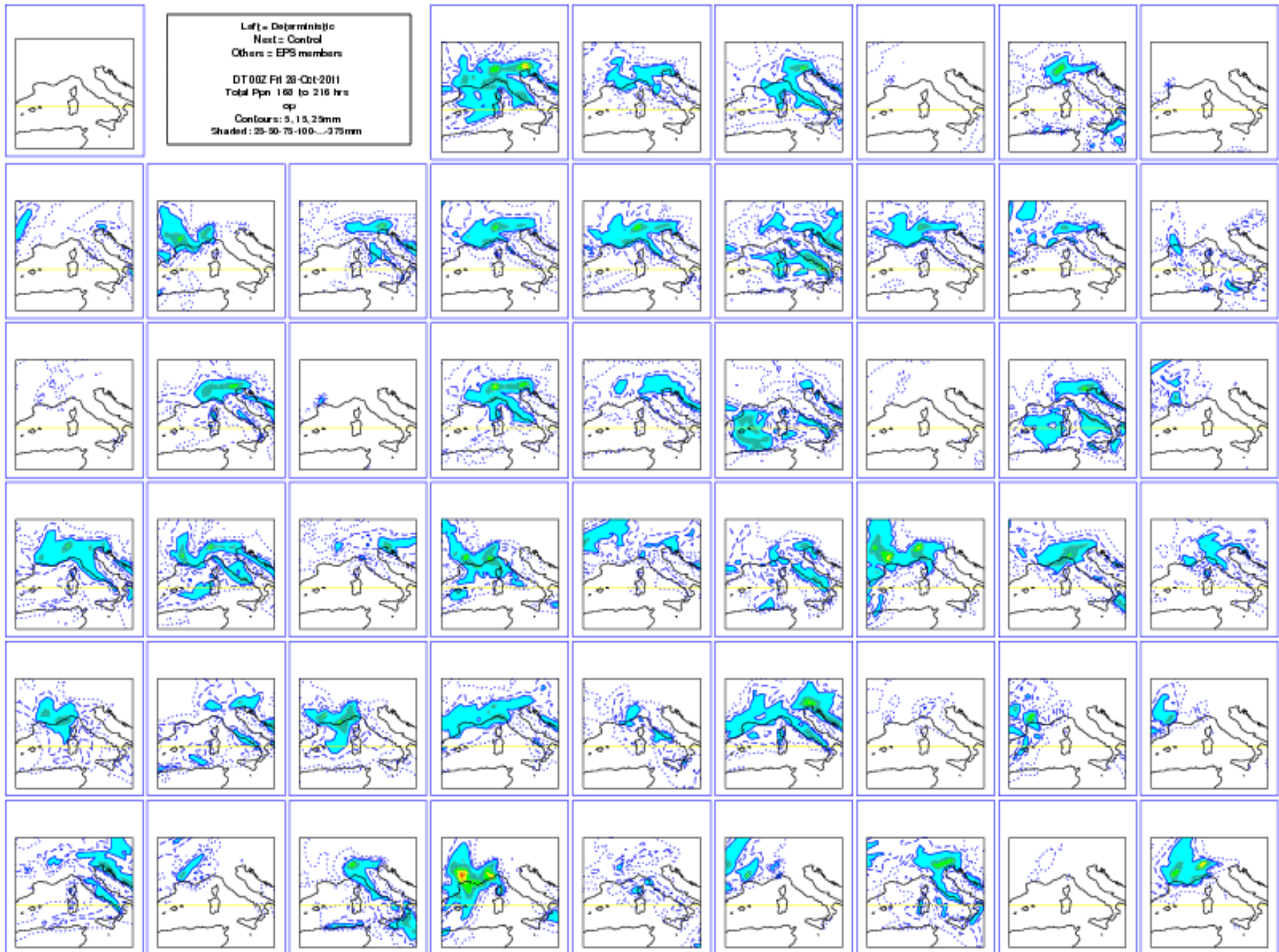


10m Wind Speed (m/s)



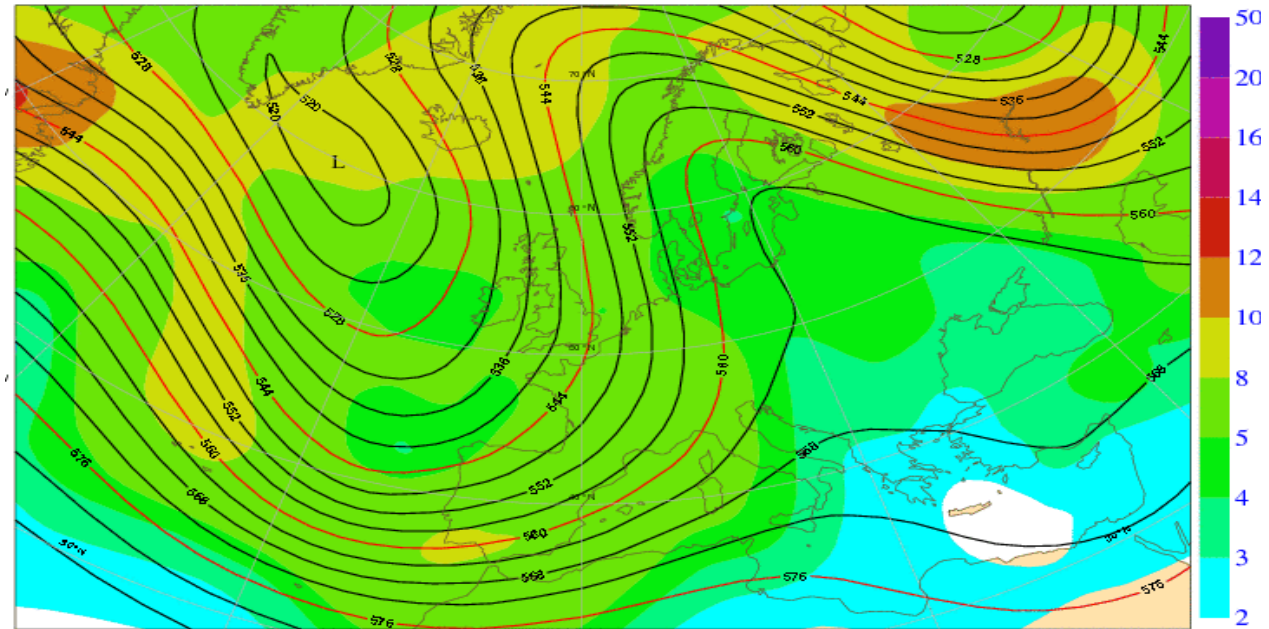
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



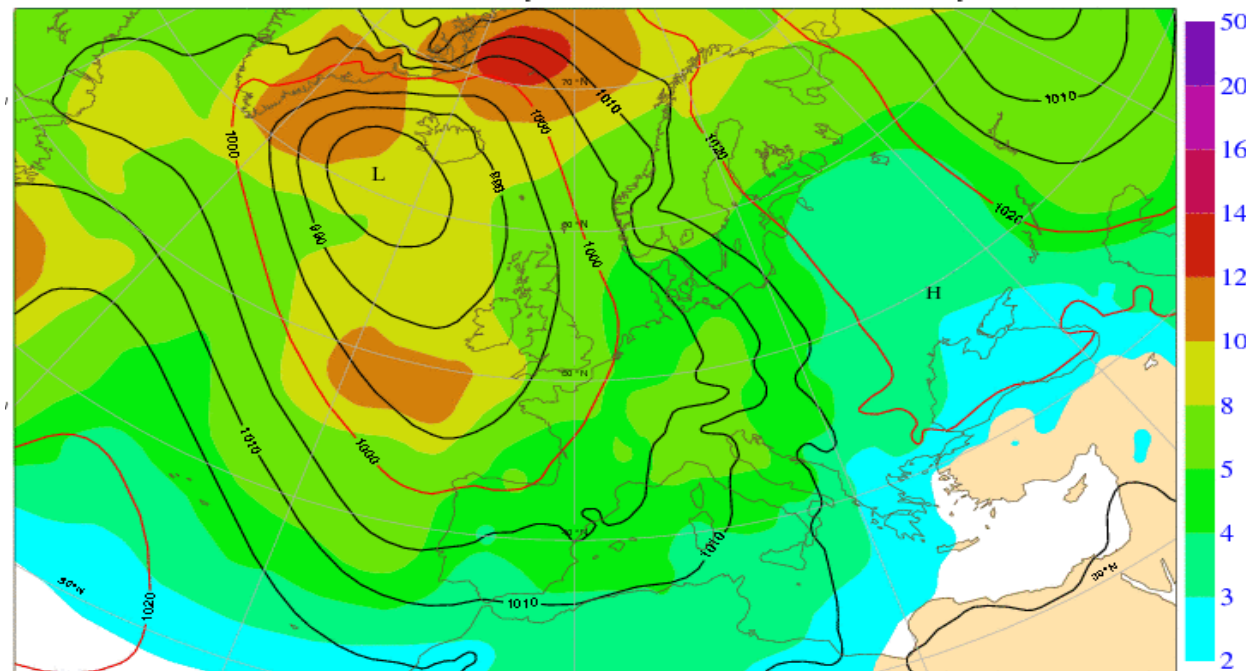


**2011-10-28 12UTC**

Friday 28 October 2011 12UTC ECMWF T+168 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread

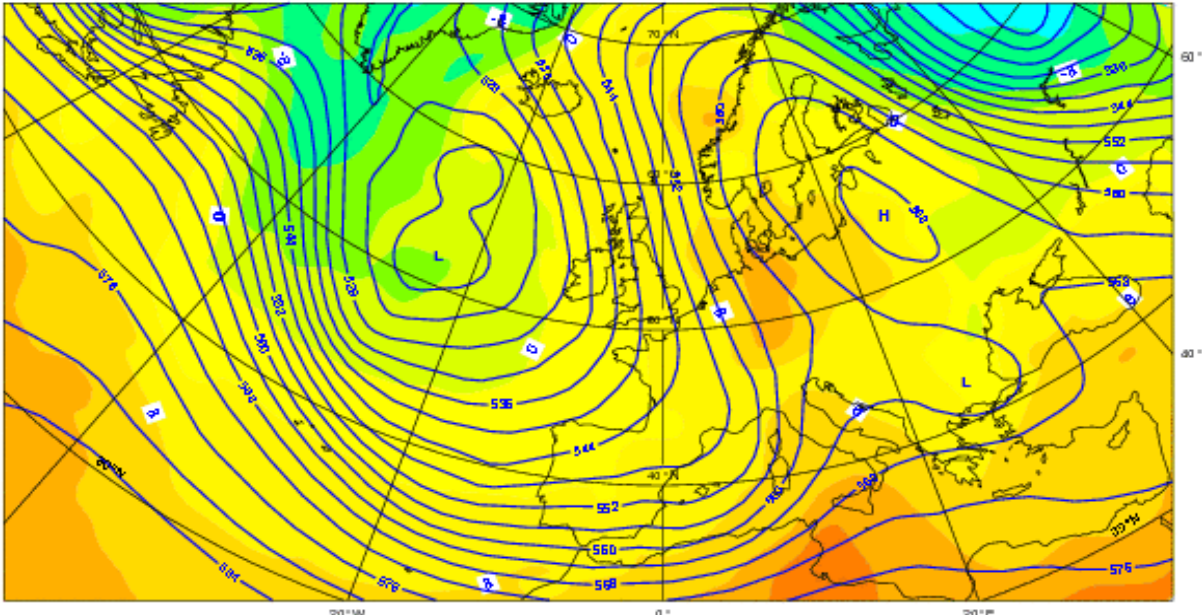


Friday 28 October 2011 12UTC ECMWF T+168 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread

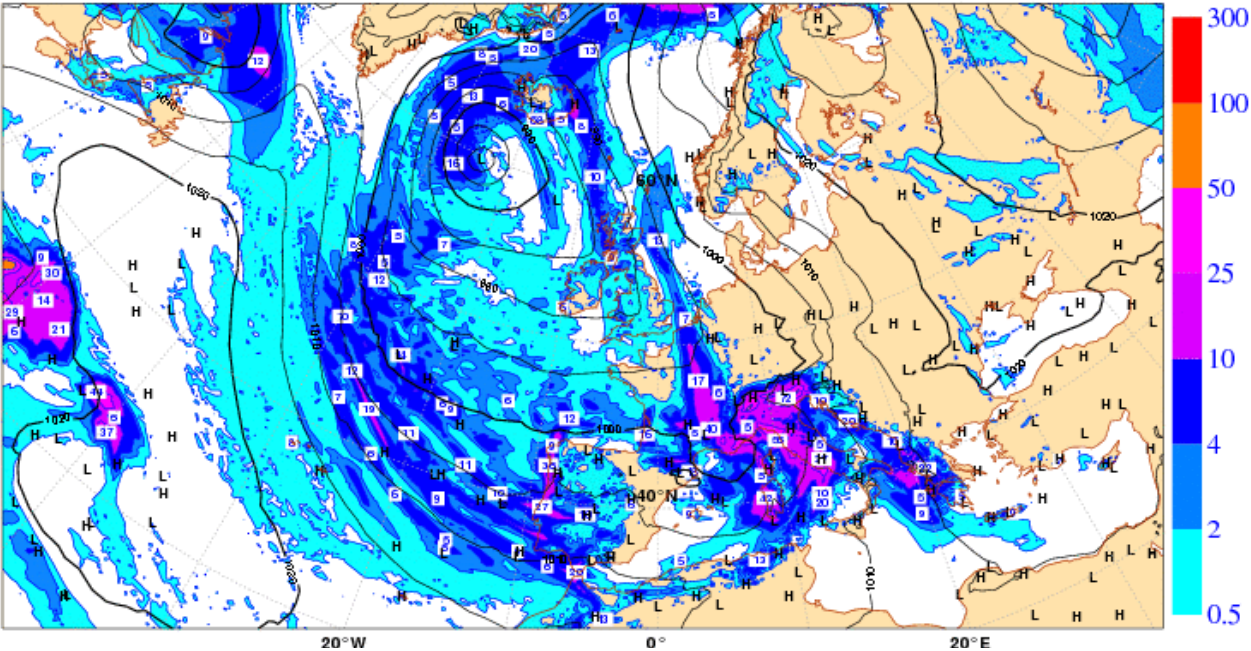




Friday 28 October 2011 12UTC ECMWF Forecast t+168 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature

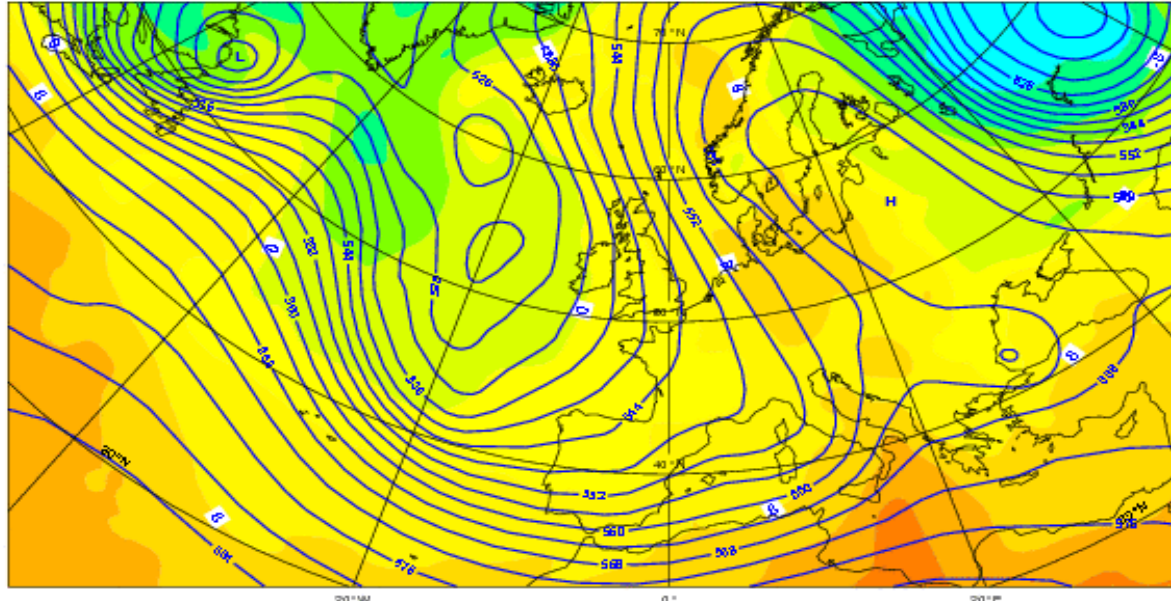


Friday 28 October 2011 12UTC @ECMWF MSLP T+168 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

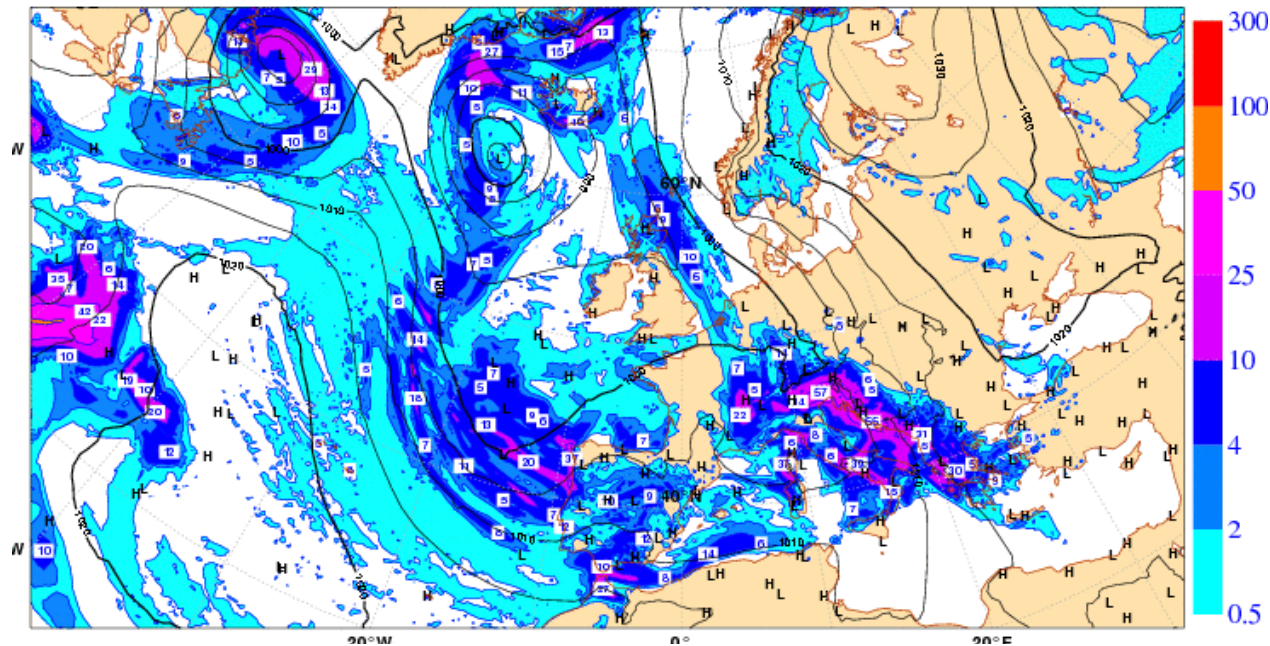




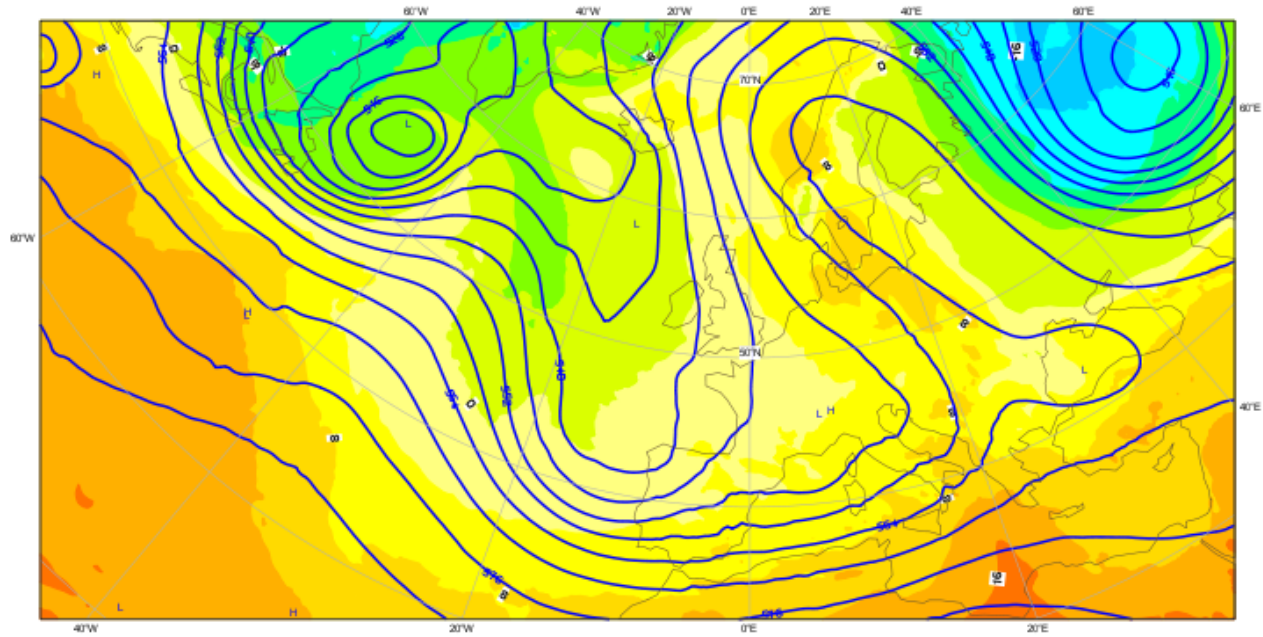
Friday 28 October 2011 12UTC ECMWF Forecast t+180 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



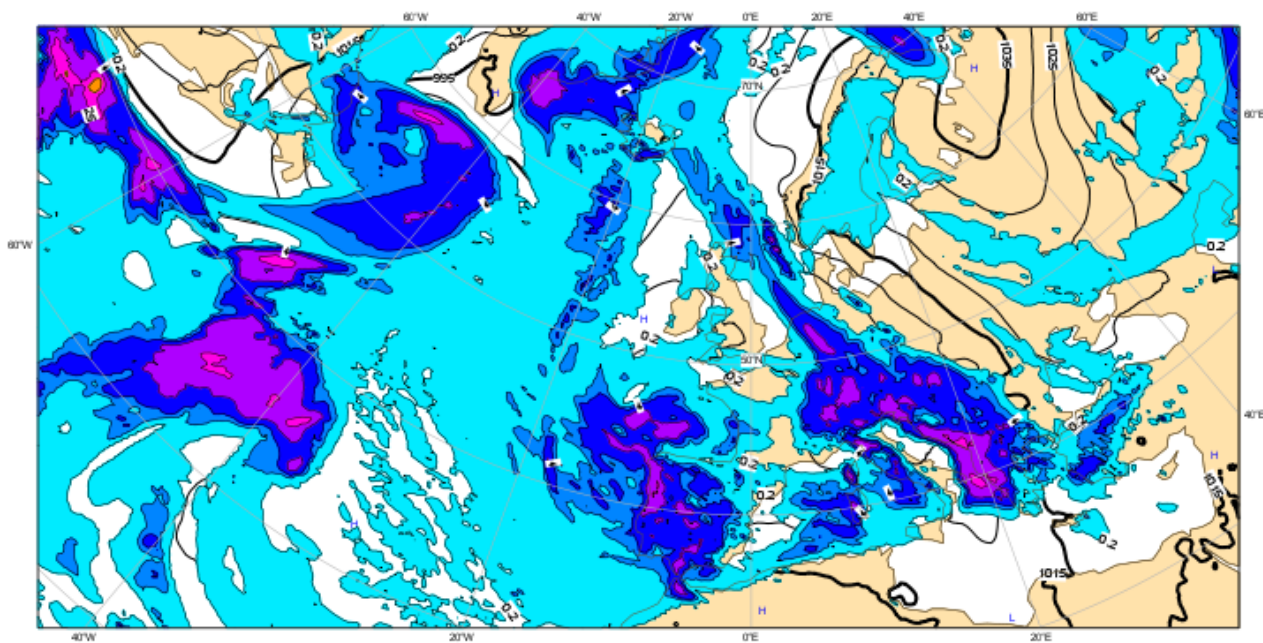
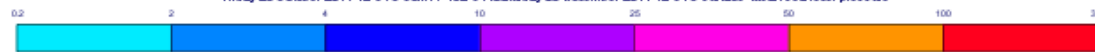
Friday 28 October 2011 12UTC @ECMWF MSLP T+180 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



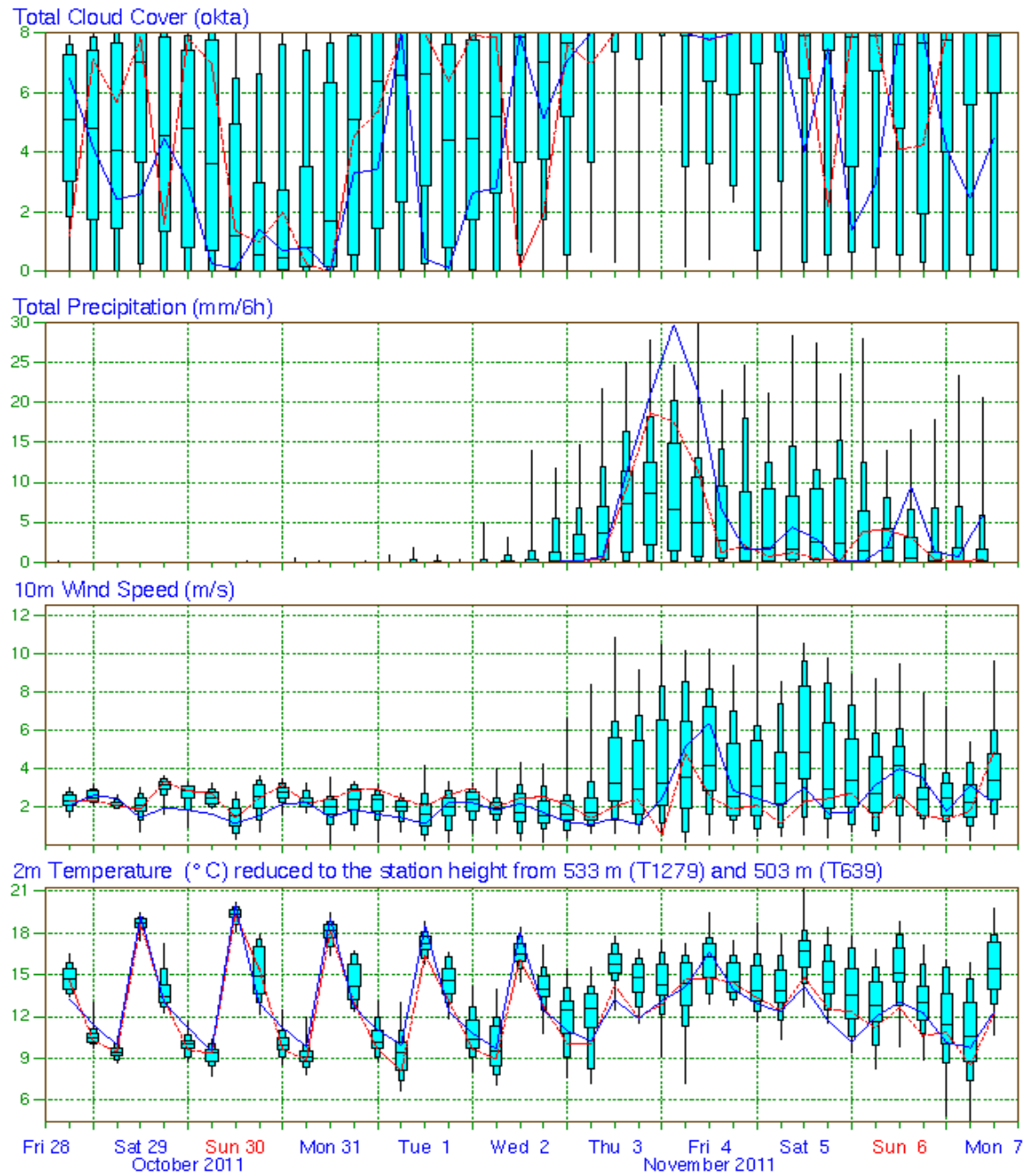
Friday 28 October 2011 12 UTC ecmf h 192 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Friday 28 October 2011 12 UTC ecmf h 192 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



Friday 28 October 2011 12 UTC ecmf h 198 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Friday 28 October 2011 12 UTC ecmf h 192 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



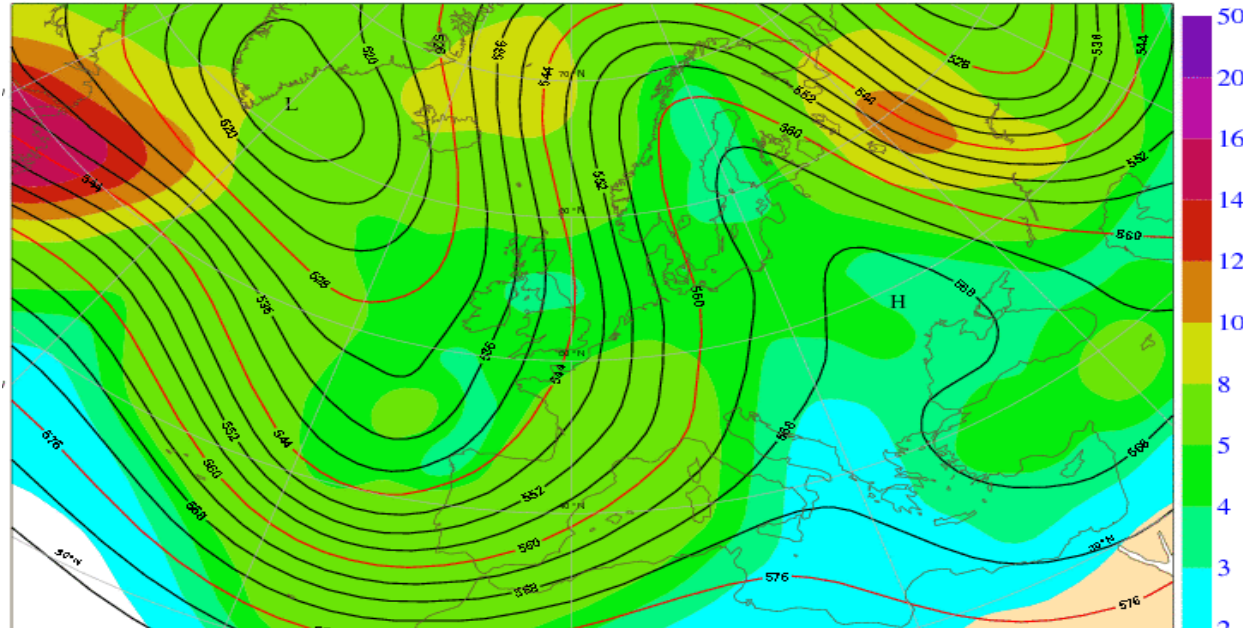
EPS Meteogram  
 Genoa 44.54° N 9° E (EPS land point) 37 m  
 Deterministic Forecast and EPS Distribution Friday 28 October 2011 12 UTC



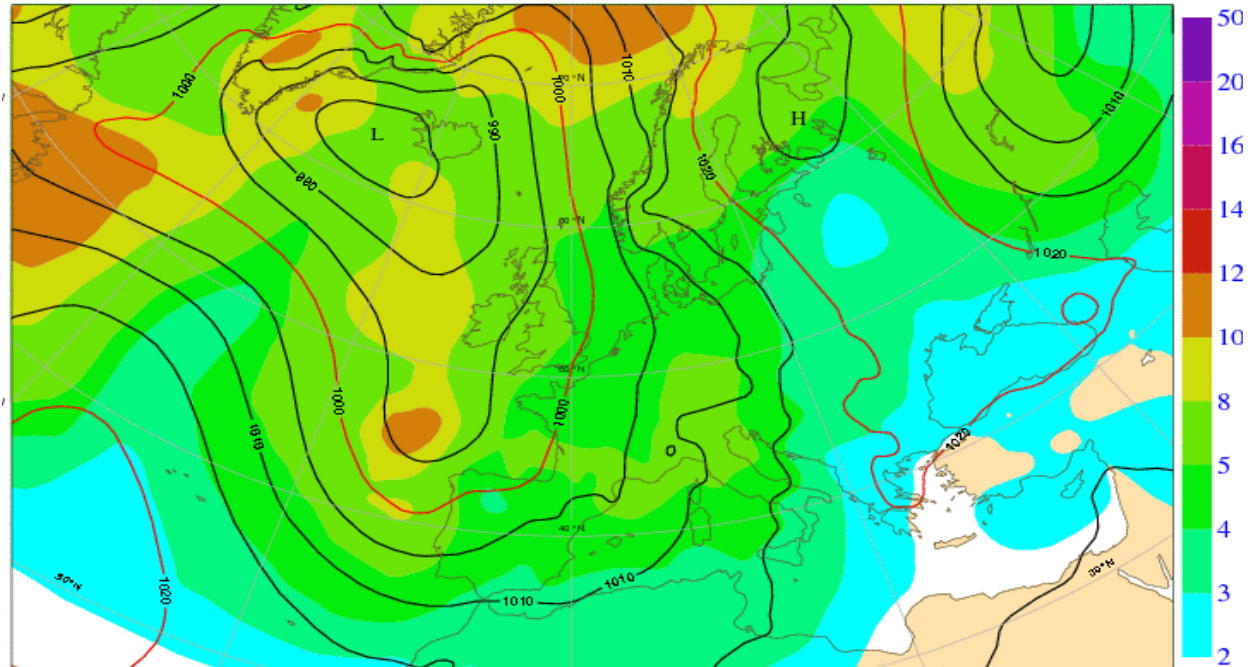
**2011-10-29 00UTC**



Saturday 29 October 2011 00UTC ECMWF T+156 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread

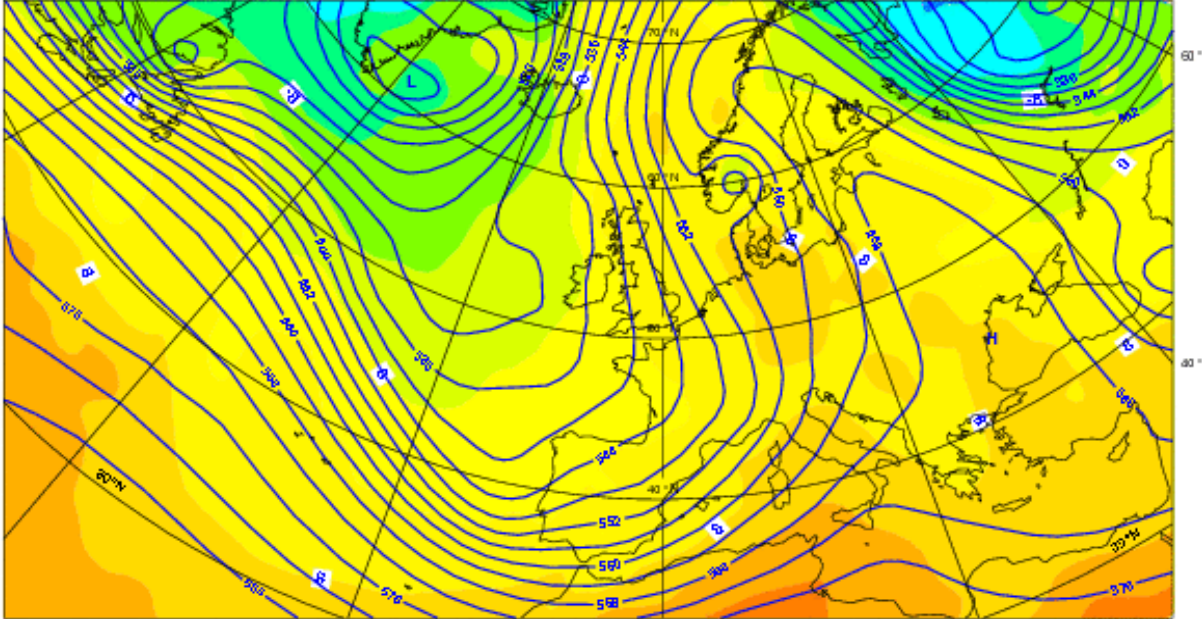


Saturday 29 October 2011 00UTC ECMWF T+156 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread

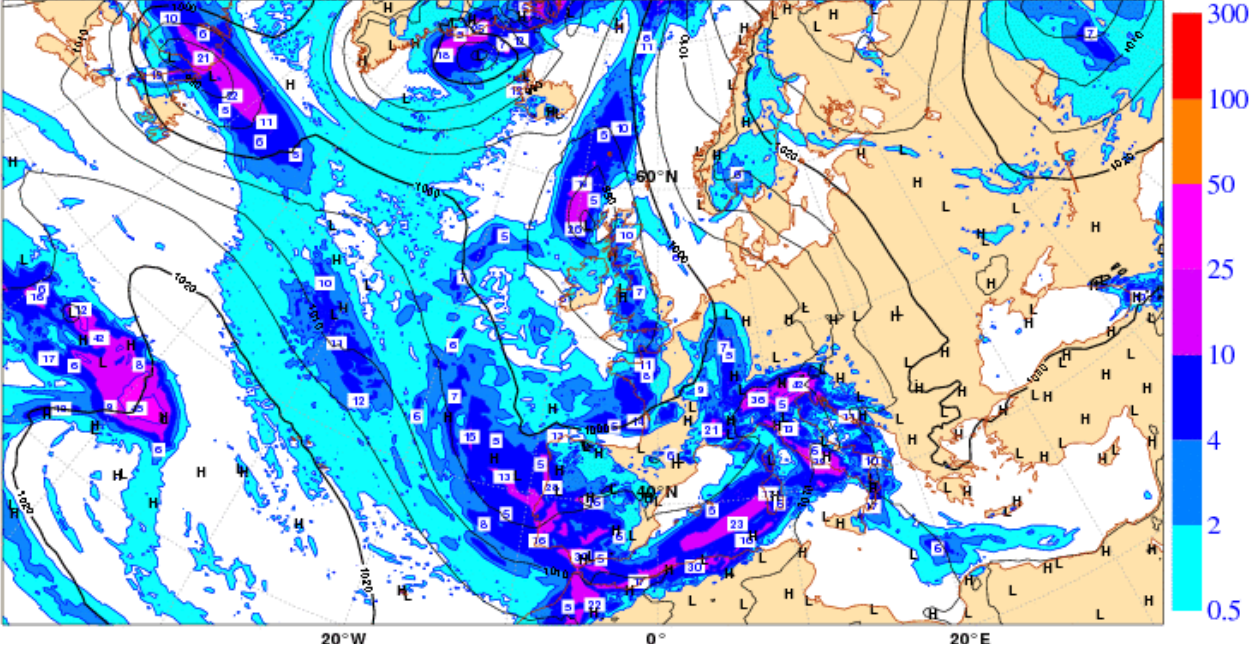




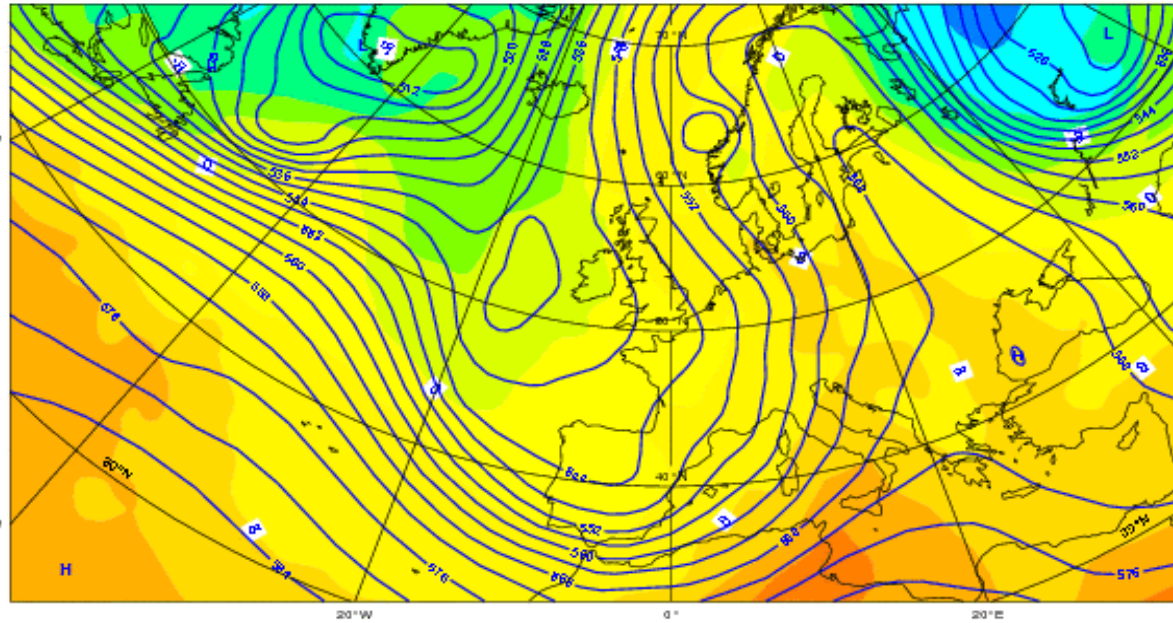
Saturday 29 October 2011 00UTC ECMWF Forecast t+156 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



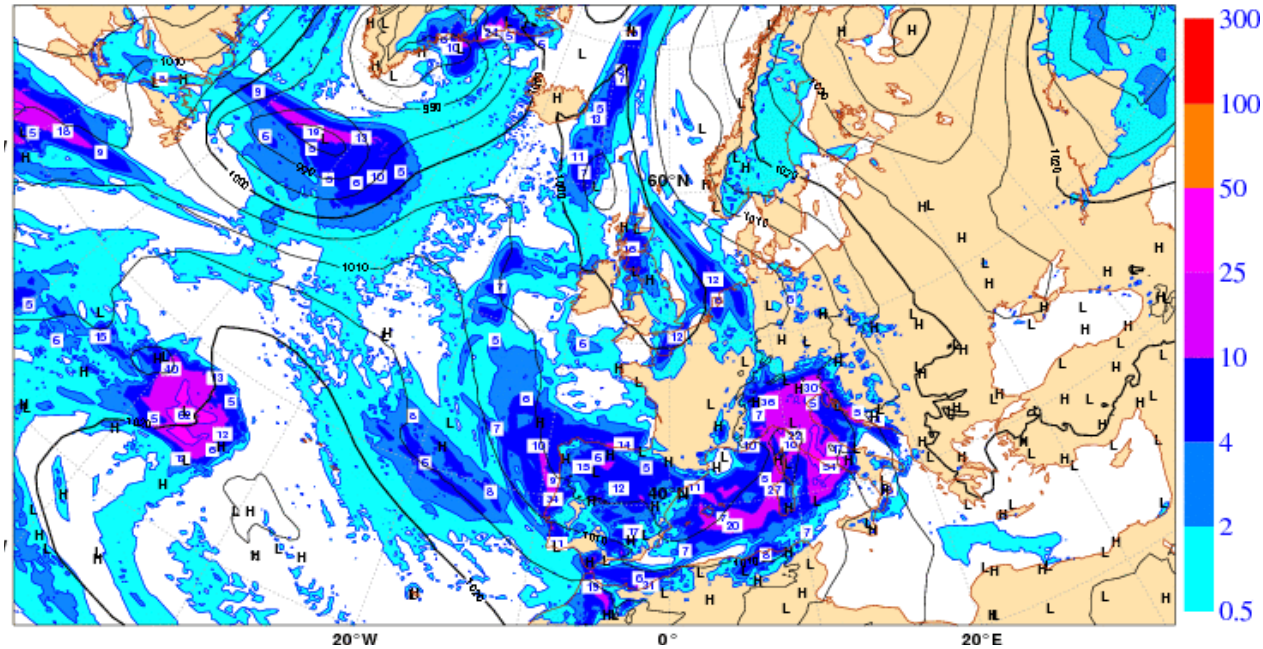
Saturday 29 October 2011 00UTC @ECMWF MSLP T+156 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



Saturday 29 October 2011 00UTC ECMWF Forecast t+168 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature

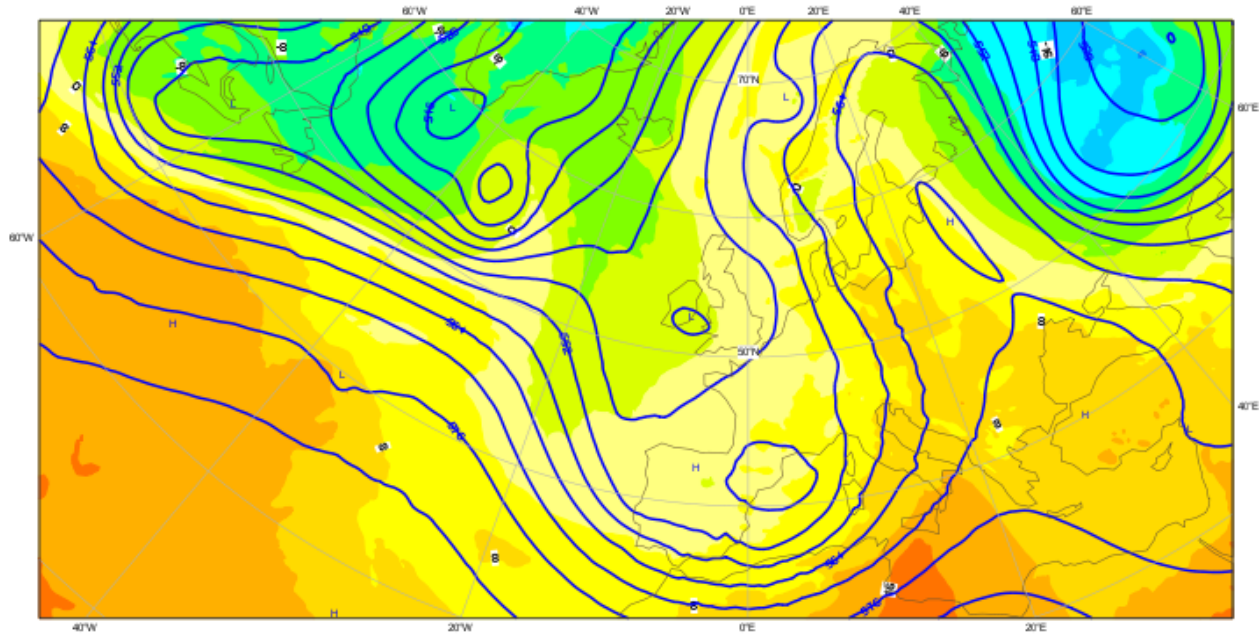


Saturday 29 October 2011 00UTC @ECMWF MSLP T+168 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

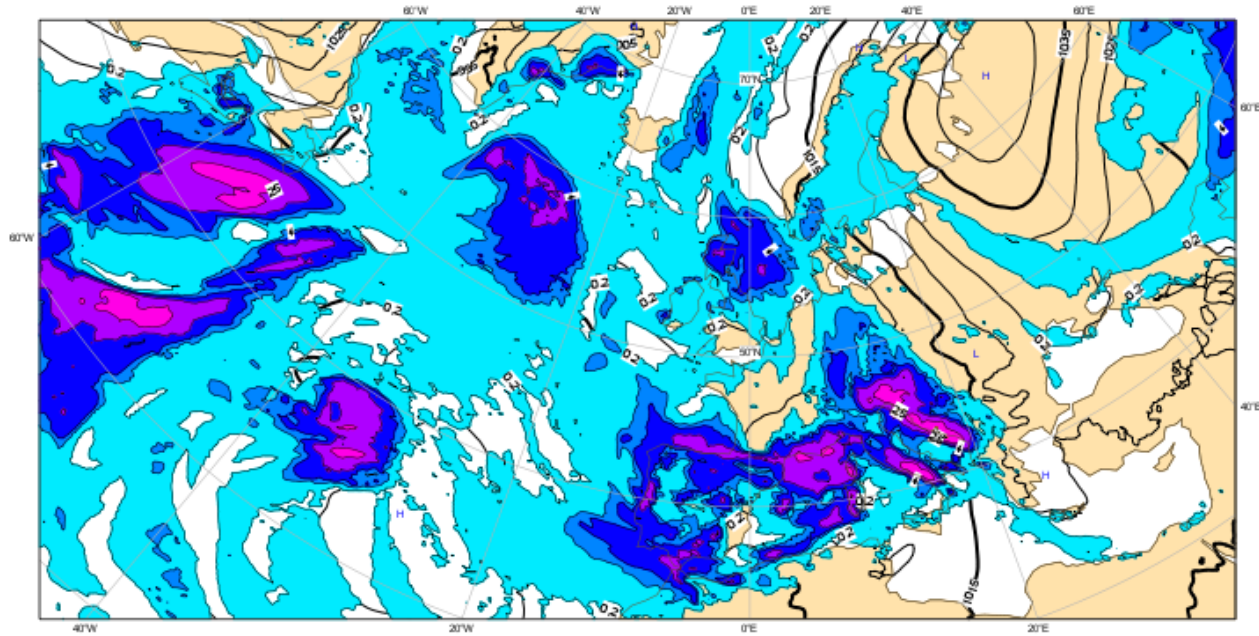
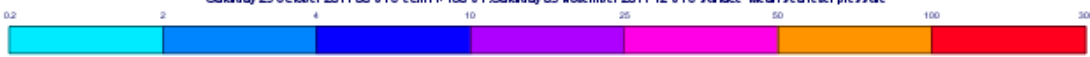




Saturday 29 October 2011 00 UTC ecm1-r 180 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Saturday 29 October 2011 00 UTC ecm1-r 180 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature

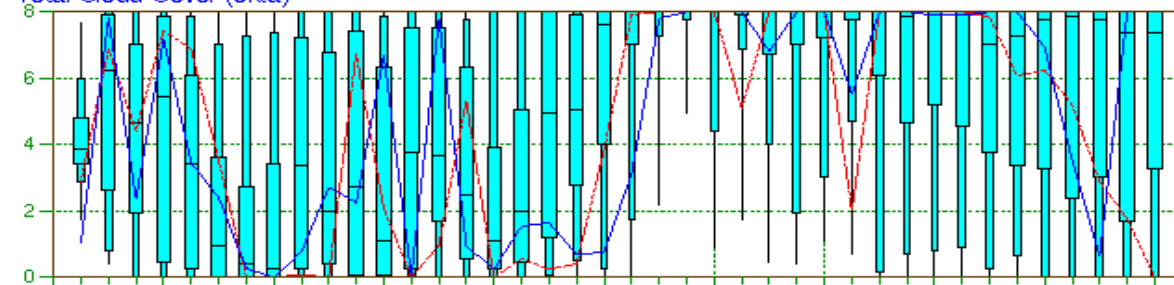


Saturday 29 October 2011 00 UTC ecm1-r 180 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Saturday 29 October 2011 00 UTC ecm1-r 180 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

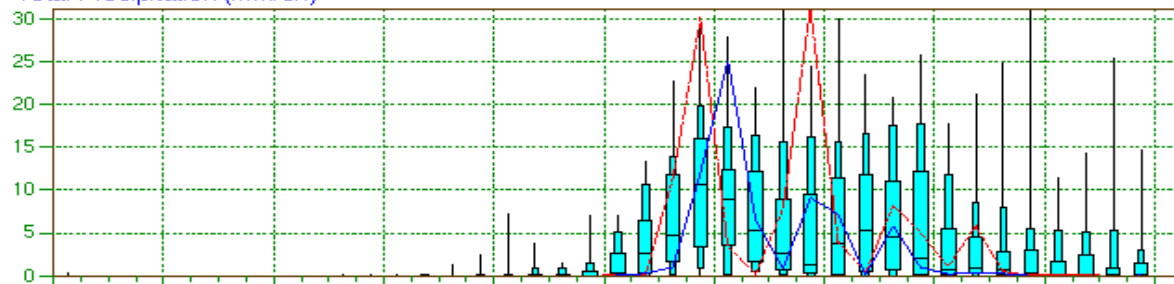


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Saturday 29 October 2011 00 UTC

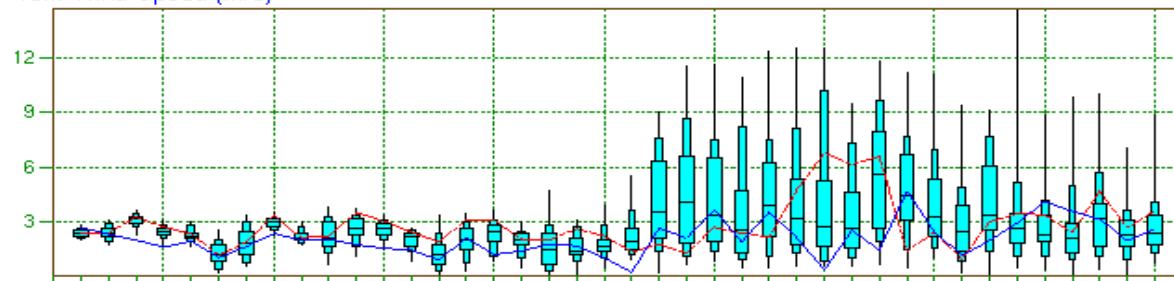
Total Cloud Cover (okta)



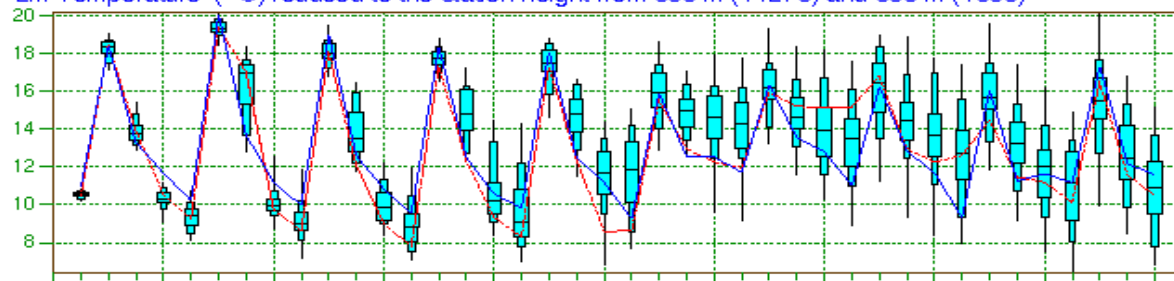
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)

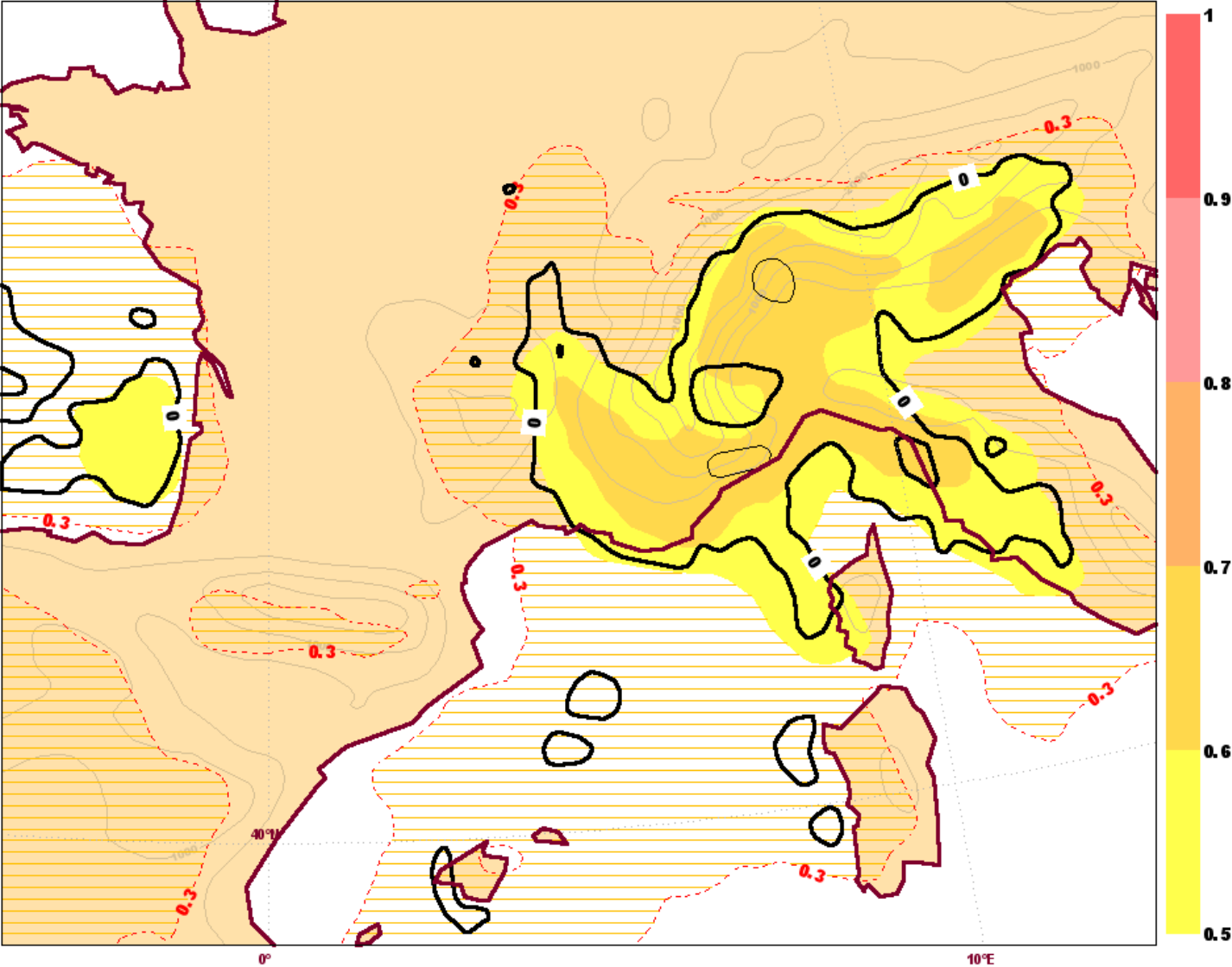


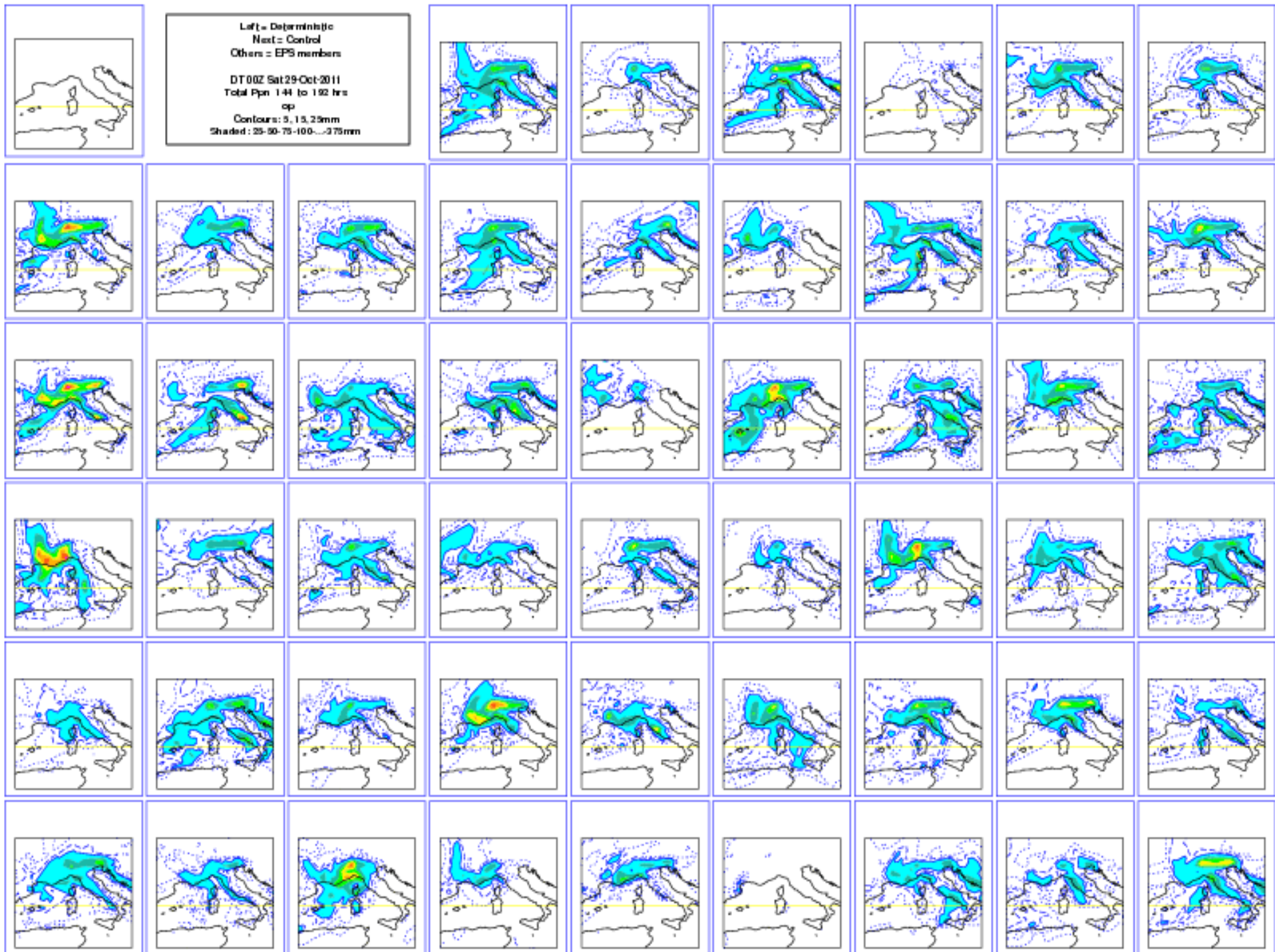
Sat 29    Sun 30    Mon 31    Tue 1    Wed 2    Thu 3    Fri 4    Sat 5    Sun 6    Mon 7  
October 2011    November 2011



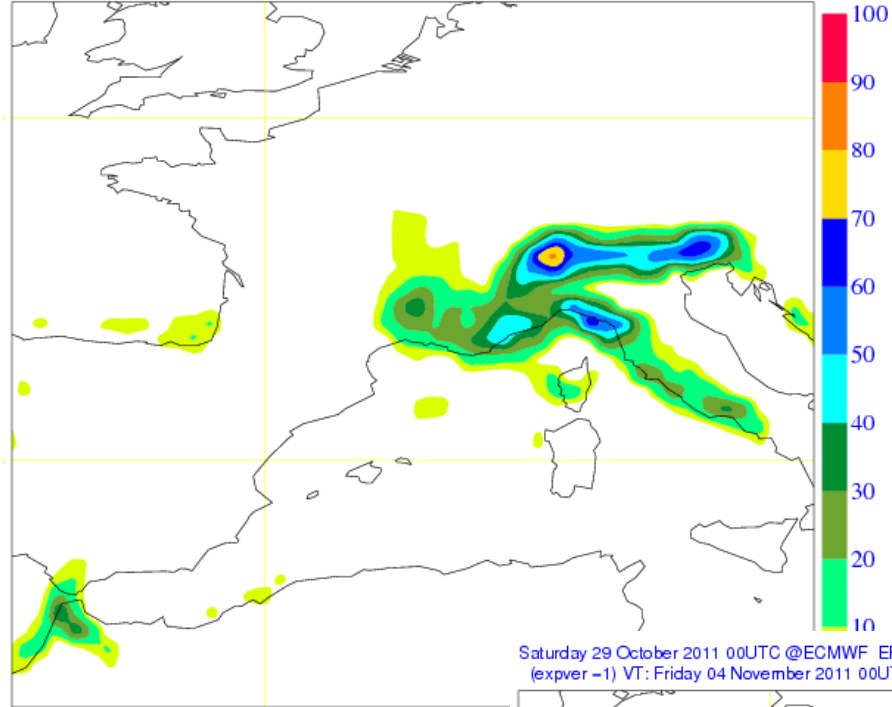
# EFI & SOT Forecast from 29.10.2011/00UTC

Saturday 29 October 2011 00UTC @ECMWF VT: Friday 04 November 2011 00UTC - Monday 07 November 2011 00UTC 144-216h  
Extreme forecast index and Shift of Tails (black contours) for: total precipitation

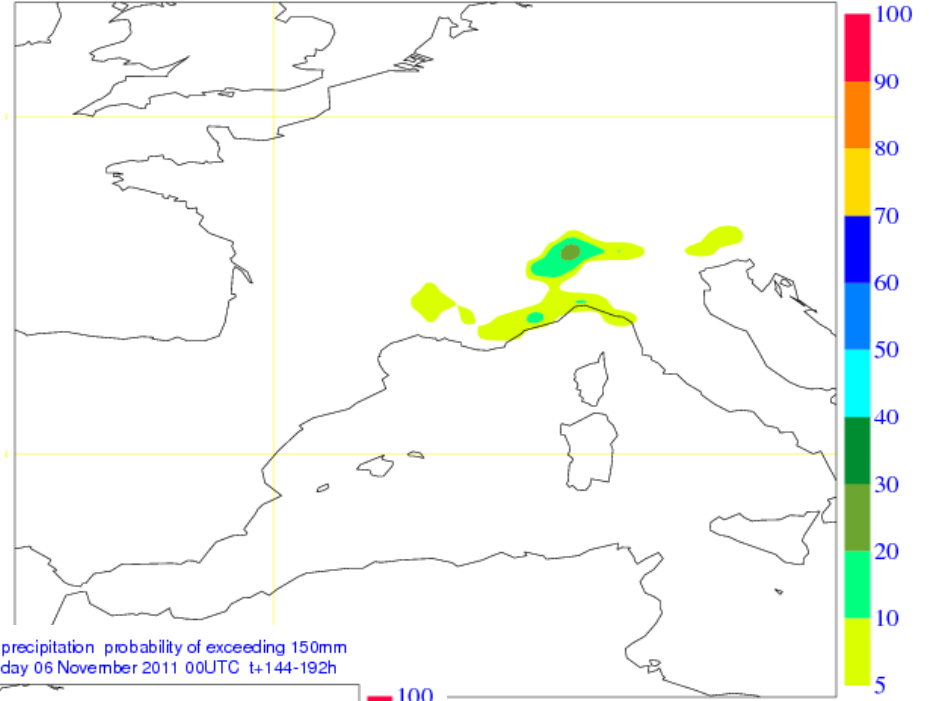




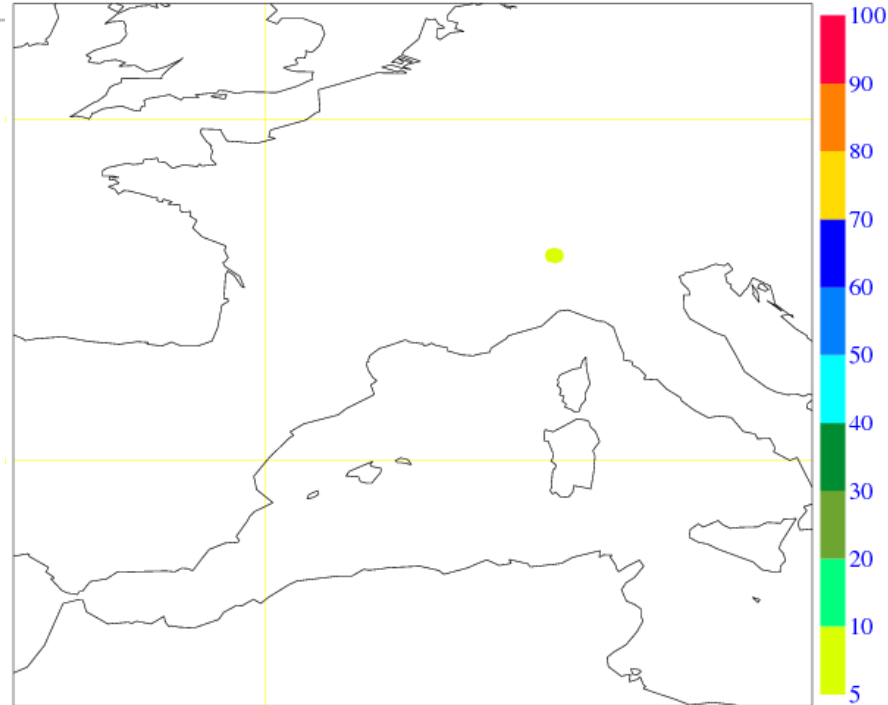
Saturday 29 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 50mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+144-192h



Saturday 29 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 100mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+144-192h



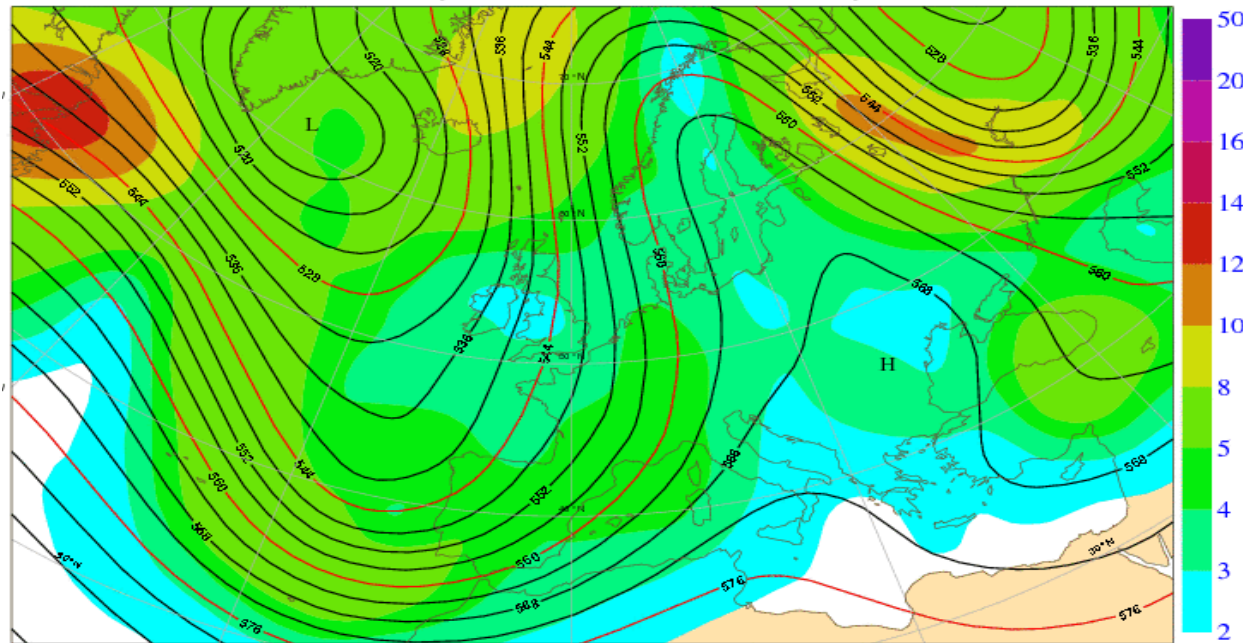
Saturday 29 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 150mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+144-192h



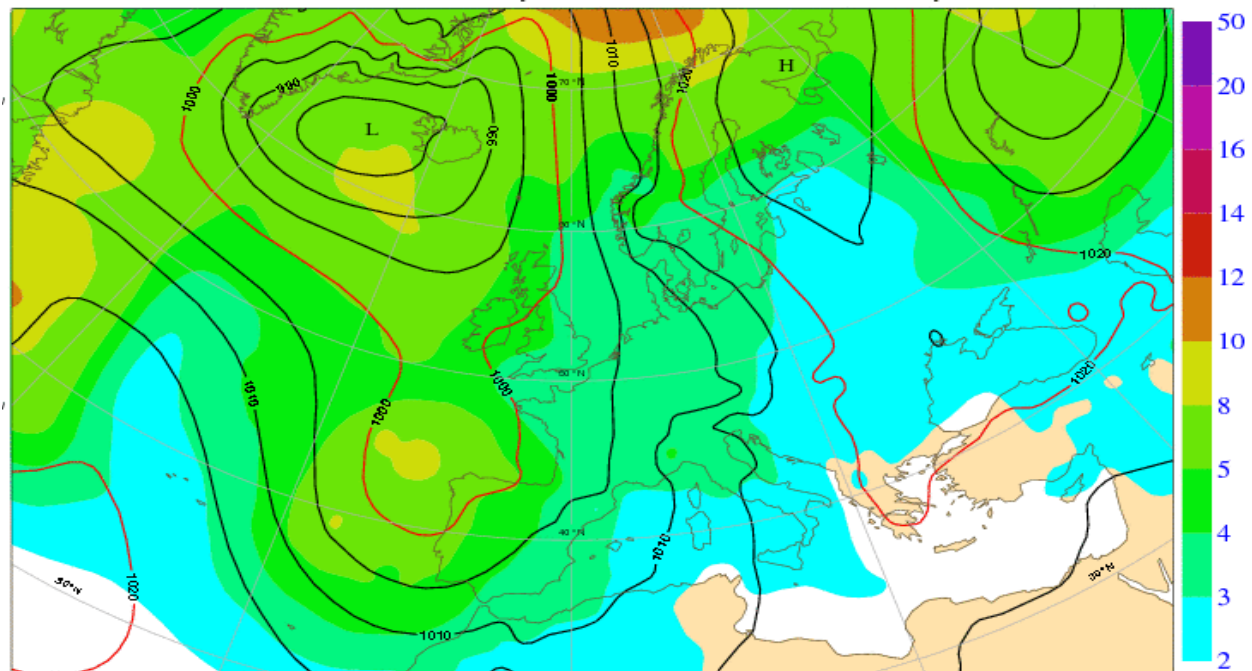
**2011-10-29 12UTC**



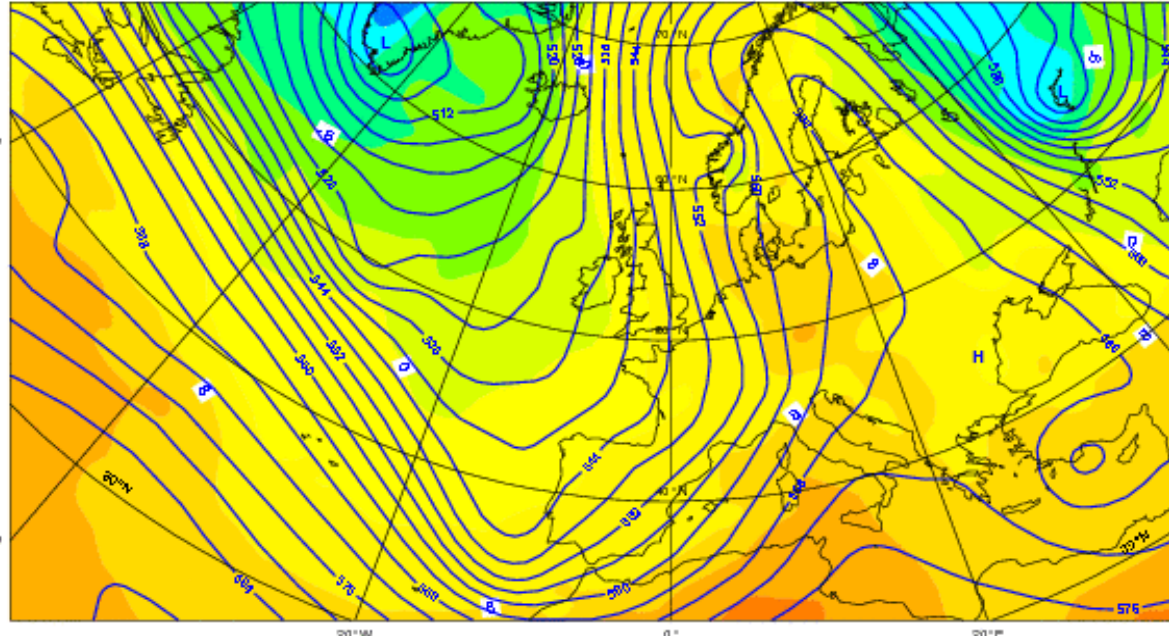
Saturday 29 October 2011 12UTC ECMWF T+144 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



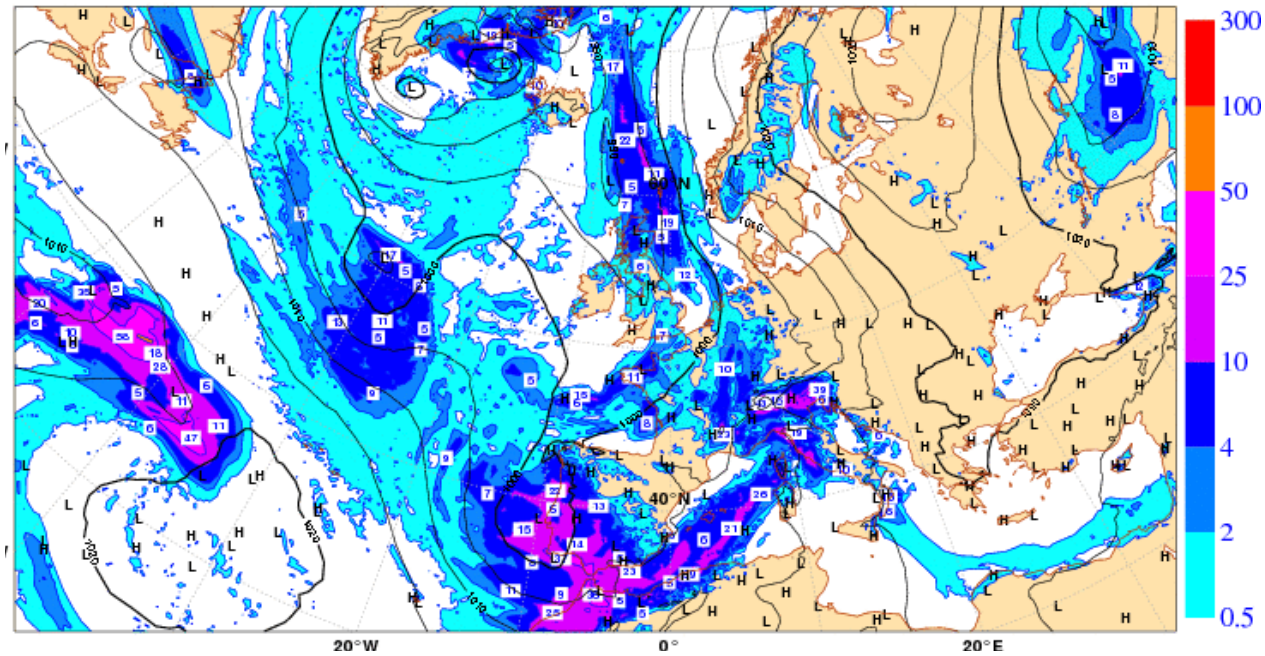
Saturday 29 October 2011 12UTC ECMWF T+144 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Saturday 29 October 2011 12UTC ECMWF Forecast t+144 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature

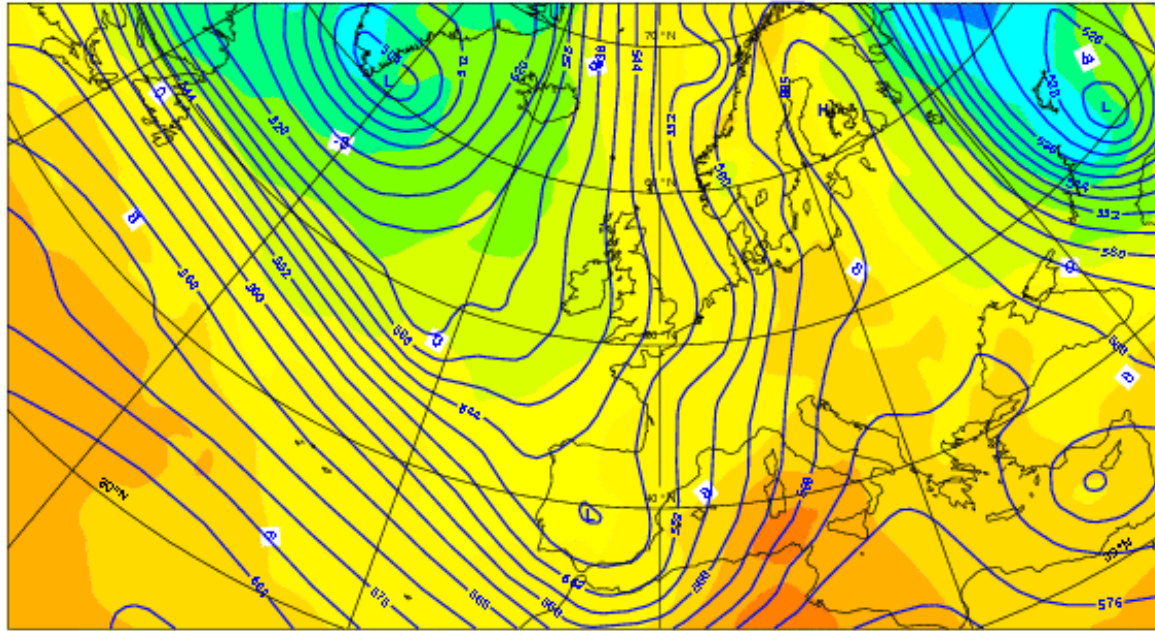


Saturday 29 October 2011 12UTC @ECMWF MSLP T+144 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

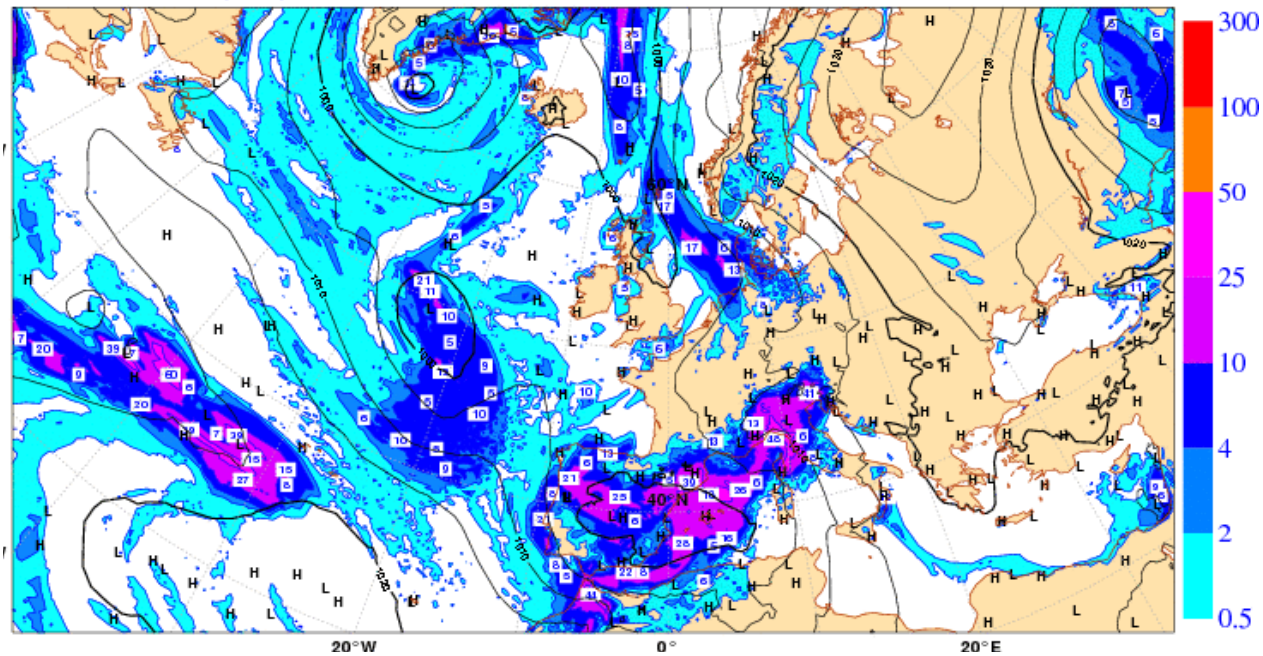




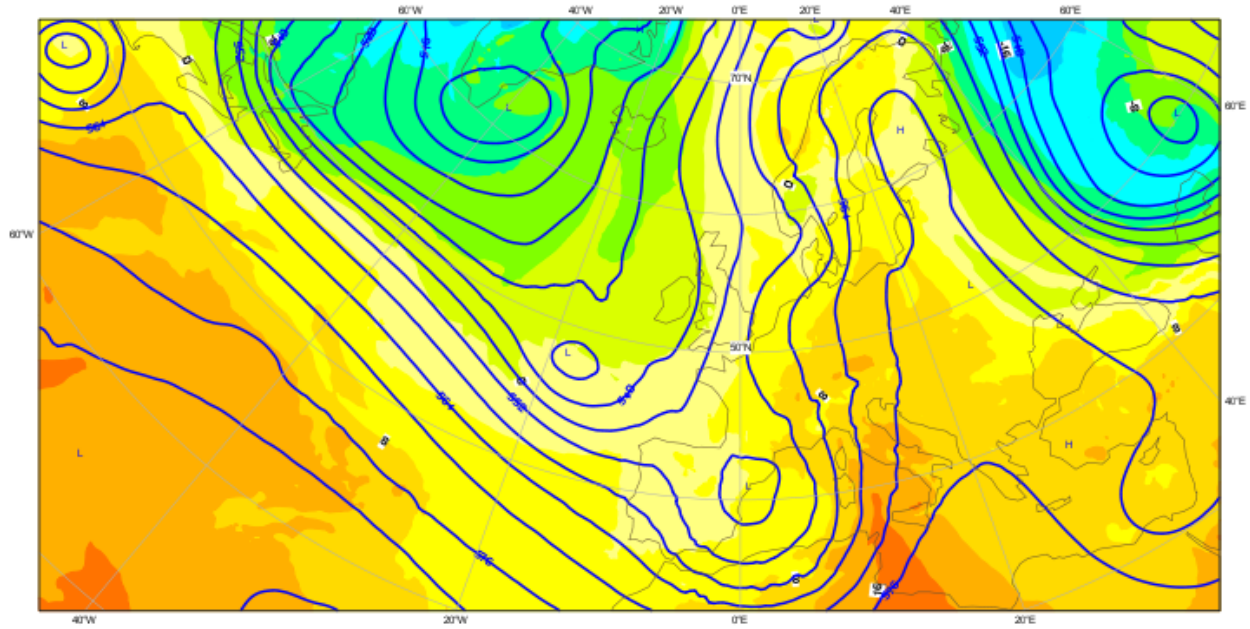
Saturday 29 October 2011 12UTC ECMWF Forecast t+156 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



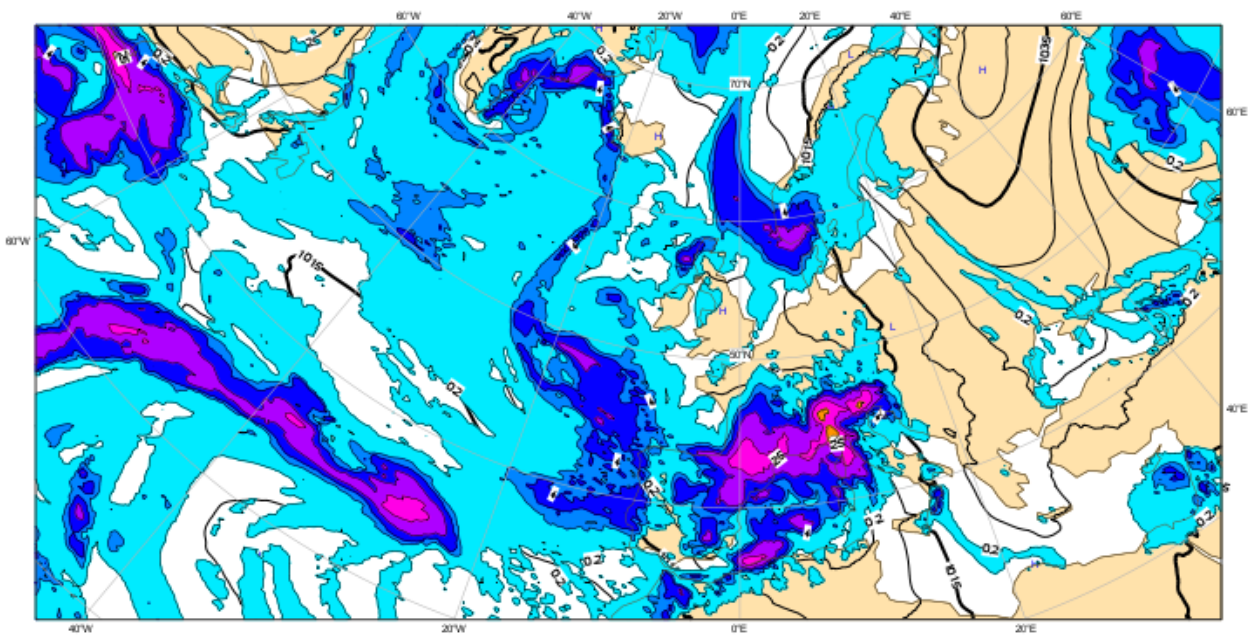
Saturday 29 October 2011 12UTC @ECMWF MSLP T+156 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



Saturday 29 October 2011 12 UTC ecmwf 168 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Saturday 29 October 2011 12 UTC ecmwf 168 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



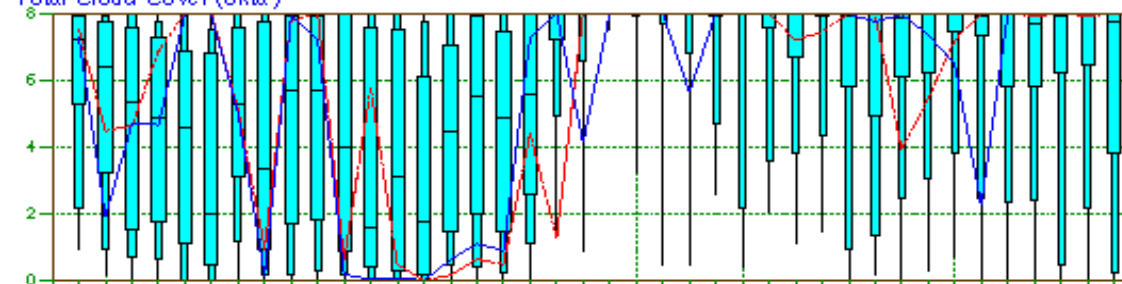
Saturday 29 October 2011 12 UTC ecmwf 174 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Saturday 29 October 2011 12 UTC ecmwf 168 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



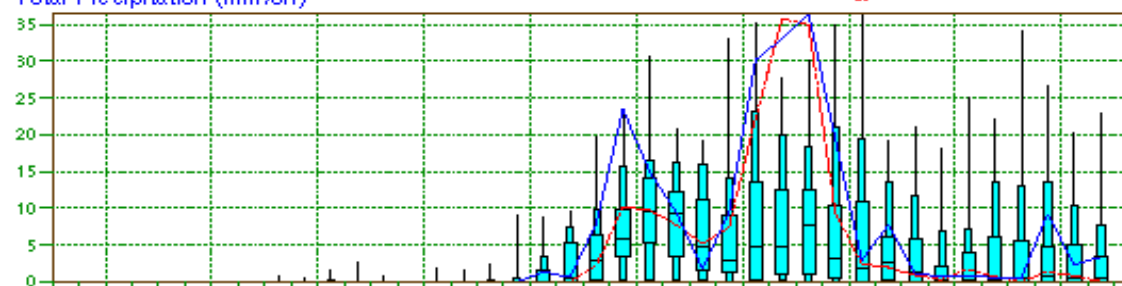


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Saturday 29 October 2011 12 UTC

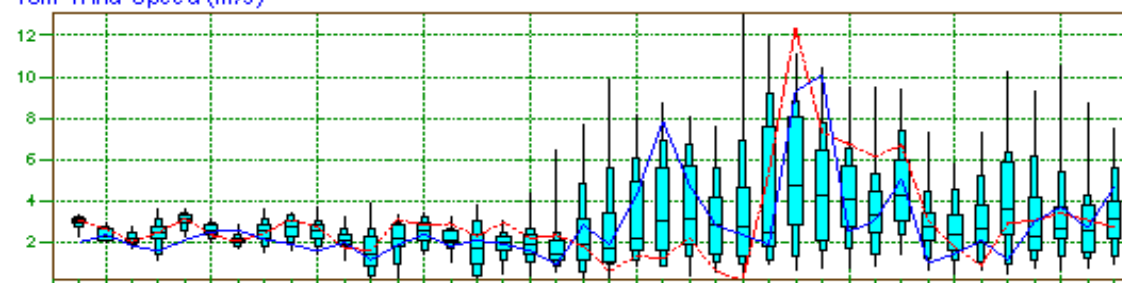
Total Cloud Cover (okta)



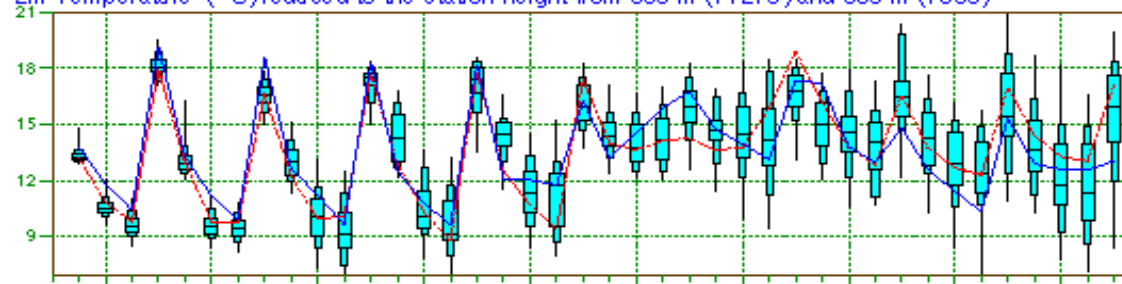
Total Precipitation (mm /5h)



10m Wind Speed (m/s)



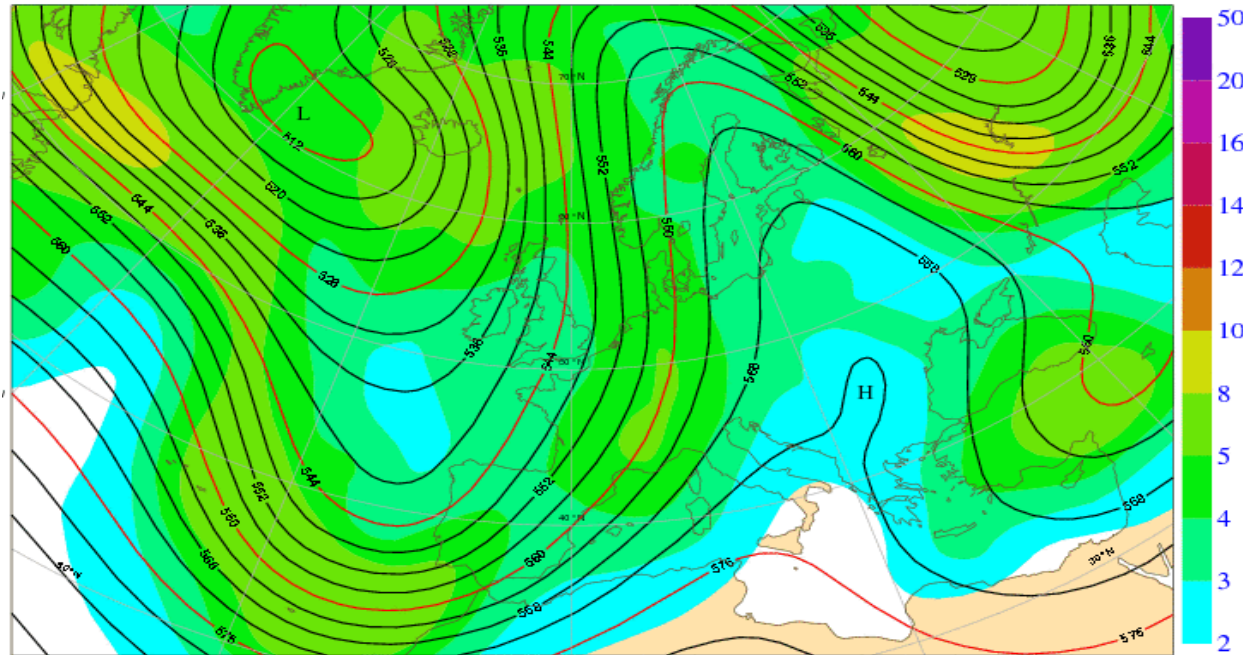
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



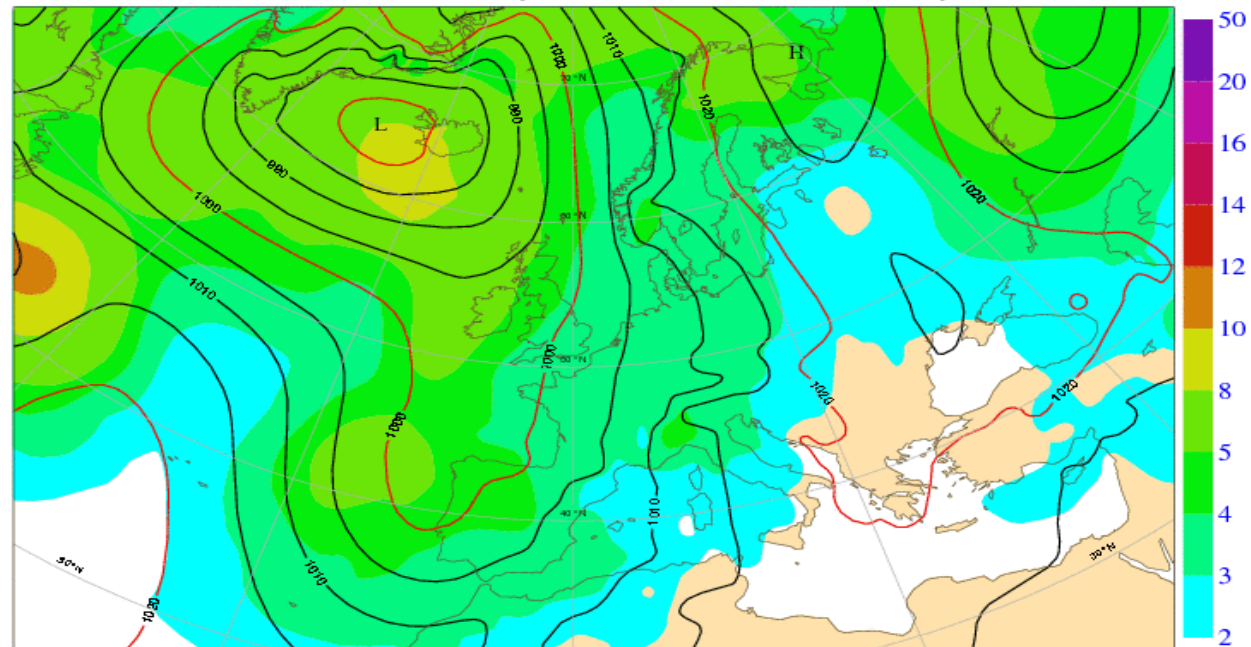
Sat 29 Oct 2011 Sun 30 Oct 2011 Mon 31 Oct 2011 Tue 1 Nov 2011 Wed 2 Nov 2011 Thu 3 Nov 2011 Fri 4 Nov 2011 Sat 5 Nov 2011 Sun 6 Nov 2011 Mon 7 Nov 2011 Tue 8 Nov 2011

**2011-10-30 00UTC**

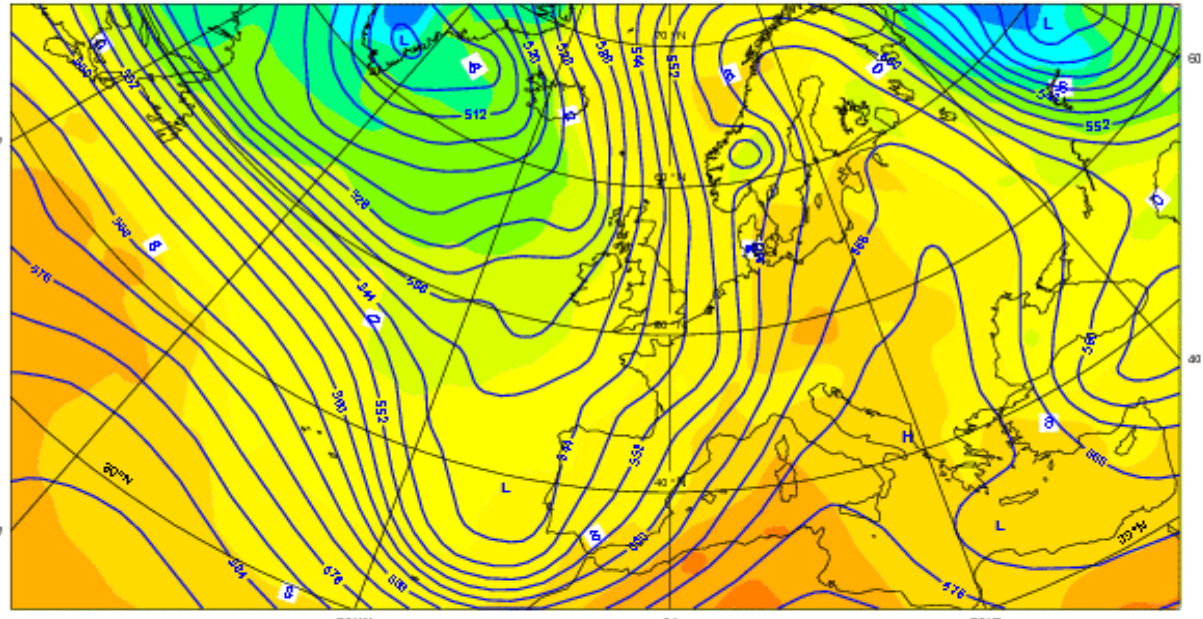
Sunday 30 October 2011 00UTC ECMWF T+132 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



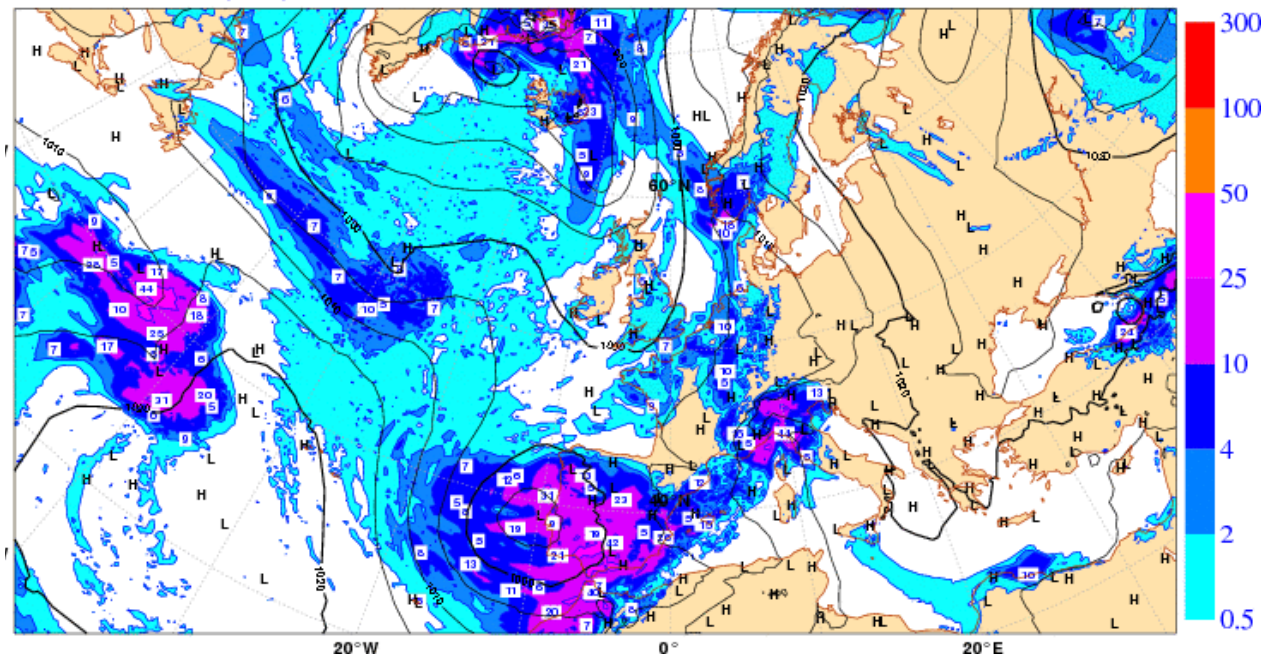
Sunday 30 October 2011 00UTC ECMWF T+132 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



Sunday 30 October 2011 00UTC ECMWF Forecast t+132 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature

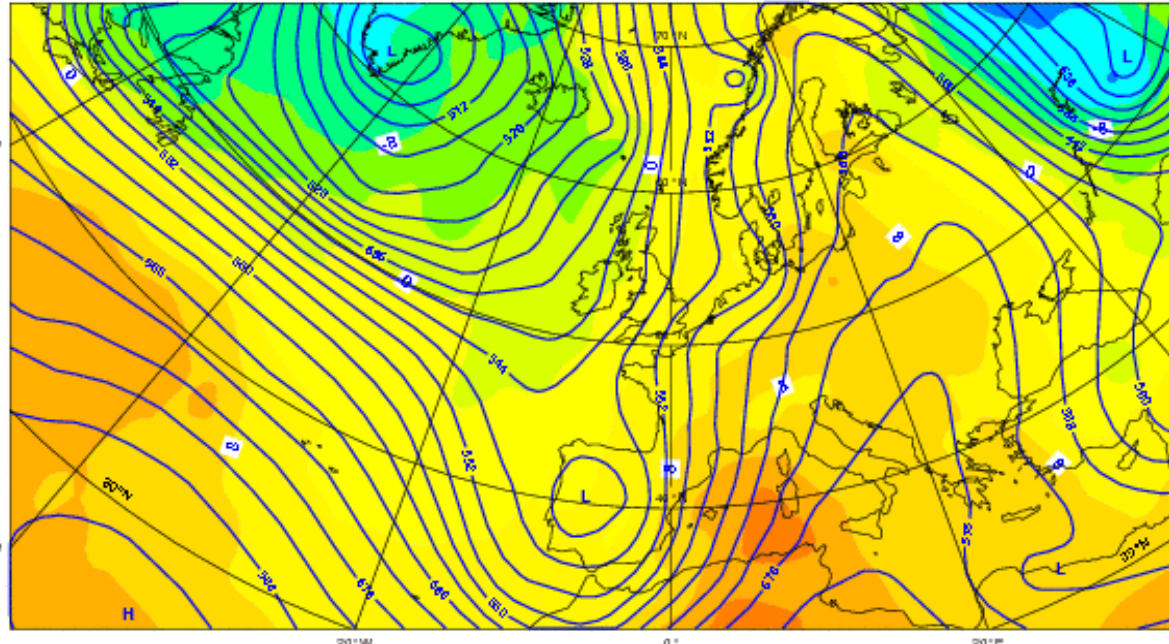


Sunday 30 October 2011 00UTC @ECMWF MSLP T+132 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

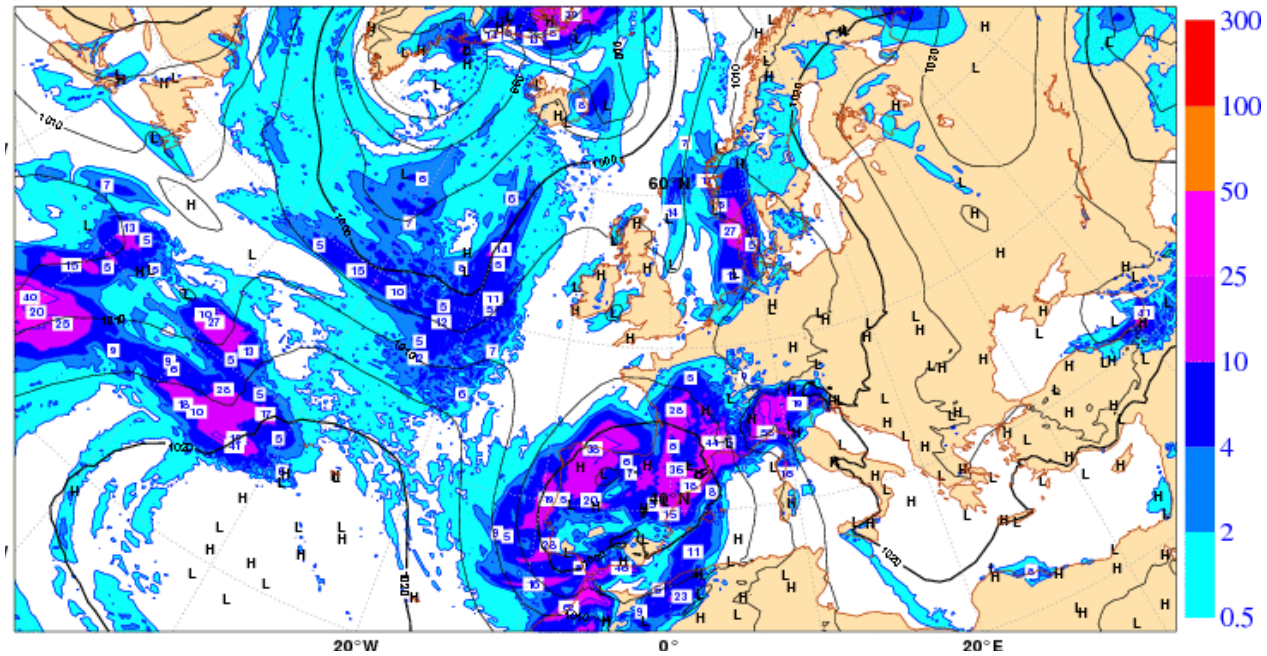




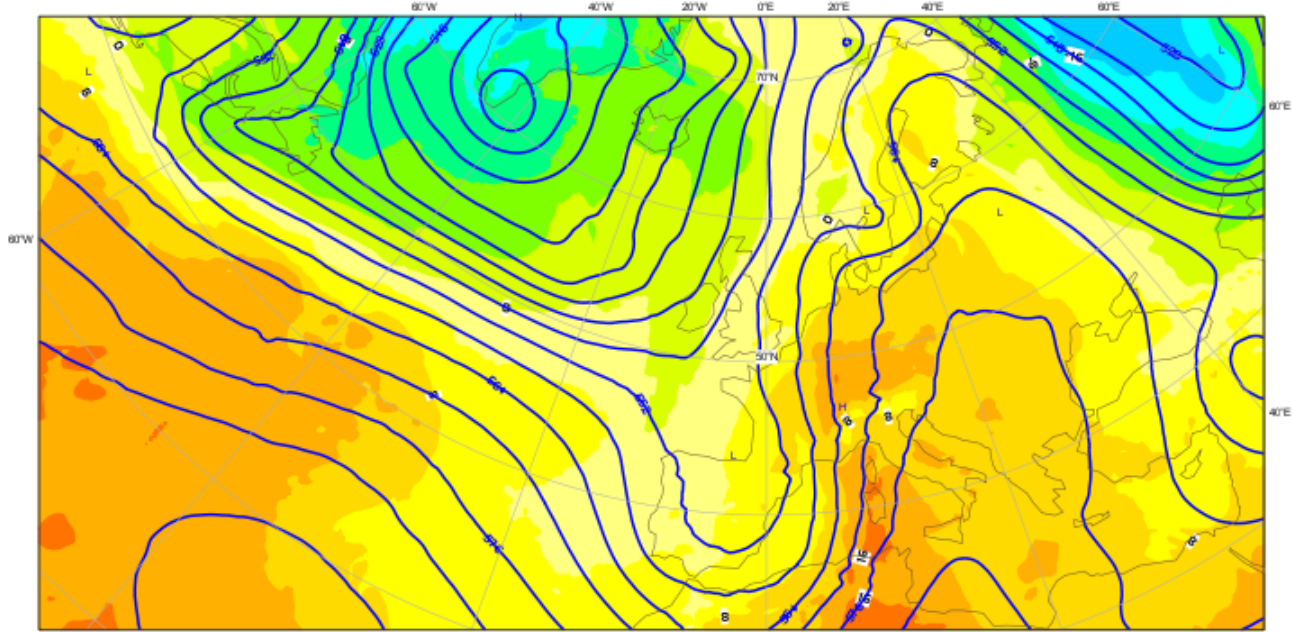
Sunday 30 October 2011 00UTC ECMWF Forecast t+144 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



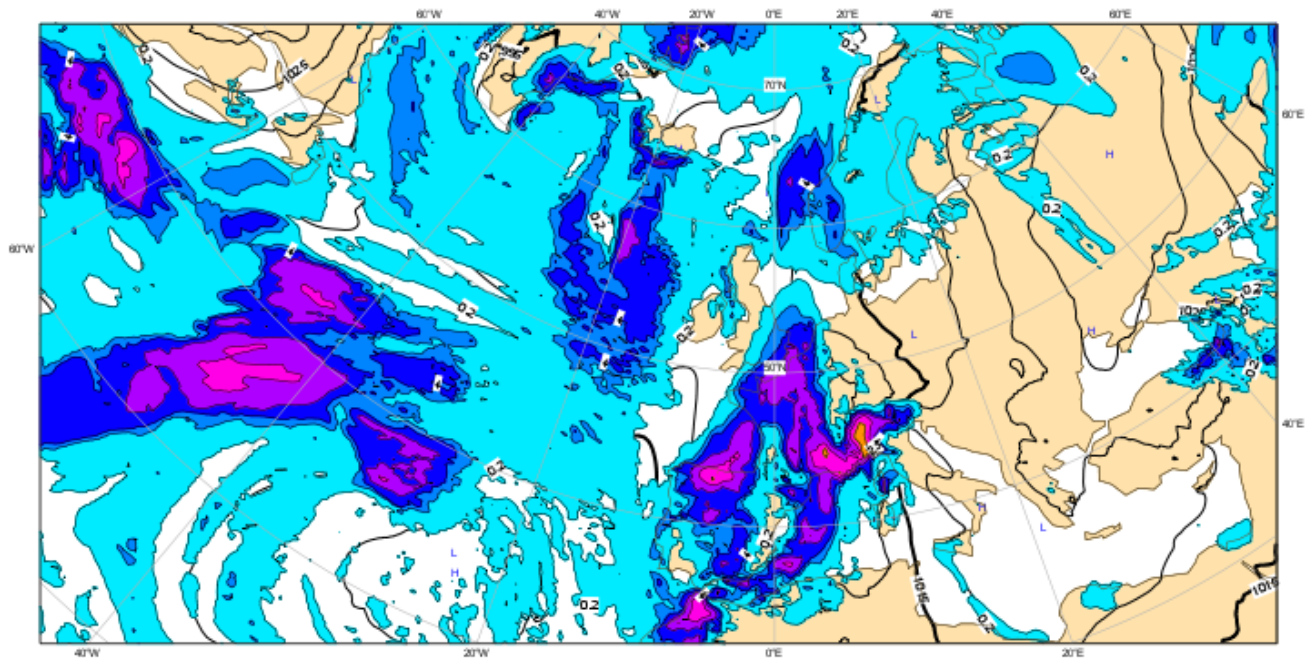
Sunday 30 October 2011 00UTC @ECMWF MSLP T+144 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



Sunday 30 October 2011 00 UTC ecmf h 156 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Sunday 30 October 2011 00 UTC ecmf h 156 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature

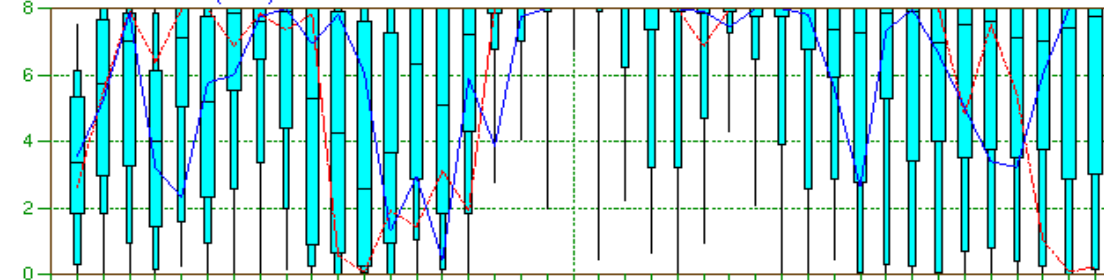


Sunday 30 October 2011 00 UTC ecmf h 162 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Sunday 30 October 2011 00 UTC ecmf h 156 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

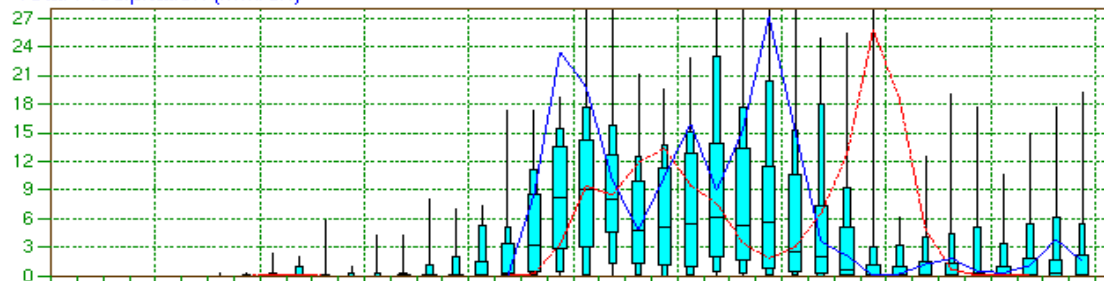


EPS Meteogram  
 Genoa 44.54° N 9° E (EPS land point) 37 m  
 Deterministic Forecast and EPS Distribution Sunday 30 October 2011 00 UTC

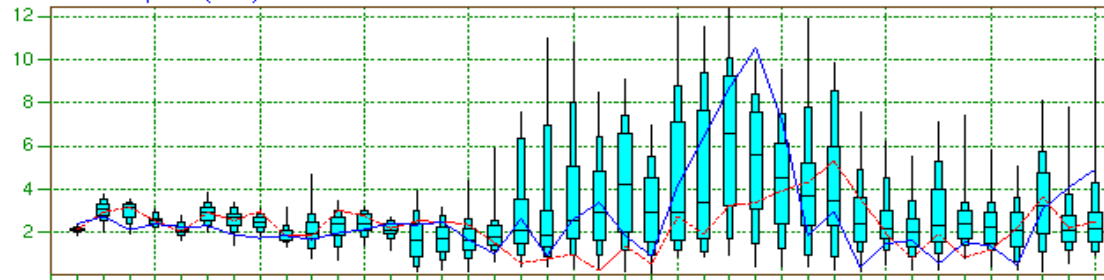
Total Cloud Cover (okta)



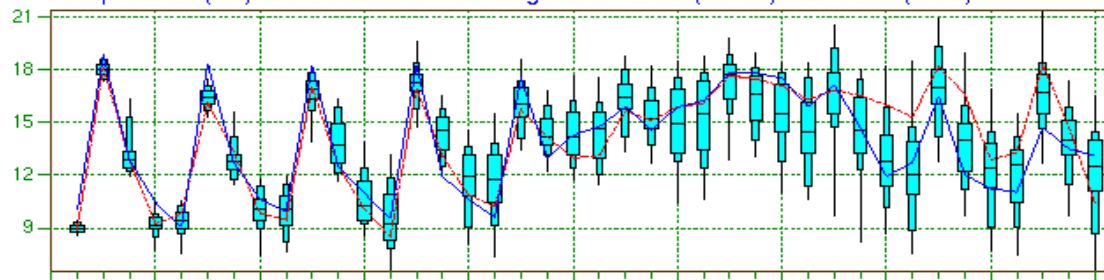
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)

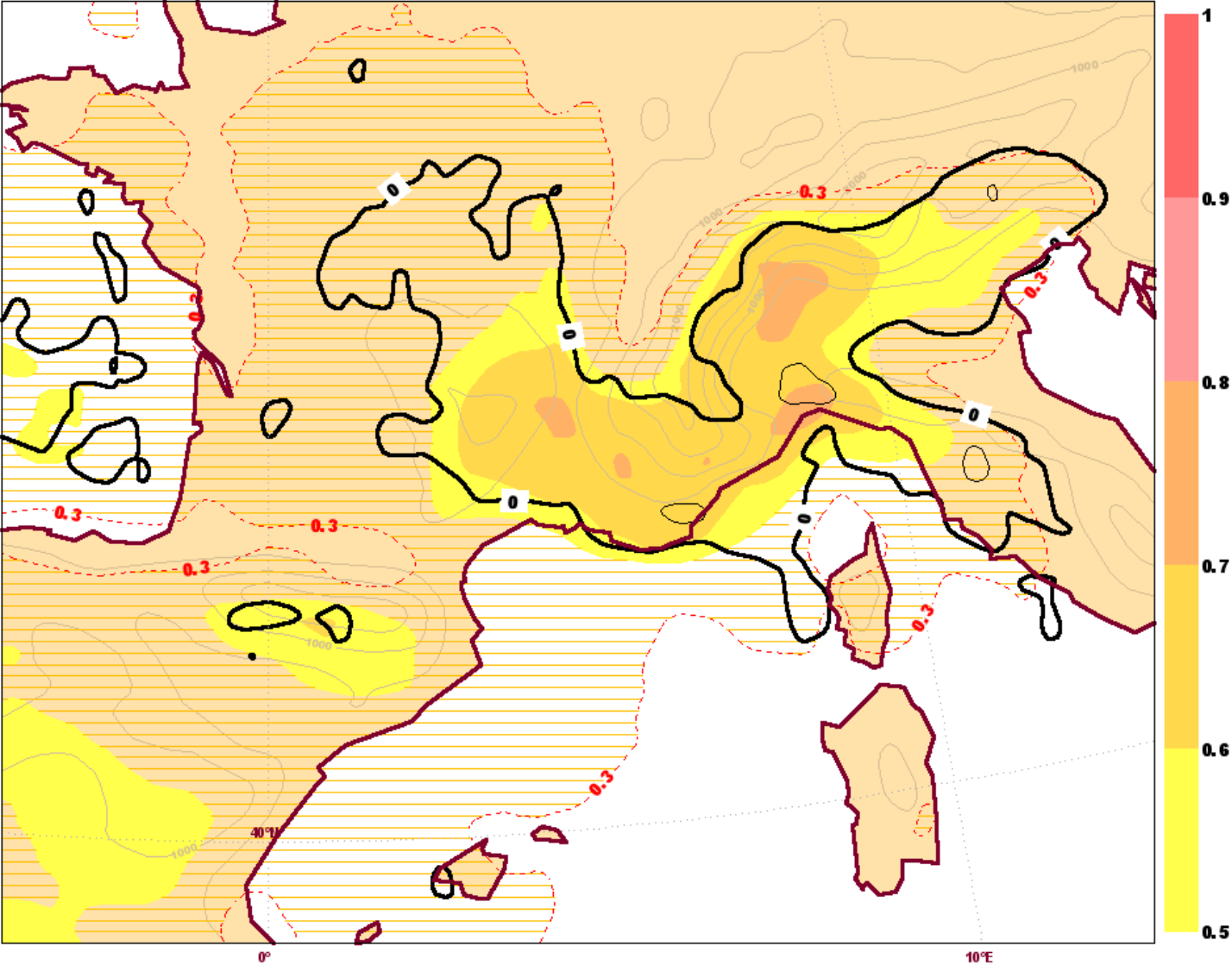


Sun 30 Mon 31 Tue 1 Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7 Tue 8  
 November 2011

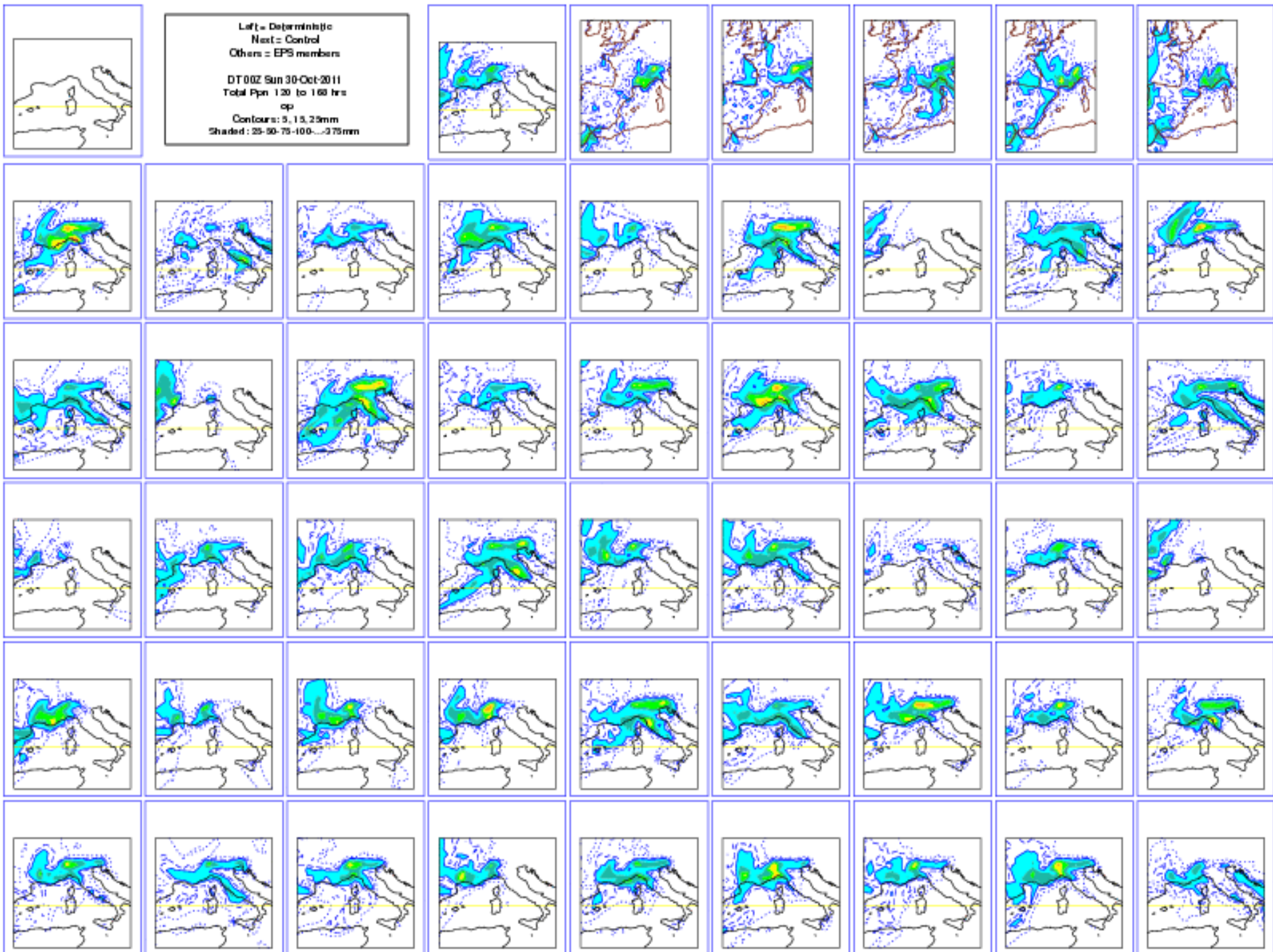


# EFI & SOT Forecast from 30.10.2011/00UTC

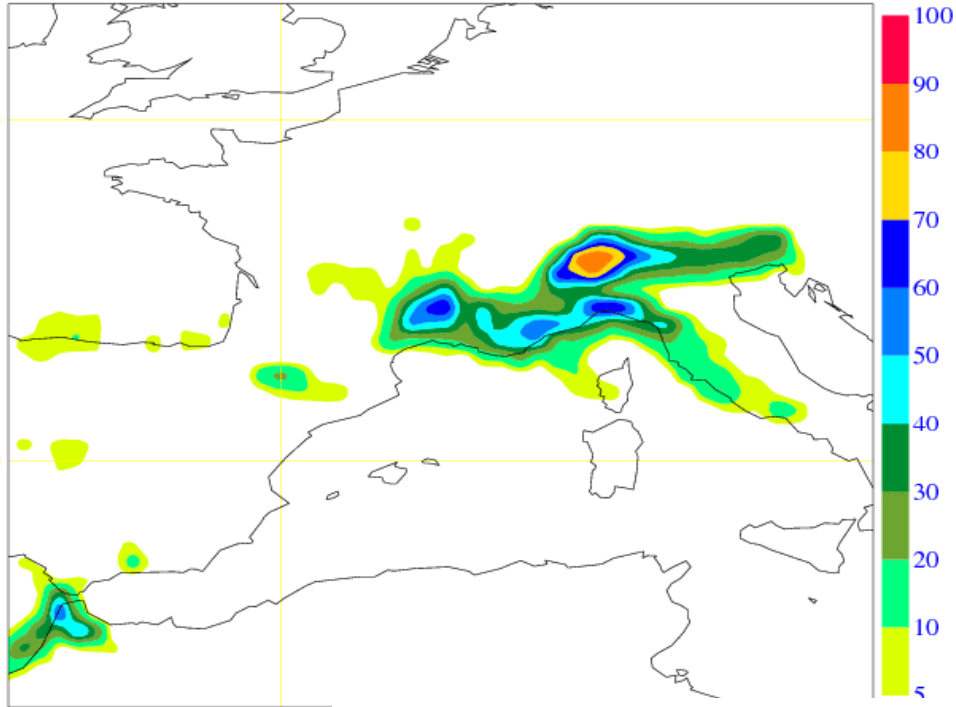
Sunday 30 October 2011 00UTC @ECMWF VT: Friday 04 November 2011 00UTC - Monday 07 November 2011 00UTC 120-192h  
Extreme forecast index and Shift of Tails (black contours) for: total precipitation



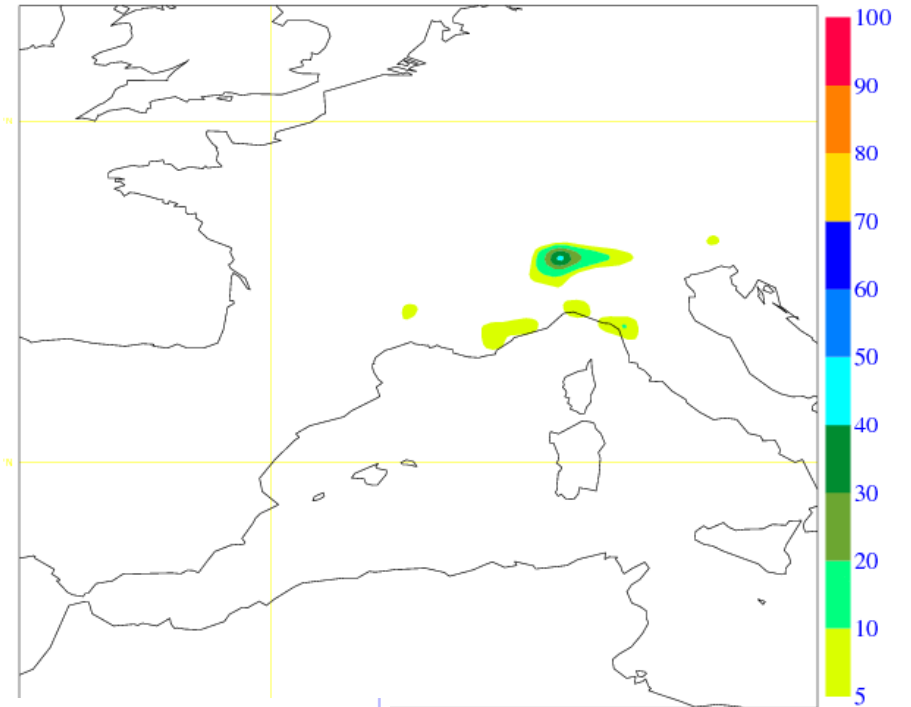




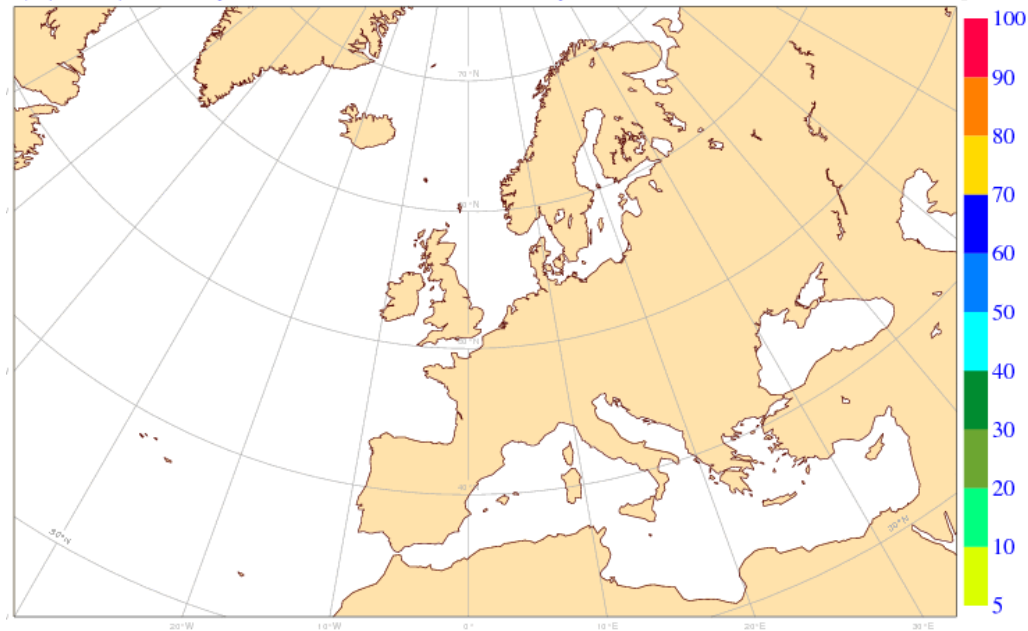
Sunday 30 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 50mm (expver =1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+120-168h



Sunday 30 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 100mm (expver =1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+120-168h

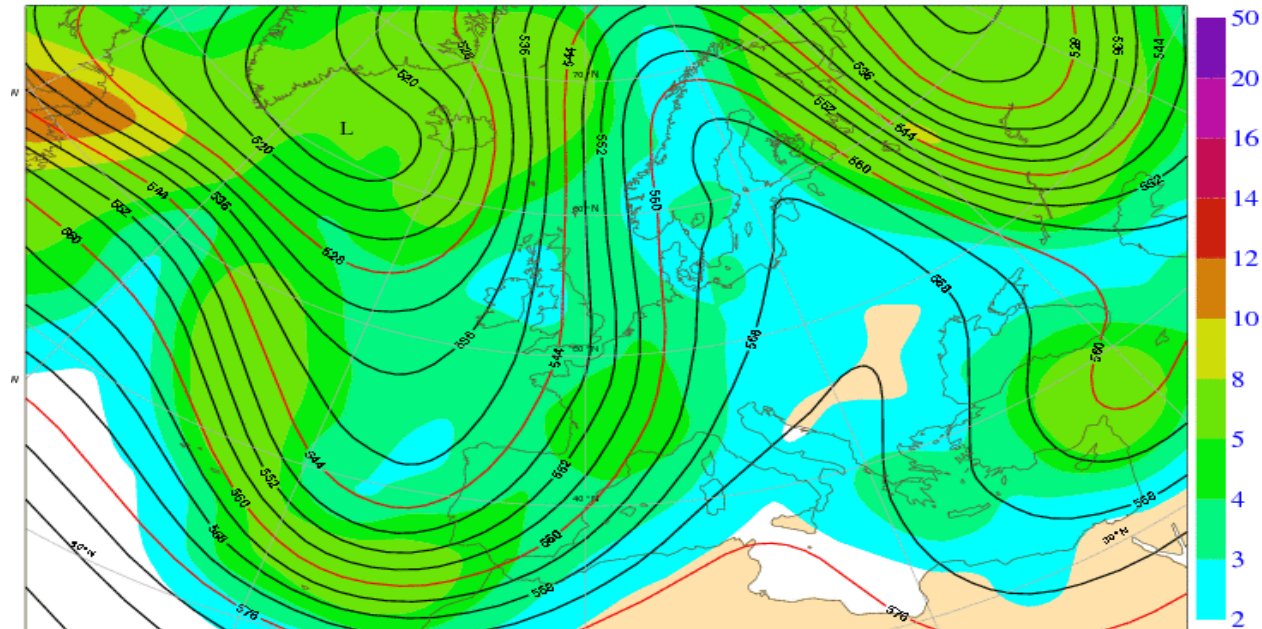


Sunday 30 October 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 150mm (expver =1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+120-168h

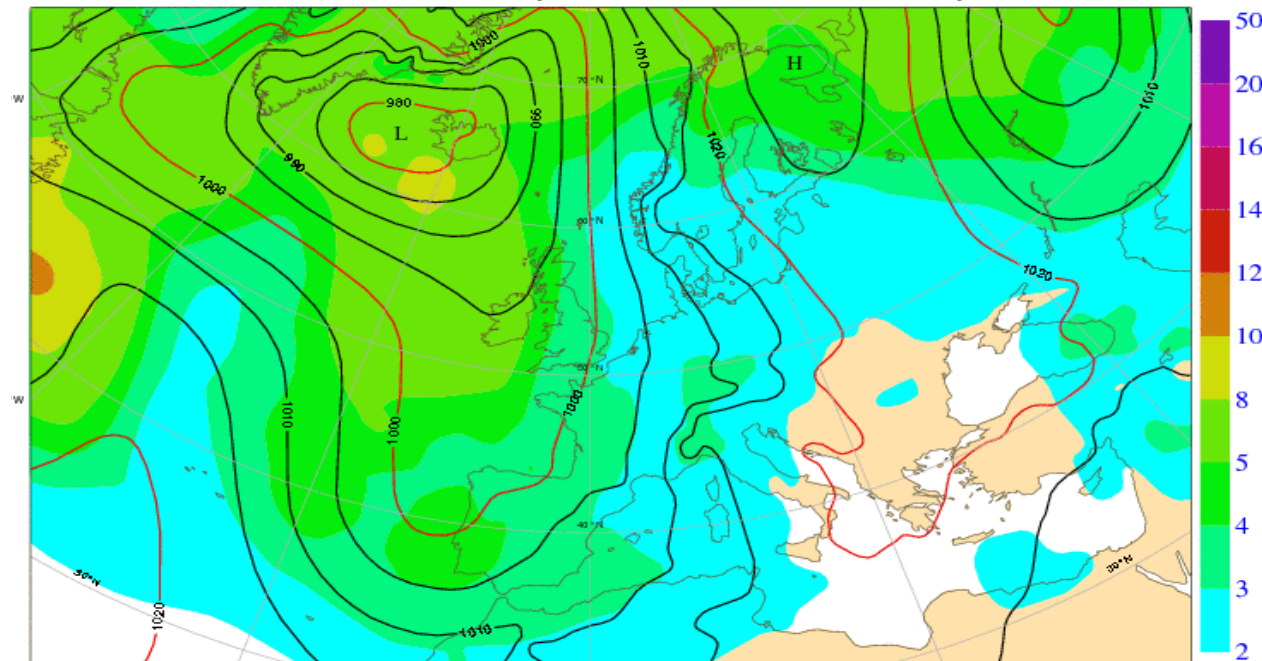


**2011-10-30 12UTC**

Sunday 30 October 2011 12UTC ECMWF T+120 VT: Friday 4 November 2011 12UTC  
500hPa \*\*Geopotential EPS mean and EPS spread

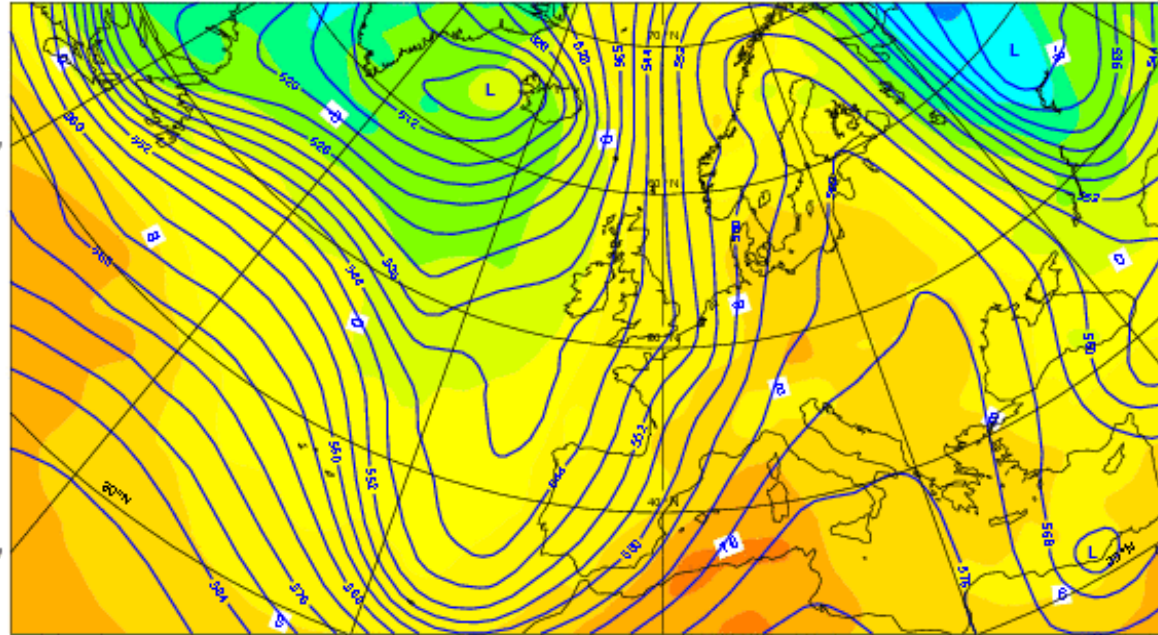


Sunday 30 October 2011 12UTC ECMWF T+120 VT: Friday 4 November 2011 12UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread

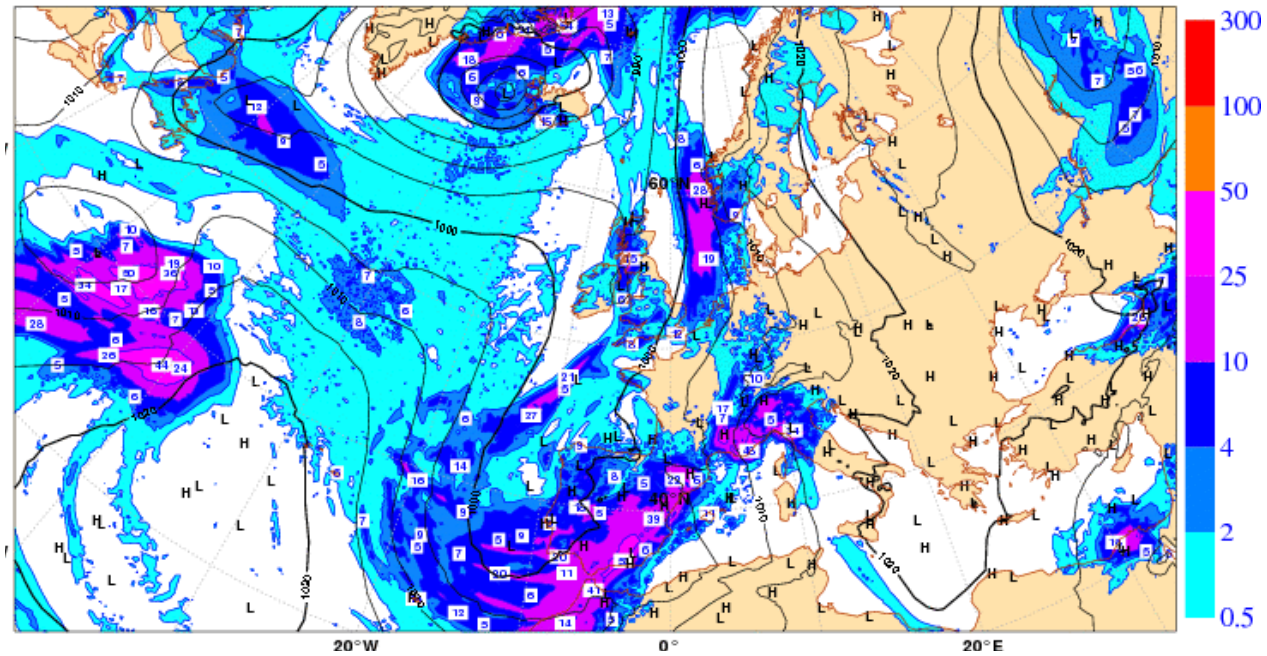




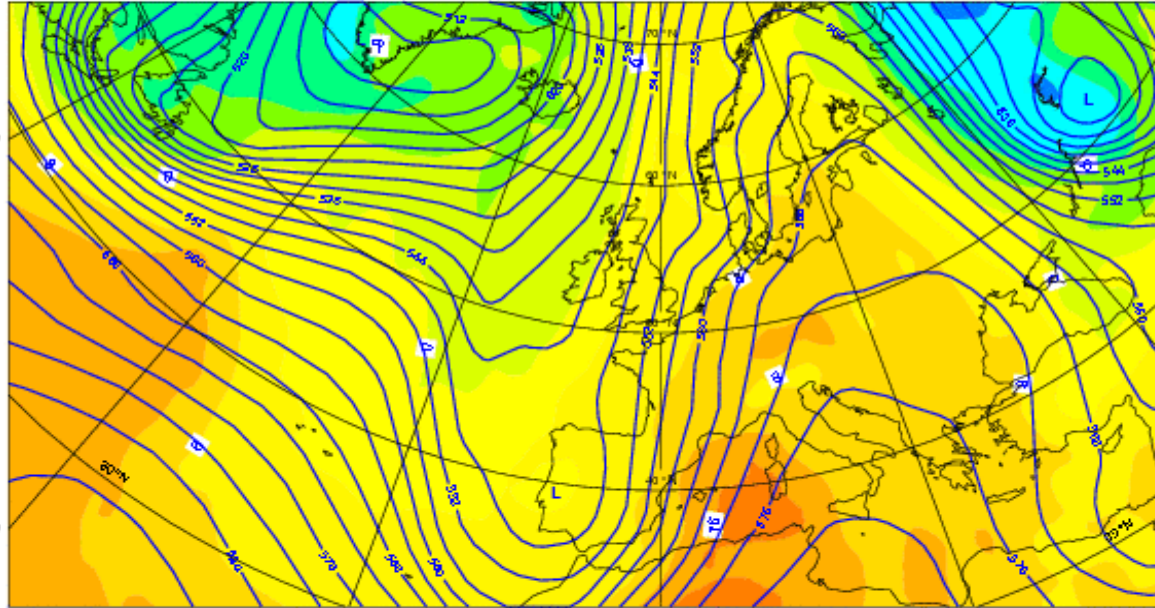
Sunday 30 October 2011 12UTC ECMWF Forecast t+120 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



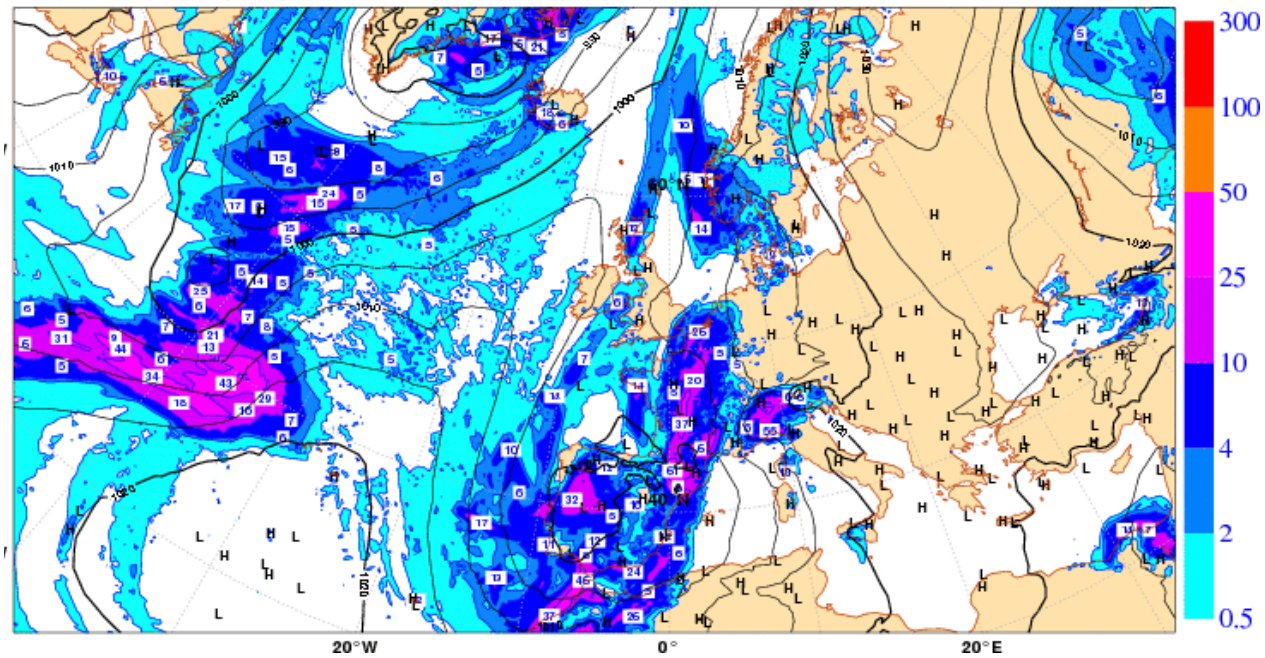
Sunday 30 October 2011 12UTC @ECMWF MSLP T+120 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



Sunday 30 October 2011 12UTC ECMWF Forecast t+132 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature

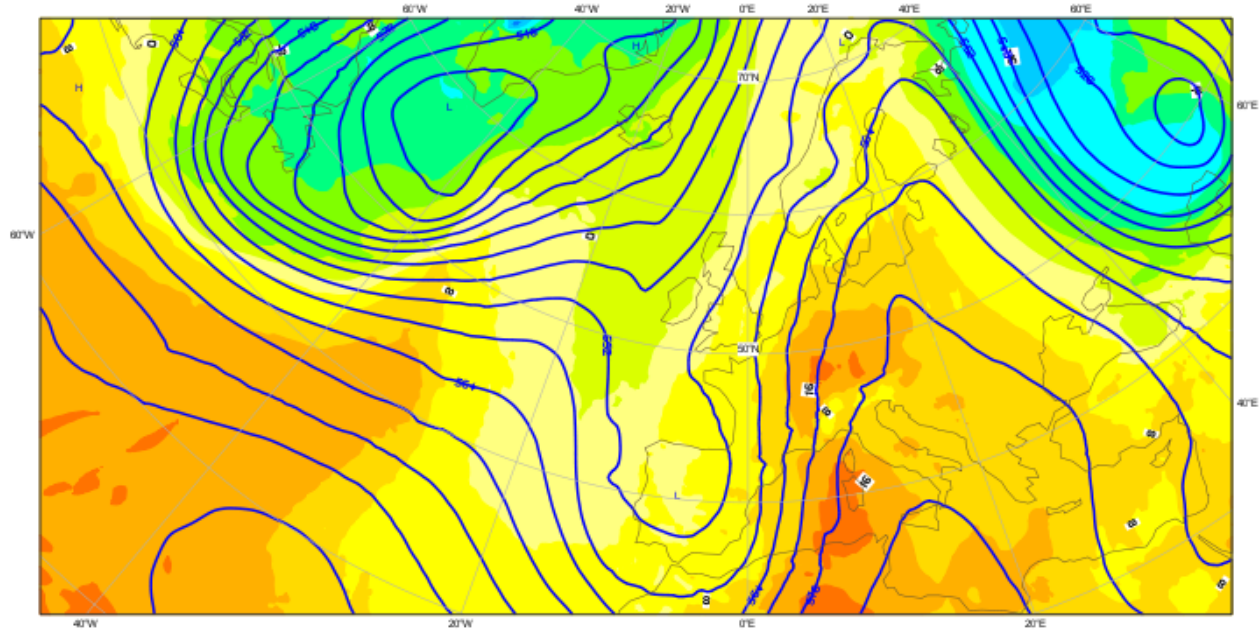


Sunday 30 October 2011 12UTC @ECMWF MSLP T+132 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

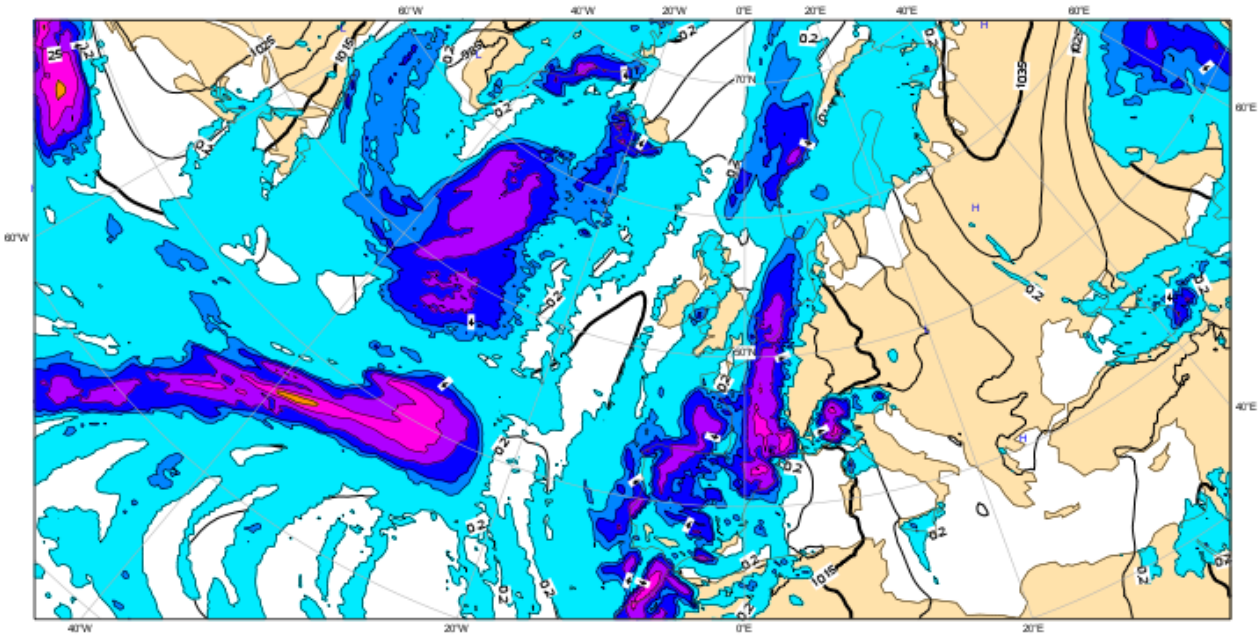




Sunday 30 October 2011 12 UTC ecmf h 144 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Sunday 30 October 2011 12 UTC ecmf h 144 VT Saturday 05 November 2011 12 UTC 850 hPa Temperatur

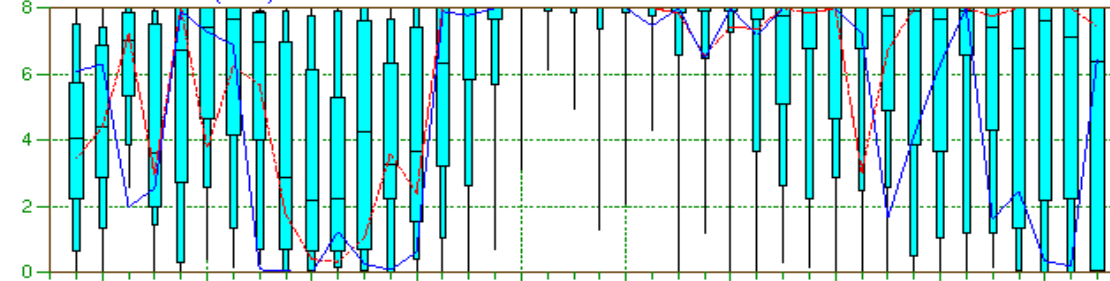


Sunday 30 October 2011 12 UTC ecmf h 150 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Sunday 30 October 2011 12 UTC ecmf h 144 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

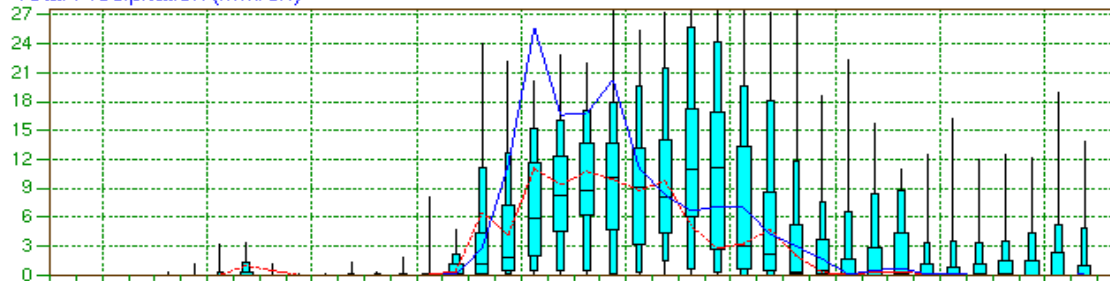


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Sunday 30 October 2011 12 UTC

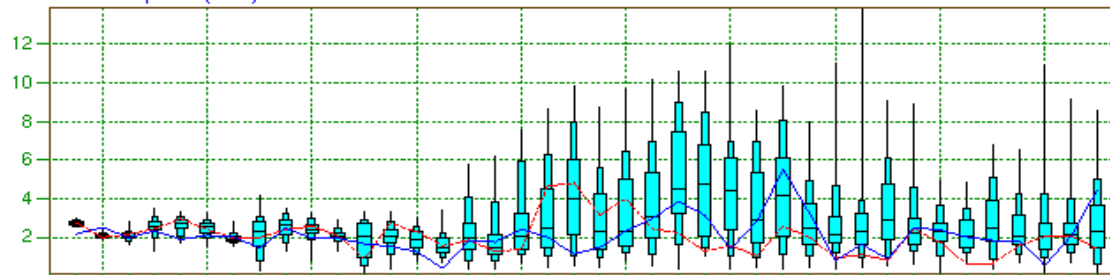
Total Cloud Cover (okta)



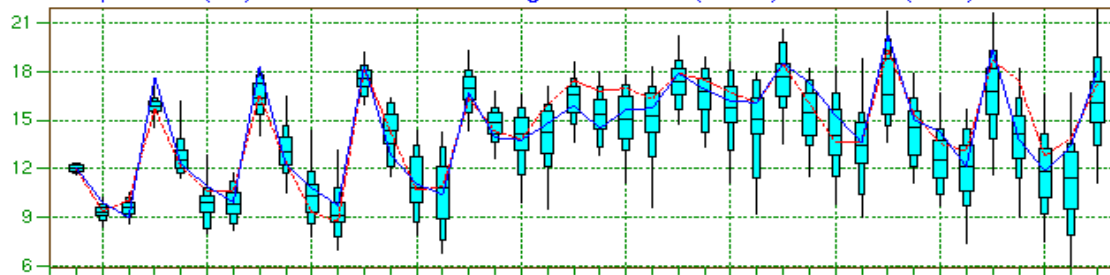
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)

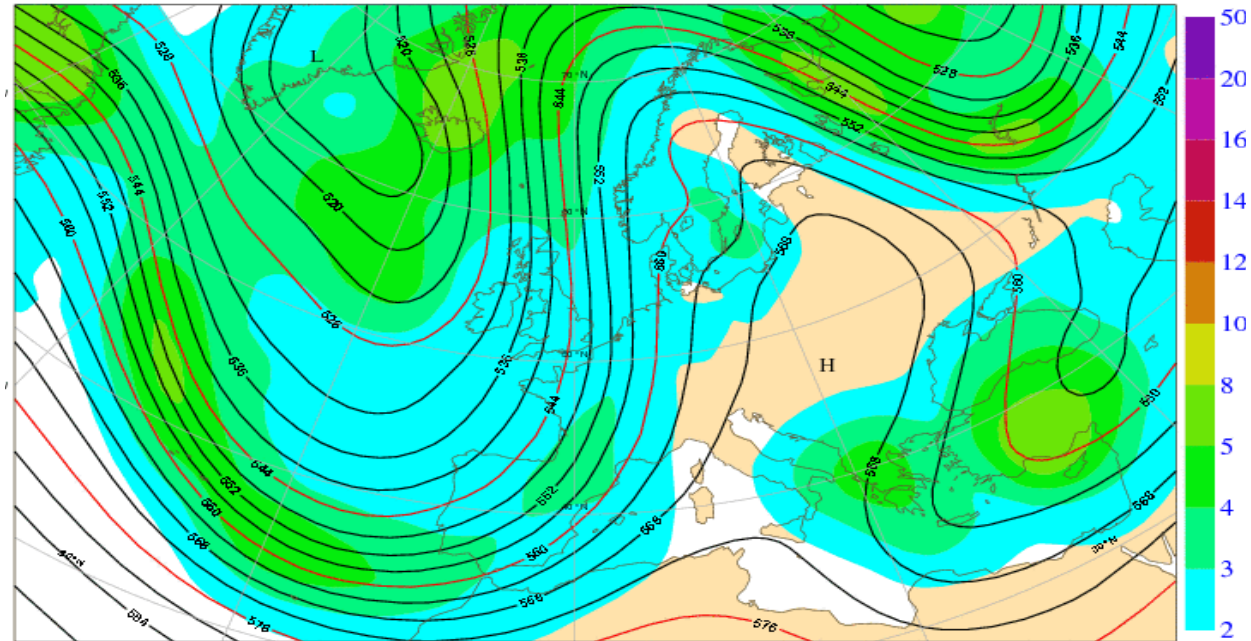


Sun 30 Mon 31 Tue 1 Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7 Tue 8 Wed 9  
November 2011

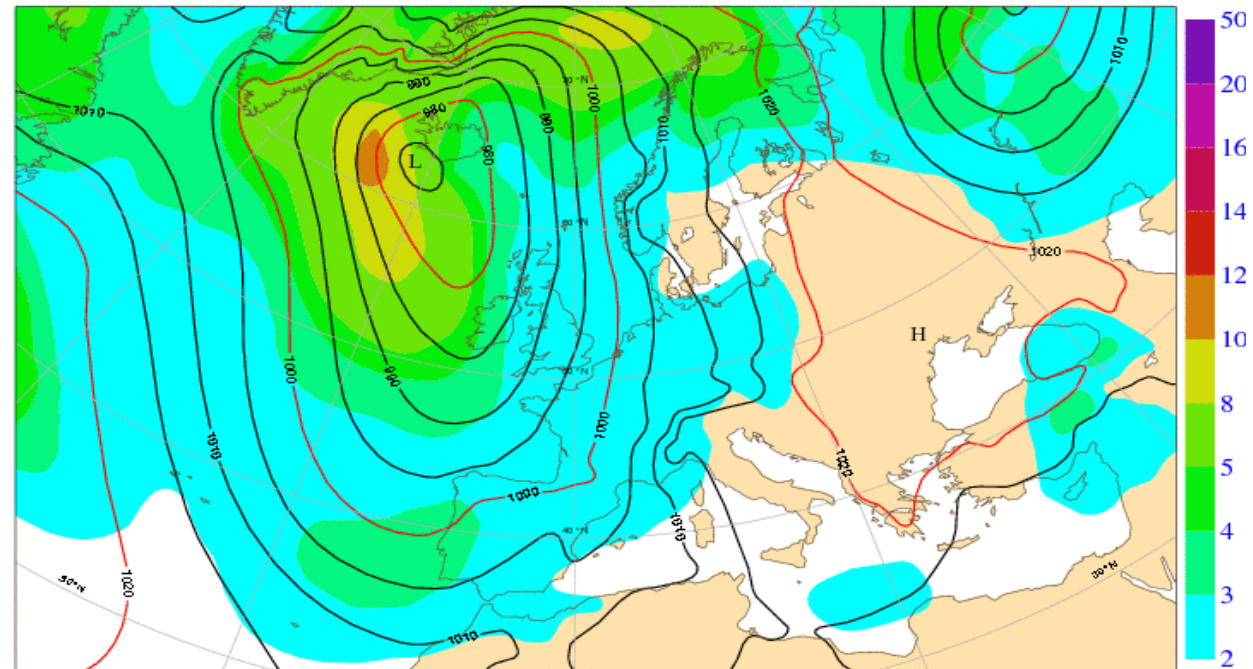


**2011-10-31 00UTC**

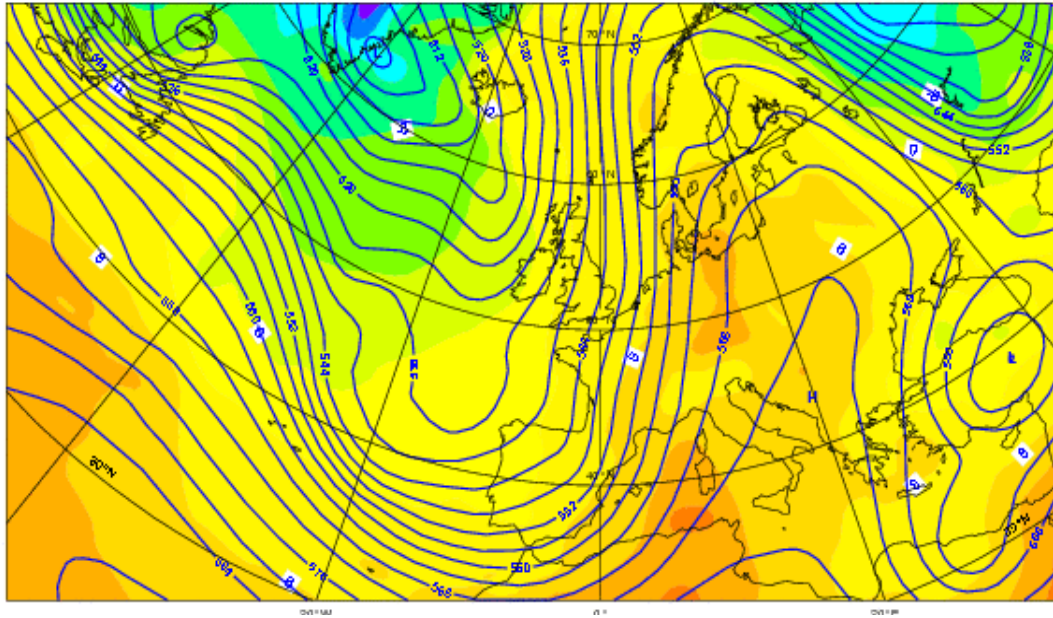
Monday 31 October 2011 00UTC ECMWF T+96 VT: Friday 4 November 2011 00UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



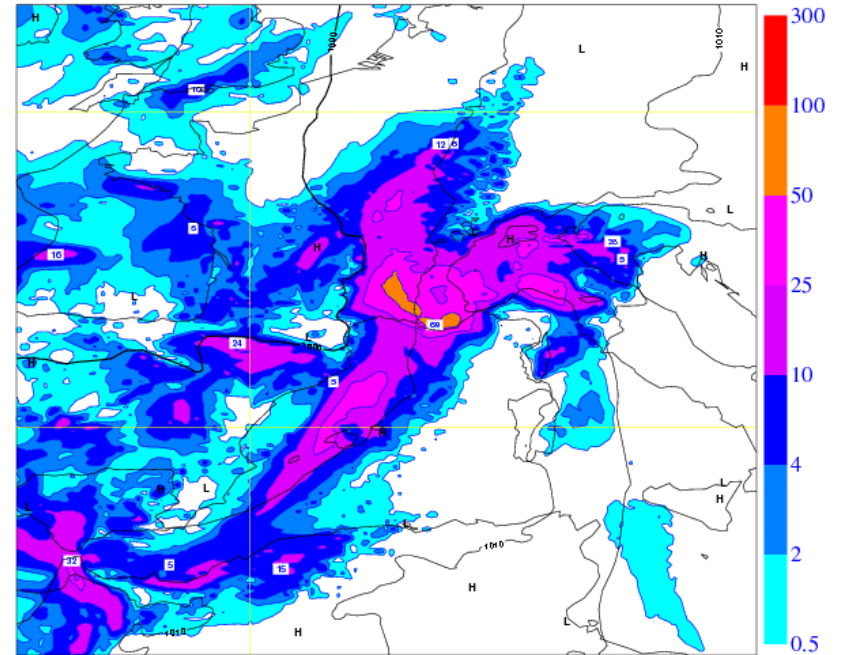
Monday 31 October 2011 00UTC ECMWF T+96 VT: Friday 4 November 2011 00UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



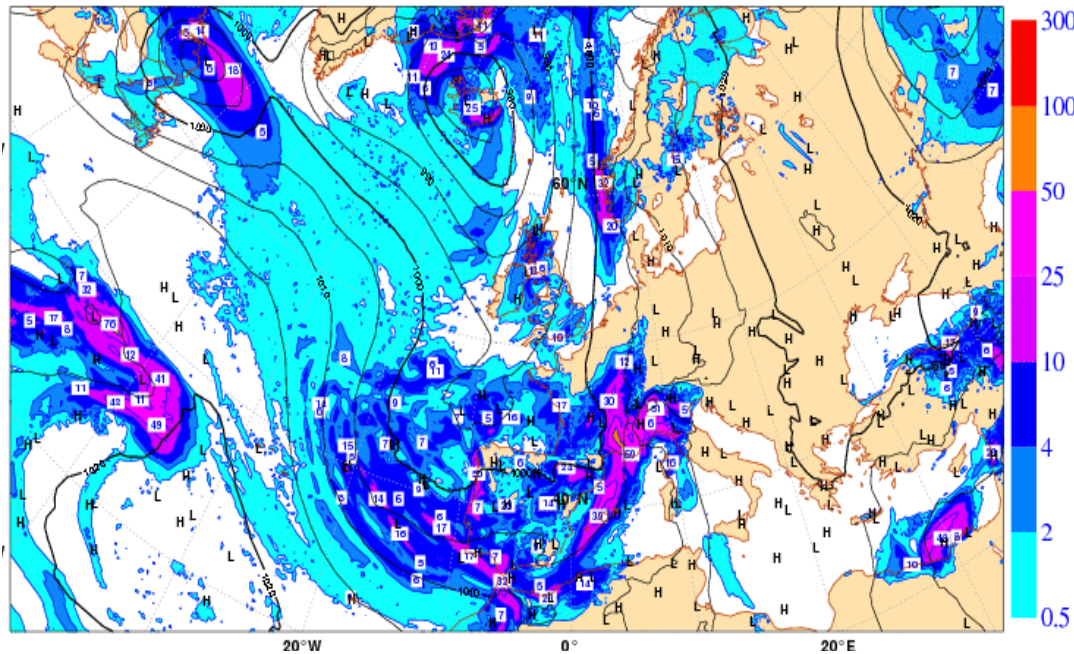
Monday 31 October 2011 00UTC ECMWF Forecast t+108 VT: Friday 4 November 2011 12UTC  
 500 hPa Height / 850 hPa Temperature



Monday 31 October 2011 00UTC @ECMWF MSLP T+108 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

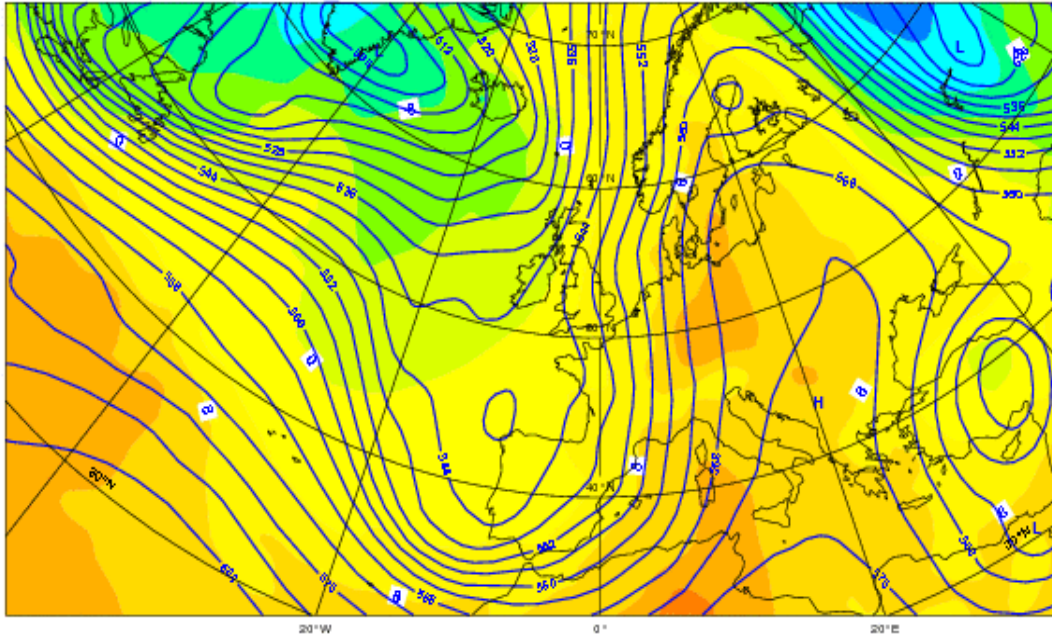


Monday 31 October 2011 00UTC @ECMWF MSLP T+108 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

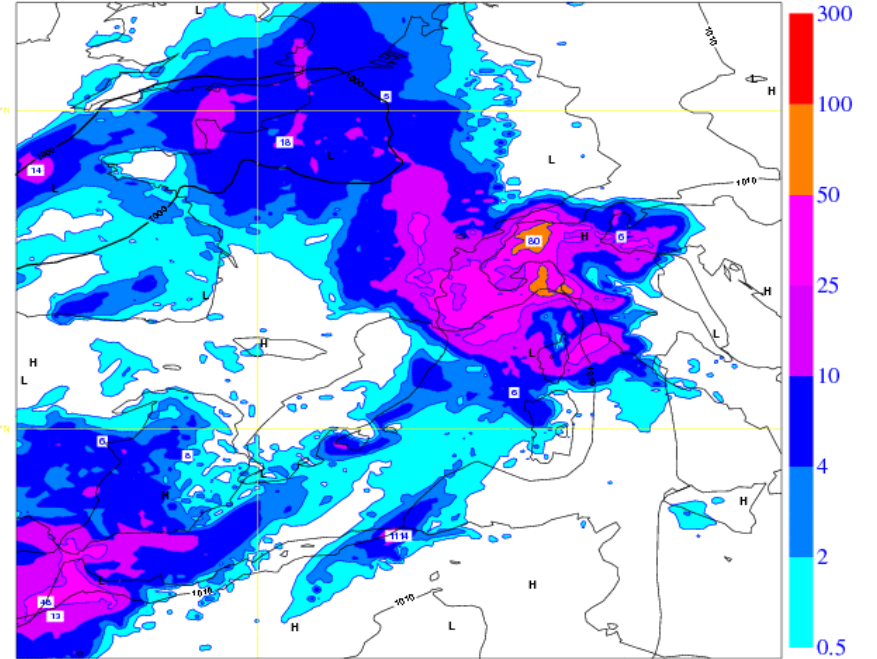




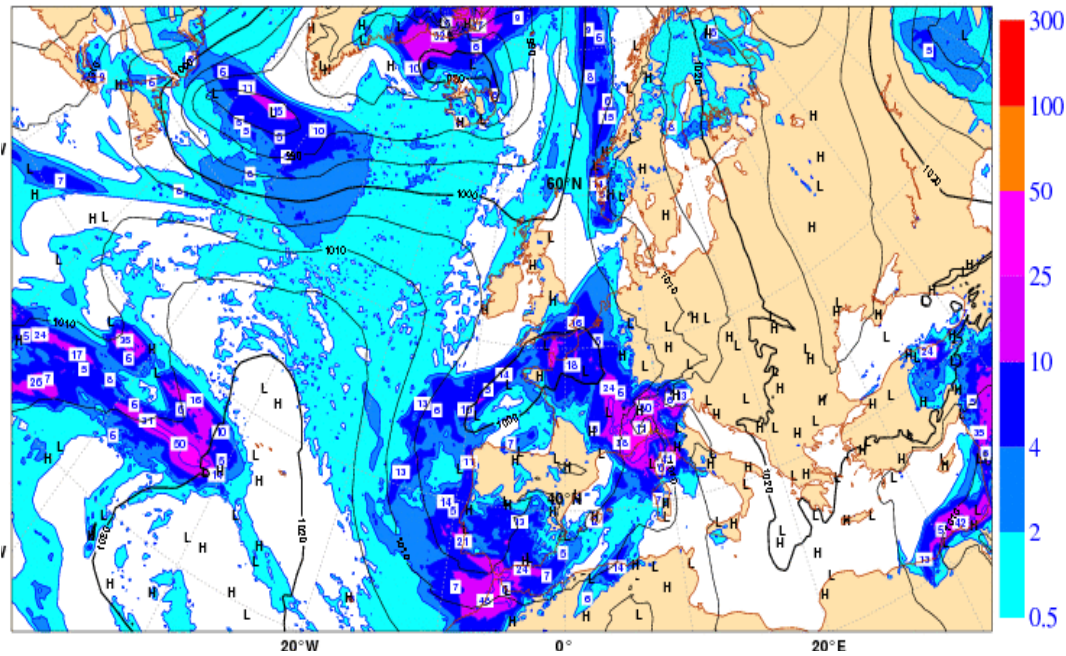
Monday 31 October 2011 00UTC ECMWF Forecast t+120 VT: Saturday 5 November 2011 00UTC  
 500 hPa Height / 850 hPa Temperature



Monday 31 October 2011 00UTC @ECMWF MSLP T+120 VT: Saturday 05 November 2011 00UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

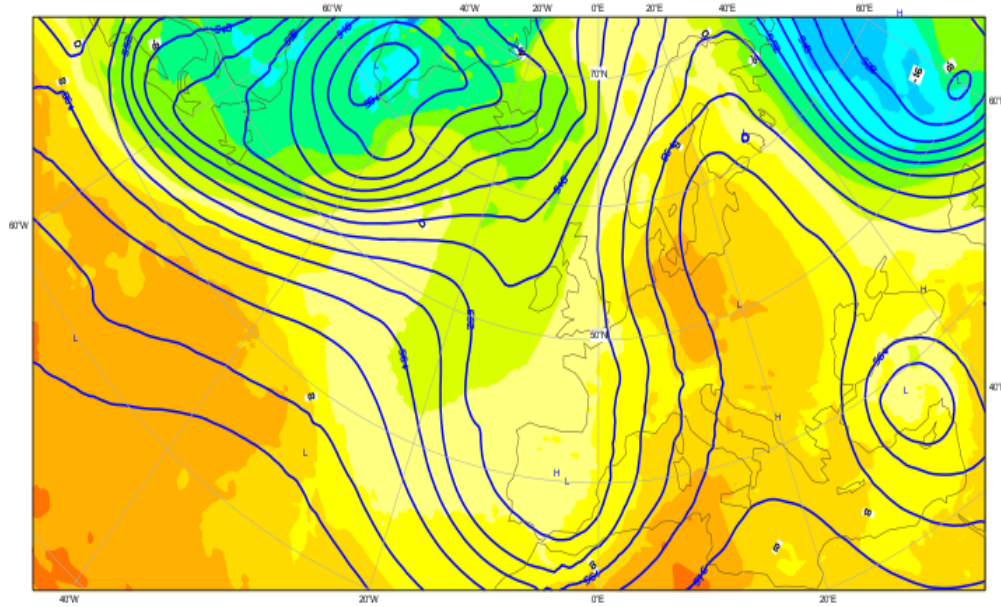


Monday 31 October 2011 00UTC @ECMWF MSLP T+120 VT: Saturday 05 November 2011 00UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

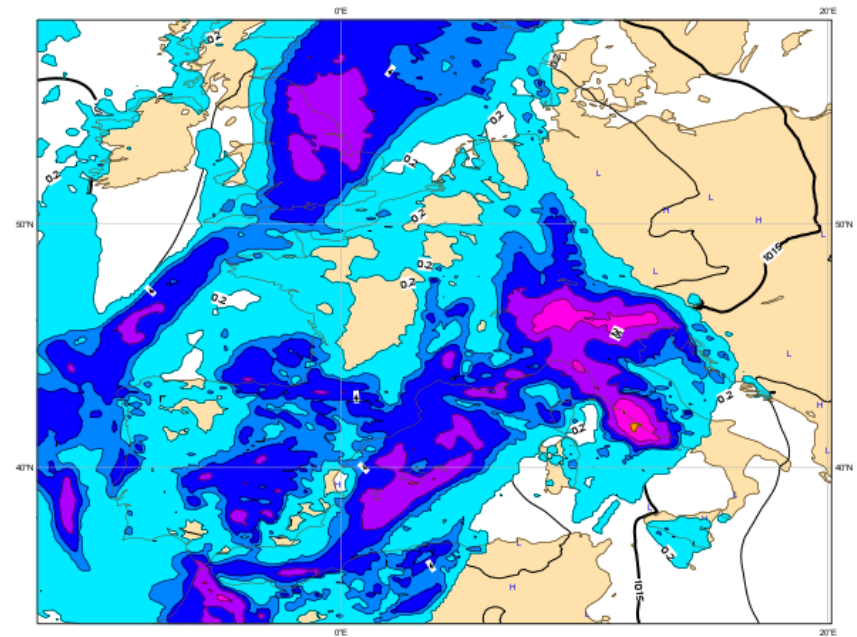




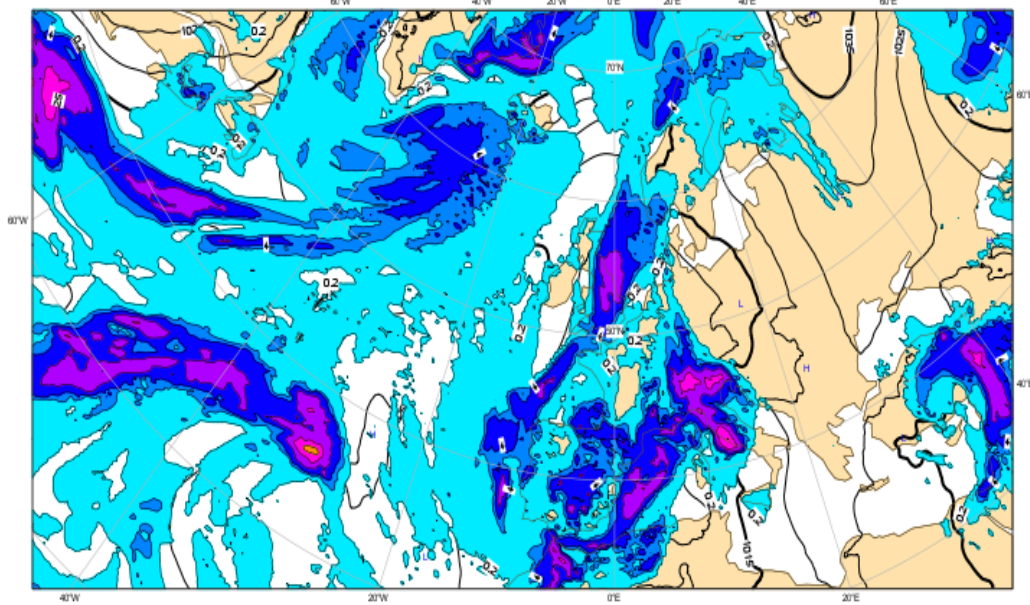
Monday 31 October 2011 00 UTC ecmf-h132 VT:Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Monday 31 October 2011 00 UTC ecmf-h132 VT:Saturday 05 November 2011 12 UTC 850 hPa Temperature



Monday 31 October 2011 00 UTC ecmf-h138 VT:Saturday 05 November 2011 18 UTC surface Total precipitation  
Monday 31 October 2011 00 UTC ecmf-h132 VT:Saturday 05 November 2011 12 UTC surface Mean sea level pressure

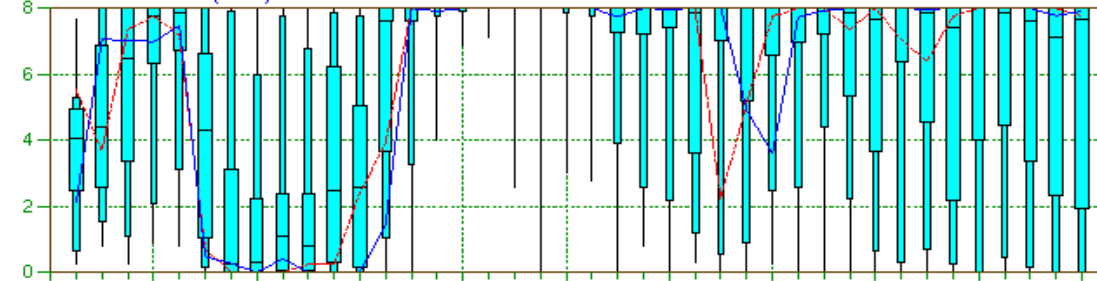


Monday 31 October 2011 00 UTC ecmf-h138 VT:Saturday 05 November 2011 18 UTC surface Total precipitation  
Monday 31 October 2011 00 UTC ecmf-h132 VT:Saturday 05 November 2011 12 UTC surface Mean sea level pressure

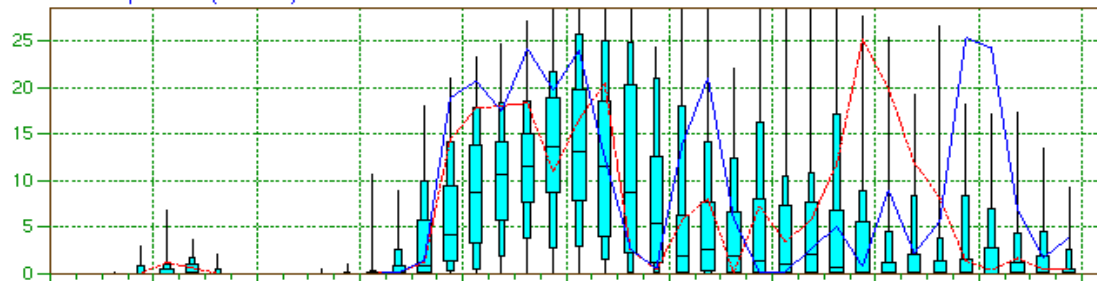


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Monday 31 October 2011 00 UTC

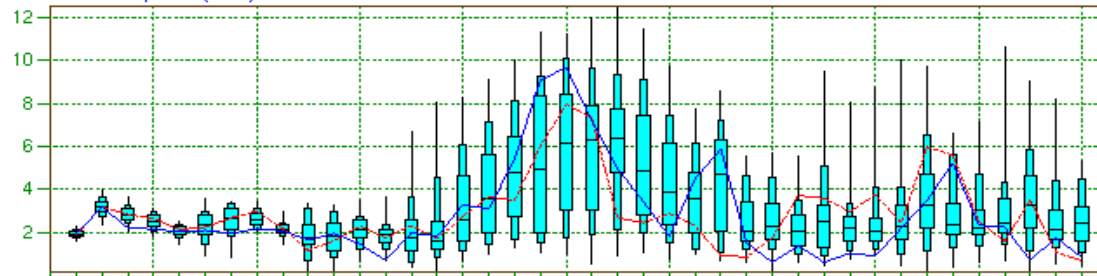
Total Cloud Cover (okta)



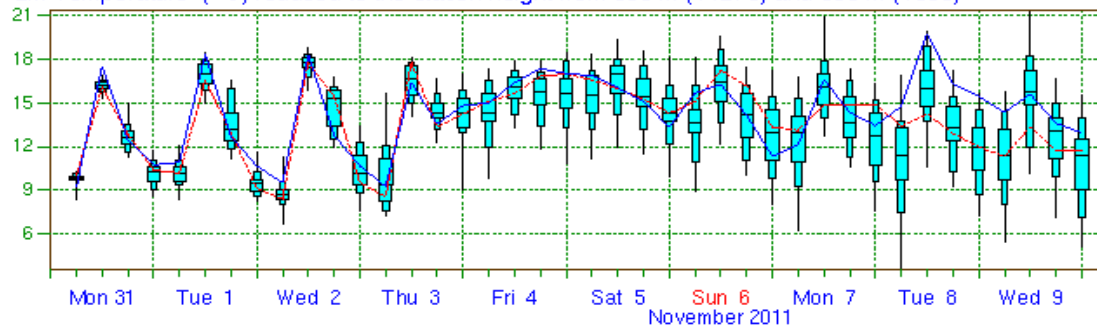
Total Precipitation (mm/6h)



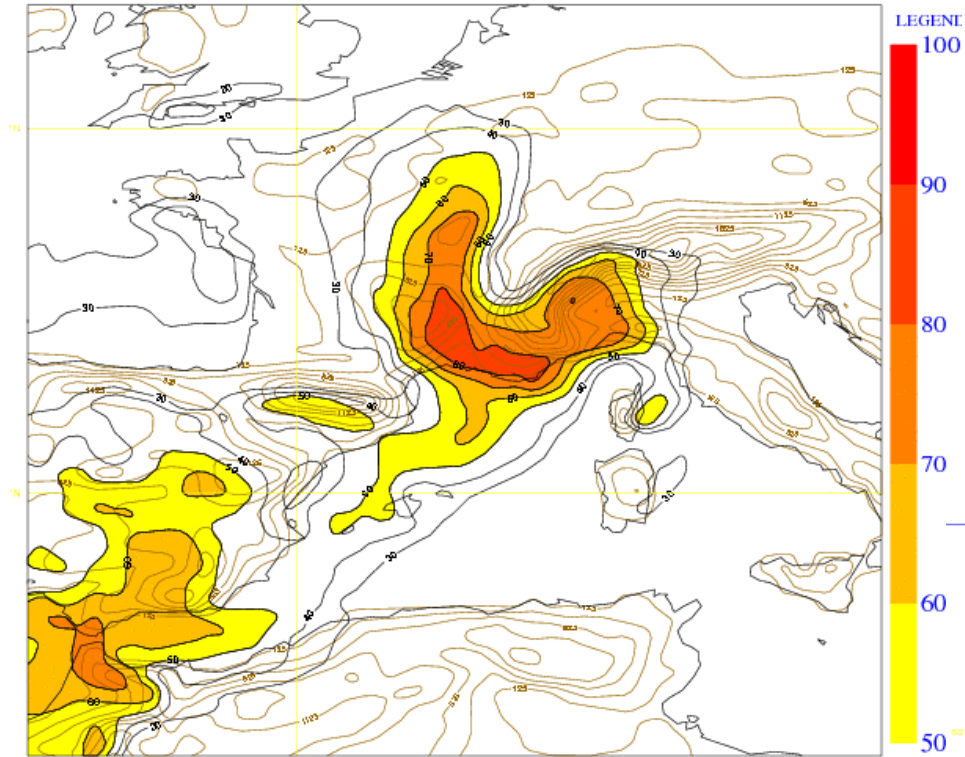
10m Wind Speed (m/s)



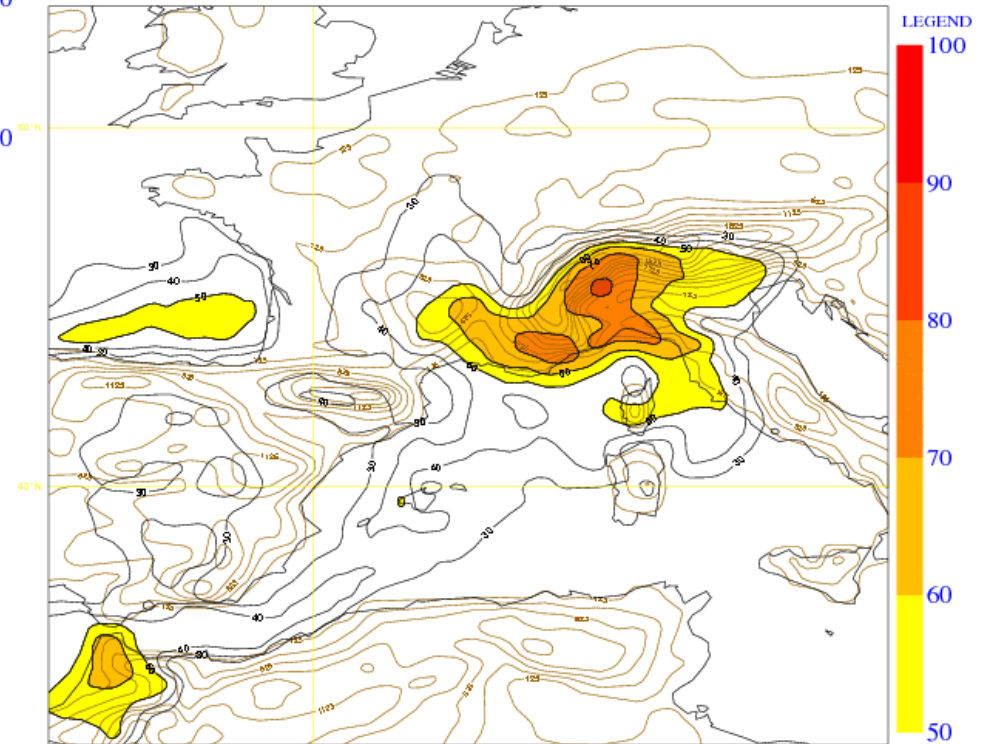
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 31 October 2011 00UTC, VT: Saturday 5 November 2011 00UTC



Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 31 October 2011 00UTC, VT: Sunday 6 November 2011 00UTC

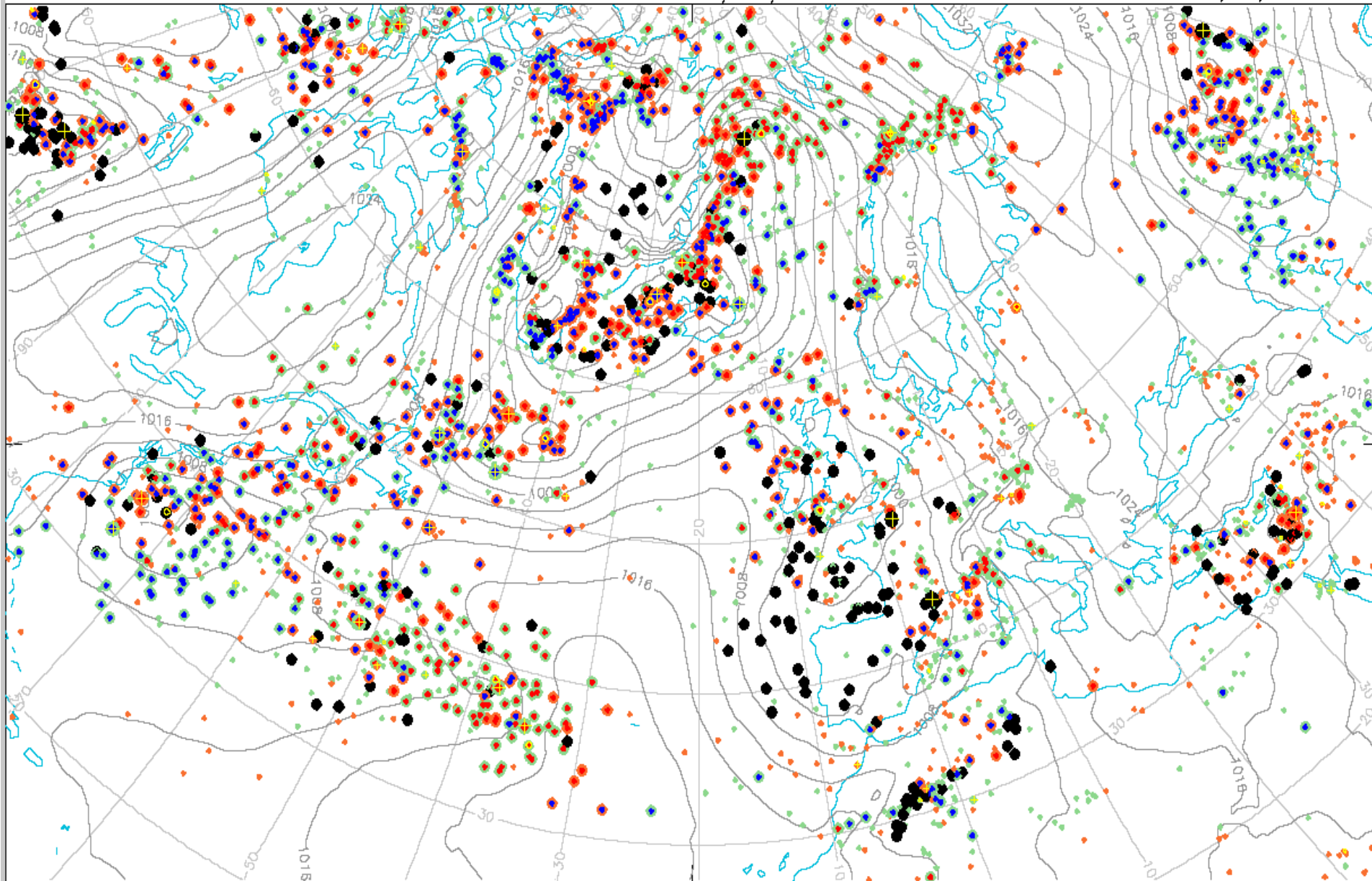




Lead Time: T+120

Data time: Mon 31/10/2011 00Z

Valid Time: Sat 05/11/2011 00Z



◆ Std Diminutive Wave (warm front)  
◆ Std Diminutive Wave (cold front)  
● Weak Diminutive Wave

◆ Std Frontal Wave (warm front)  
◆ Std Frontal Wave (cold front)  
◆ Weak Frontal Wave

● Barotropic Low  
◆ Control Run Features  
◆ Deterministic Run Features

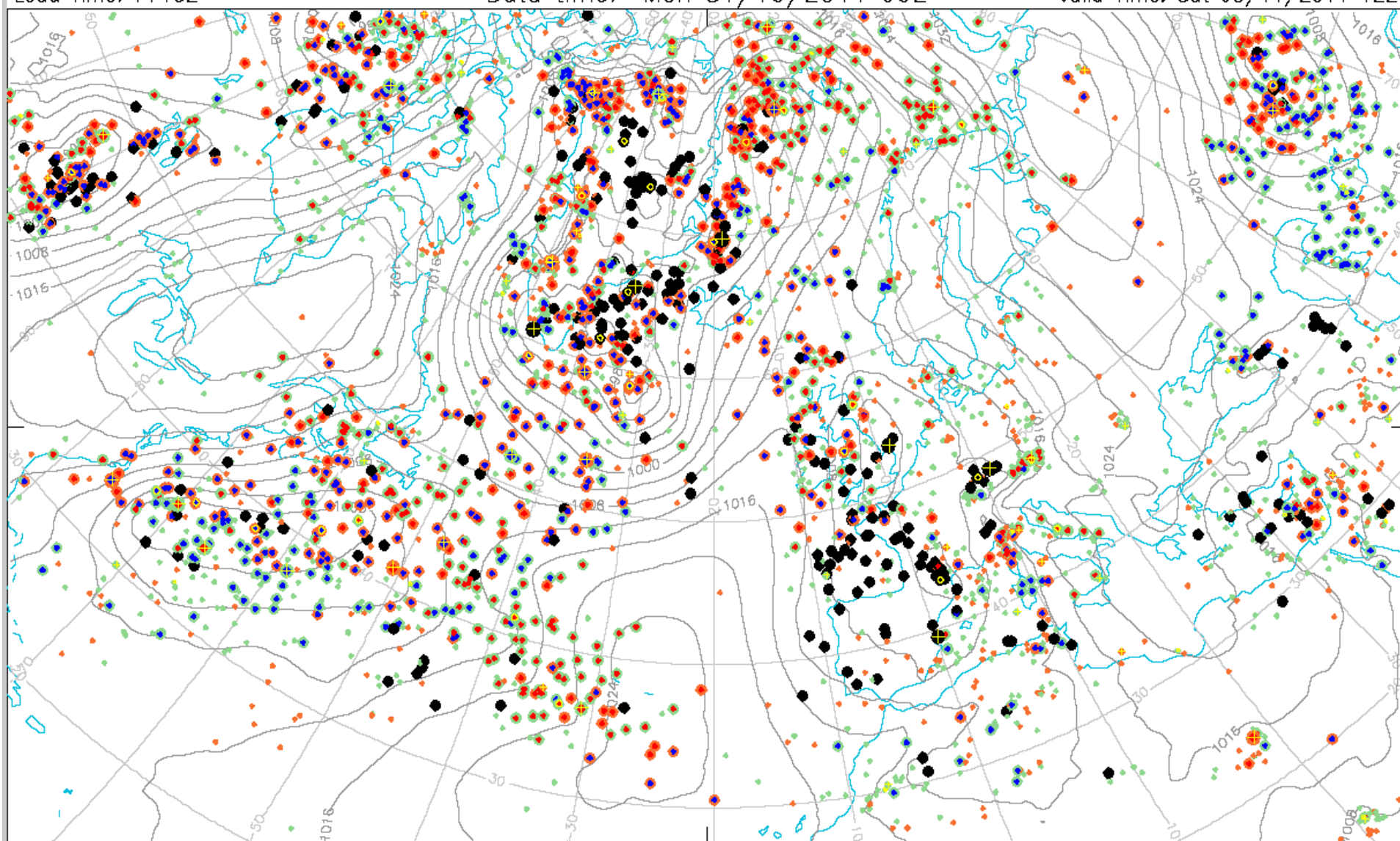
Plotting Order is: Control run mslp, then..  
Feature spots – for SD members, then Control, then Deterministic  
Then yellow markers – for Control, then Deterministic



Lead Time: T+132

Data time: Mon 31/10/2011 00Z

Valid Time: Sat 05/11/2011 12Z

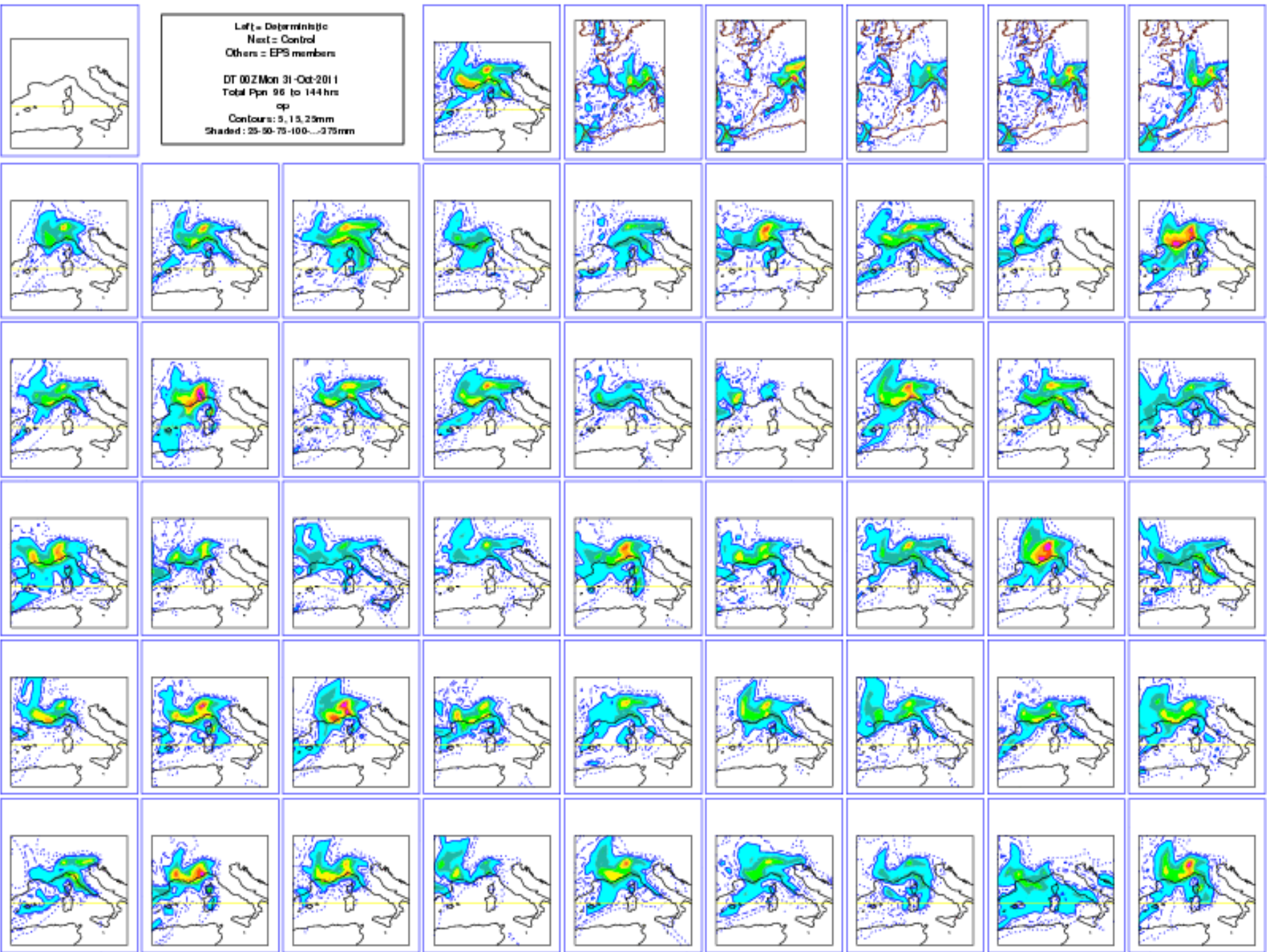


◆ Std Diminutive Wave (warm front)  
◆ Std Diminutive Wave (cold front)  
● Weak Diminutive Wave

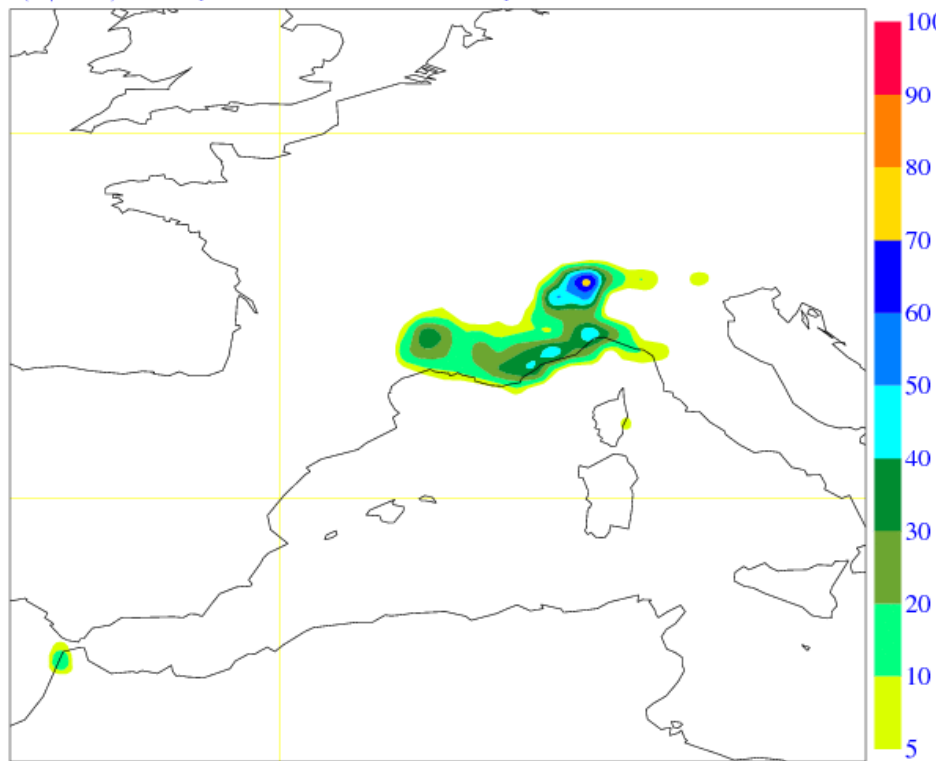
◆ Std Frontal Wave (warm front)  
◆ Std Frontal Wave (cold front)  
◆ Weak Frontal Wave

◆ Barotropic Low  
◆ Control Run Features  
◆ Deterministic Run Features

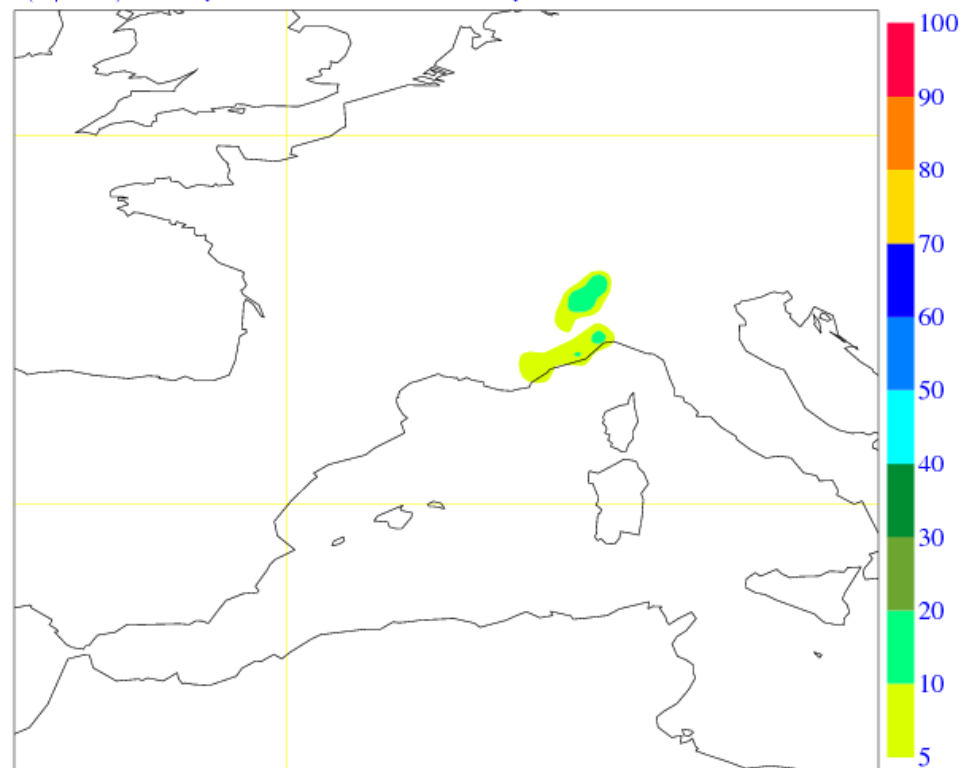
Plotting Order is: Control run mslp, then..  
Feature spots – for 50 members, then Control, then Deterministic  
Then yellow markers – for Control, then Deterministic



Monday 31 October 2011 00UTC@ECMWF EPS: total precipitation probability of exceeding 100mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+96-144h



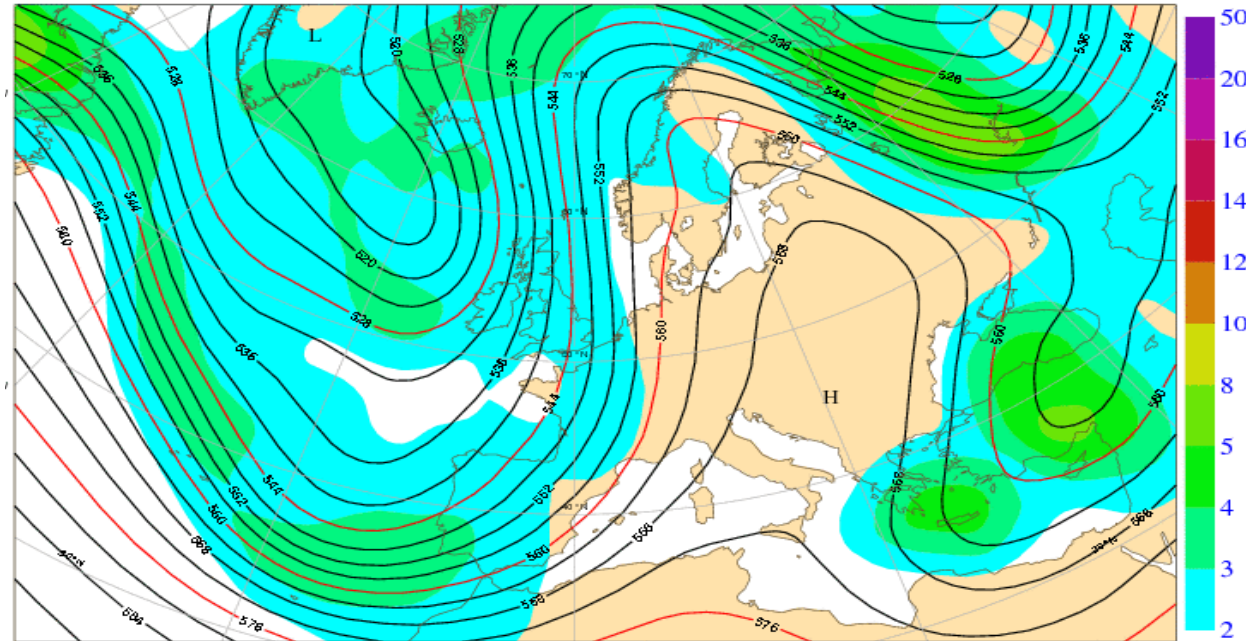
Monday 31 October 2011 00UTC@ECMWF EPS: total precipitation probability of exceeding 150mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+96-144h



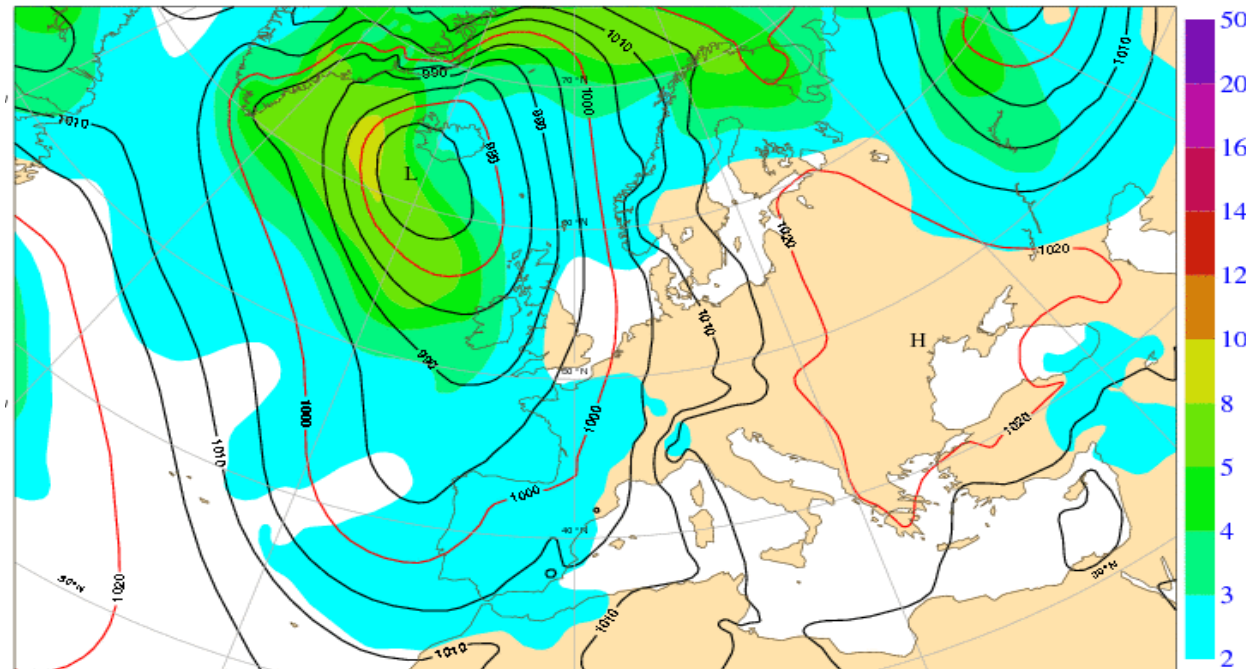
**2011-10-31 12UTC**



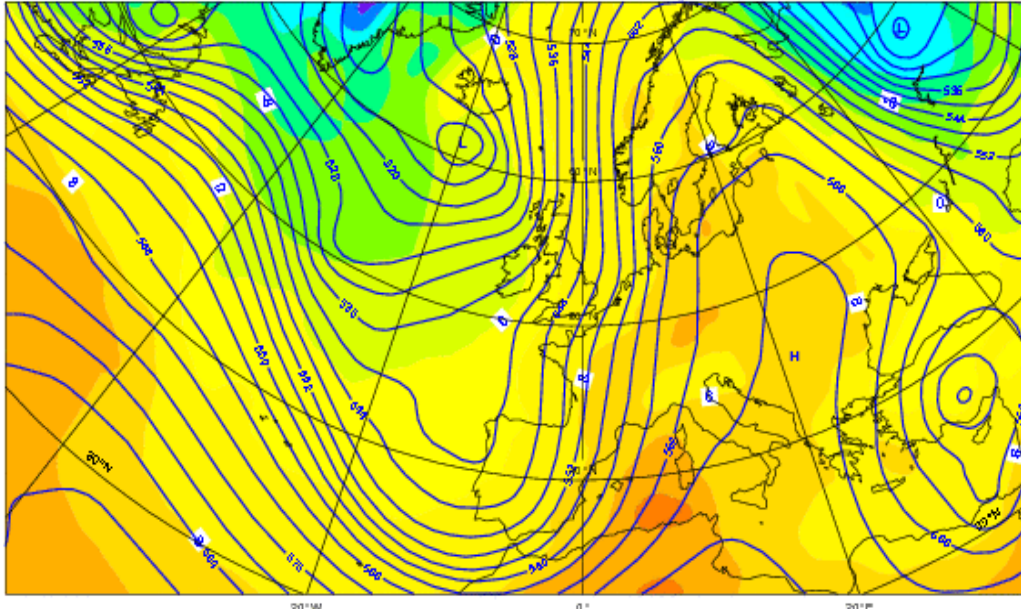
Monday 31 October 2011 12UTC ECMWF T+84 VT: Friday 4 November 2011 00UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



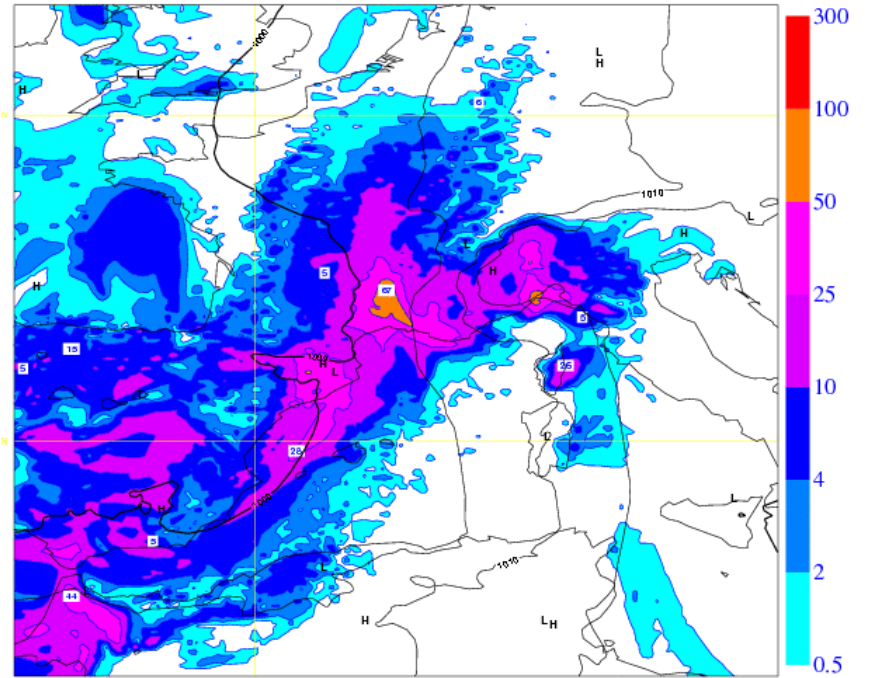
Monday 31 October 2011 12UTC ECMWF T+84 VT: Friday 4 November 2011 00UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



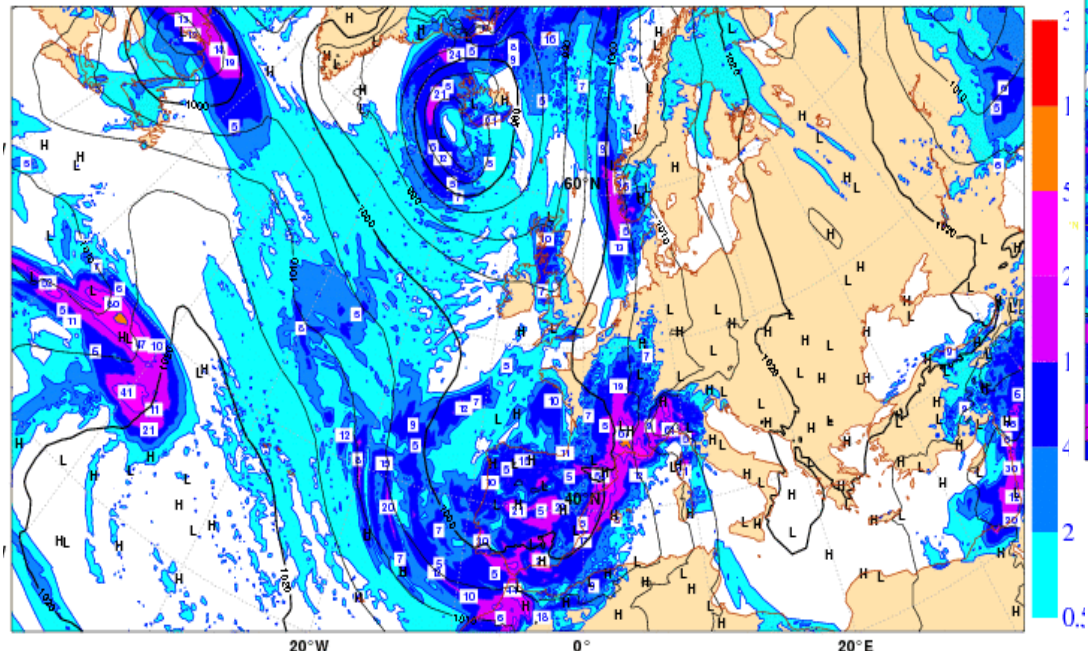
Monday 31 October 2011 12UTC ECMWF Forecast t+ 96 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



Monday 31 October 2011 12UTC @ECMWF MSLP T+96 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

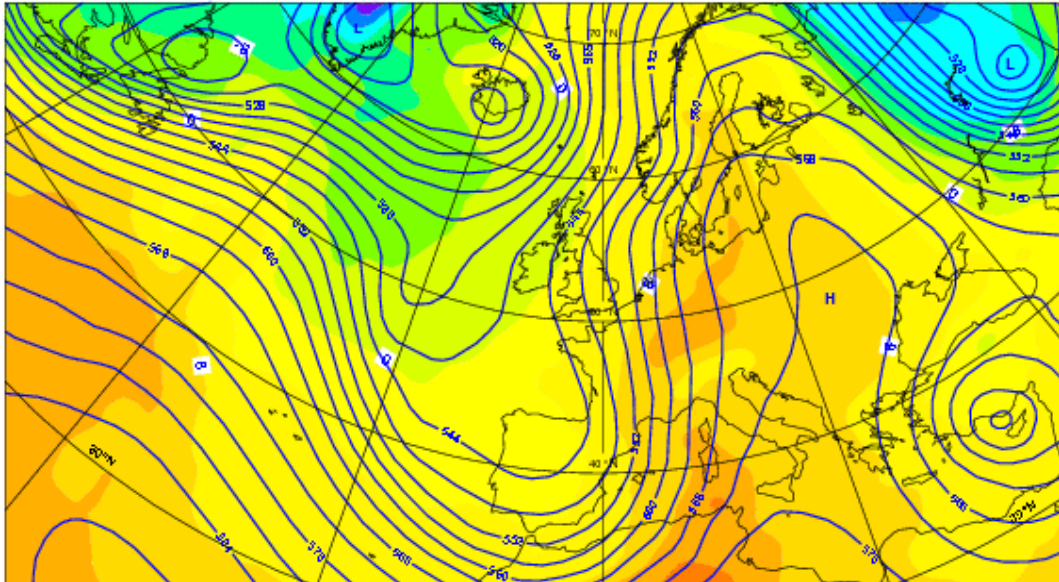


Monday 31 October 2011 12UTC @ECMWF MSLP T+96 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

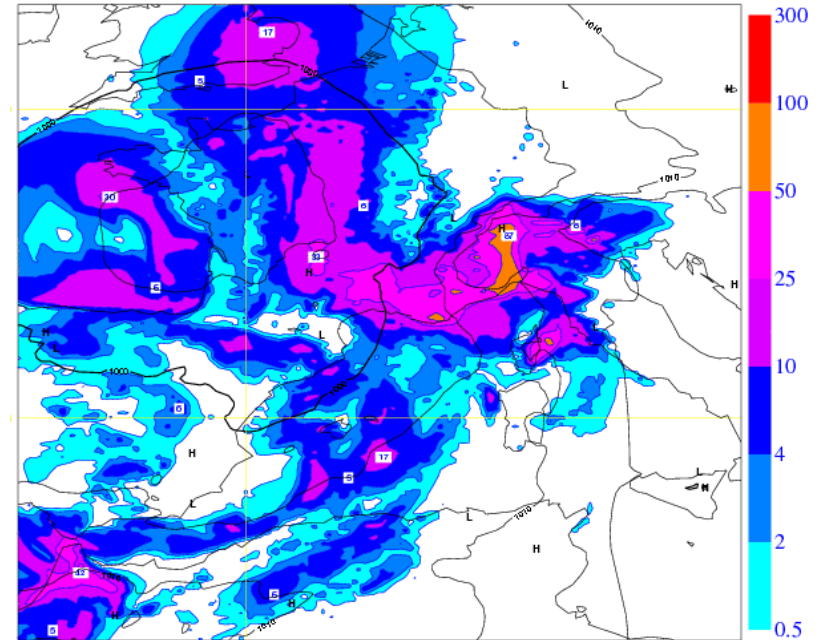




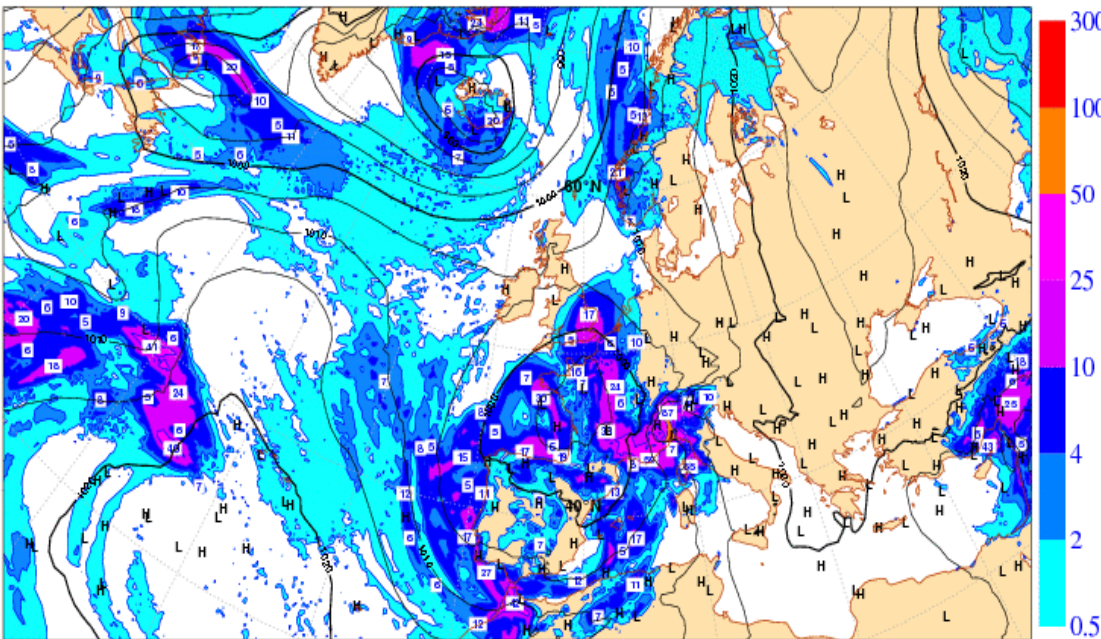
Monday 31 October 2011 12UTC ECMWF Forecast t+108 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



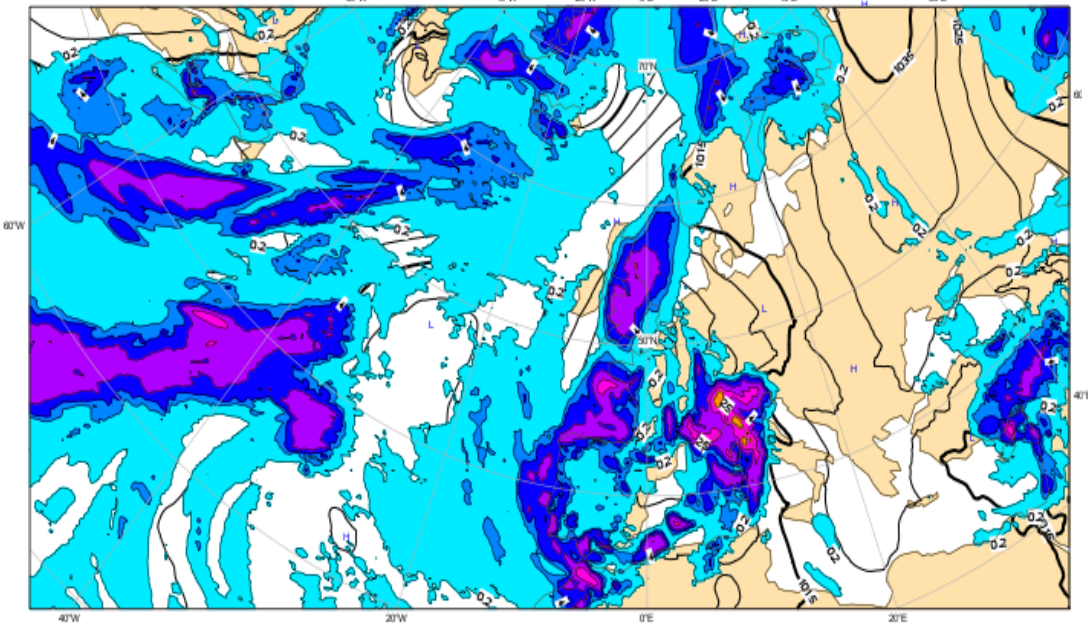
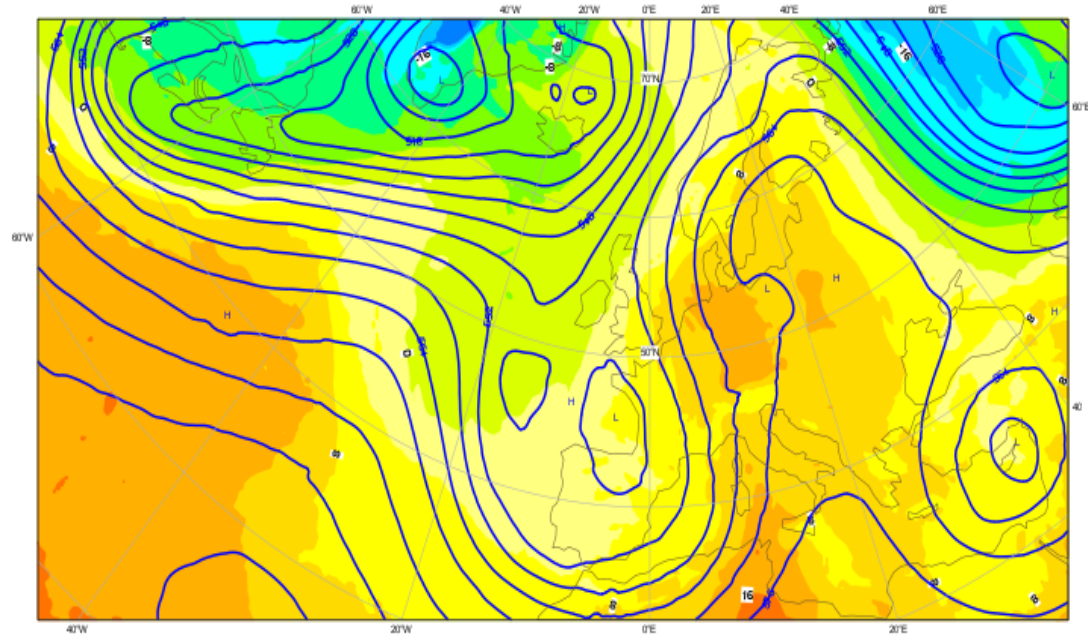
Monday 31 October 2011 12UTC @ECMWF MSLP T+108 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



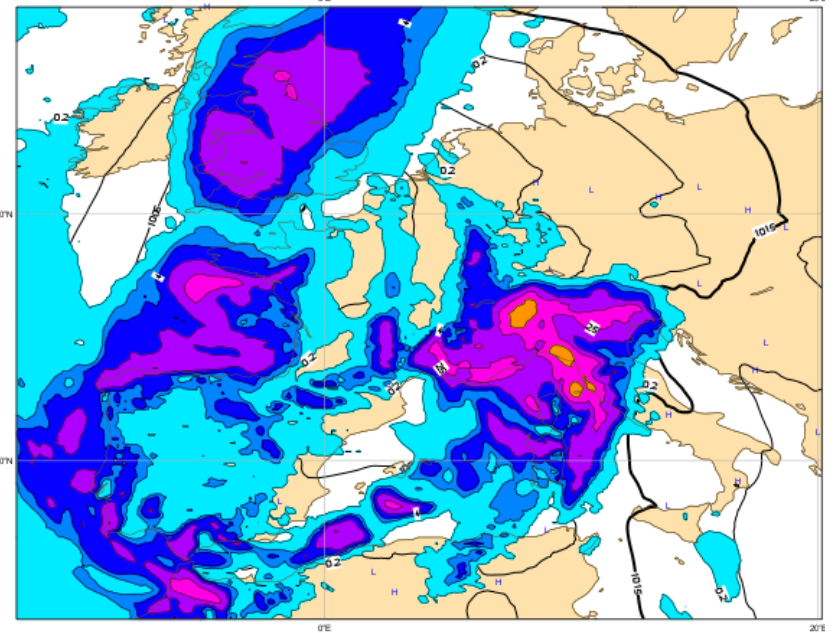
Monday 31 October 2011 12UTC @ECMWF MSLP T+108 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



Monday 31 October 2011 12 UTC ecmf-h-120 VT:Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
 Monday 31 October 2011 12 UTC ecmf-h-120 VT:Saturday 05 November 2011 12 UTC 850 hPa Temperature



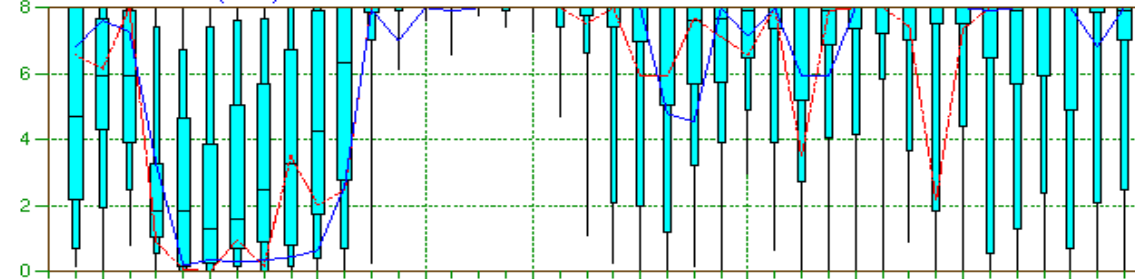
Monday 31 October 2011 12 UTC ecmf-h-126 VT:Saturday 05 November 2011 18 UTC surface Total precipitation  
 Monday 31 October 2011 12 UTC ecmf-h-120 VT:Saturday 05 November 2011 12 UTC surface Mean sea level pressure



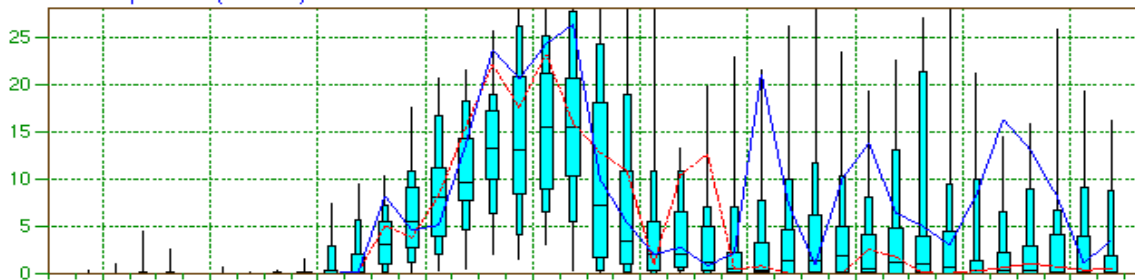


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Monday 31 October 2011 12 UTC

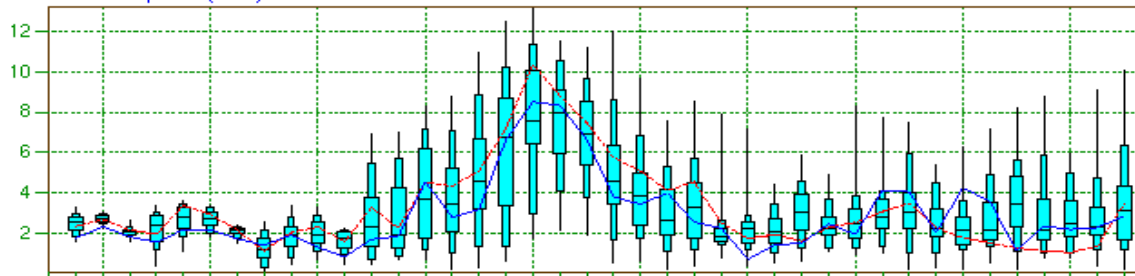
Total Cloud Cover (okta)



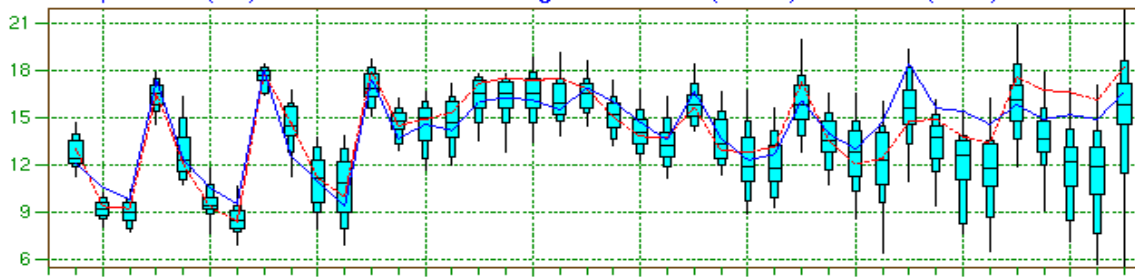
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



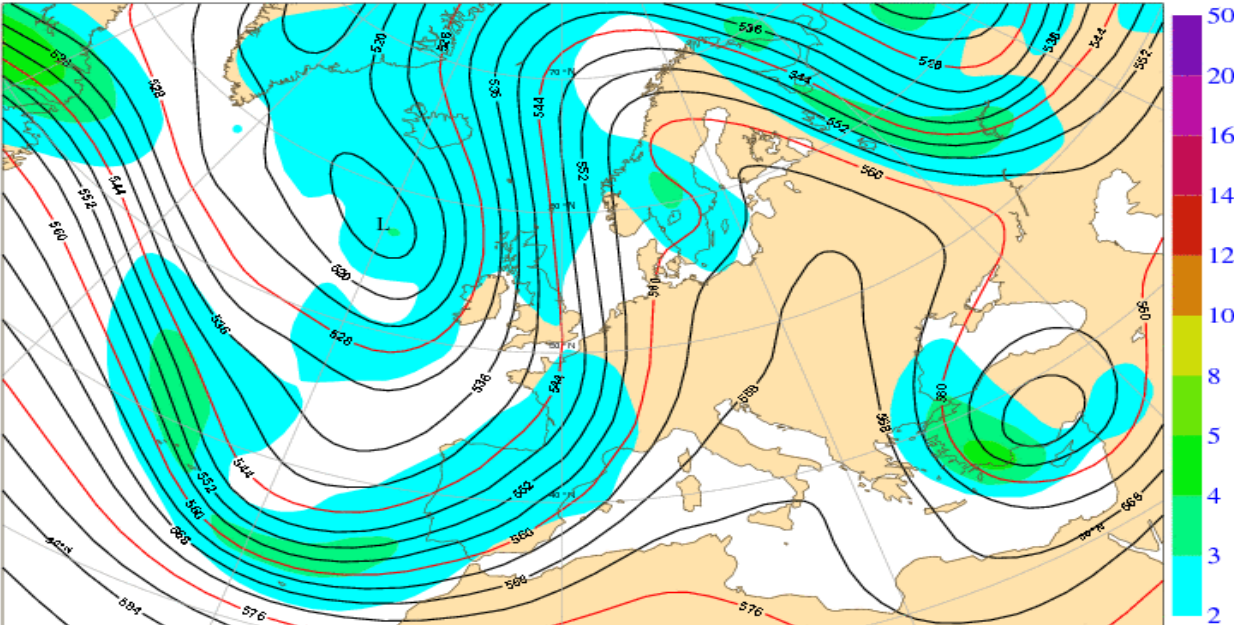
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



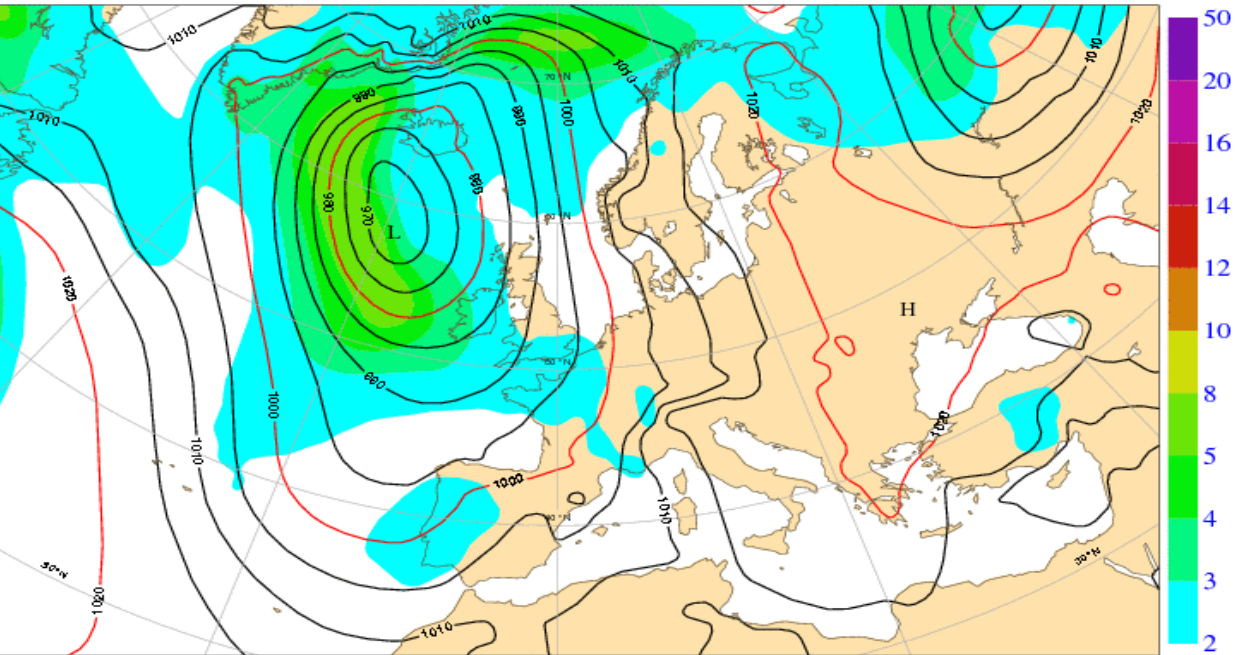
Mon 31    Tue 1    Wed 2    Thu 3    Fri 4    Sat 5    Sun 6    Mon 7    Tue 8    Wed 9    Thu 10  
November 2011

**2011-11-01 00UTC**

Tuesday 1 November 2011 00UTC ECMWF T+72 VT: Friday 4 November 2011 00UTC  
500hPa \*\*Geopotential EPS mean and EPS spread

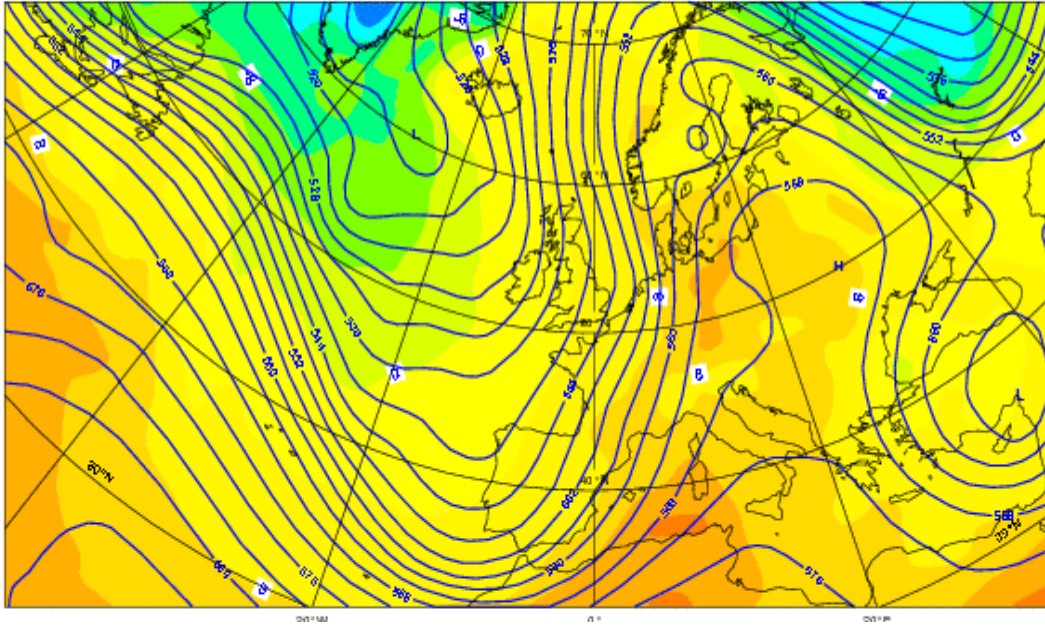


Tuesday 1 November 2011 00UTC ECMWF T+72 VT: Friday 4 November 2011 00UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread

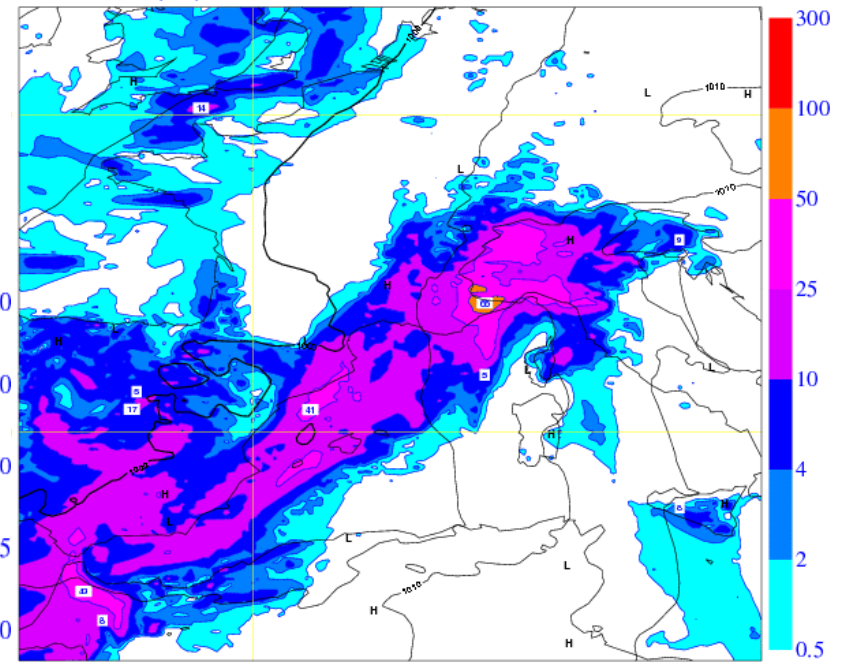




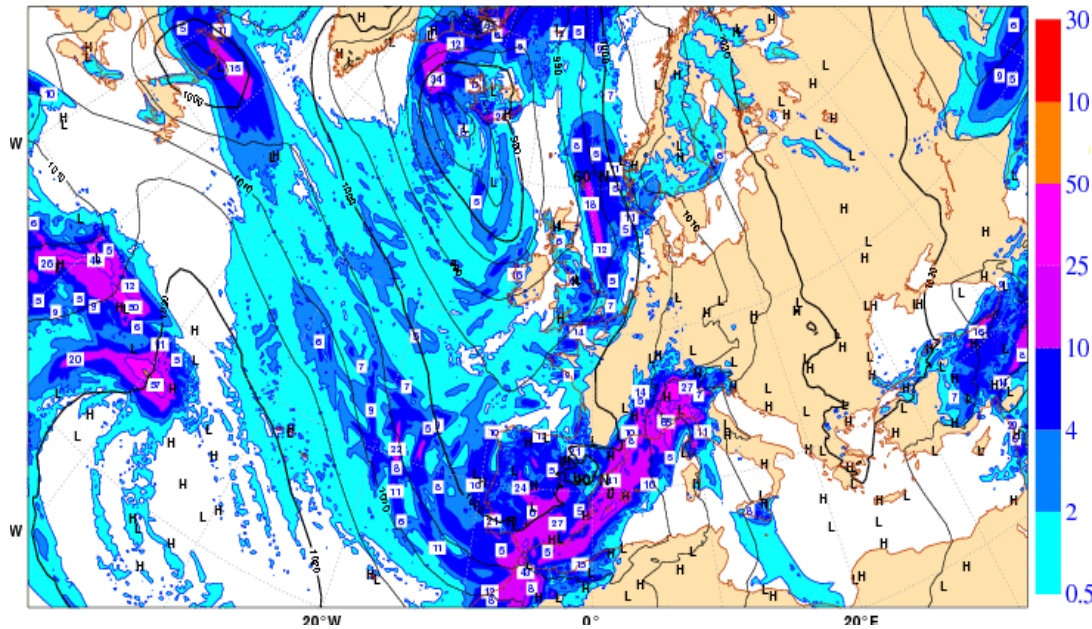
Tuesday 1 November 2011 00UTC ECMWF Forecast t+ 84 VT: Friday 4 November 2011 12UTC  
 500 hPa Height / 850 hPa Temperature



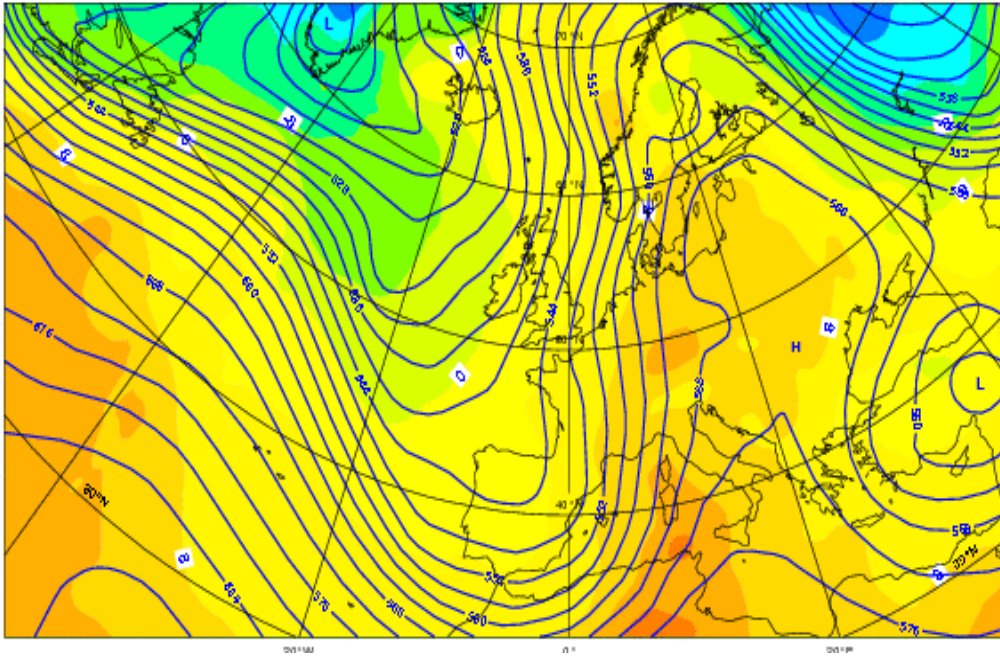
Tuesday 01 November 2011 00UTC @ECMWF MSLP T+84 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



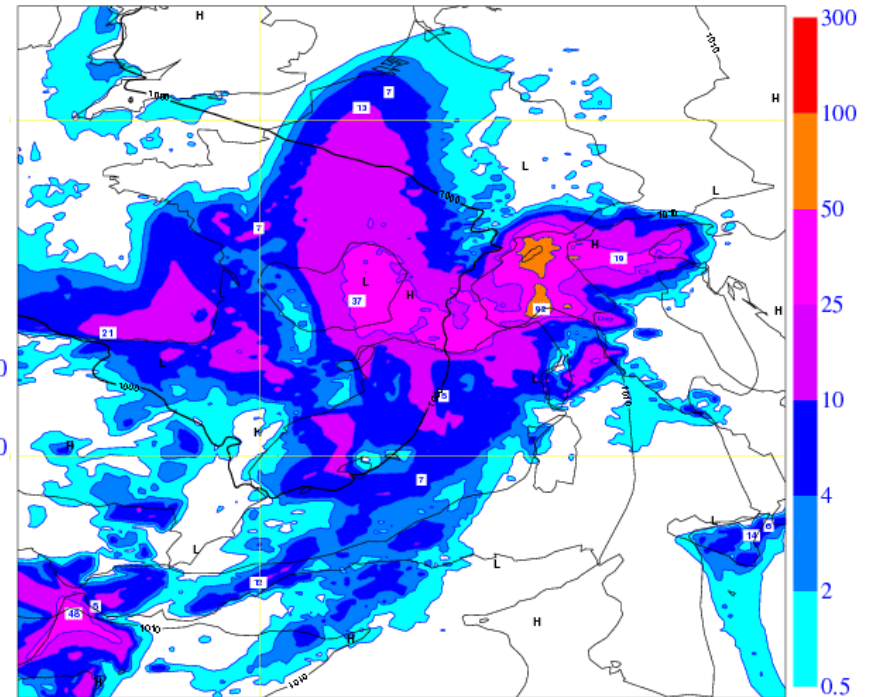
Tuesday 01 November 2011 00UTC @ECMWF MSLP T+84 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



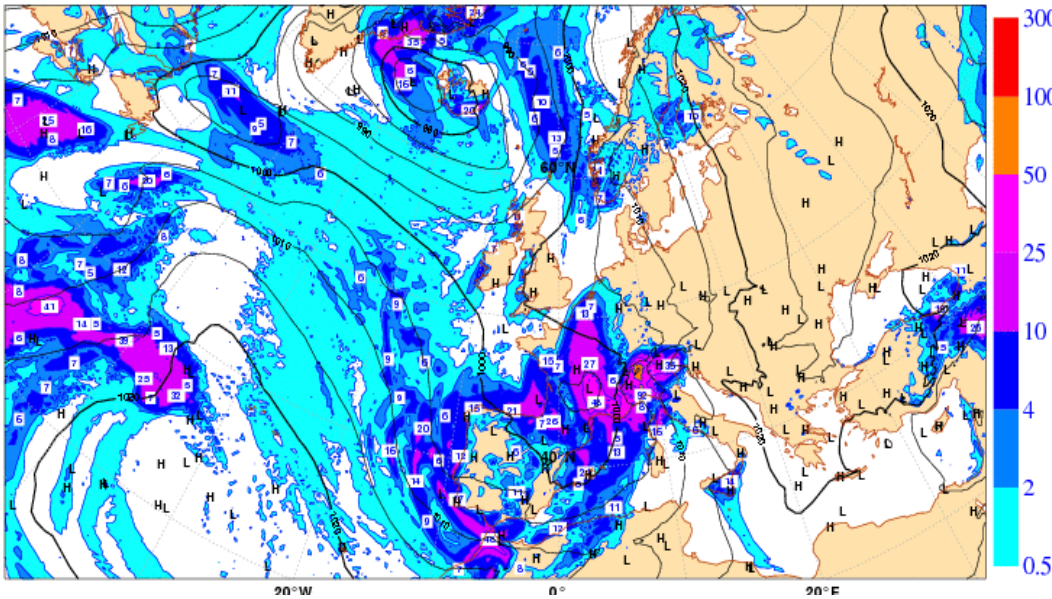
Tuesday 1 November 2011 00UTC ECMWF Forecast  $\pm 96$  VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



Tuesday 01 November 2011 00UTC @ECMWF MSLP T+96 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

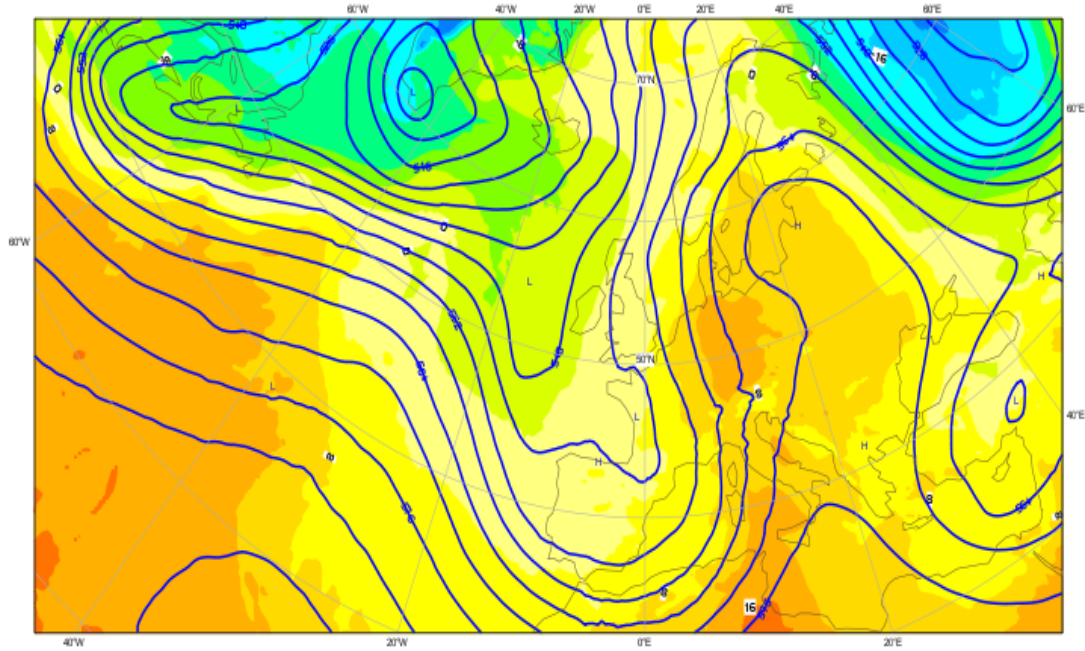


Tuesday 01 November 2011 00UTC @ECMWF MSLP T+96 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC

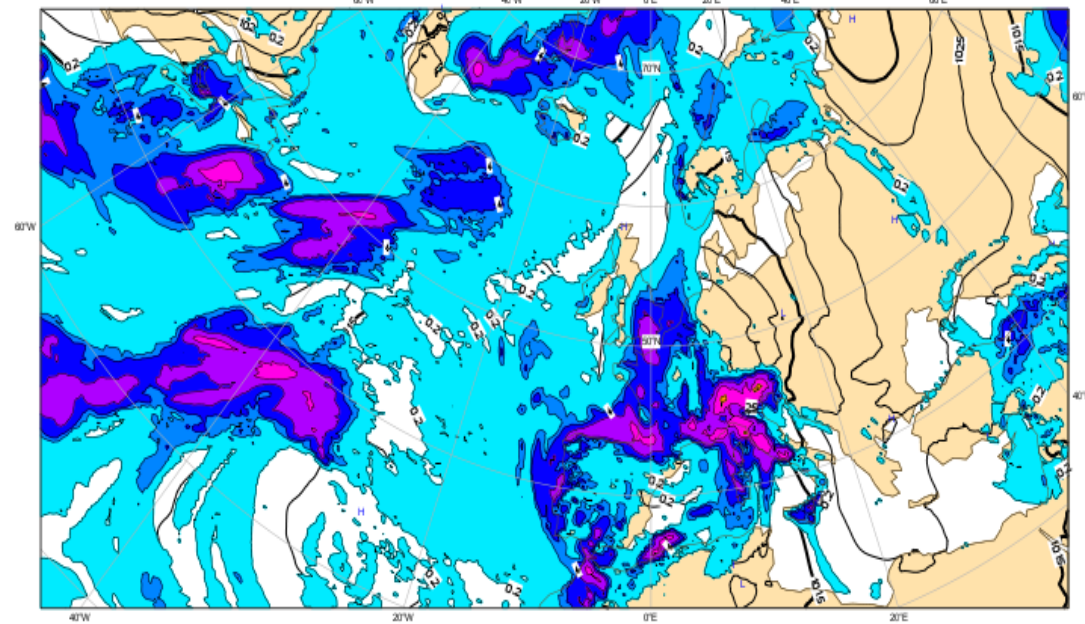




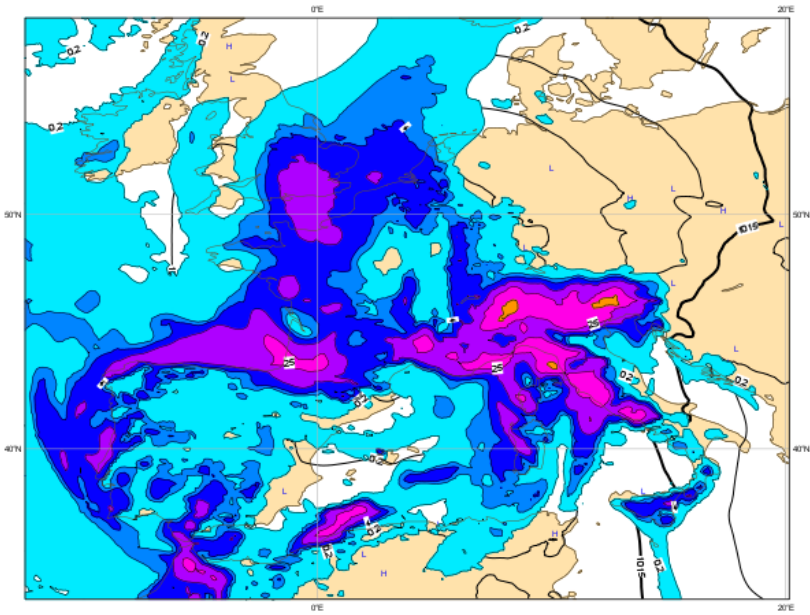
Tuesday 01 November 2011 00 UTC ecmf-h-108 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
 Tuesday 01 November 2011 00 UTC ecmf-h-108 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



Tuesday 01 November 2011 00 UTC ecmf-h-114 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
 Tuesday 01 November 2011 00 UTC ecmf-h-108 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

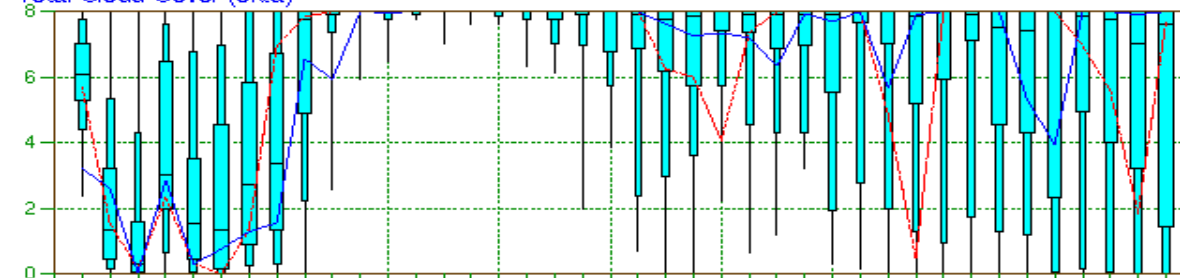


Tuesday 01 November 2011 00 UTC ecmf-h-114 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
 Tuesday 01 November 2011 00 UTC ecmf-h-108 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

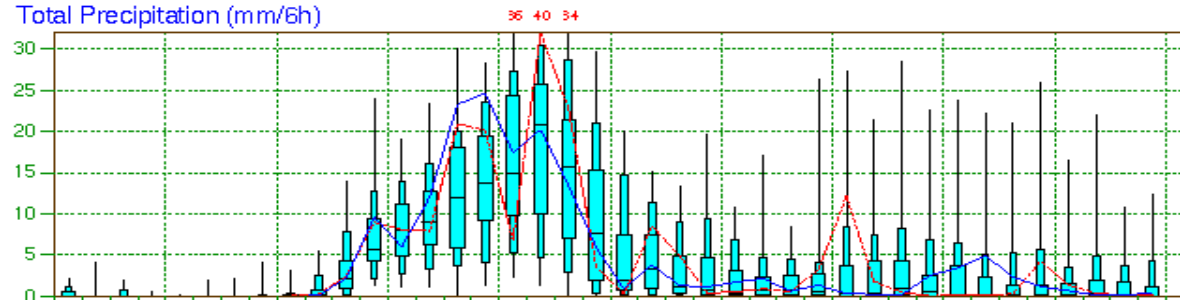


EPS Meteogram  
 Genoa 44.54° N 8° E (EPS land point) 37 m  
 Deterministic Forecast and EPS Distribution Tuesday 1 November 2011 00 UTC

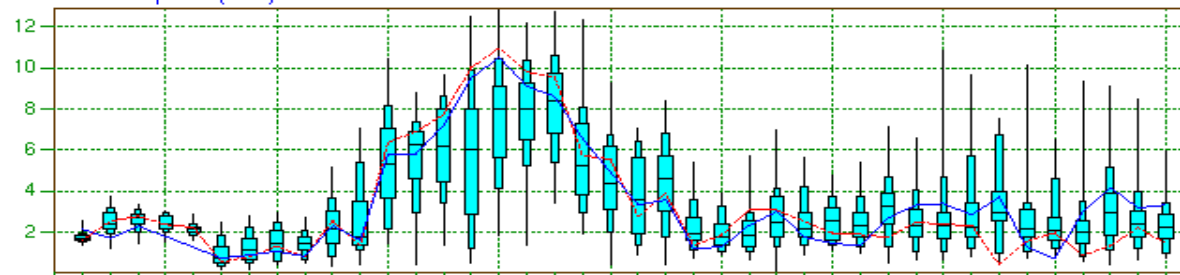
Total Cloud Cover (okta)



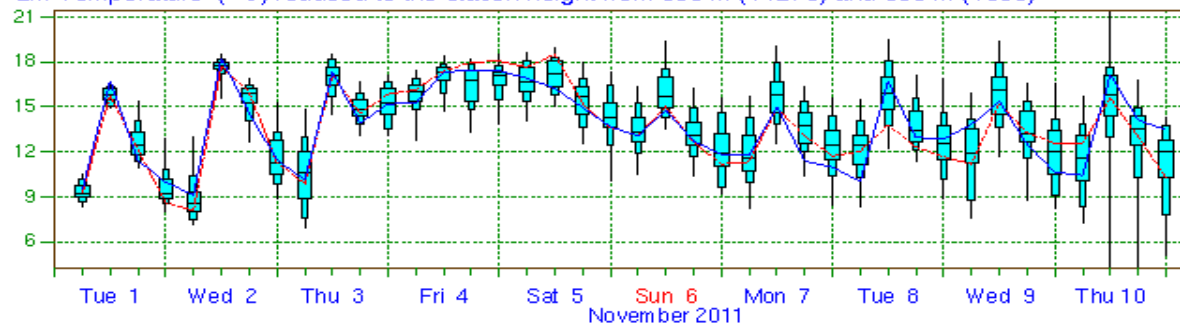
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)

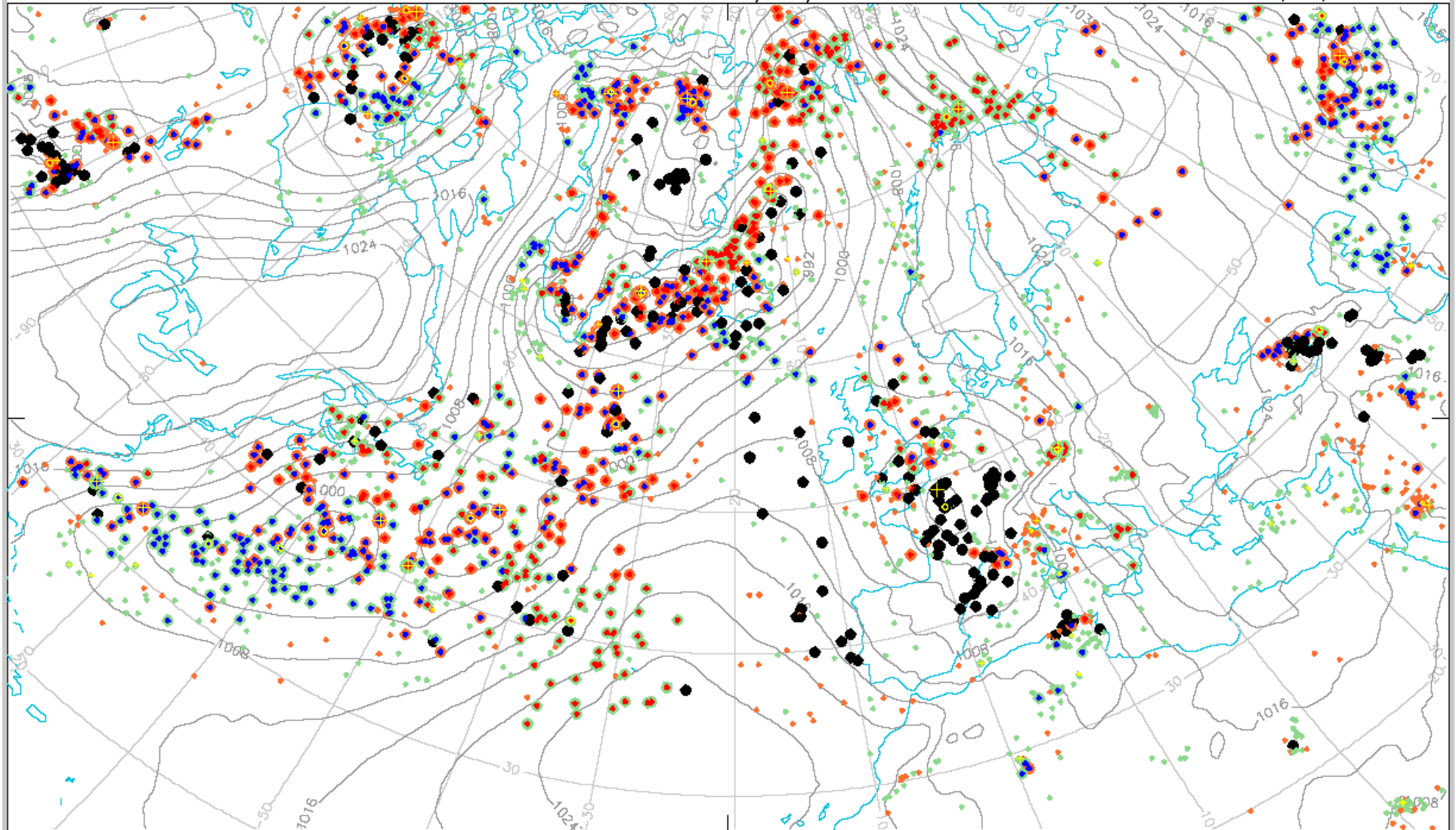




Lead Time: T+108

Data time: Tue 01/11/2011 00Z

Valid Time: Sat 05/11/2011 12Z



• Std Diminutive Wave (warm front)  
• Std Diminutive Wave (cold front)  
• Weak Diminutive Wave

• Std Frontal Wave (warm front)  
• Std Frontal Wave (cold front)  
• Weak Frontal Wave

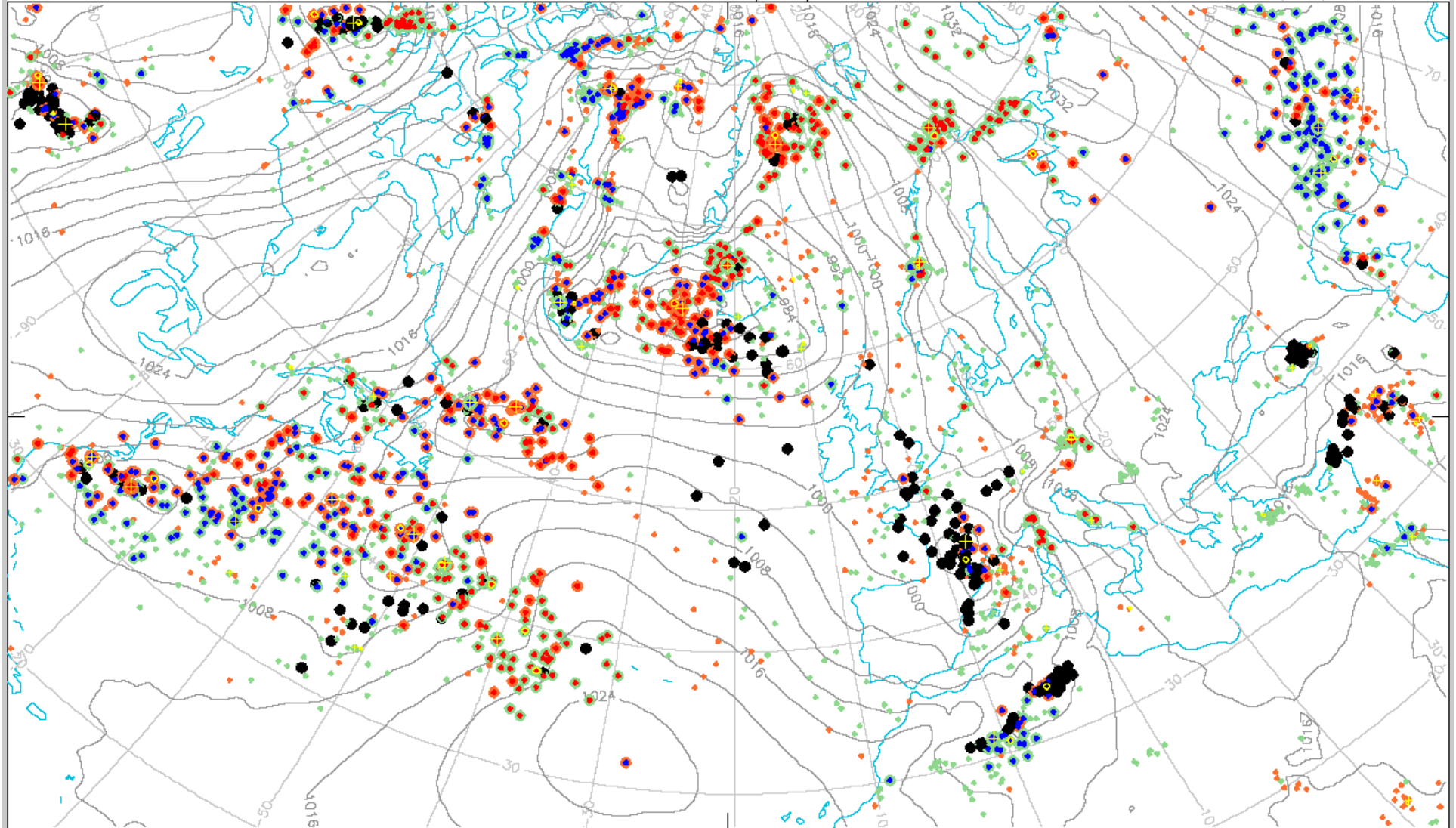
• Barotropic Low  
• Control Run Features  
• Deterministic Run Features

Plotting Order is: Control run mslp, then..  
Feature spots – for 50 members, then Control, then Deterministic  
Then yellow markers – for Control, then Deterministic

Lead Time: T+96

Data time: Tue 01/11/2011 00Z

Valid Time: Sat 05/11/2011 00Z



• Std Diminutive Wave (warm front)  
• Std Diminutive Wave (cold front)  
• Weak Diminutive Wave

• Std Frontal Wave (warm front)  
• Std Frontal Wave (cold front)  
• Weak Frontal Wave

• Barotropic Low  
• Control Run Features  
• Deterministic Run Features

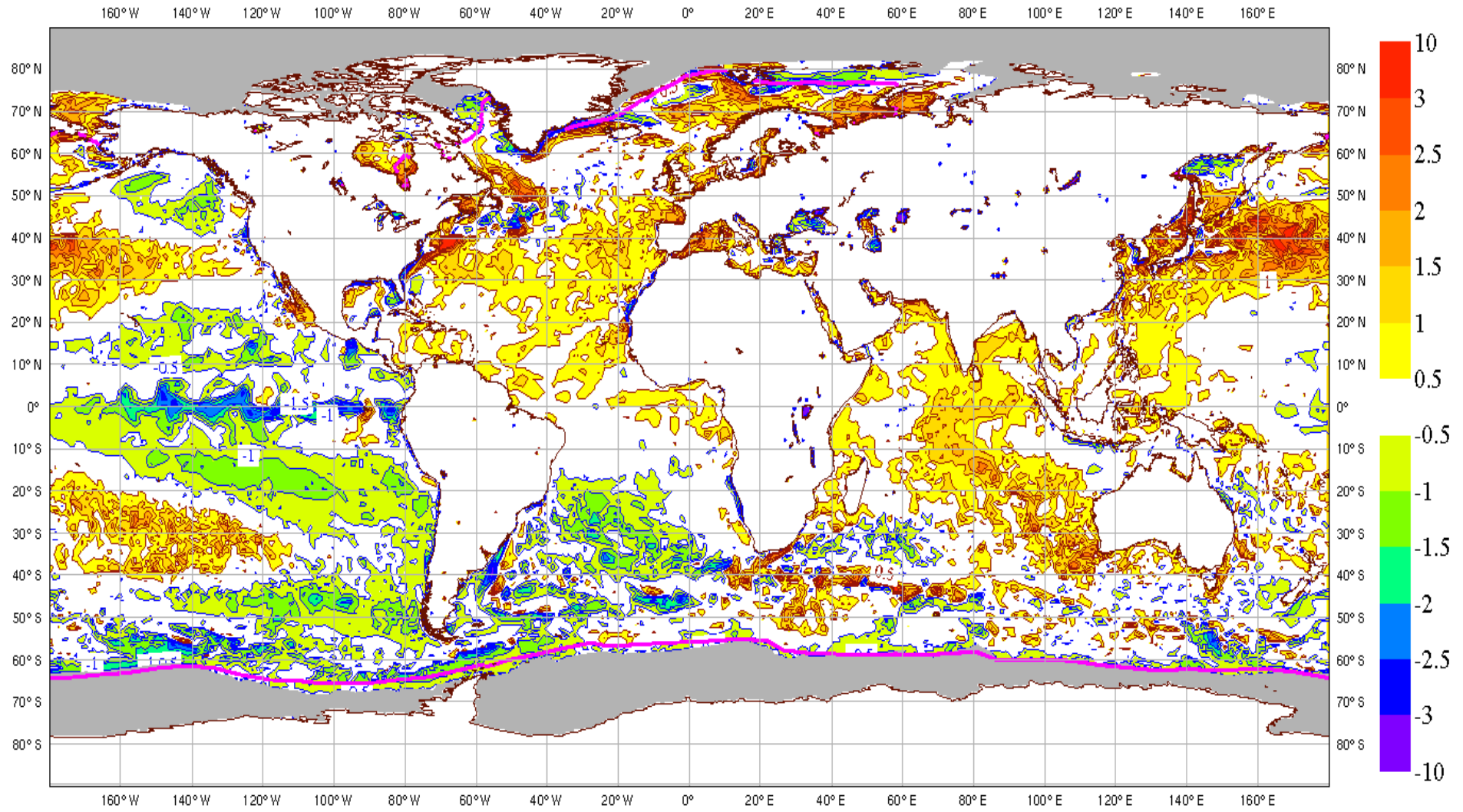
Plotting Order is: Control run mslp, then..  
Feature spots – for 50 members, then Control, then Deterministic  
Then yellow markers – for Control, then Deterministic

Tuesday 1 November 2011 00UTC ©ECMWF Analysis t+000 VT: Tuesday 1 November 2011 00UTC

Surface: Soil temperature level 1 / Surface: sic

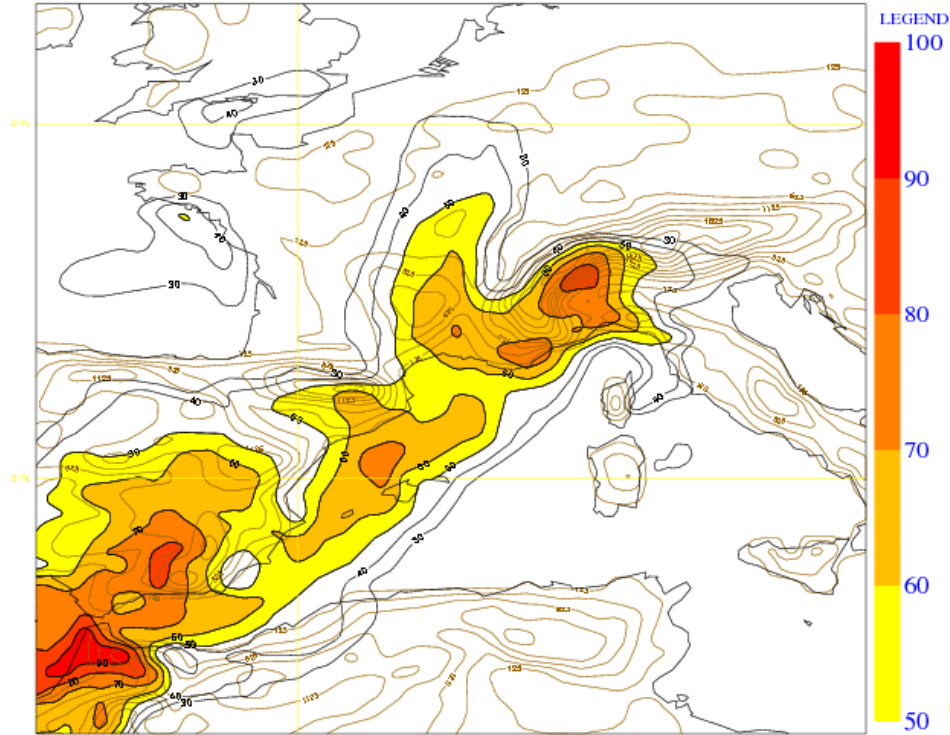
Sea Surface Temperature : Analysis - Climate

Ice-edge : Analysis Climate

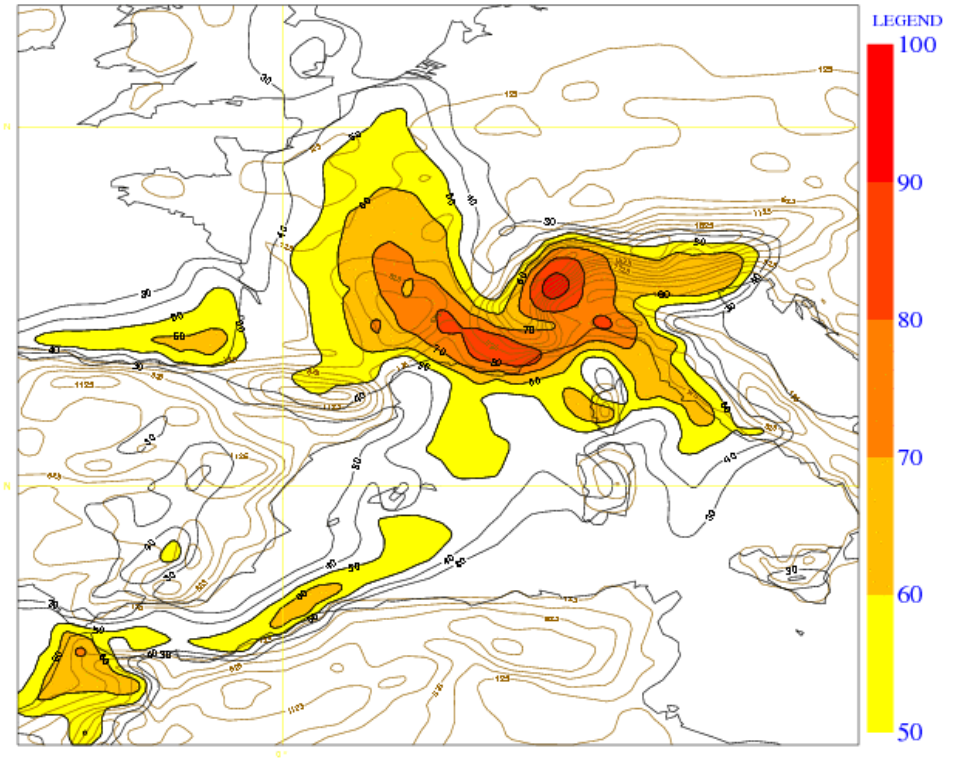


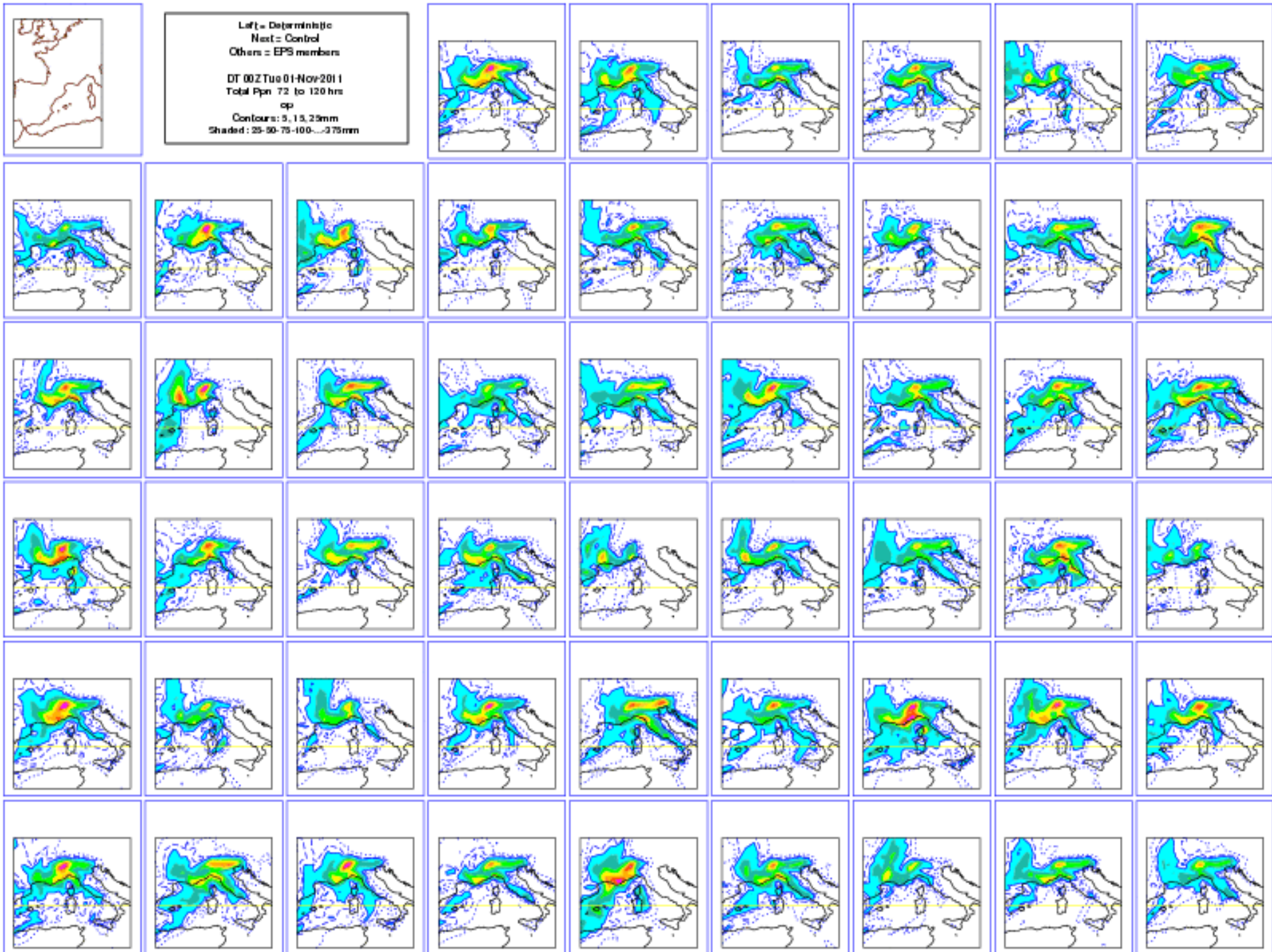


Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 1 November 2011 00UTC, VT: Saturday 5 November 2011 00UTC

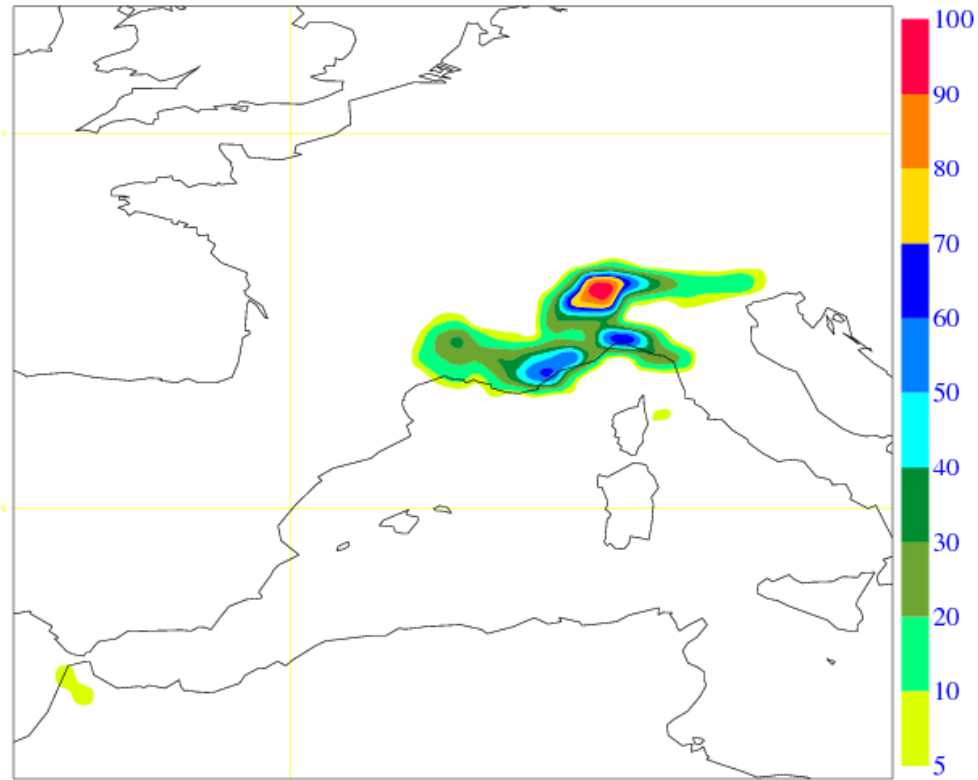


Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 1 November 2011 00UTC, VT: Sunday 6 November 2011 00UTC

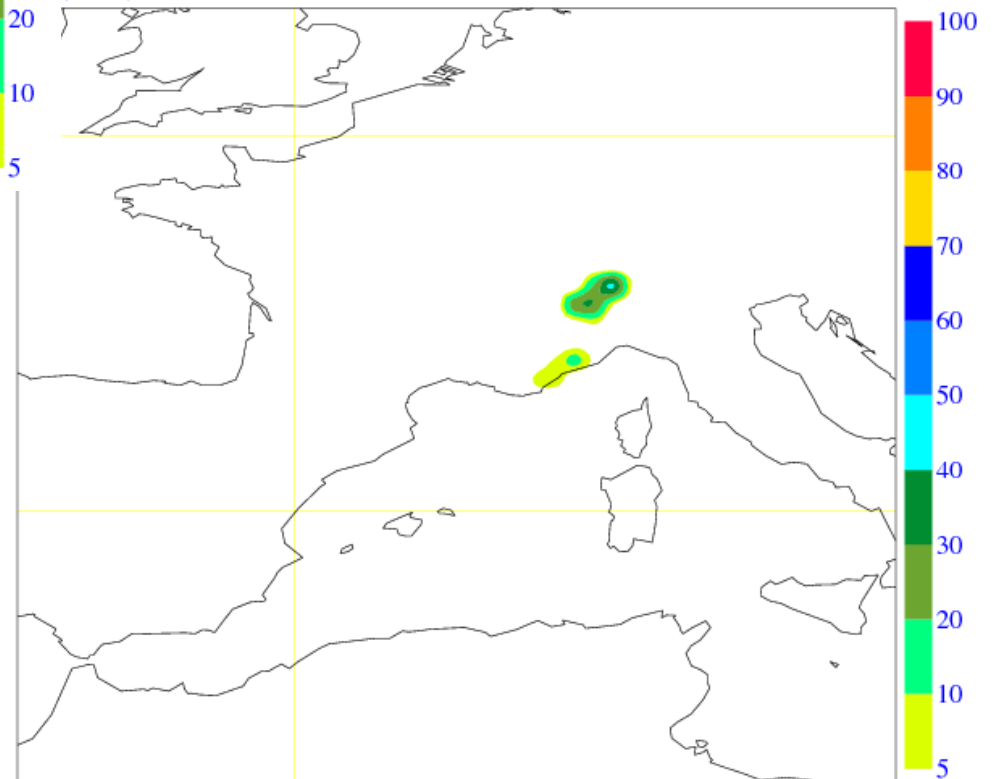




Tuesday 1 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 100mm  
(expver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+72-120h



day 1 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 150mm  
(pver -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+72-120h

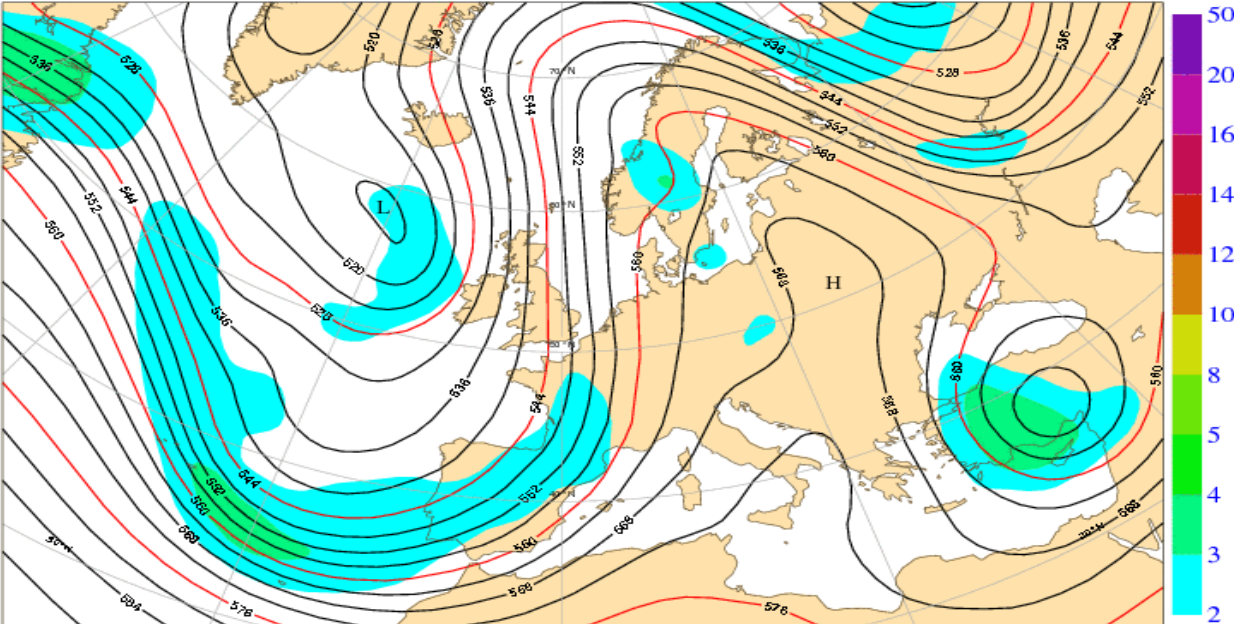




**2011-11-01 12UTC**

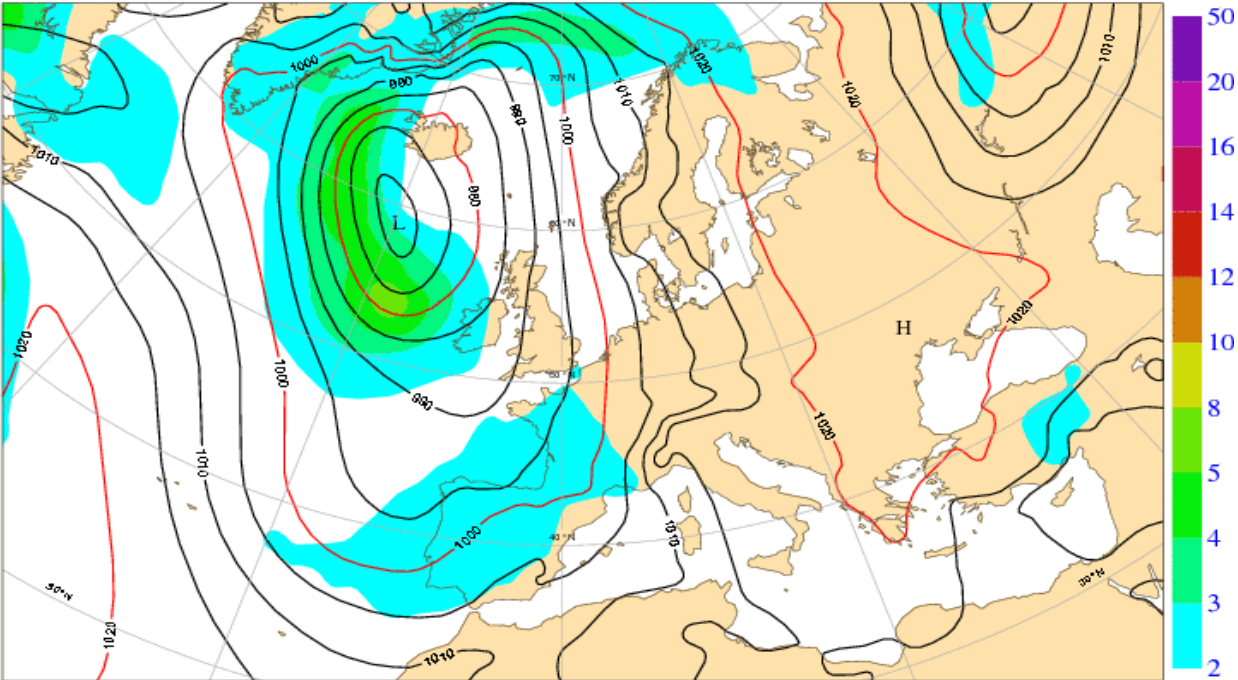
Tuesday 1 November 2011 12UTC ECMWF T+60 VT: Friday 4 November 2011 00UTC

500hPa \*\*Geopotential EPS mean and EPS spread

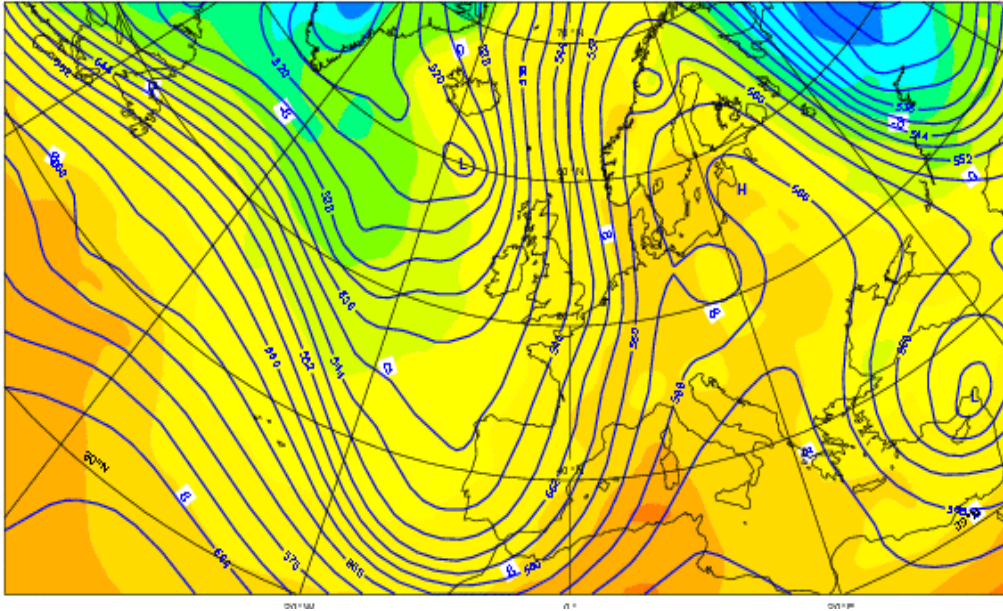


Tuesday 1 November 2011 12UTC ECMWF T+60 VT: Friday 4 November 2011 00UTC

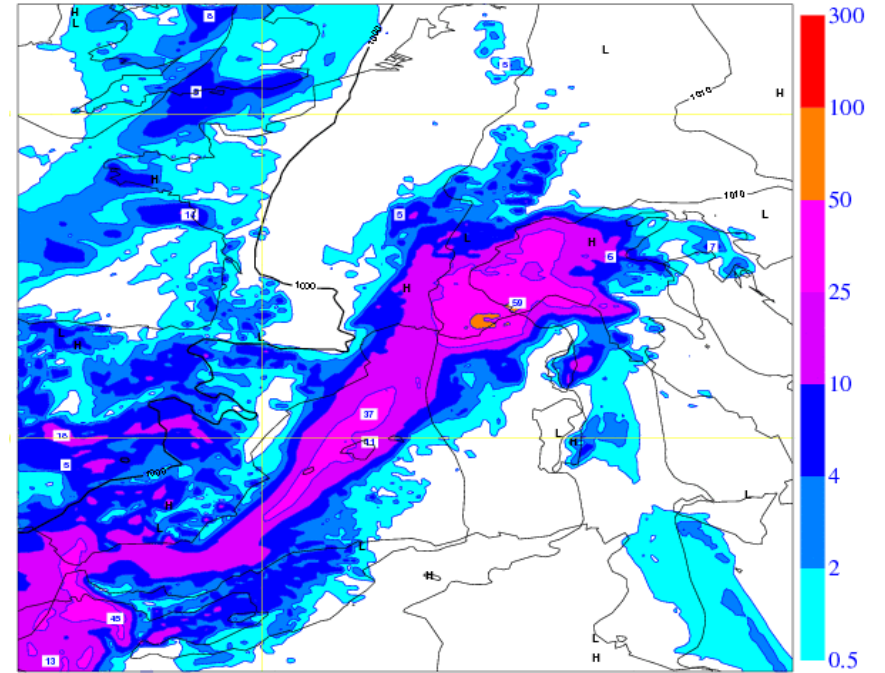
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



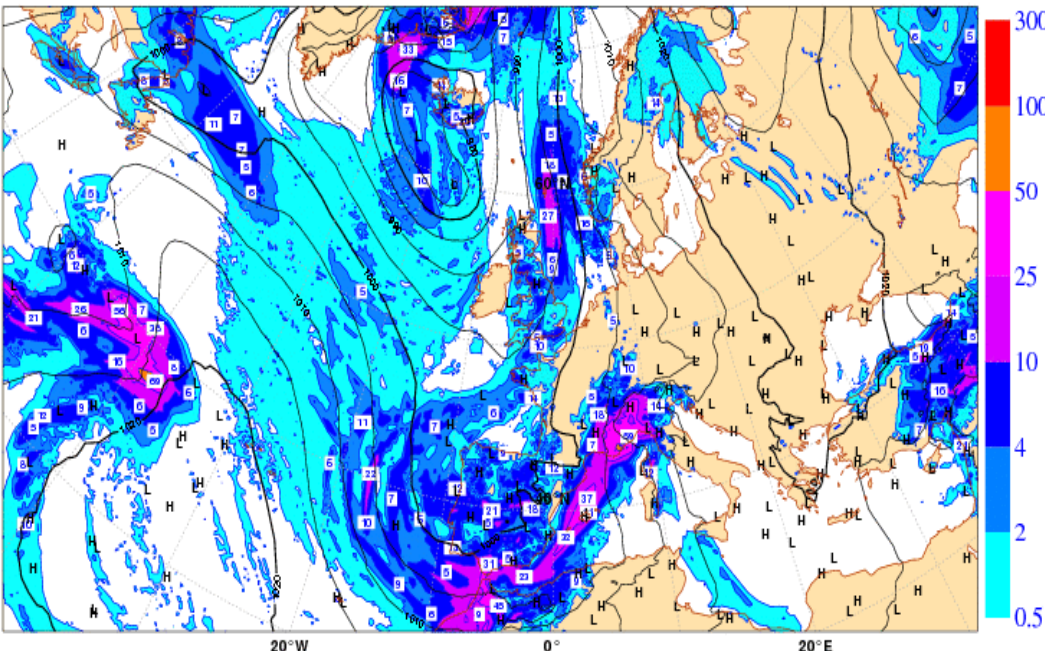
Tuesday 1 November 2011 12UTC ECMWF Forecast t+72 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



Tuesday 01 November 2011 12UTC @ECMWF MSLP T+72 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

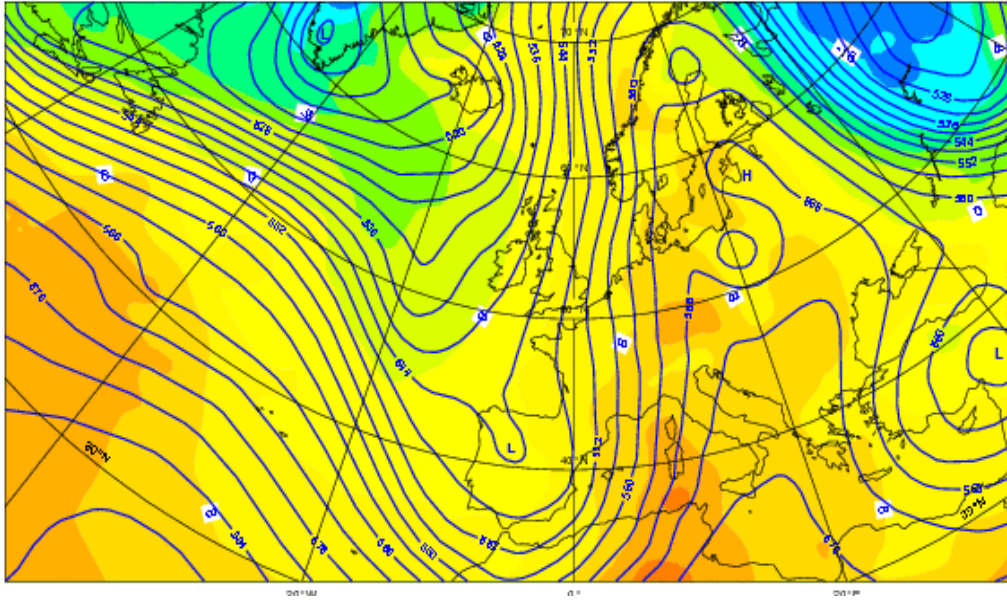


Tuesday 01 November 2011 12UTC @ECMWF MSLP T+72 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

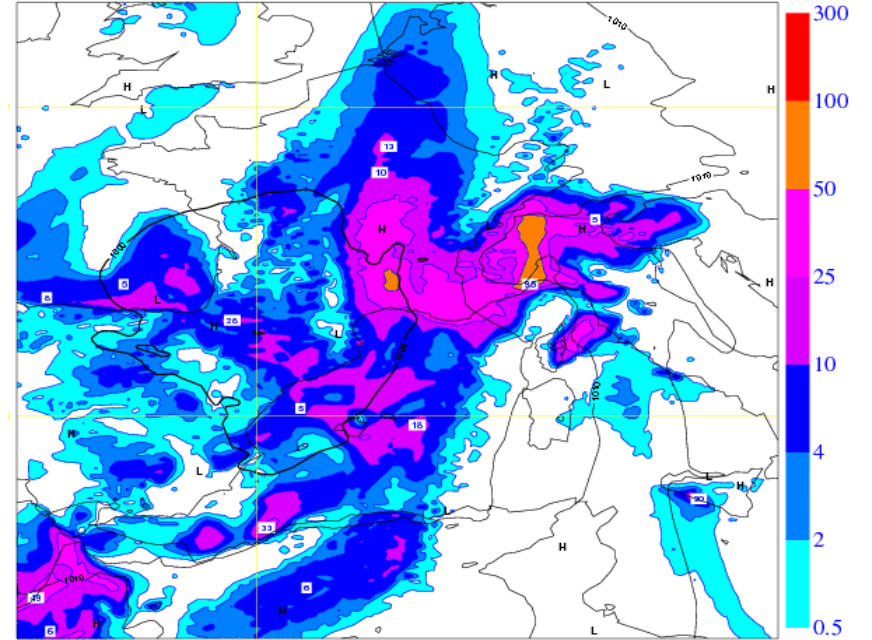




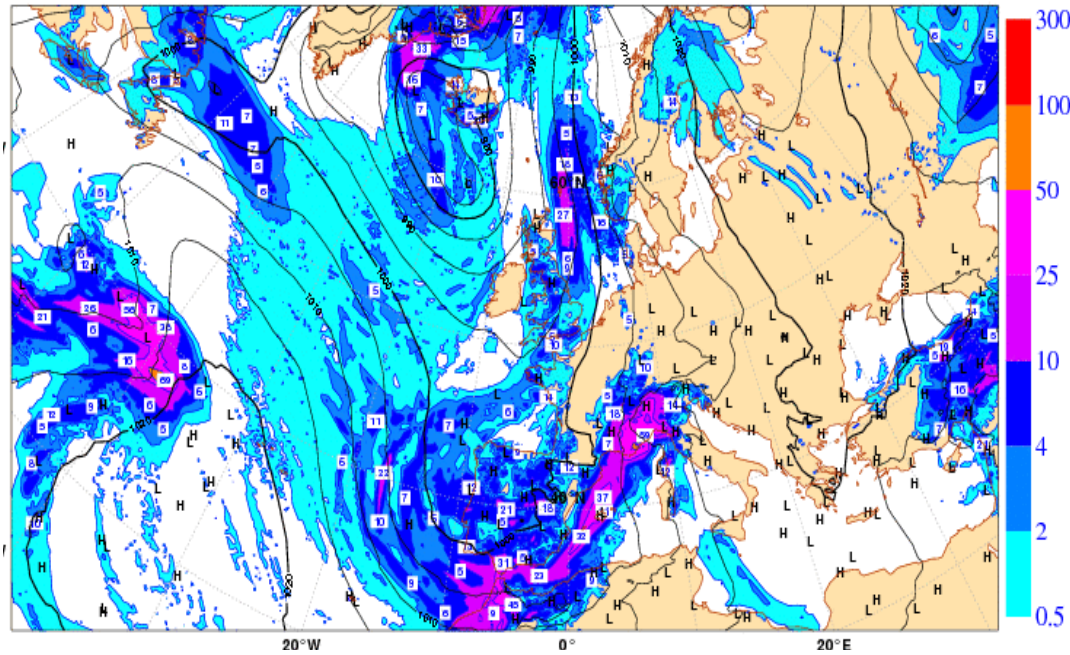
Tuesday 1 November 2011 12UTC ECMWF Forecast t+ 84 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



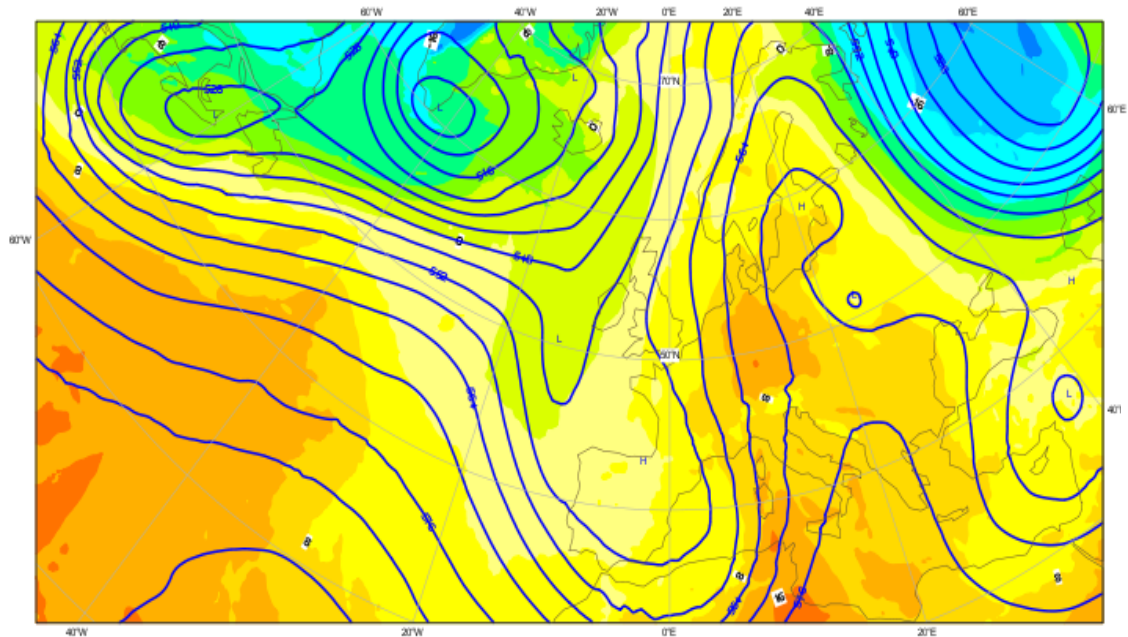
Tuesday 01 November 2011 12UTC @ECMWF MSLP T+84 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



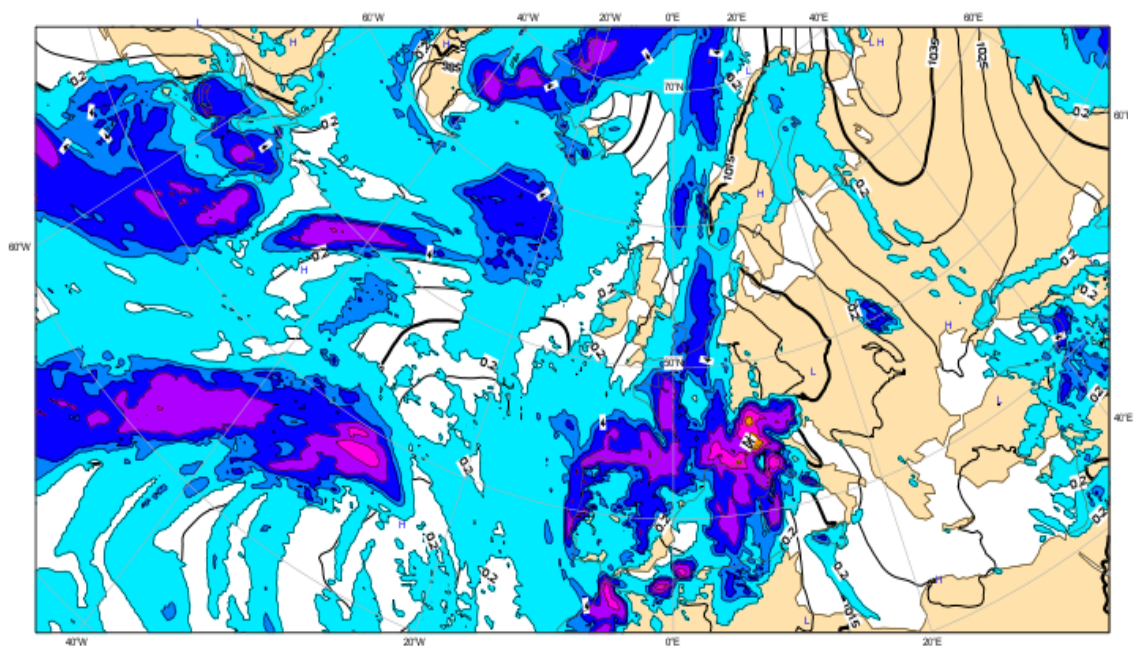
Tuesday 01 November 2011 12UTC @ECMWF MSLP T+72 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC



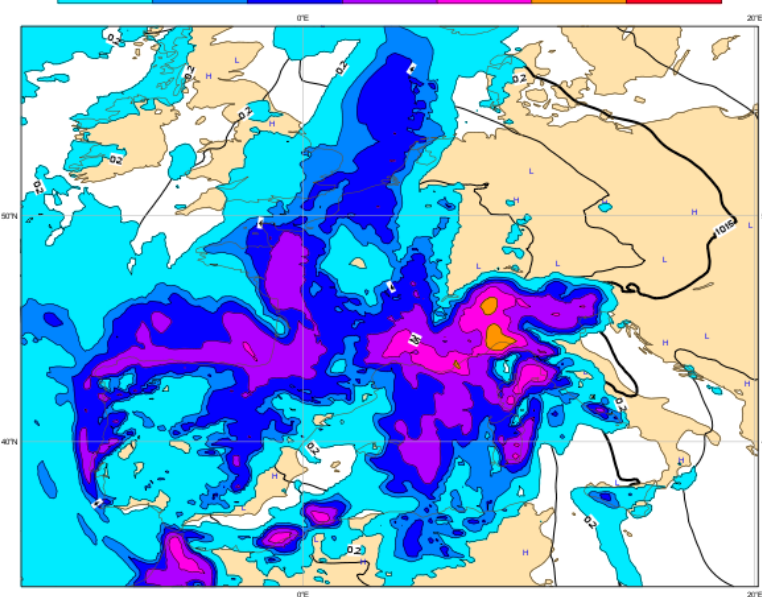
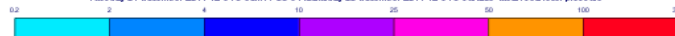
Tuesday 01 November 2011 12 UTC ecmf h-96 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Tuesday 01 November 2011 12 UTC ecmf h-96 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



Tuesday 01 November 2011 12 UTC ecmf h-102 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Tuesday 01 November 2011 12 UTC ecmf h-96 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure

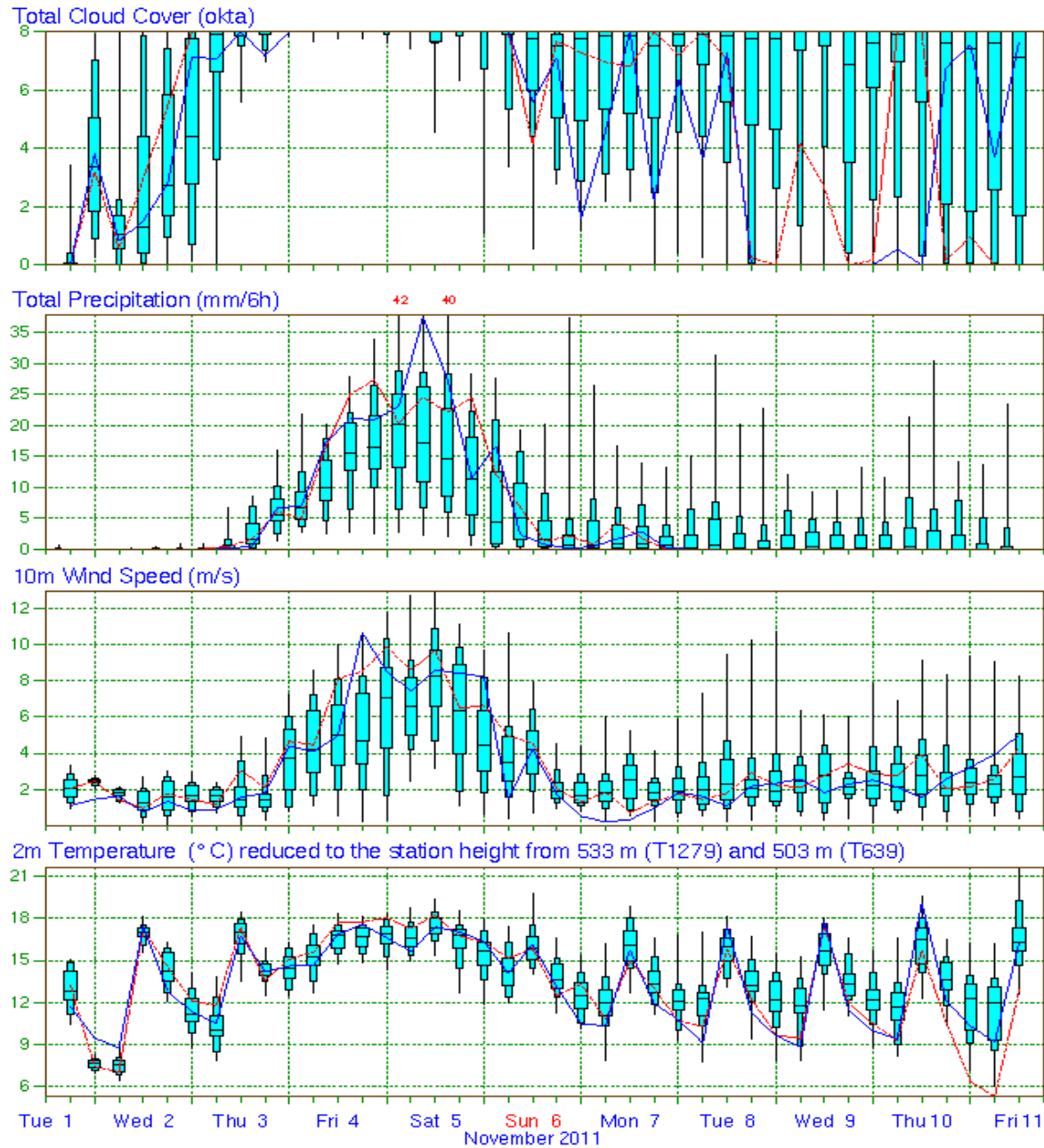


Tuesday 01 November 2011 12 UTC ecmf h-102 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Tuesday 01 November 2011 12 UTC ecmf h-96 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure





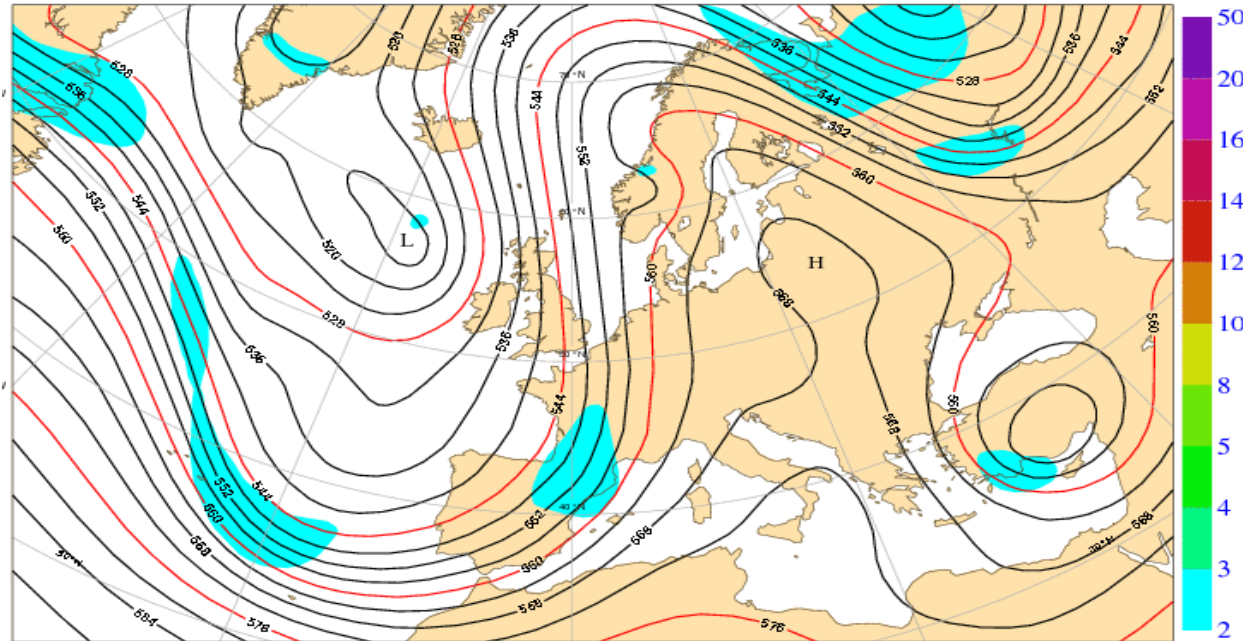
EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Tuesday 1 November 2011 12 UTC



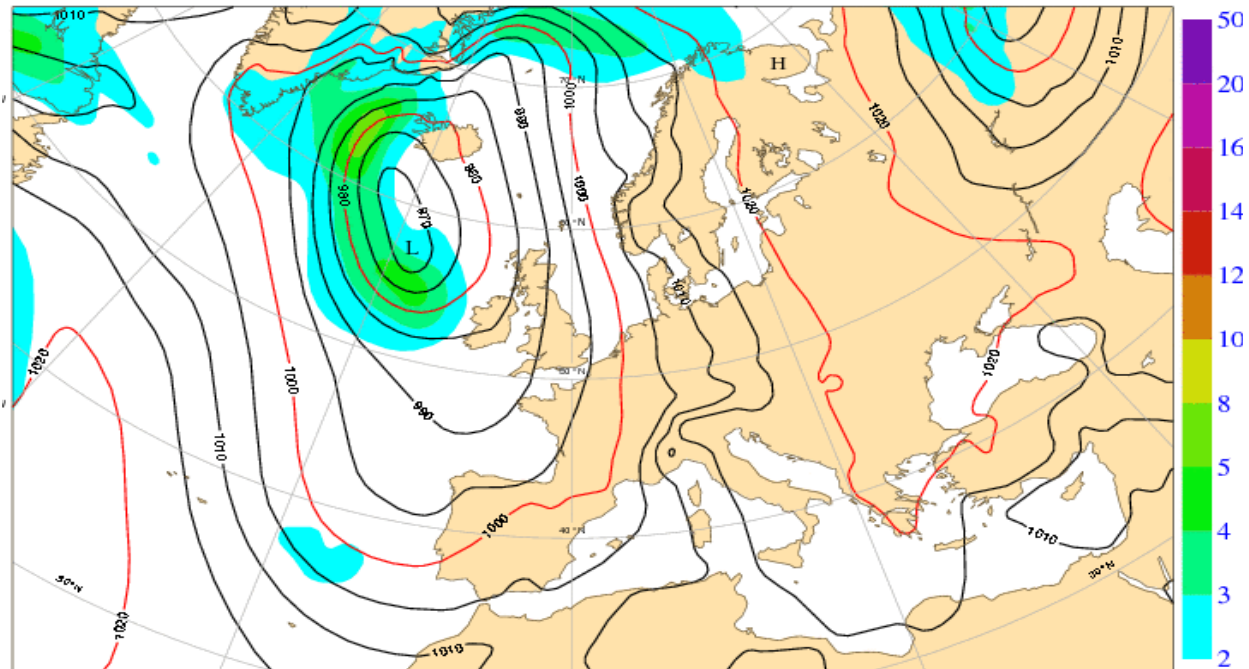


**2011-11-02 00UTC**

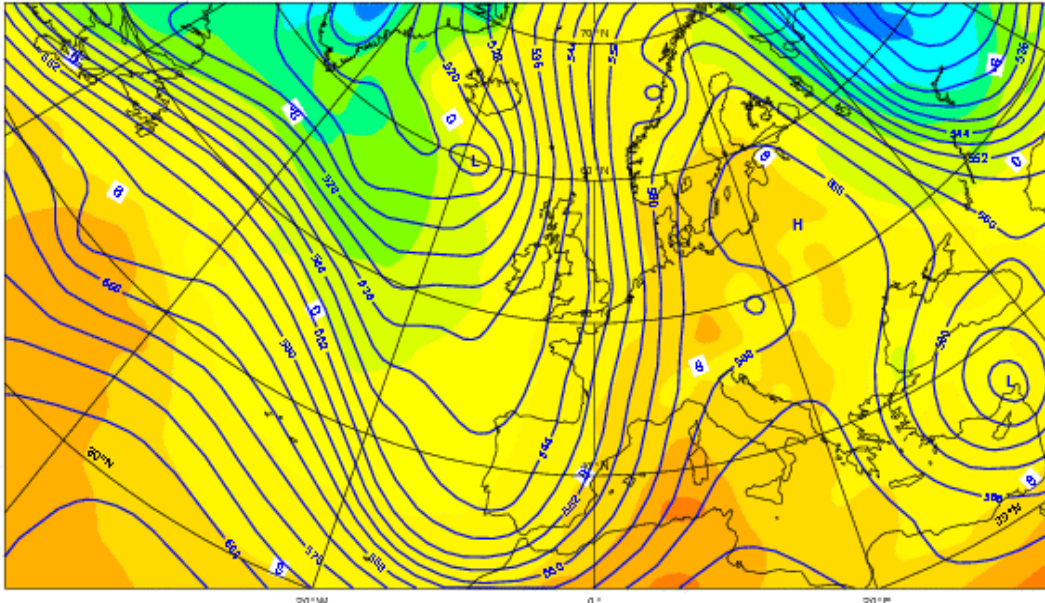
Wednesday 2 November 2011 00UTC ECMWF T+48 VT: Friday 4 November 2011 00UTC  
500hPa \*\*Geopotential EPS mean and EPS spread



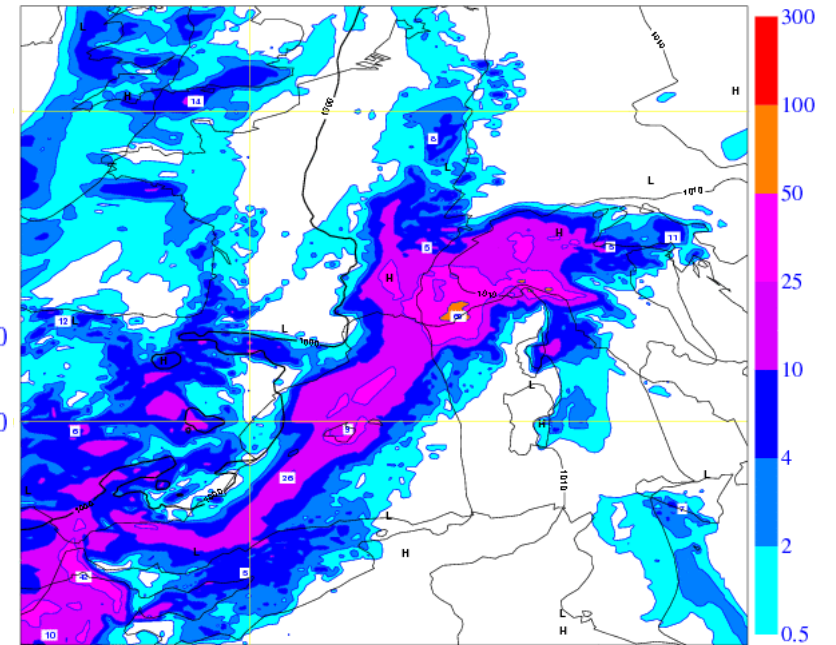
Wednesday 2 November 2011 00UTC ECMWF T+48 VT: Friday 4 November 2011 00UTC  
Surface: \*\*Mean sea level pressure EPS mean and EPS spread



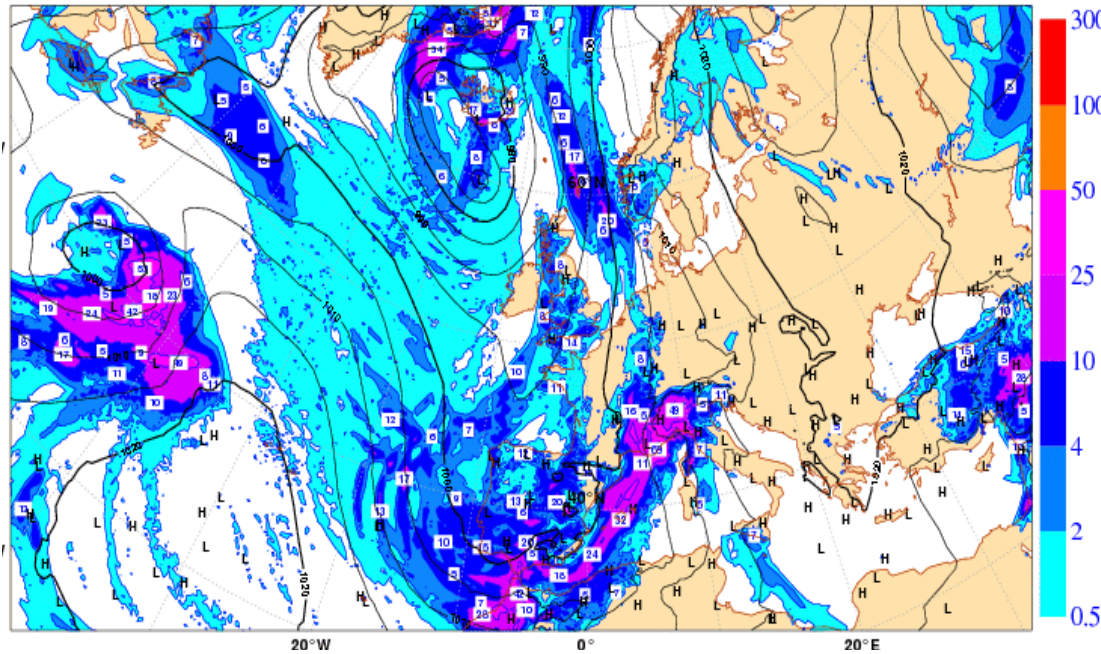
Wednesday 2 November 2011 00UTC ECMWF Forecast t+ 60 VT: Friday 4 November 2011 12UTC  
 500 hPa Height / 850 hPa Temperature



Wednesday 02 November 2011 00UTC @ECMWF MSLP T-60 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

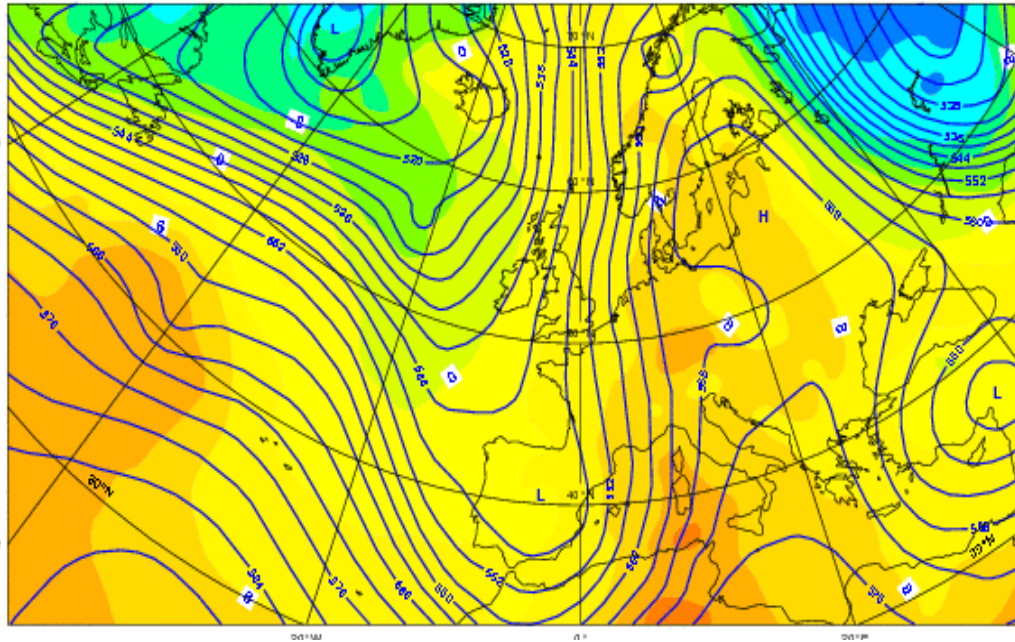


Wednesday 02 November 2011 00UTC @ECMWF MSLP T+60 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

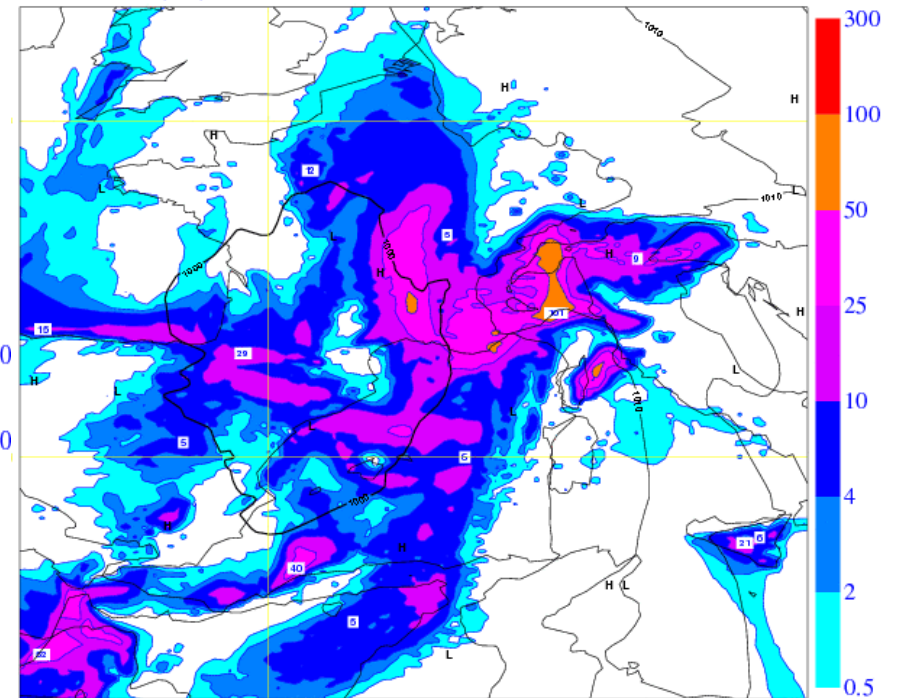




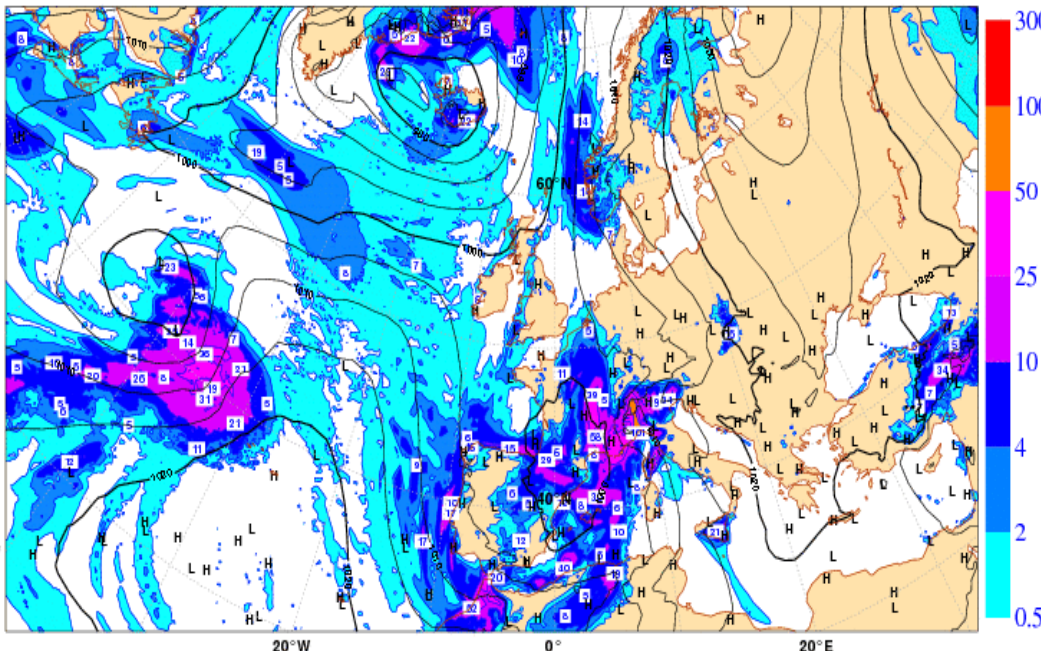
Wednesday 2 November 2011 00UTC ECMWF Forecast t+ 72 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



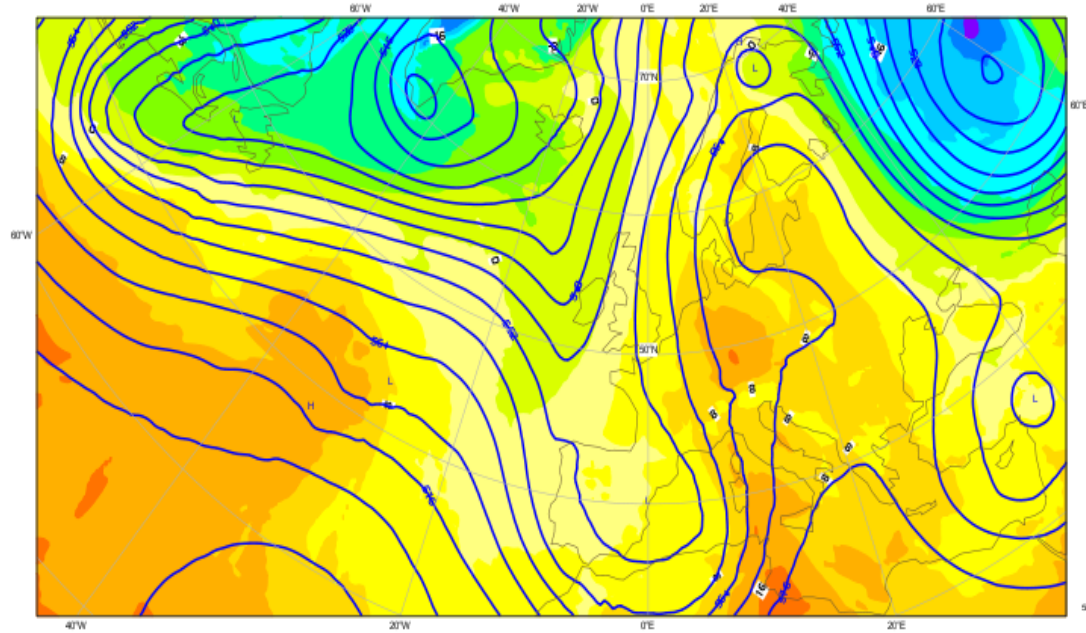
Wednesday 02 November 2011 00UTC @ECMWF MSLP T+72 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



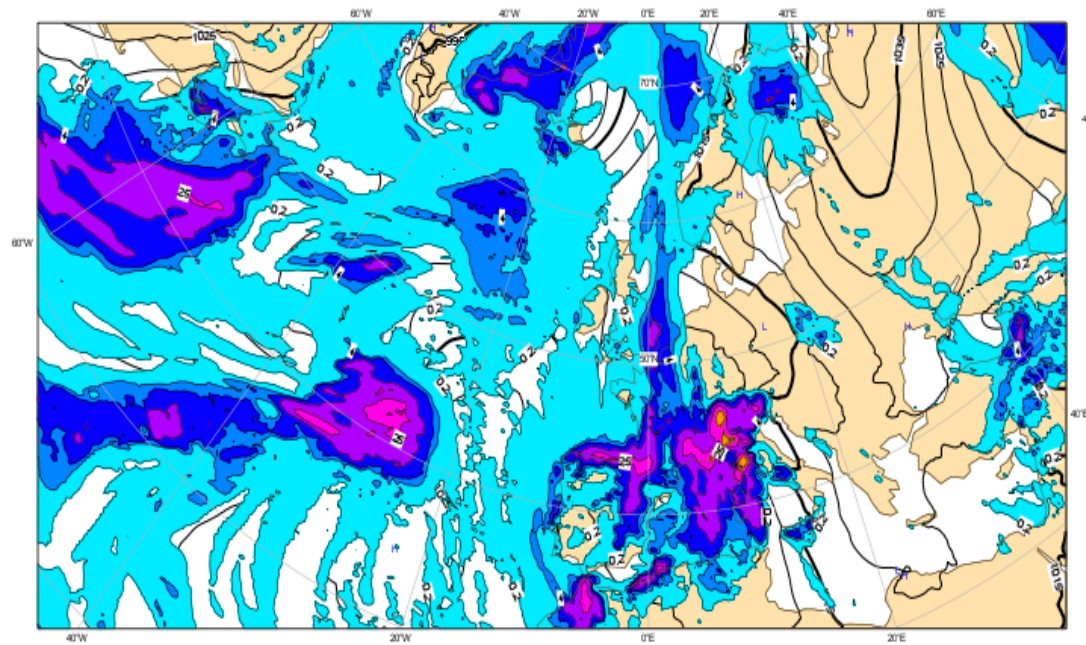
Wednesday 02 November 2011 00UTC @ECMWF MSLP T+72 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



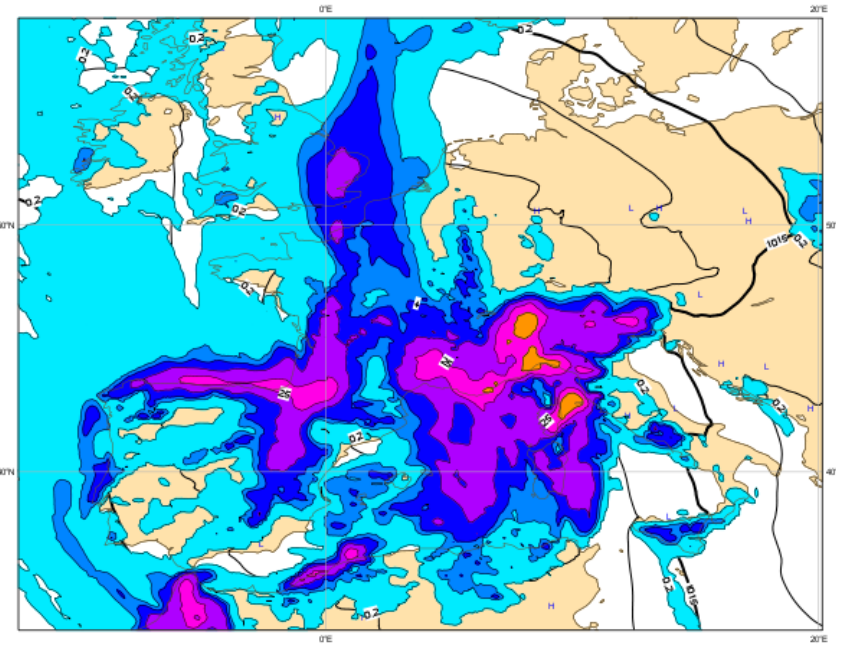
Wednesday 02 November 2011 00 UTC ecmf-h84 VT: Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Wednesday 02 November 2011 00 UTC ecmf-h84 VT: Saturday 05 November 2011 12 UTC 850 hPa Temperature



Wednesday 02 November 2011 00 UTC ecmf-h90 VT: Saturday 05 November 2011 18 UTC surface: Total precipitation  
Wednesday 02 November 2011 00 UTC ecmf-h84 VT: Saturday 05 November 2011 12 UTC surface: Mean sea level pressure



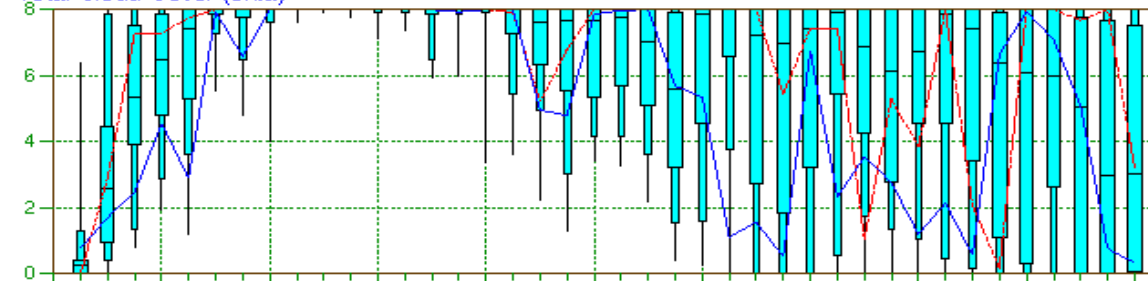
Wednesday 02 November 2011 00 UTC ecmf-h90 VT: Saturday 05 November 2011 18 UTC surface: Total precipitation  
Wednesday 02 November 2011 00 UTC ecmf-h84 VT: Saturday 05 November 2011 12 UTC surface: Mean sea level pressure



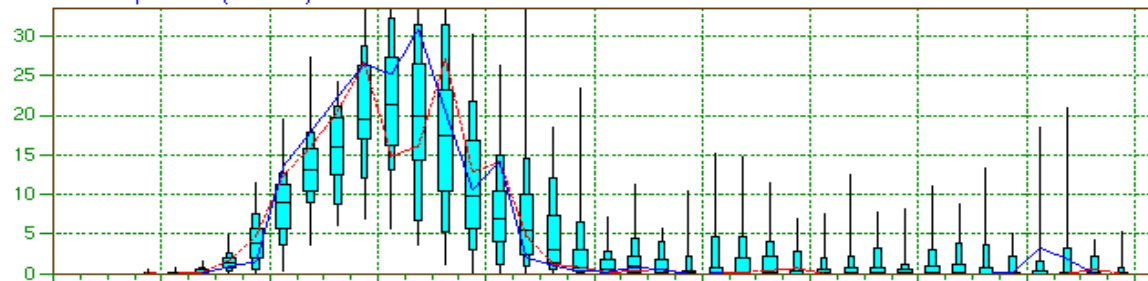


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Wednesday 2 November 2011 00 UTC

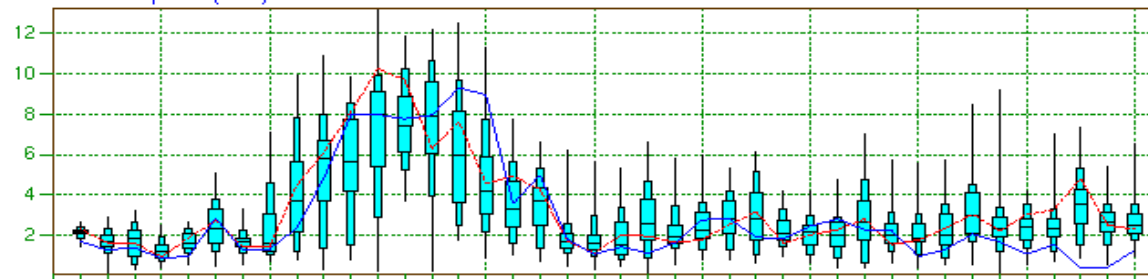
Total Cloud Cover (okta)



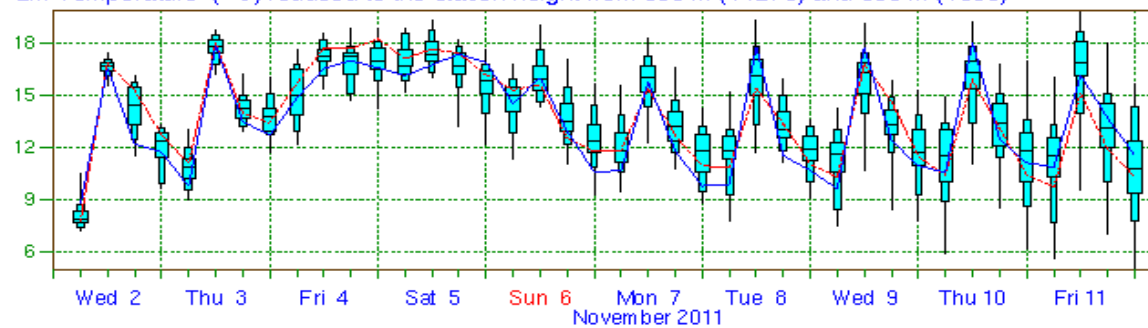
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



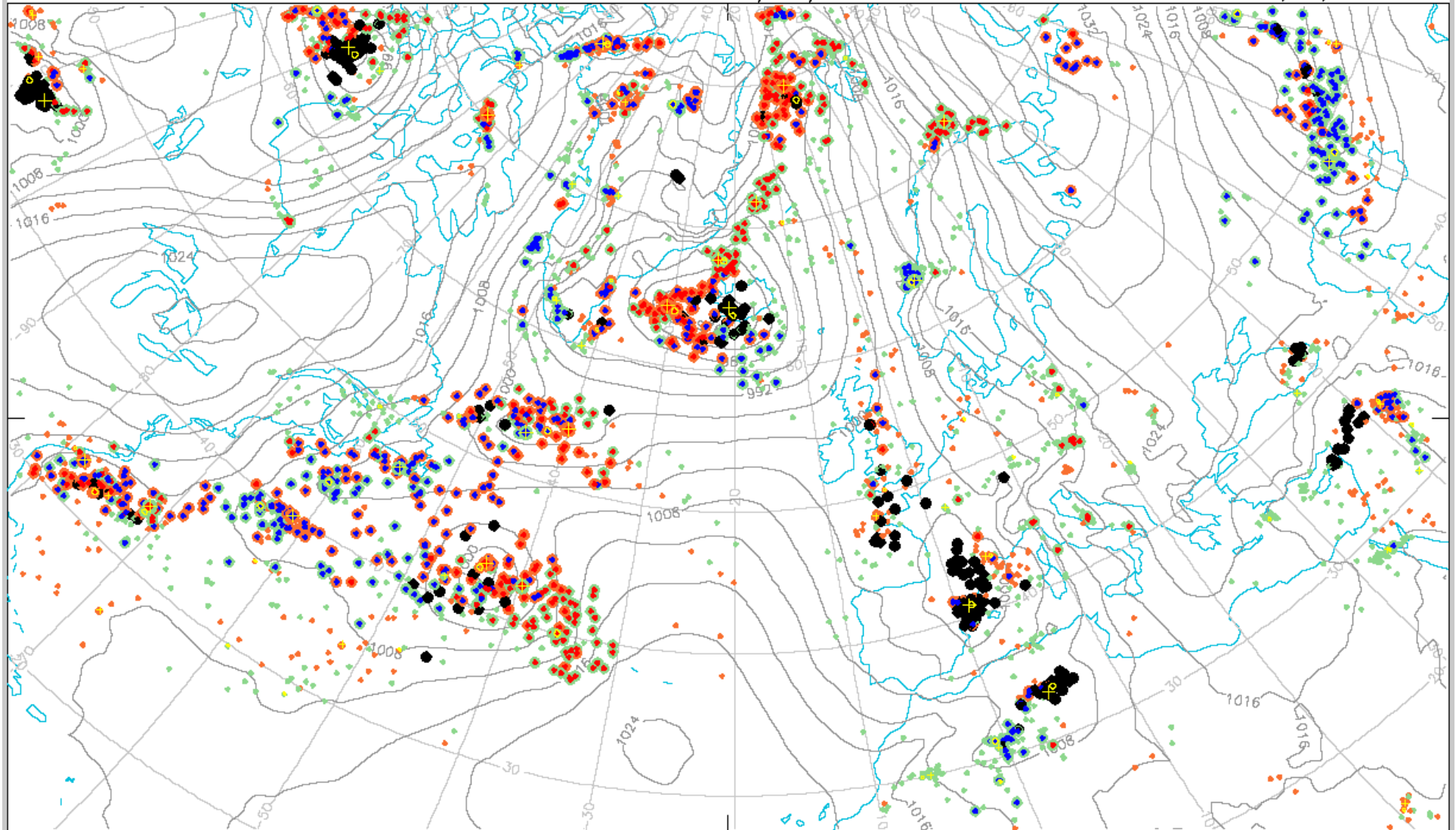
Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7 Tue 8 Wed 9 Thu 10 Fri 11  
November 2011



Lead Time: T+72

Data time: Wed 02/11/2011 00Z

Valid Time: Sat 05/11/2011 00Z



◆ Std Diminutive Wave (warm front)  
◆ Std Diminutive Wave (cold front)  
● Weak Diminutive Wave

◆ Std Frontal Wave (warm front)  
◆ Std Frontal Wave (cold front)  
● Weak Frontal Wave

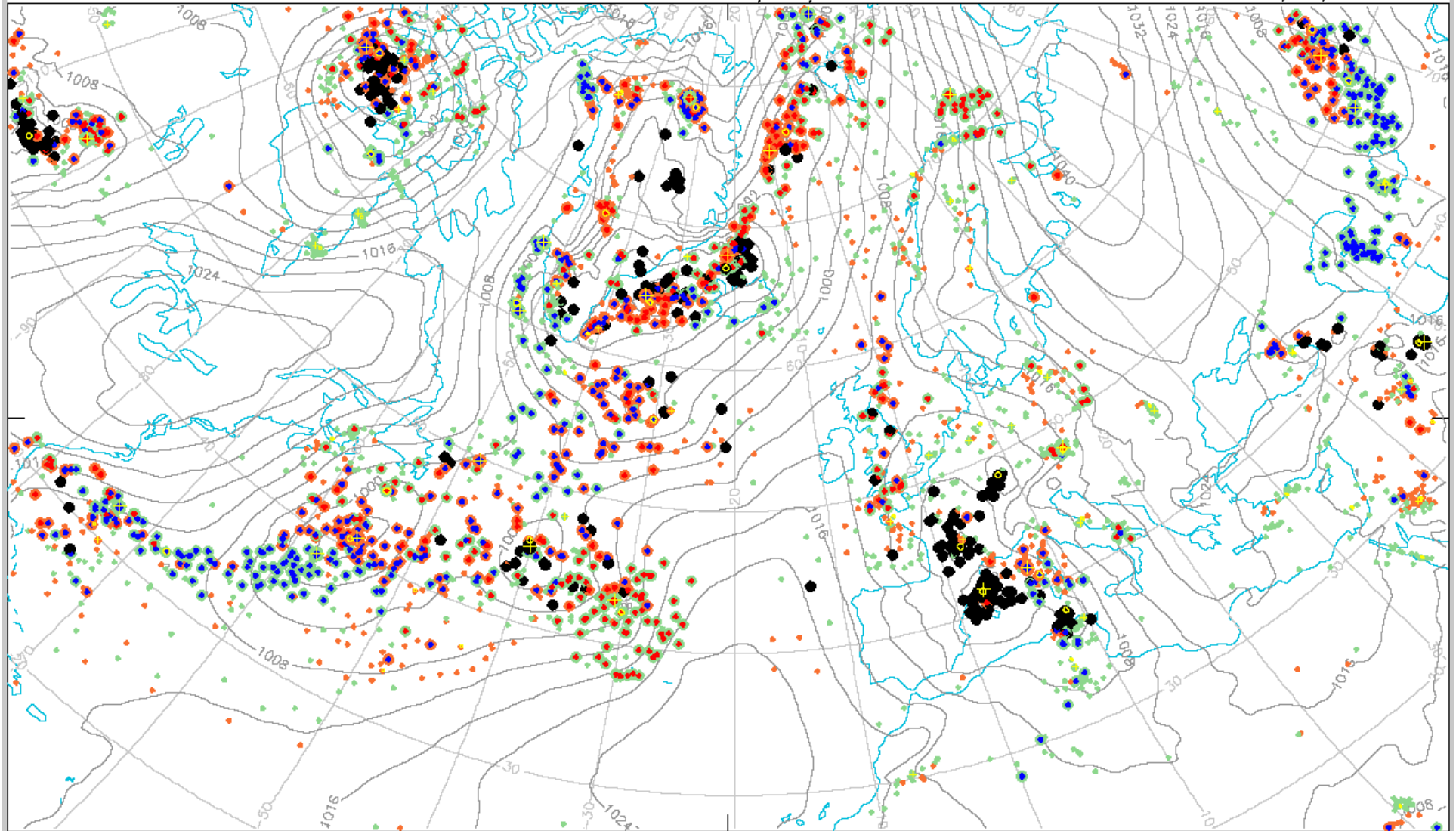
◆ Barotropic Low  
◆ Control Run Features  
◆ Deterministic Run Features

Plotting Order is: Control run mslp, then..  
Feature spots - for 50 members, then Control, then Deterministic  
Then yellow markers - for Control, then Deterministic

Lead Time: T+84

Data time: Wed 02/11/2011 00Z

Valid Time: Sat 05/11/2011 12Z



• Std Diminutive Wave (warm front)  
• Std Diminutive Wave (cold front)  
• Weak Diminutive Wave

• Std Frontal Wave (warm front)  
• Std Frontal Wave (cold front)  
• Weak Frontal Wave

• Barotropic Low  
• Control Run Features  
+ Deterministic Run Features

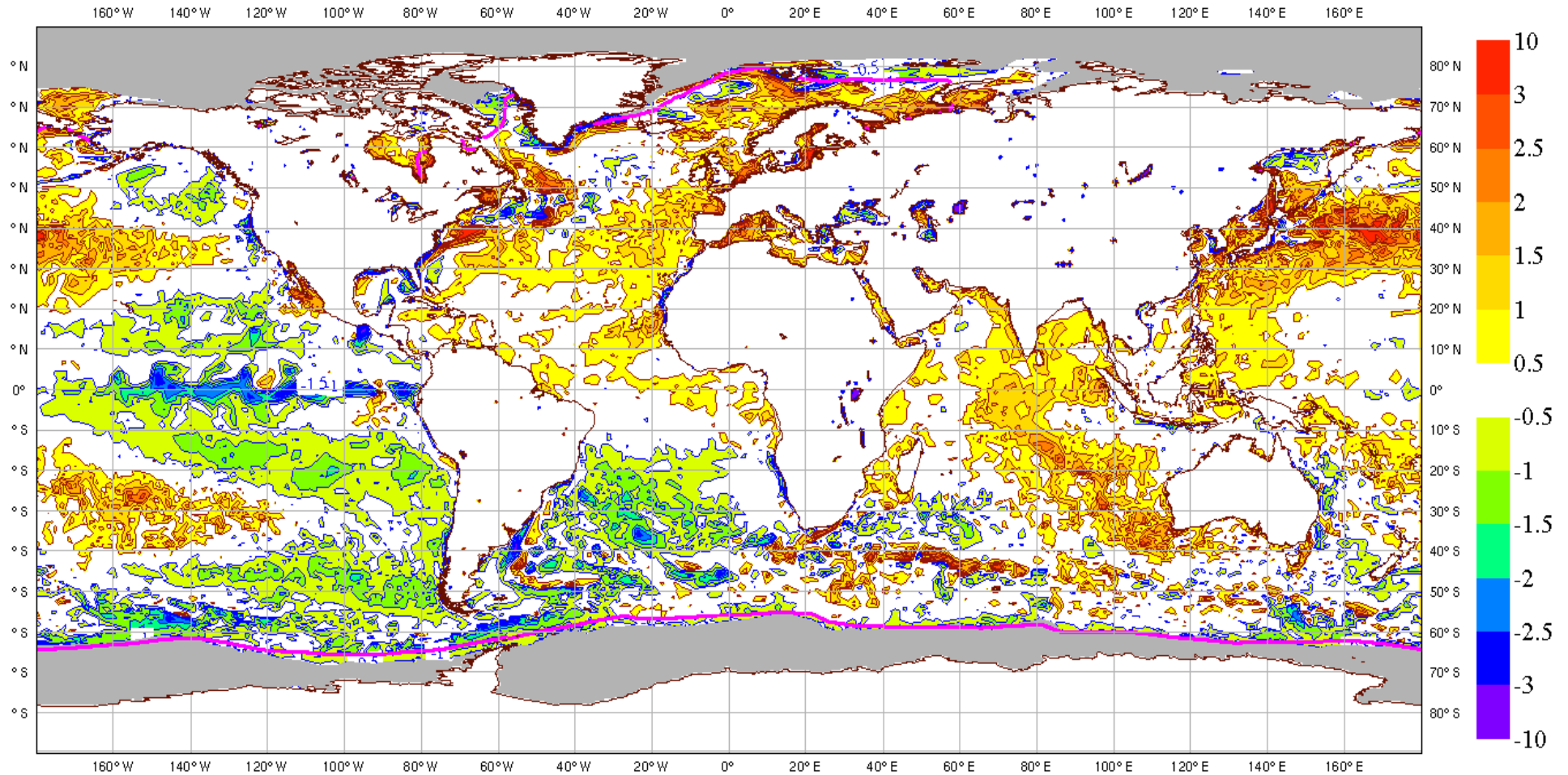
Plotting Order is: Control run mslp, then..  
Feature spots - for 50 members, then Control, then Deterministic  
Then yellow markers - for Control, then Deterministic

Wednesday 2 November 2011 00UTC ©ECMWF Analysis t+000 VT: Wednesday 2 November 2011 00UTC

Surface: Soil temperature level 1 / Surface: sic

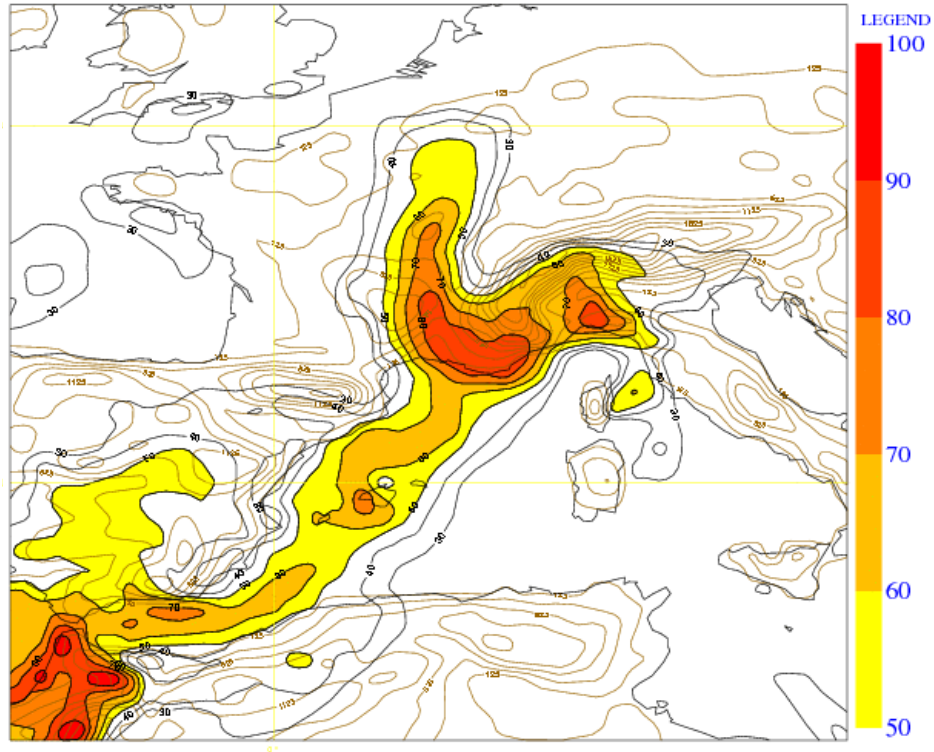
Sea Surface Temperature : Analysis - Climate

Ice-edge : Analysis **Climate**

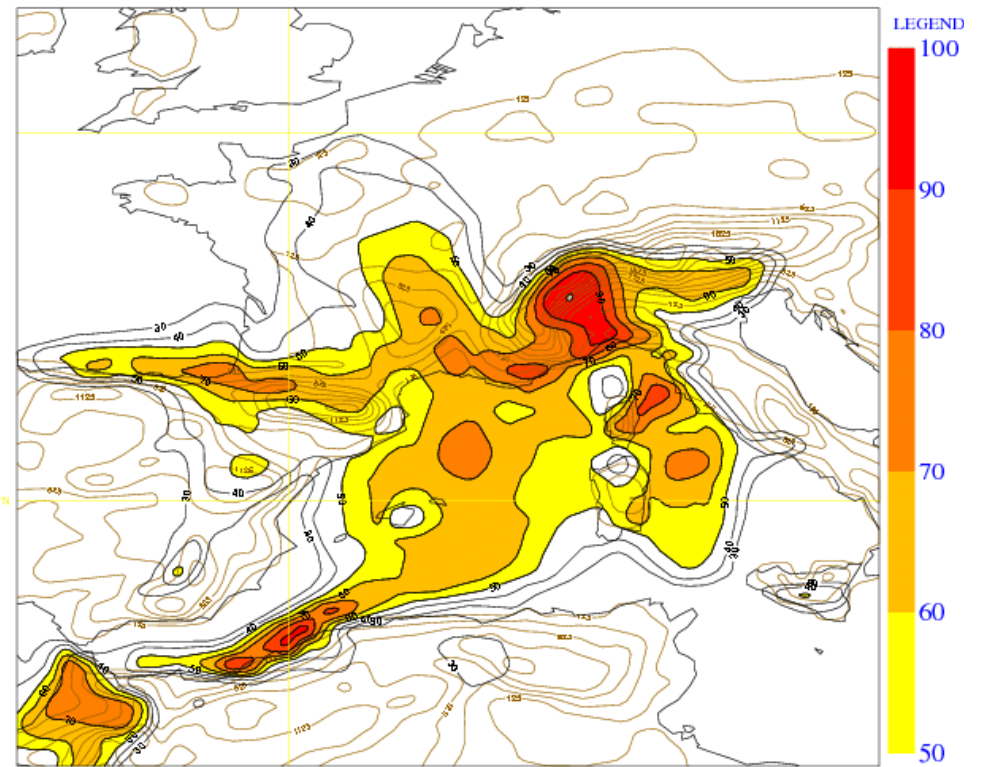


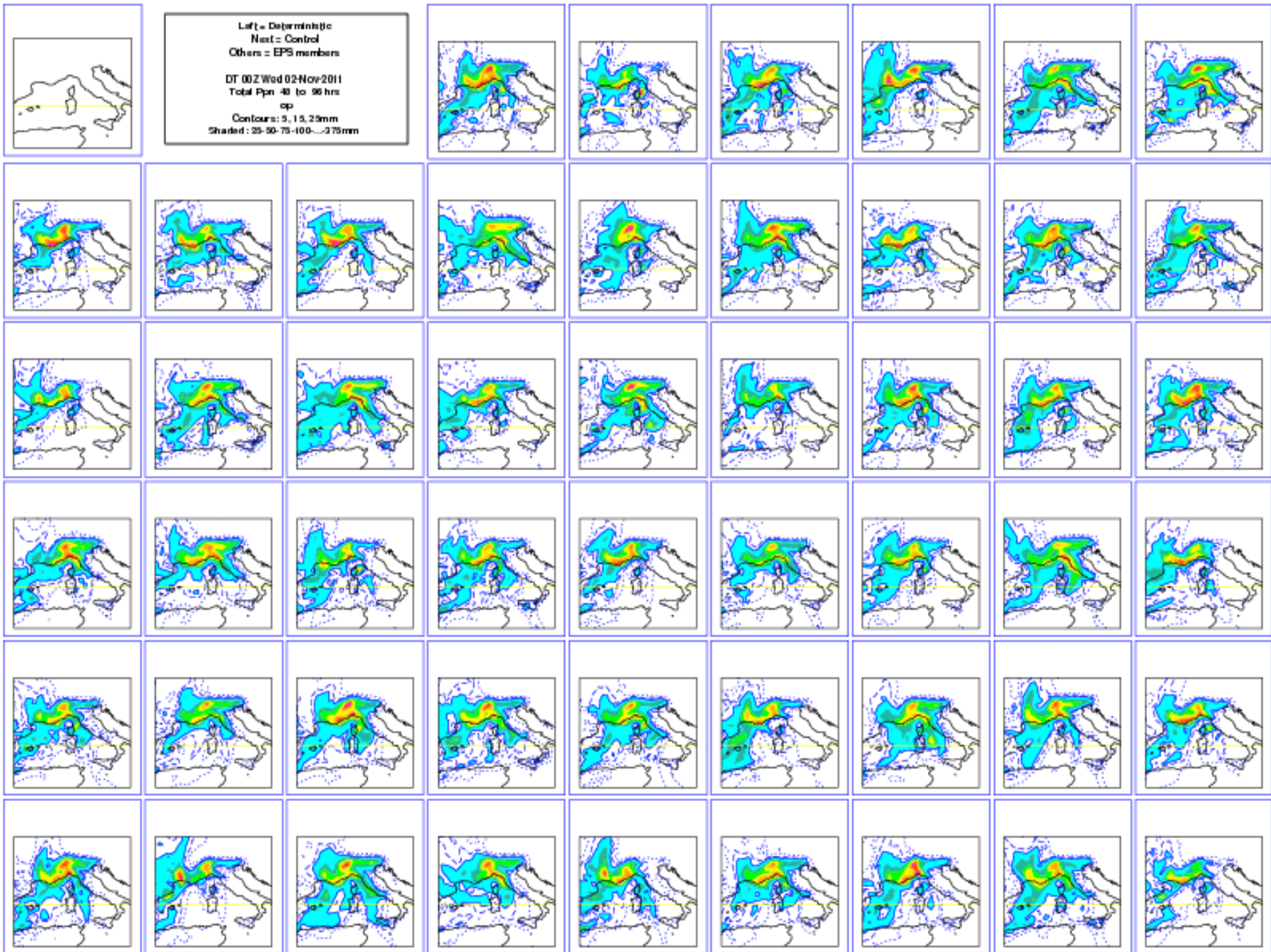


Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 2 November 2011 00UTC, VT: Saturday 5 November 2011 00UTC

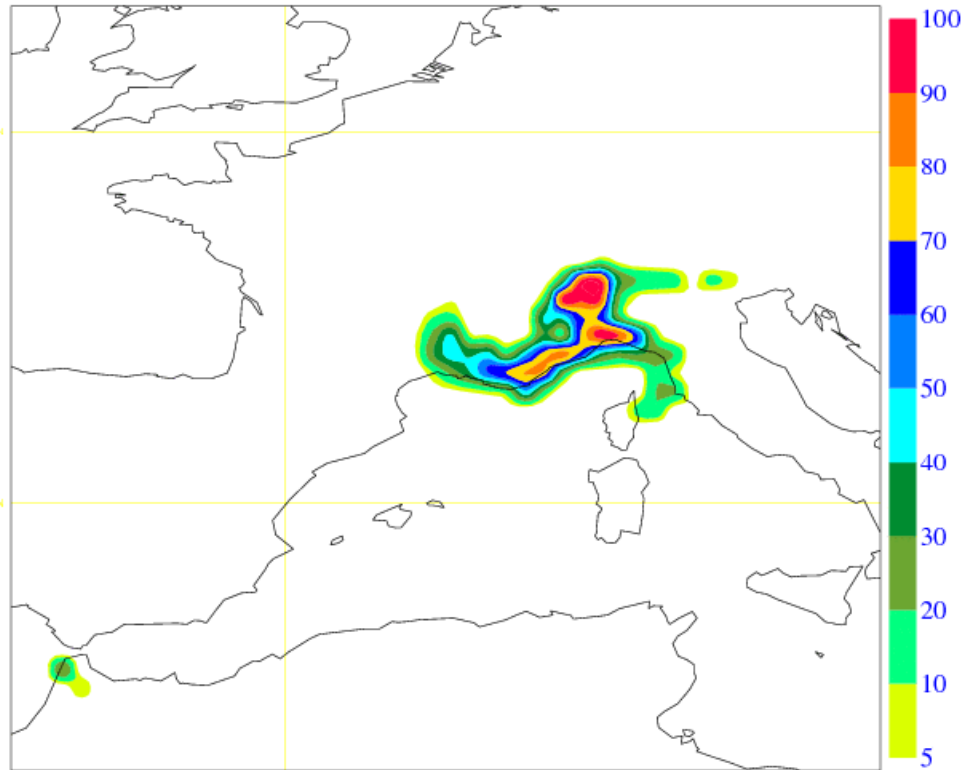


Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 2 November 2011 00UTC, VT: Sunday 6 November 2011 00UTC

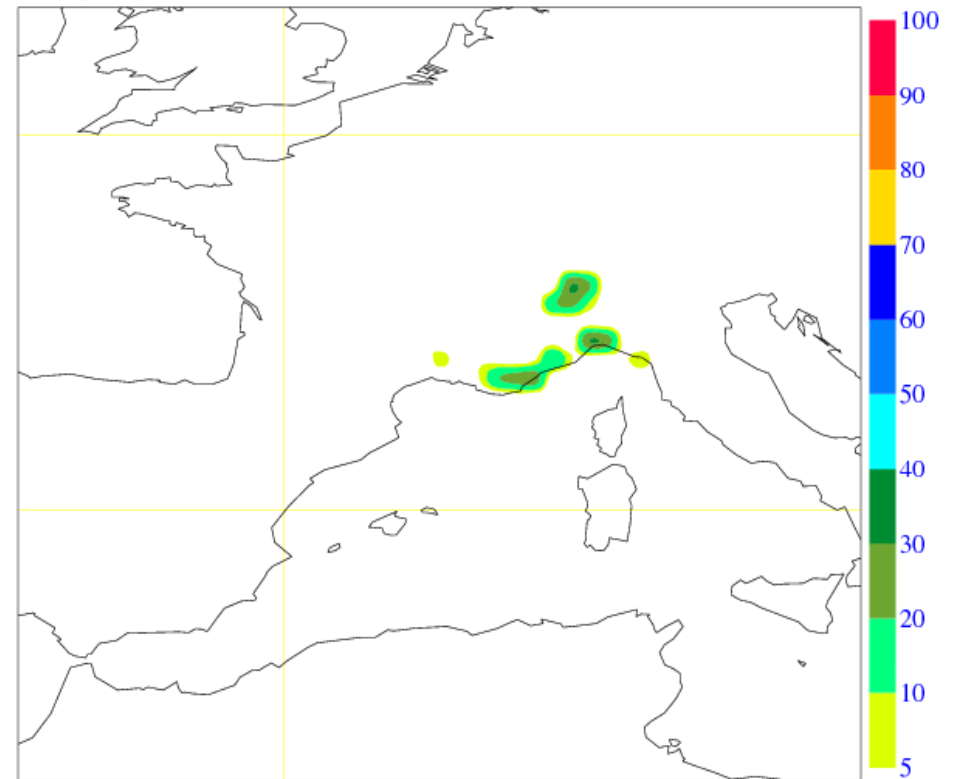




Wednesday 2 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 100mm  
(exper =1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+48-96h



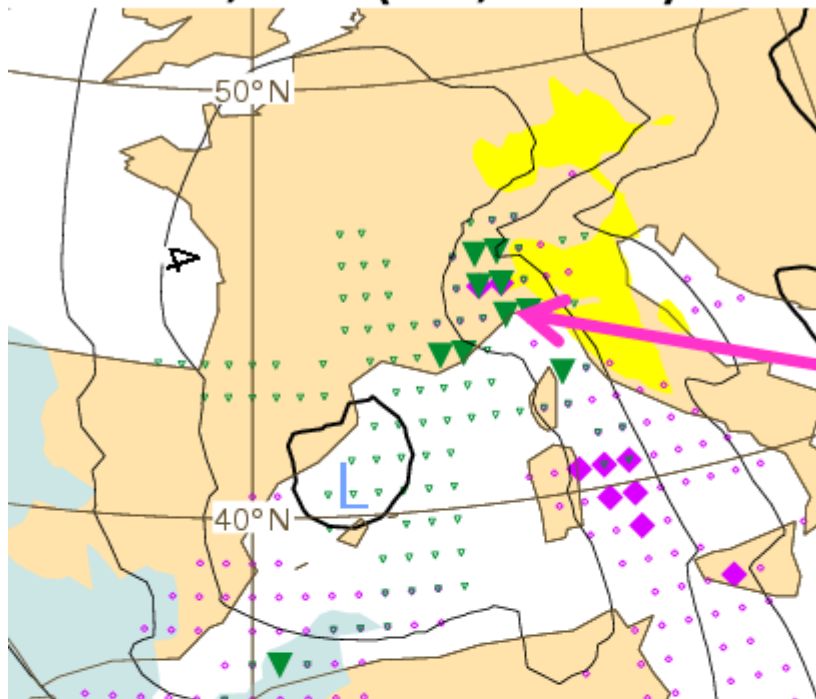
Wednesday 2 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 150mm  
(exper =1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+48-96h



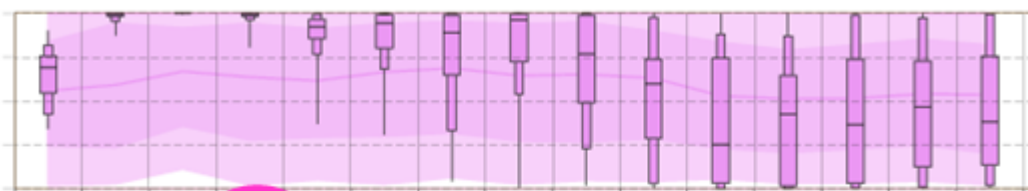


# EFI, D+4 (Sat, 5 Nov)

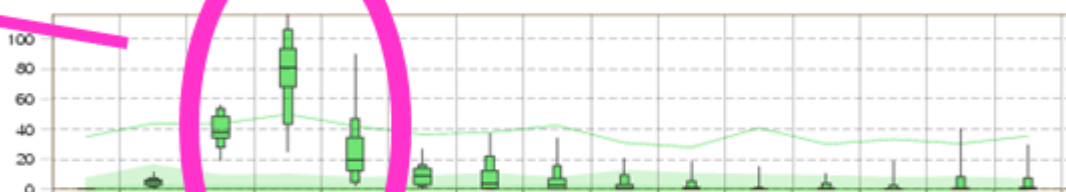
EPS Meteogram  
 44.65°N 8.25°E (EPS land point) 340 m (T639)  
 Extended Range Forecast based on EPS Distribution Wednesday 2 November 2011 00 UTC



Daily mean of Total Cloud Cover (okta)



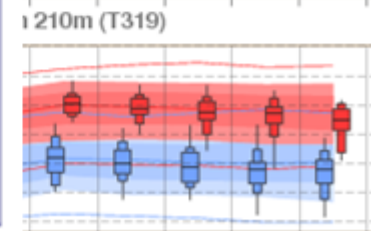
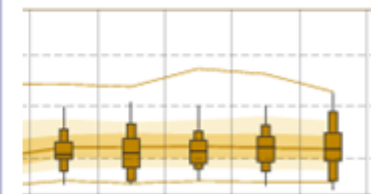
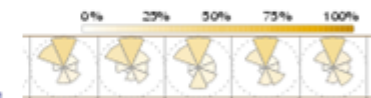
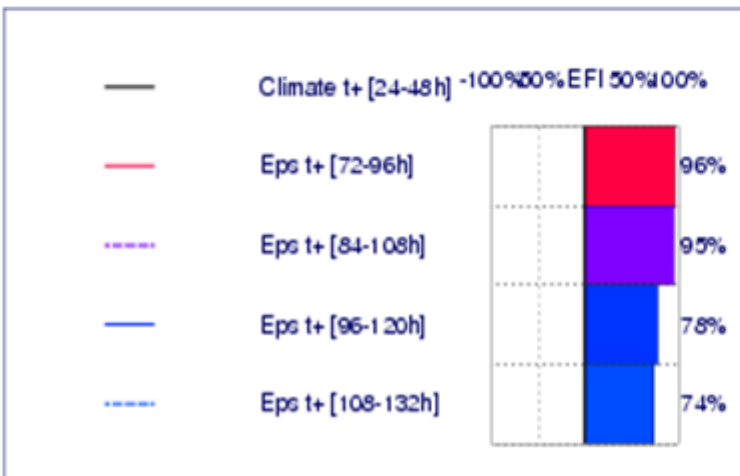
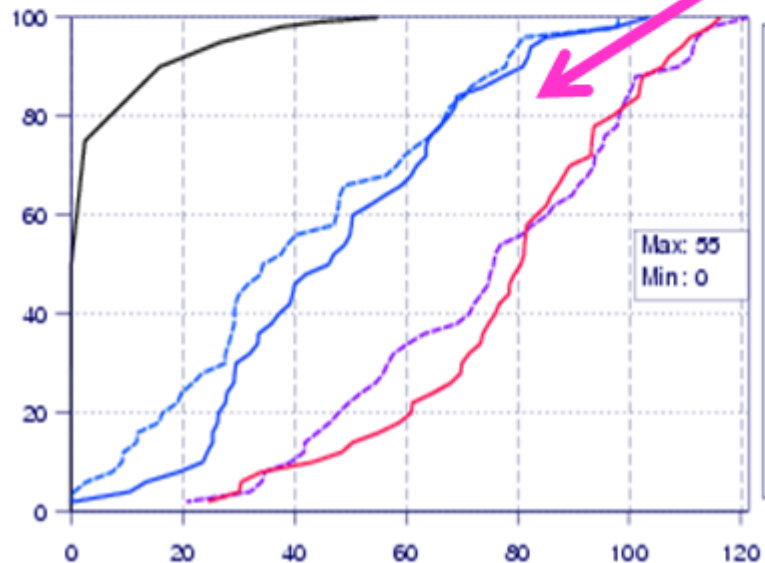
Total Precipitation (mm/24h)



M-Climate of the Distribution of 10m Wind Direction



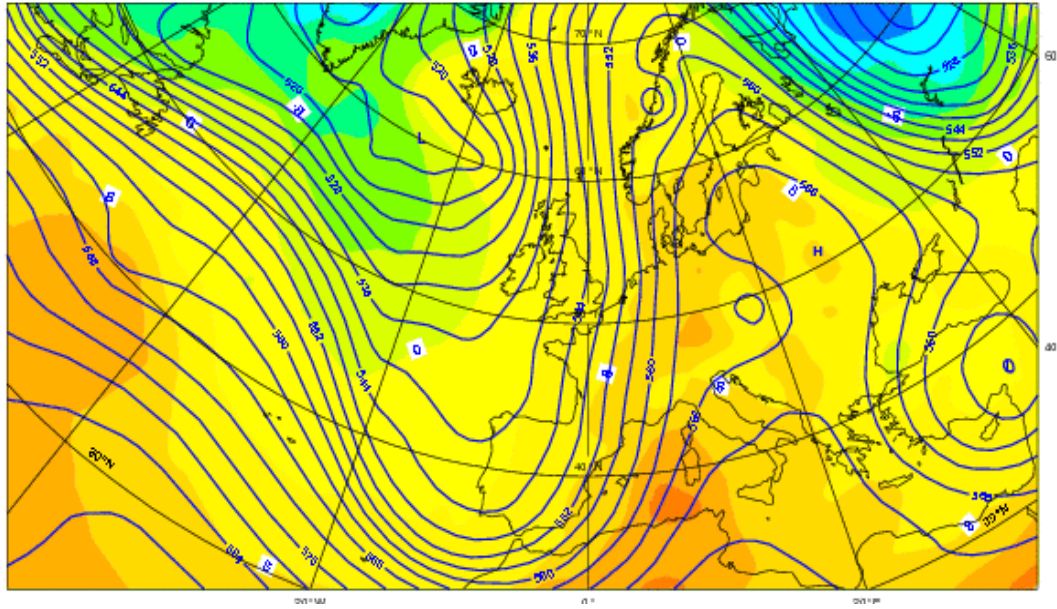
CDF for 24h precipitation (mm)



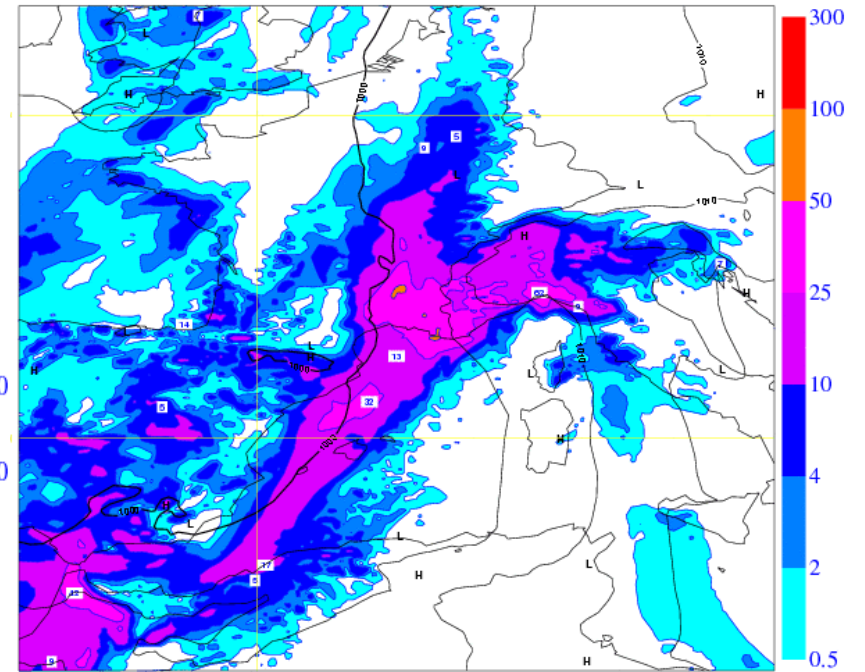
Sat 12 Sun 13 Mon 14 Tue 15 Wed 16

**2011-11-02 12UTC**

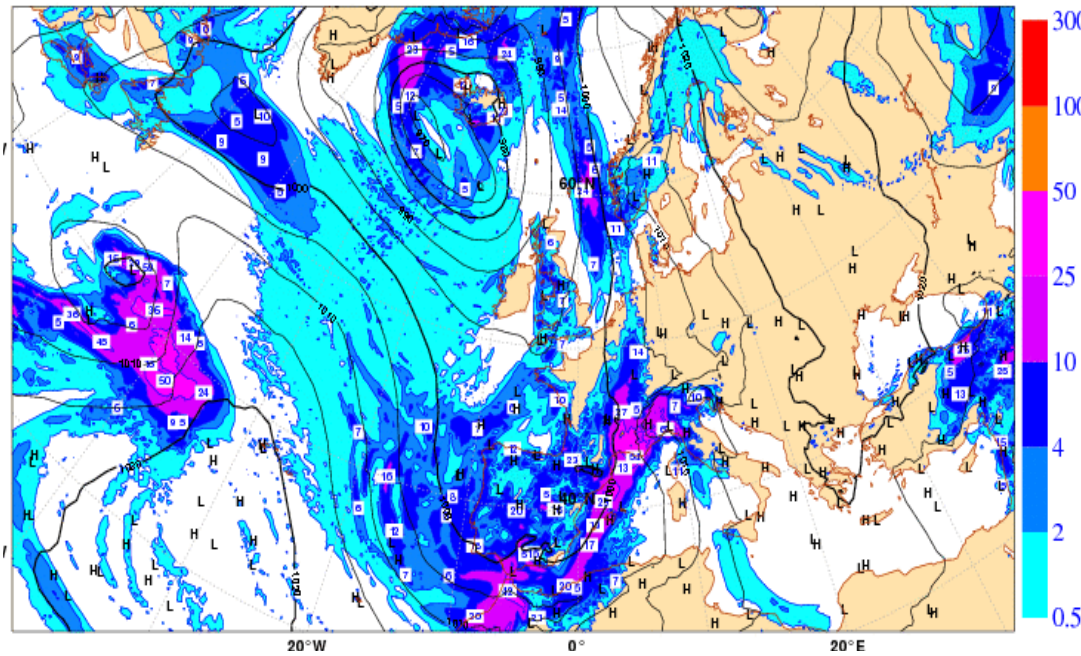
Wednesday 2 November 2011 12UTC ECMWF Forecast t+ 48 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



Wednesday 02 November 2011 12UTC @ECMWF MSLP T+48 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

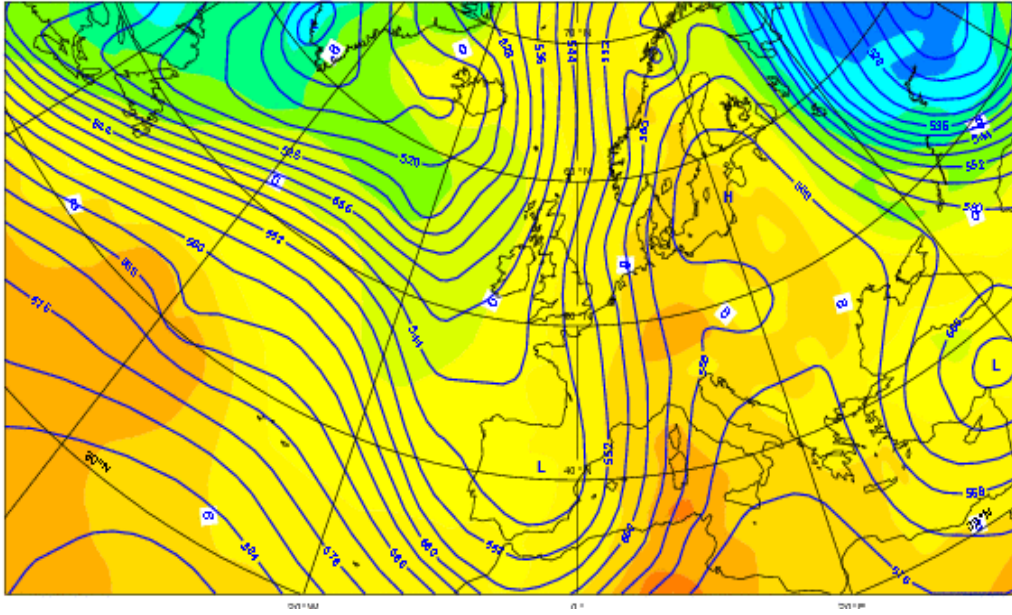


Wednesday 02 November 2011 12UTC @ECMWF MSLP T+48 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

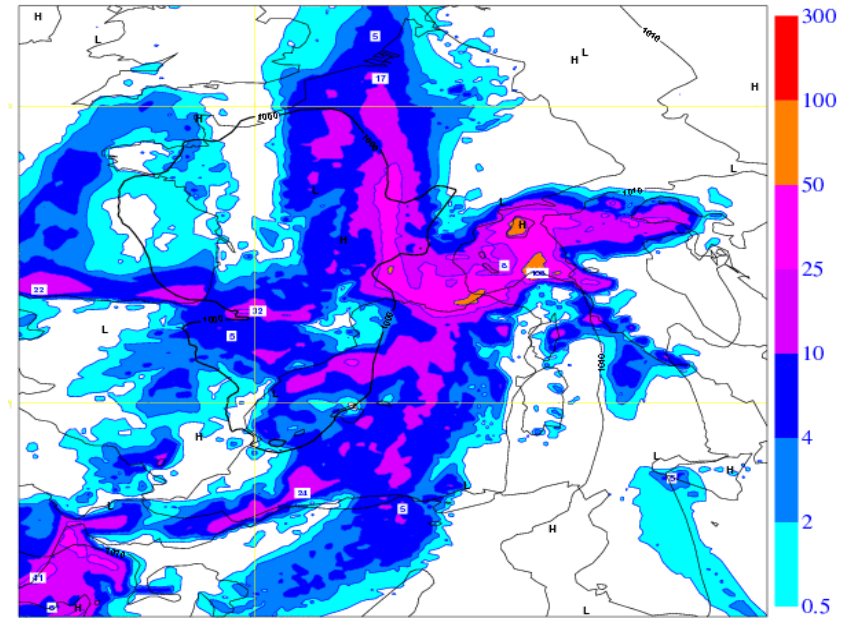




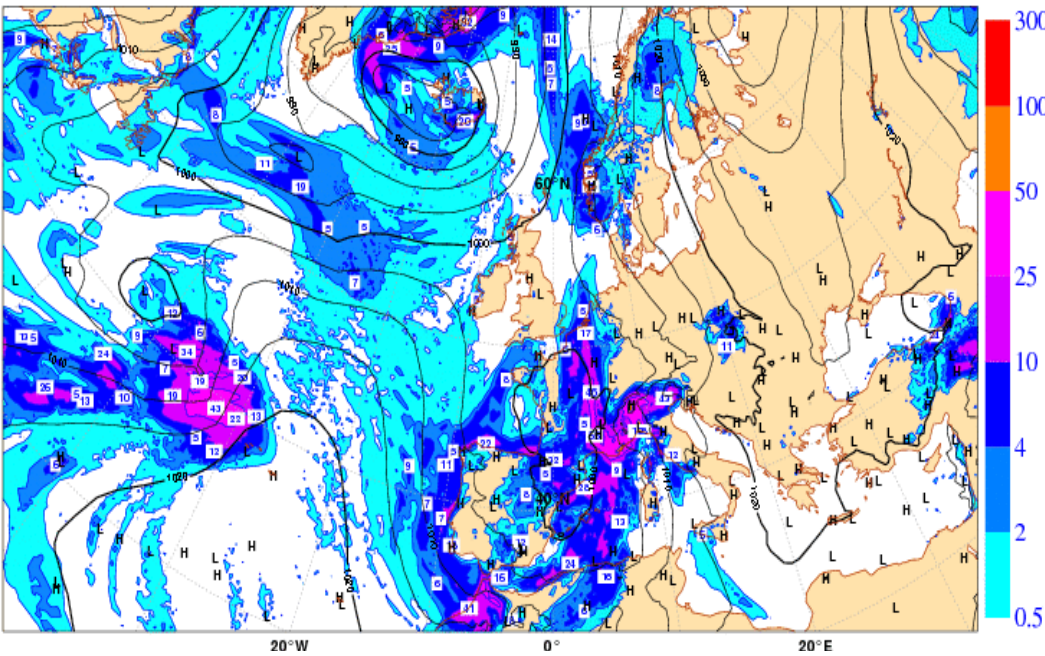
Wednesday 2 November 2011 12UTC ECMWF Forecast t+ 60 VT: Saturday 5 November 2011 00UTC  
 500 hPa Height / 850 hPa Temperature



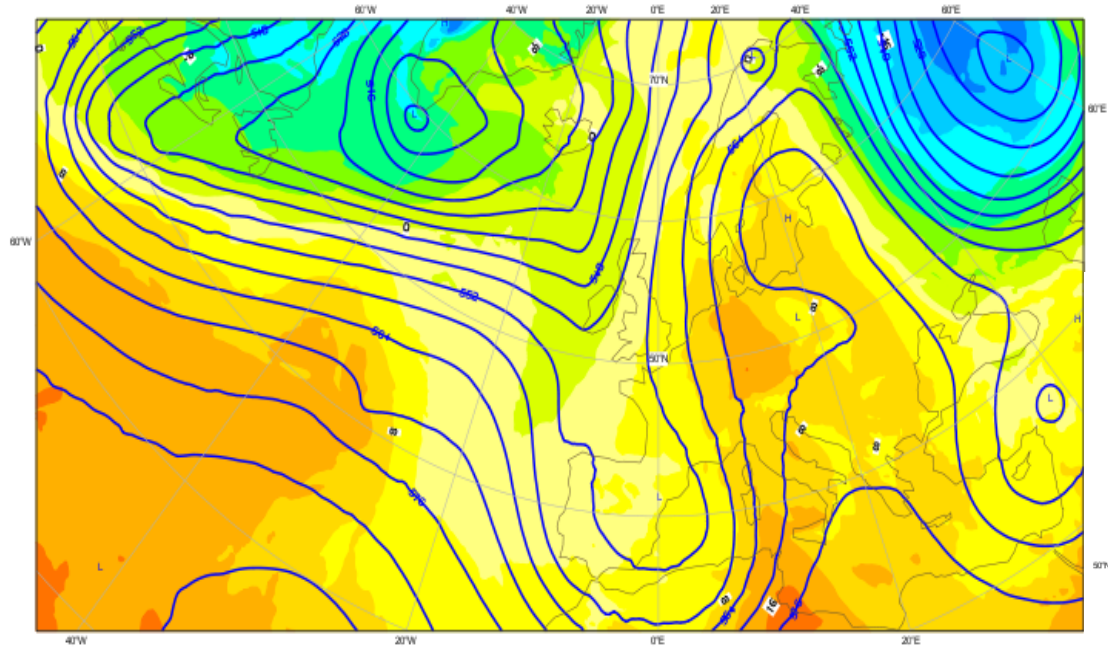
Wednesday 02 November 2011 12UTC @ECMWF MSLP T+60 VT: Saturday 05 November 2011 00UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



Wednesday 02 November 2011 12UTC @ECMWF MSLP T+60 VT: Saturday 05 November 2011 00UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



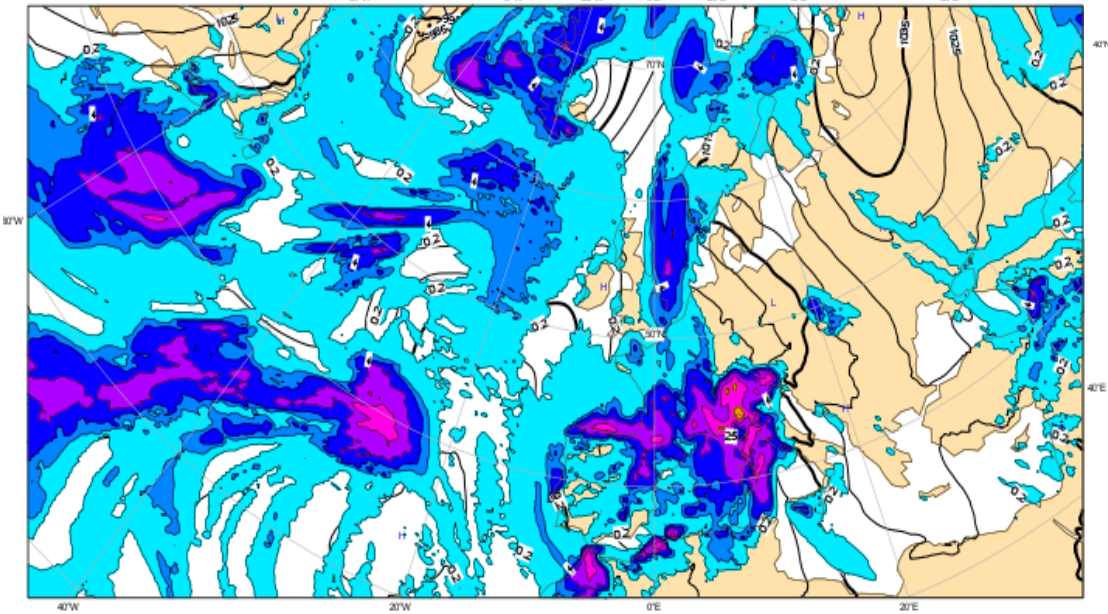
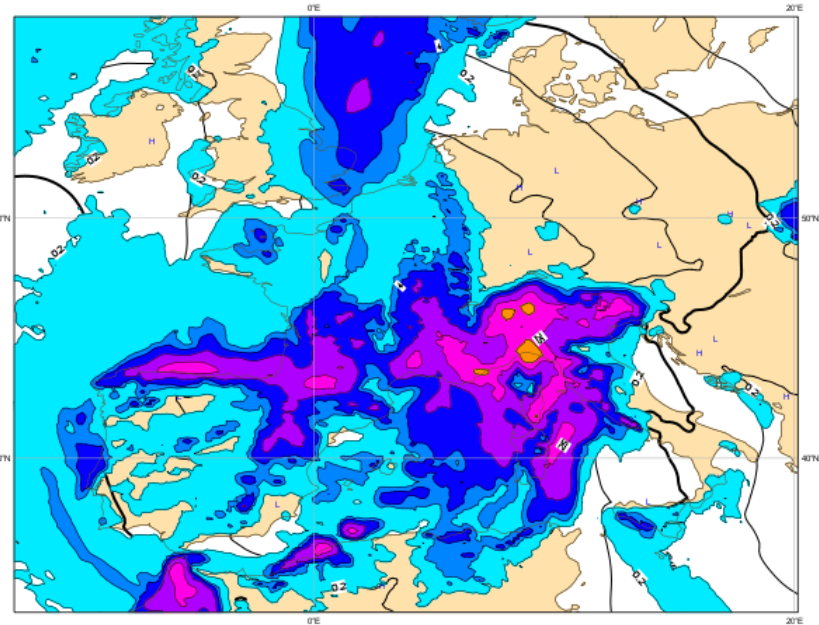
Wednesday 02 November 2011 12 UTC ecmf-h72 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Wednesday 02 November 2011 12 UTC ecmf-h72 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



Wednesday 02 November 2011 12 UTC ecmf-h78 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Wednesday 02 November 2011 12 UTC ecmf-h72 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



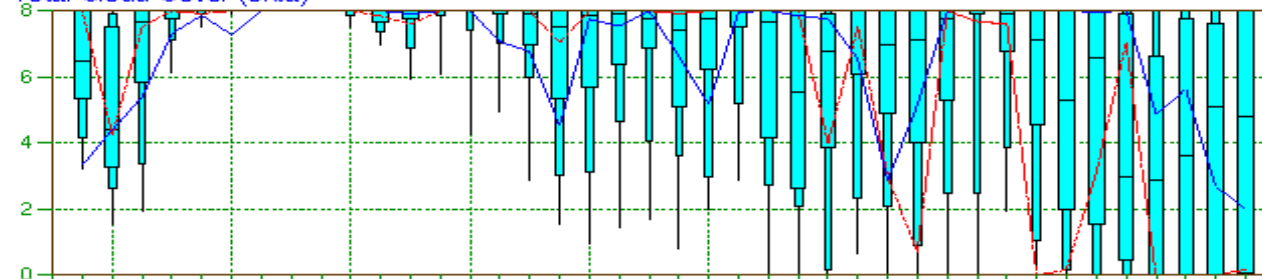
Wednesday 02 November 2011 12 UTC ecmf-h78 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Wednesday 02 November 2011 12 UTC ecmf-h72 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



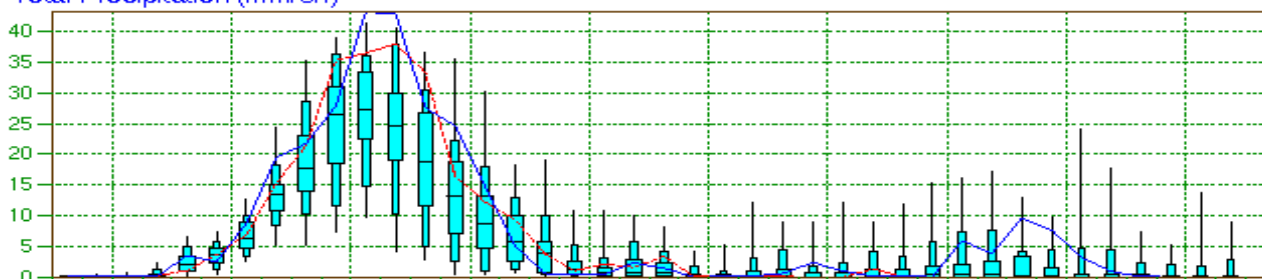


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Wednesday 2 November 2011 12 UTC

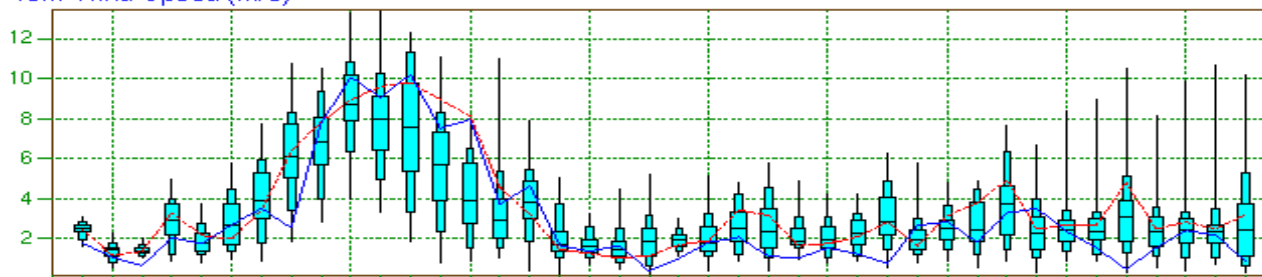
Total Cloud Cover (okta)



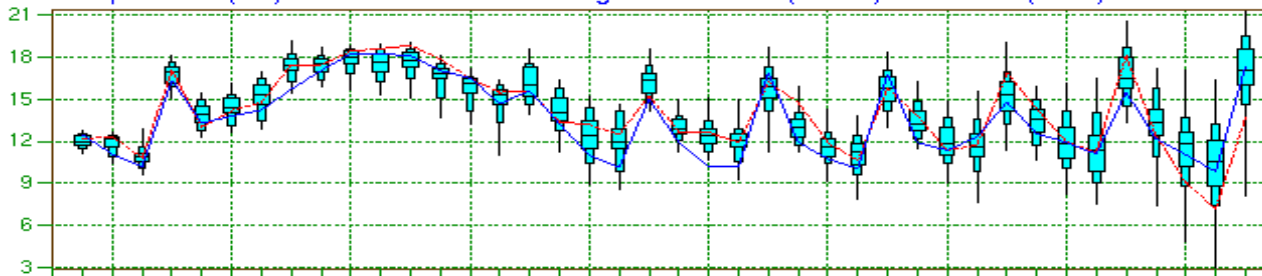
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



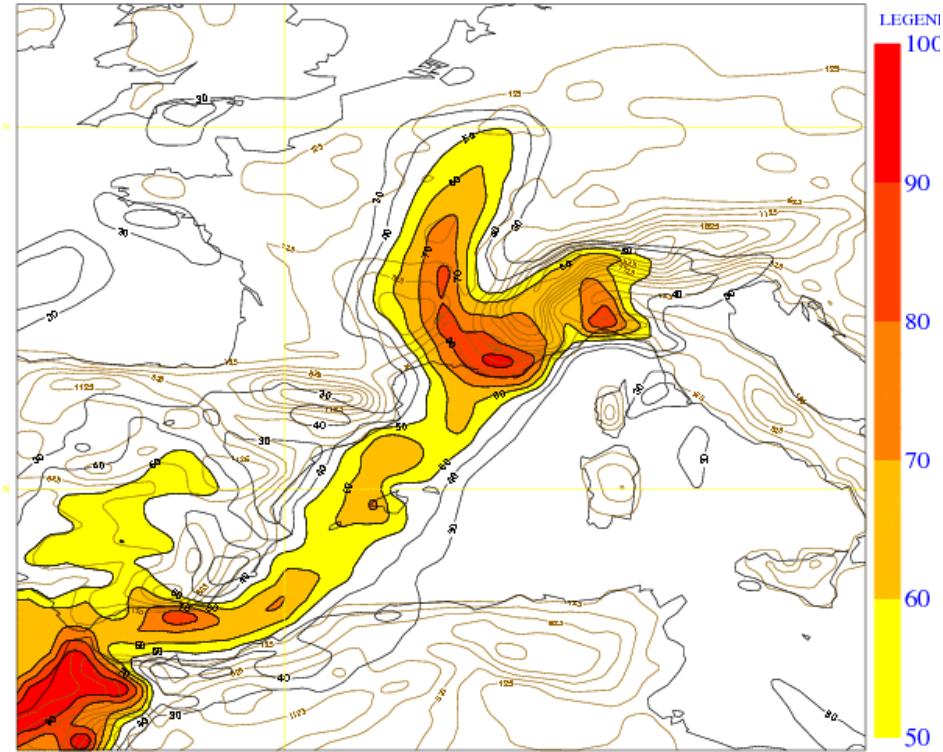
2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



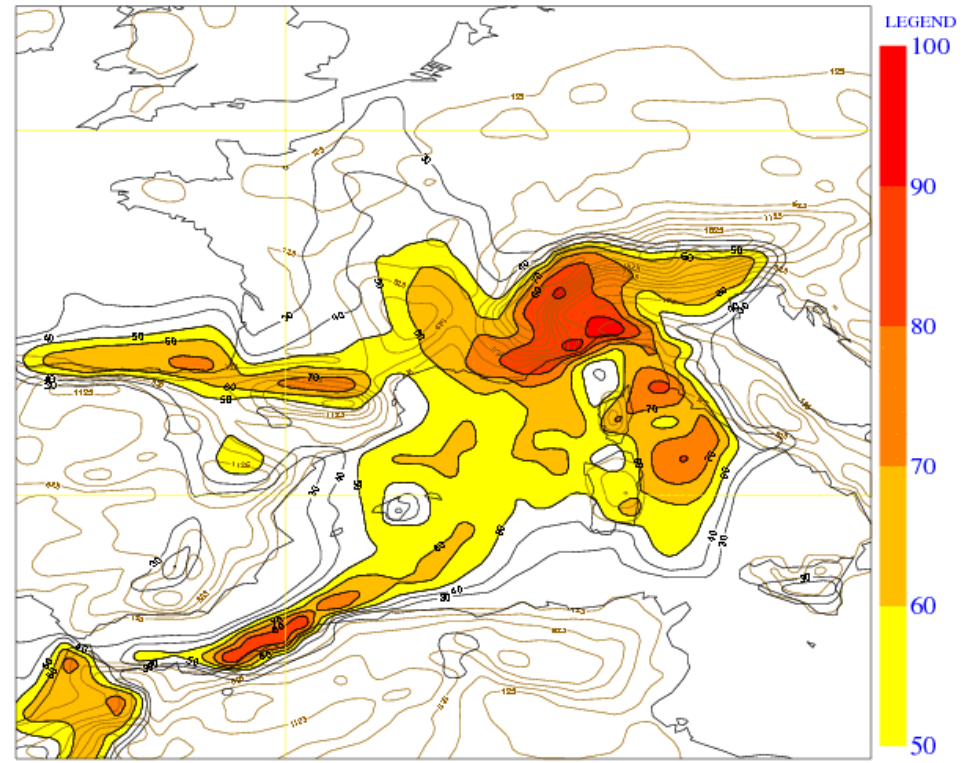
Wed 2 Thu 3 Fri 4 Sat 5 Sun 6 Mon 7 Tue 8 Wed 9 Thu 10 Fri 11 Sat 12  
November 2011



Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 2 November 2011 12UTC, VT: Saturday 5 November 2011 00UTC

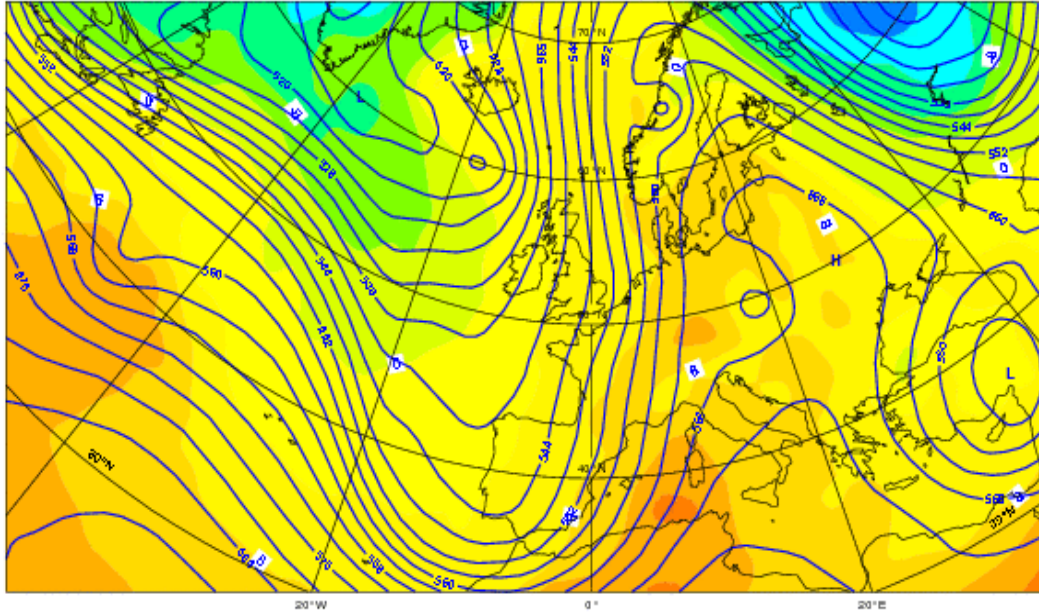


Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 2 November 2011 12UTC, VT: Sunday 6 November 2011 00UTC

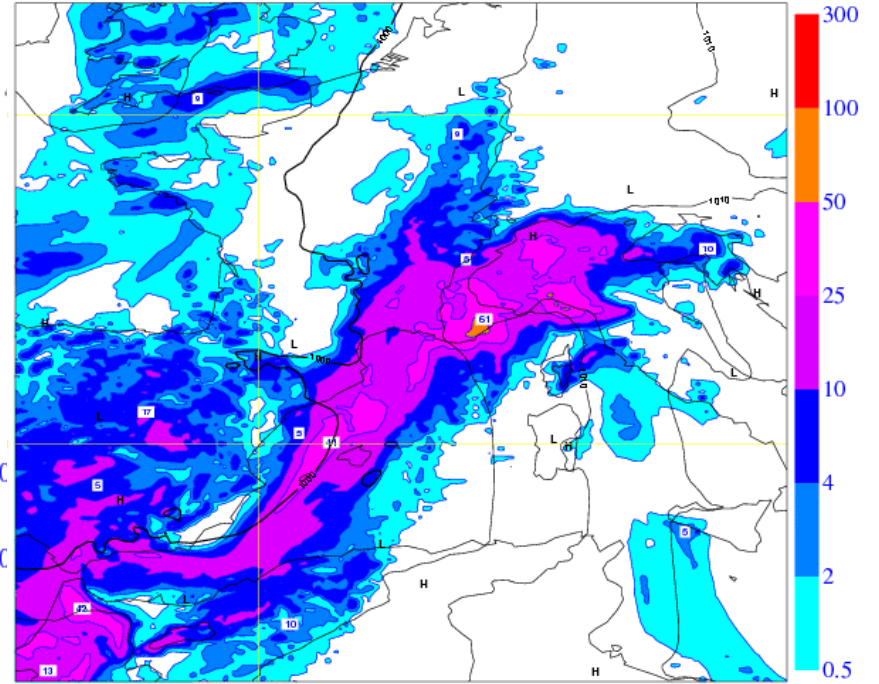


**2011-11-03 00UTC**

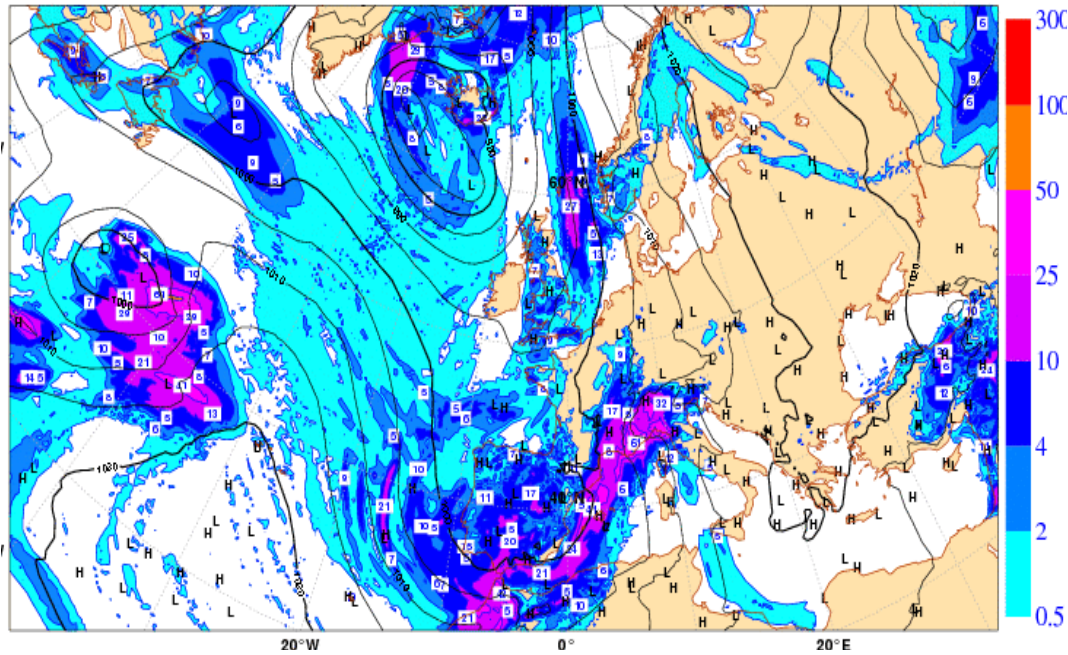
Thursday 3 November 2011 00UTC ECMWF Forecast t+ 36 VT: Friday 4 November 2011 12UTC  
500 hPa Height / 850 hPa Temperature



Thursday 03 November 2011 00UTC @ECMWF MSLP T+36 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

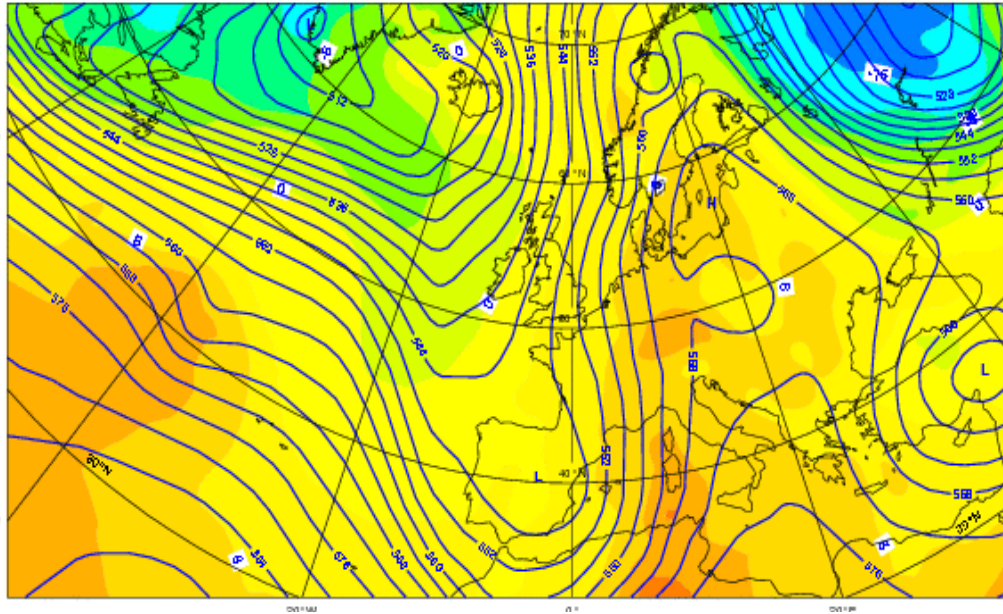


Thursday 03 November 2011 00UTC @ECMWF MSLP T+36 VT: Friday 04 November 2011 12UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

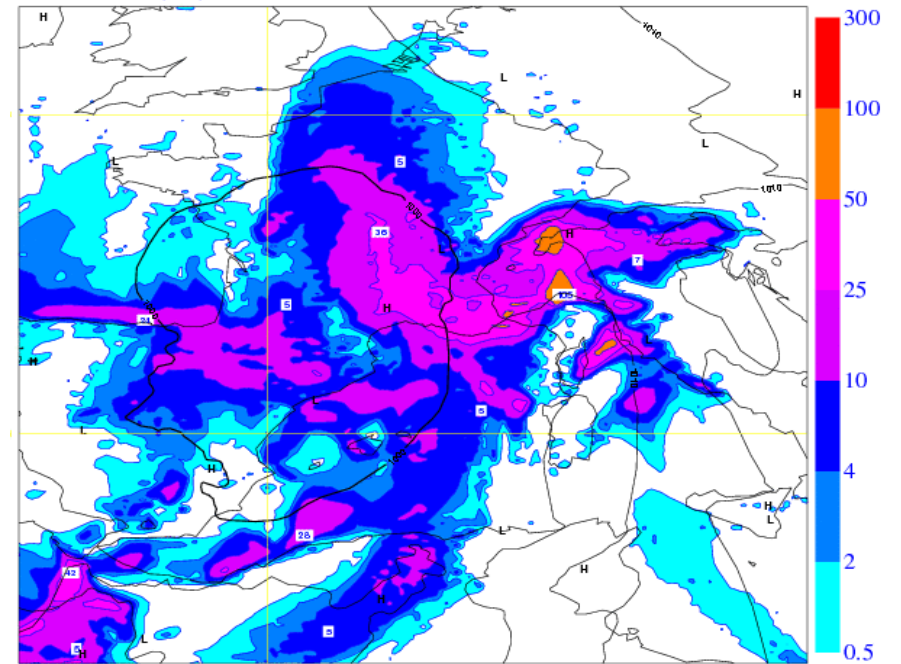




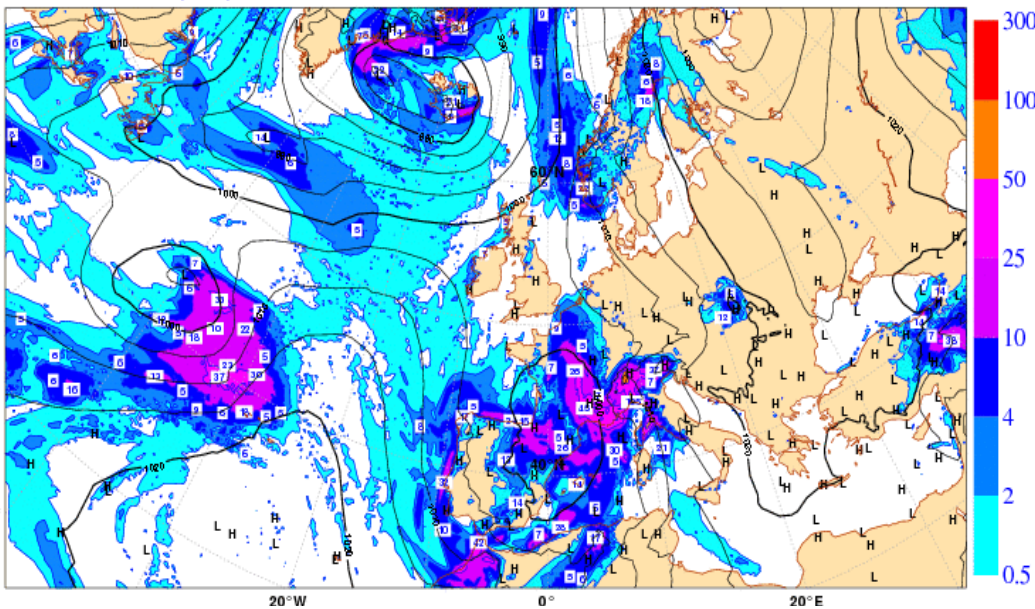
Thursday 3 November 2011 00UTC ECMWF Forecast t+ 48 VT: Saturday 5 November 2011 00UTC  
500 hPa Height / 850 hPa Temperature



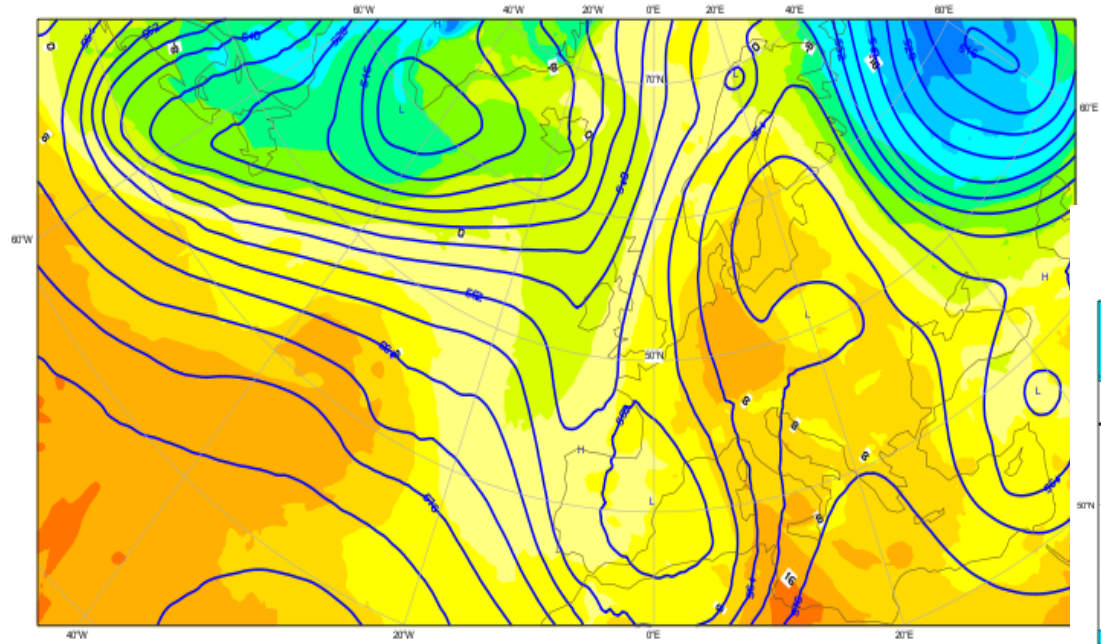
Thursday 03 November 2011 00UTC @ECMWF MSLP T+48 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



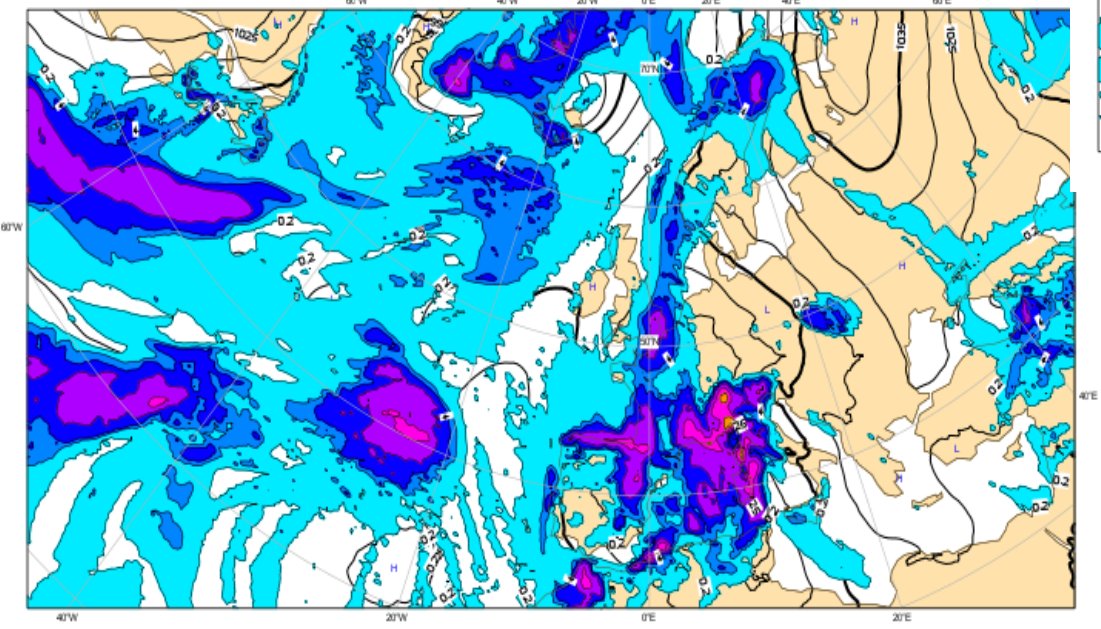
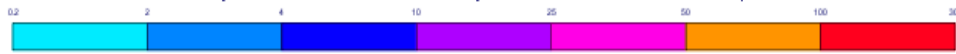
Thursday 03 November 2011 00UTC @ECMWF MSLP T+48 VT: Saturday 05 November 2011 00UTC  
12 hr accumulated precipitation VT: Friday 04 November 2011 18UTC-Saturday 05 November 2011 06UTC



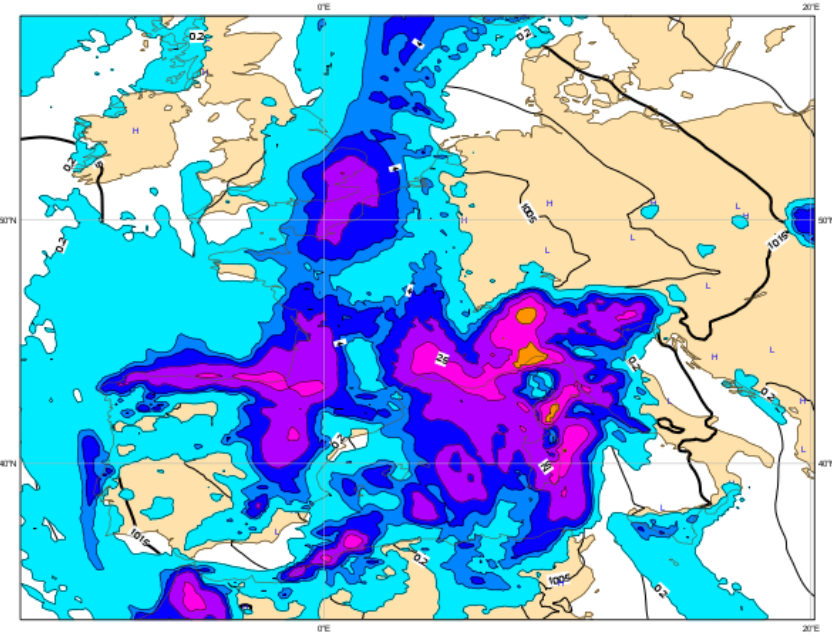
Thursday 03 November 2011 00 UTC ecmf+60 VT Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Thursday 03 November 2011 00 UTC ecmf+60 VT Saturday 05 November 2011 12 UTC 850 hPa Temperature



Thursday 03 November 2011 00 UTC ecmf+66 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 03 November 2011 00 UTC ecmf+60 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



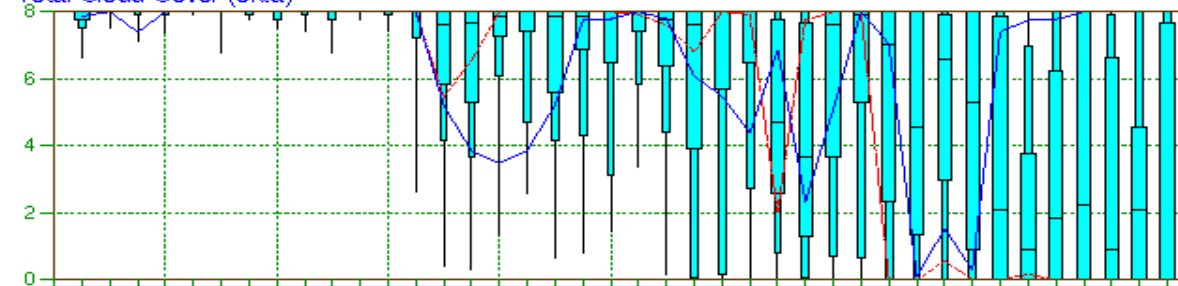
Thursday 03 November 2011 00 UTC ecmf+66 VT Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 03 November 2011 00 UTC ecmf+60 VT Saturday 05 November 2011 12 UTC surface Mean sea level pressure



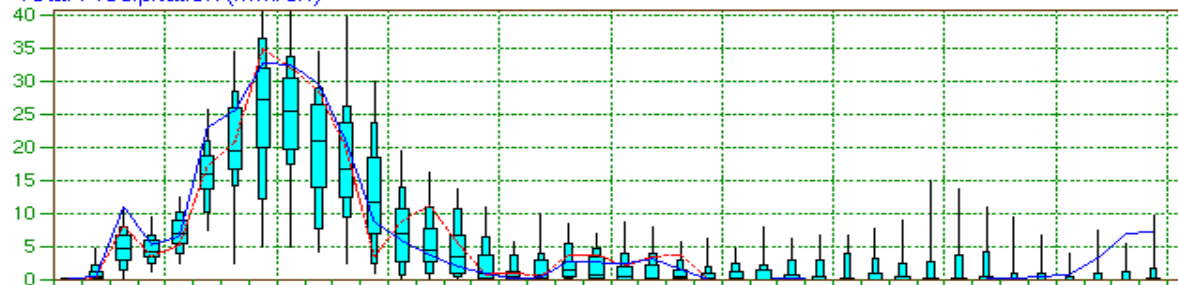


EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Thursday 3 November 2011 00 UTC

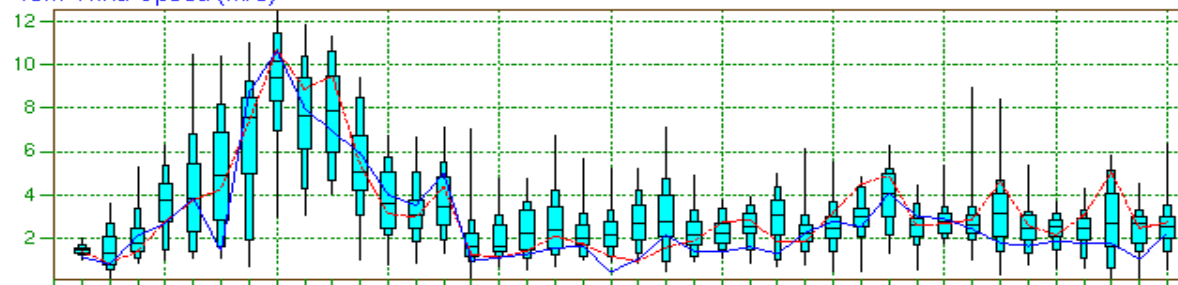
Total Cloud Cover (okta)



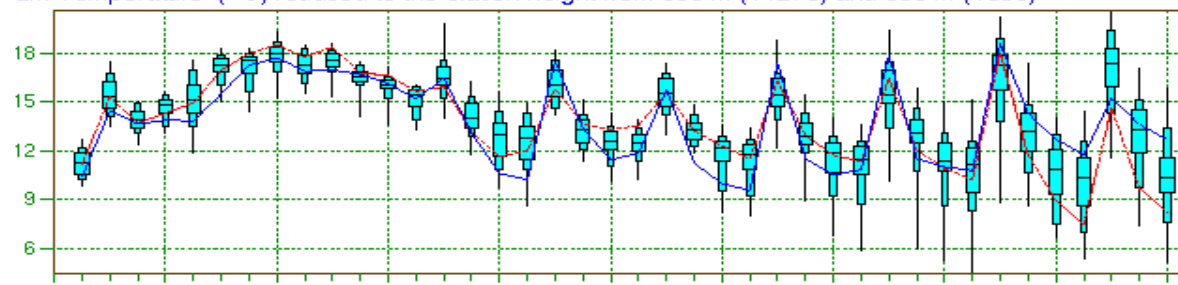
Total Precipitation (mm/6h)



10m Wind Speed (m/s)



2m Temperature (°C) reduced to the station height from 533 m (T1279) and 503 m (T639)



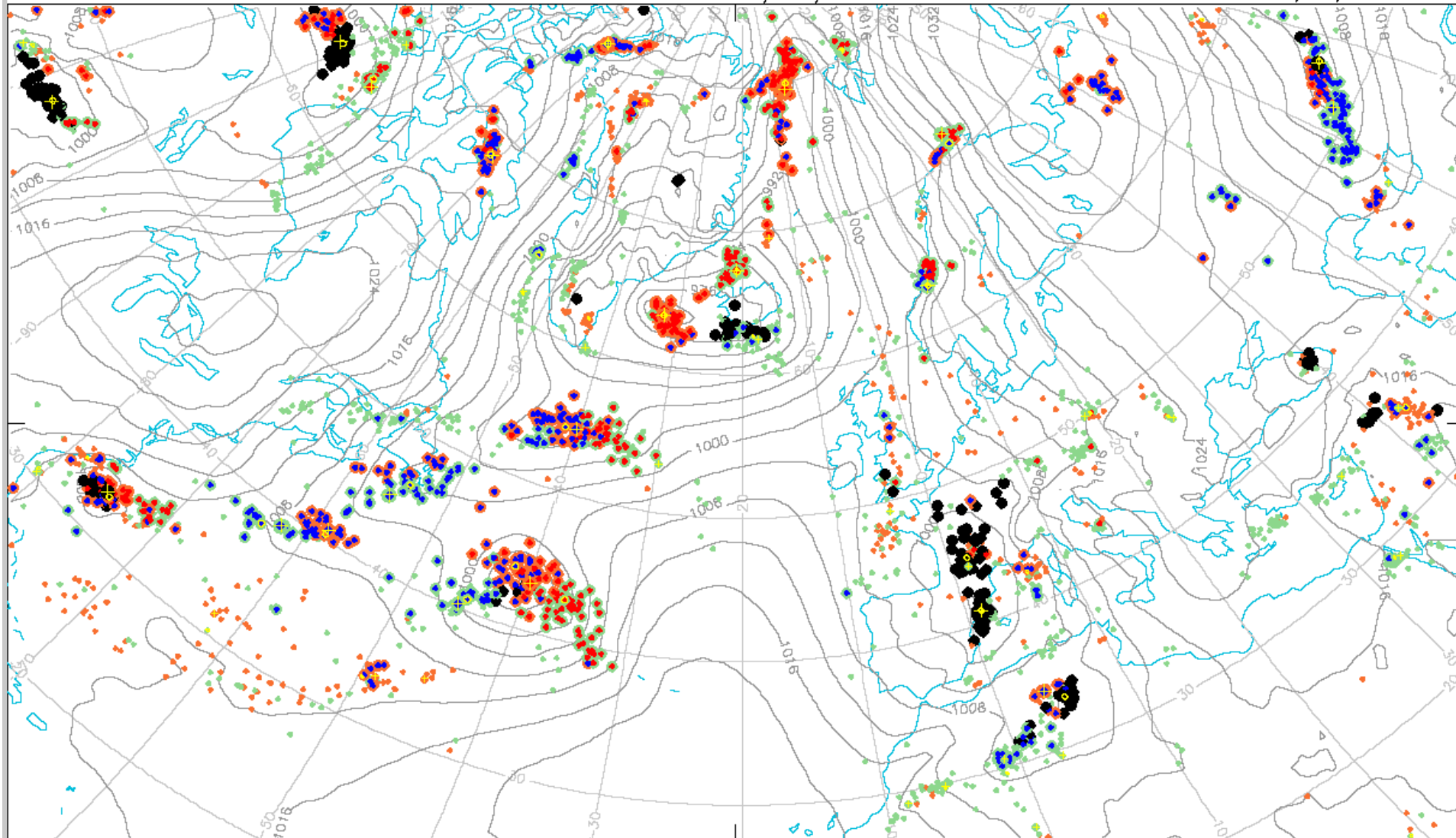
Thu 3    Fri 4    Sat 5    Sun 6    Mon 7    Tue 8    Wed 9    Thu 10    Fri 11    Sat 12  
November 2011



Lead Time: T+48

Data time: Thu 03/11/2011 00Z

Valid Time: Sat 05/11/2011 00Z



◆ Std Diminutive Wave (warm front)  
◆ Std Diminutive Wave (cold front)  
● Weak Diminutive Wave

◆ Std Frontal Wave (warm front)  
◆ Std Frontal Wave (cold front)  
● Weak Frontal Wave

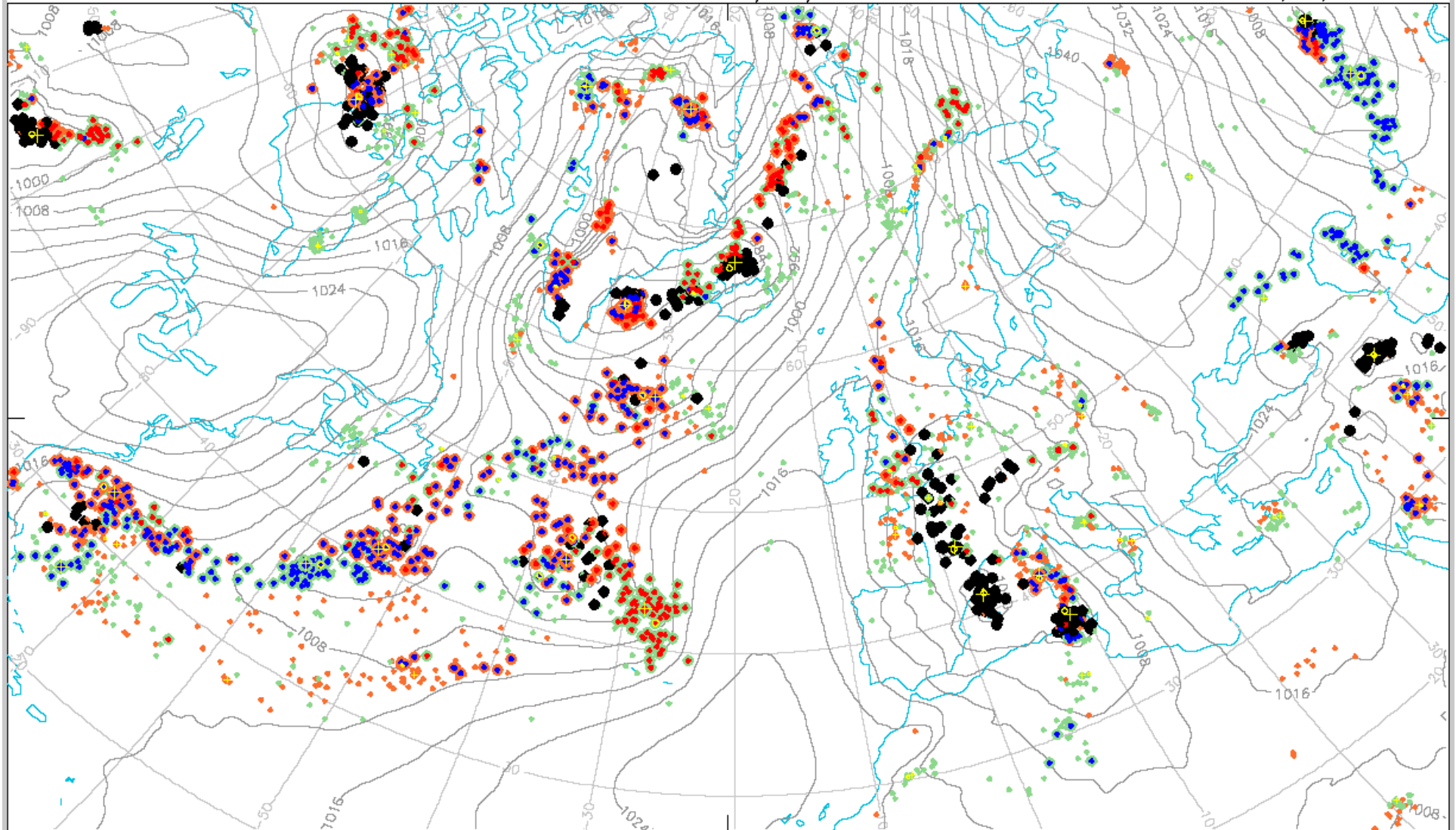
◆ Barotropic Low  
◆ Control Run Features  
+ Deterministic Run Features

Plotting Order is: Control run mslp, then..  
Feature spots - for 50 members, then Control, then Deterministic  
Then yellow markers - for Control, then Deterministic

Lead Time: T+60

Data time: Thu 03/11/2011 00Z

Valid Time: Sat 05/11/2011 12Z



• Std Diminutive Wave (warm front)  
• Std Diminutive Wave (cold front)  
• Weak Diminutive Wave

• Std Frontal Wave (warm front)  
• Std Frontal Wave (cold front)  
• Weak Frontal Wave

• Barotropic Low  
• Control Run Features  
• Deterministic Run Features

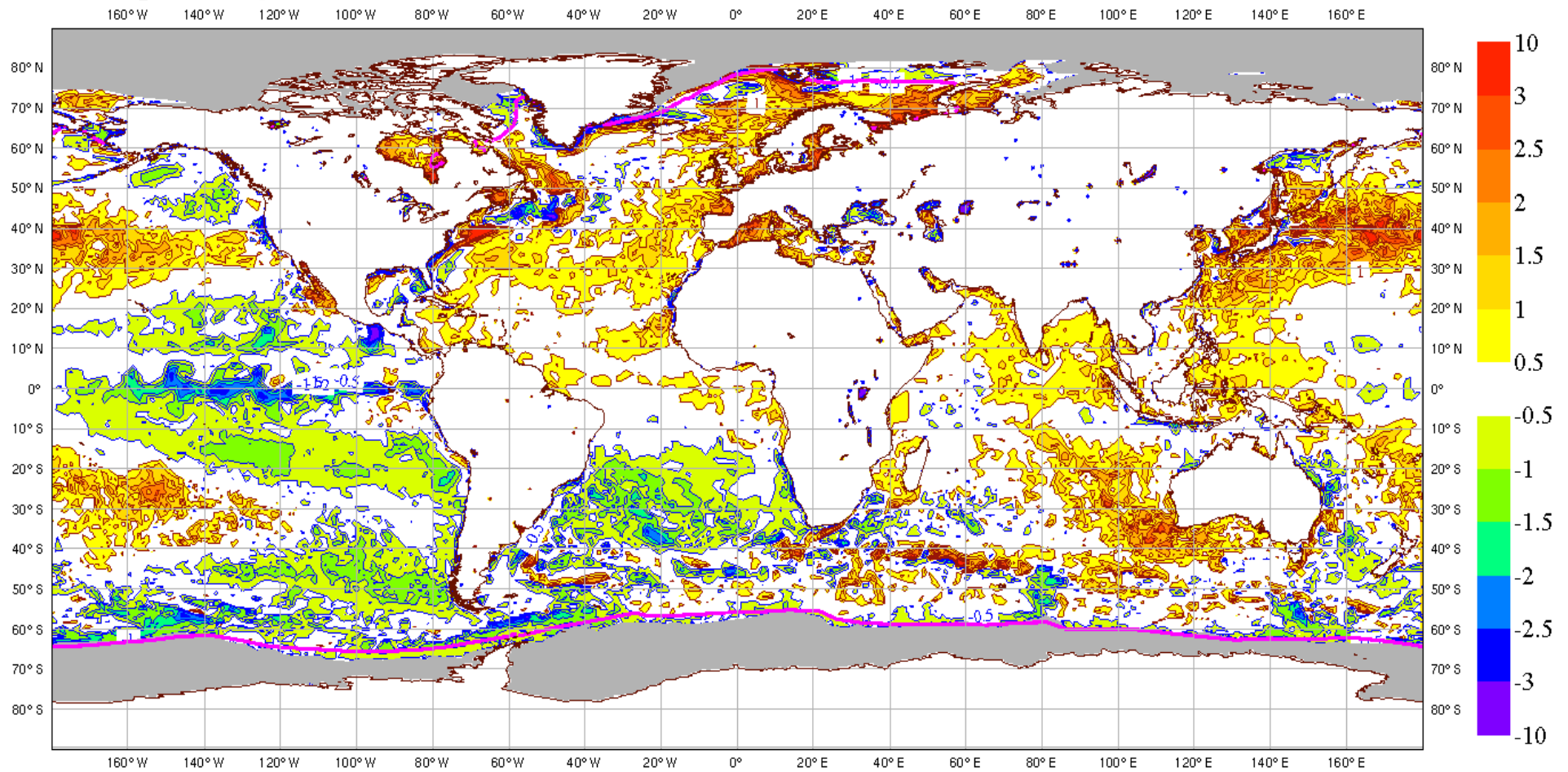
Plotting Order is: Control run mslp, then..  
Feature spots – for 50 members, then Control, then Deterministic  
Then yellow markers – for Control, then Deterministic

Thursday 3 November 2011 00UTC ©ECMWF Analysis t+000 VT: Thursday 3 November 2011 00UTC

Surface: Soil temperature level 1 / Surface: sic

Sea Surface Temperature : Analysis - Climate

Ice-edge : Analysis **Climate**



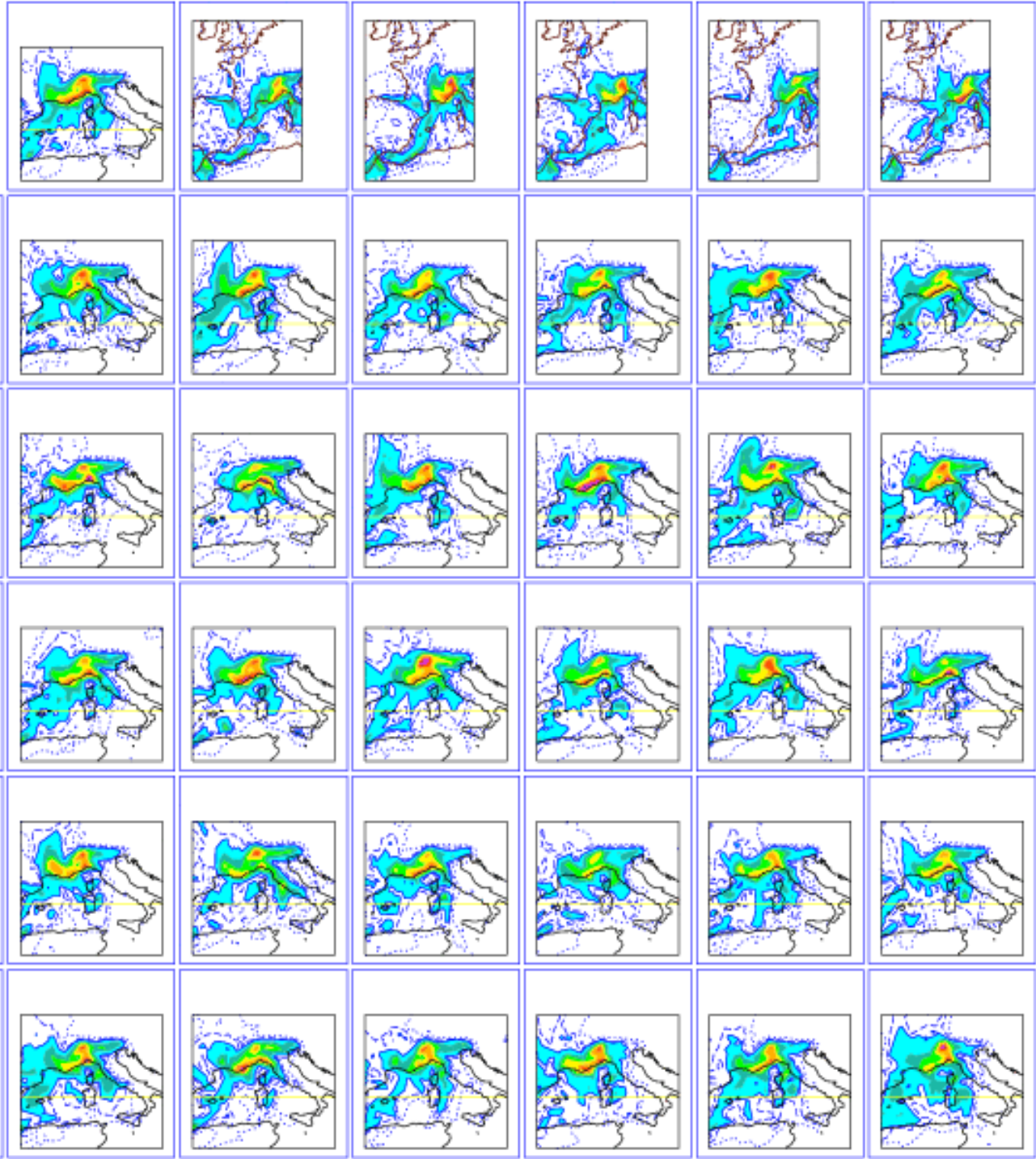




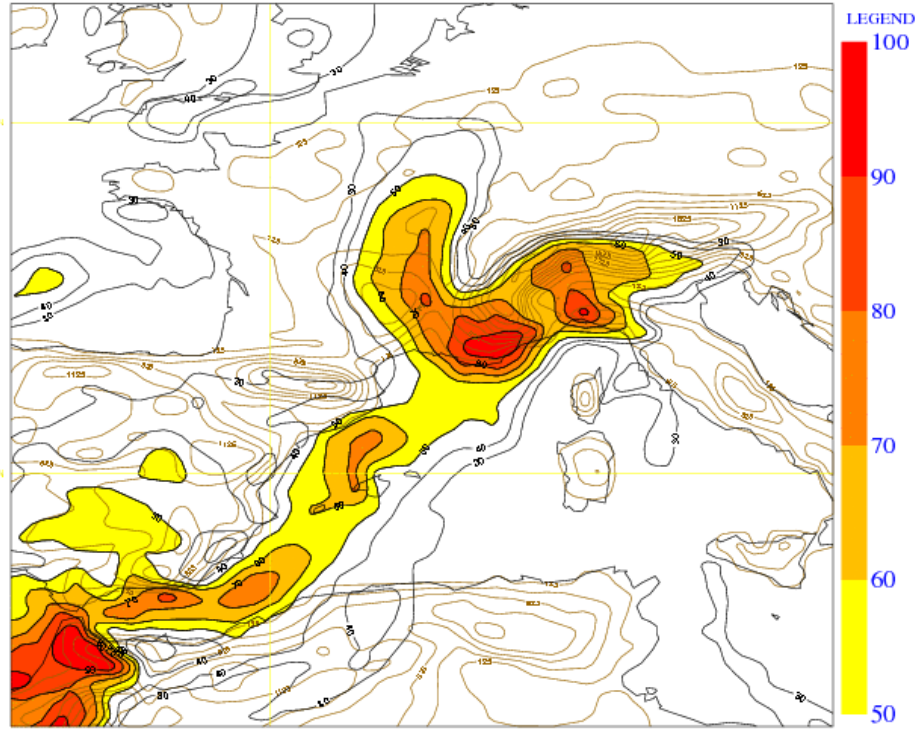
Left = Deterministic  
Next = Control  
Others = EPS members

DT 00Z Thu 03 Nov 2011  
Total Pbn 24 to 72 hrs  
cp

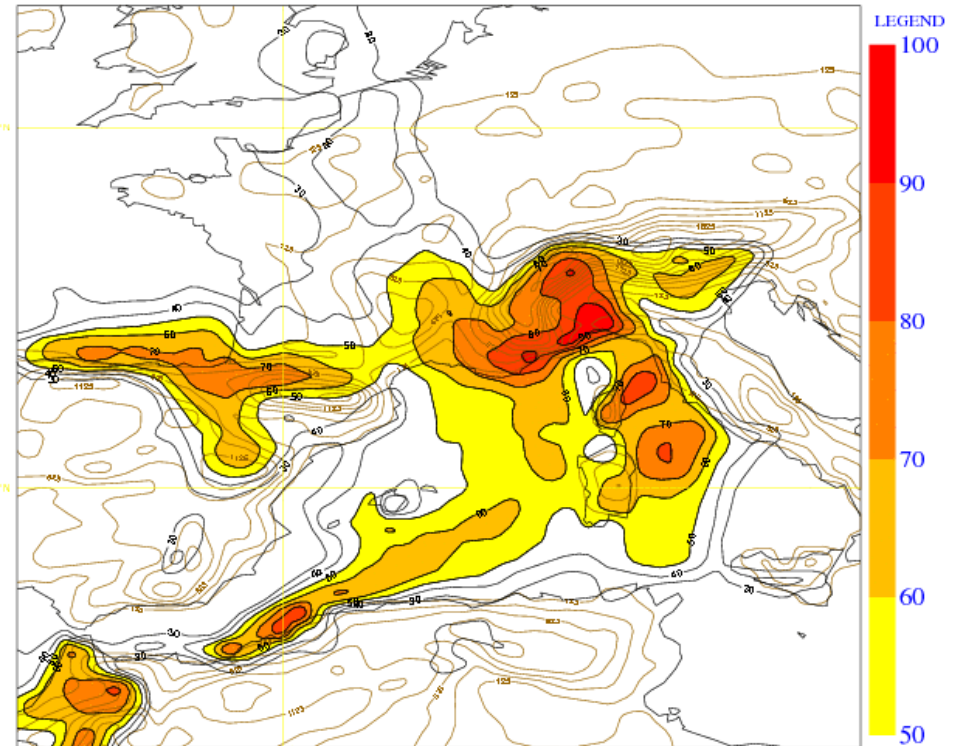
Contours: 5, 15, 25mm  
Shaded: 25-50-75-100-...-375mm



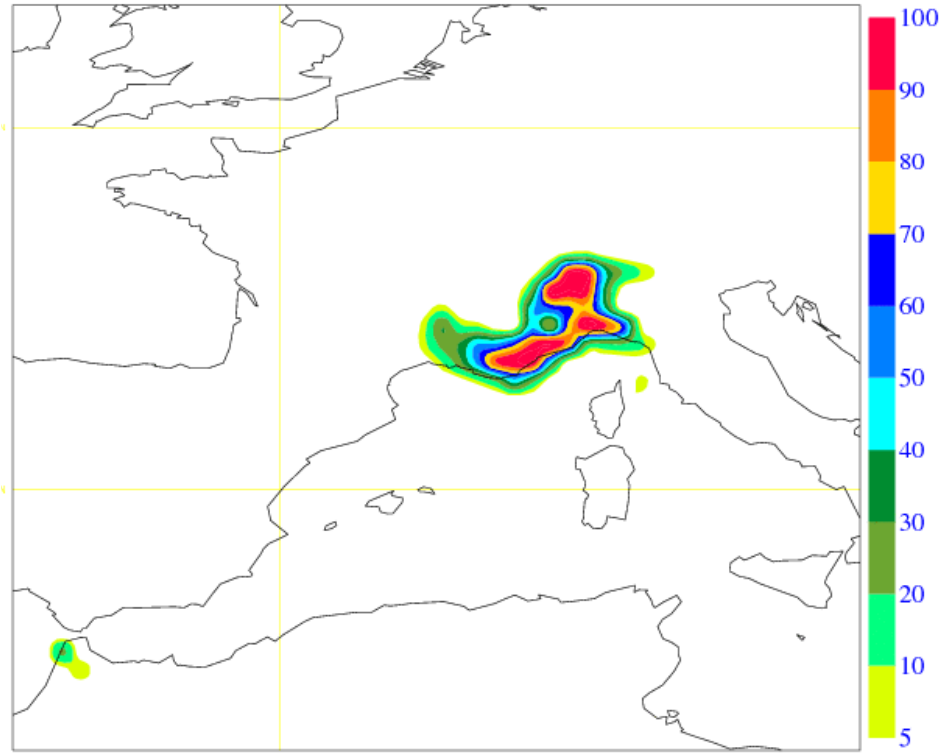
Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 3 November 2011 00UTC, VT: Saturday 5 November 2011 00UTC



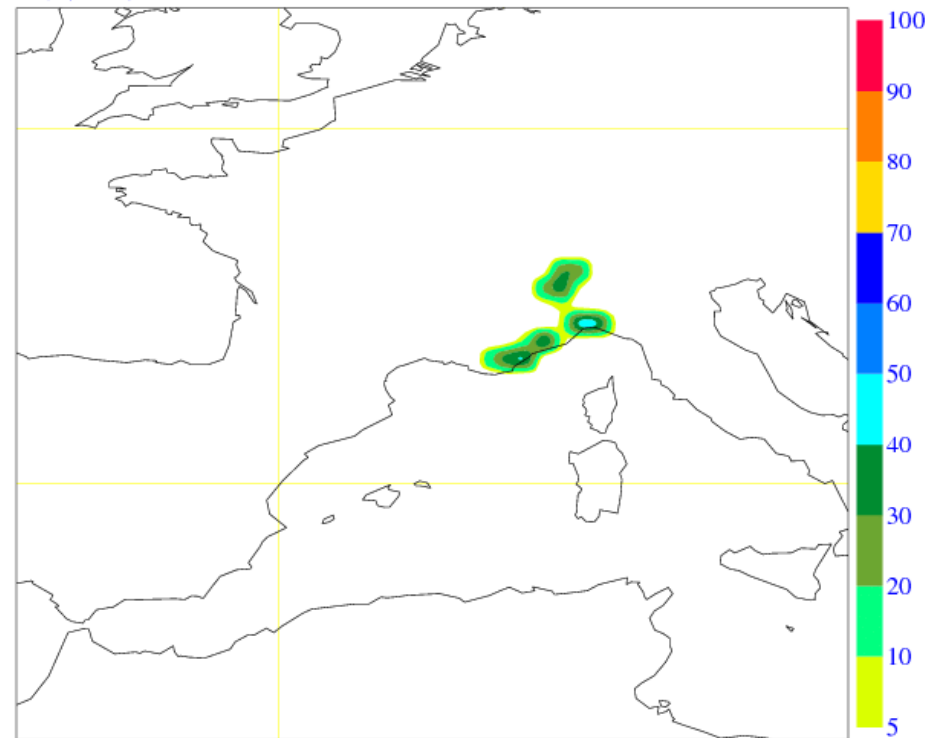
Precipitation accumulated over last 24h EPS Extreme Forecast Index 0  
Base 3 November 2011 00UTC, VT: Sunday 6 November 2011 00UTC



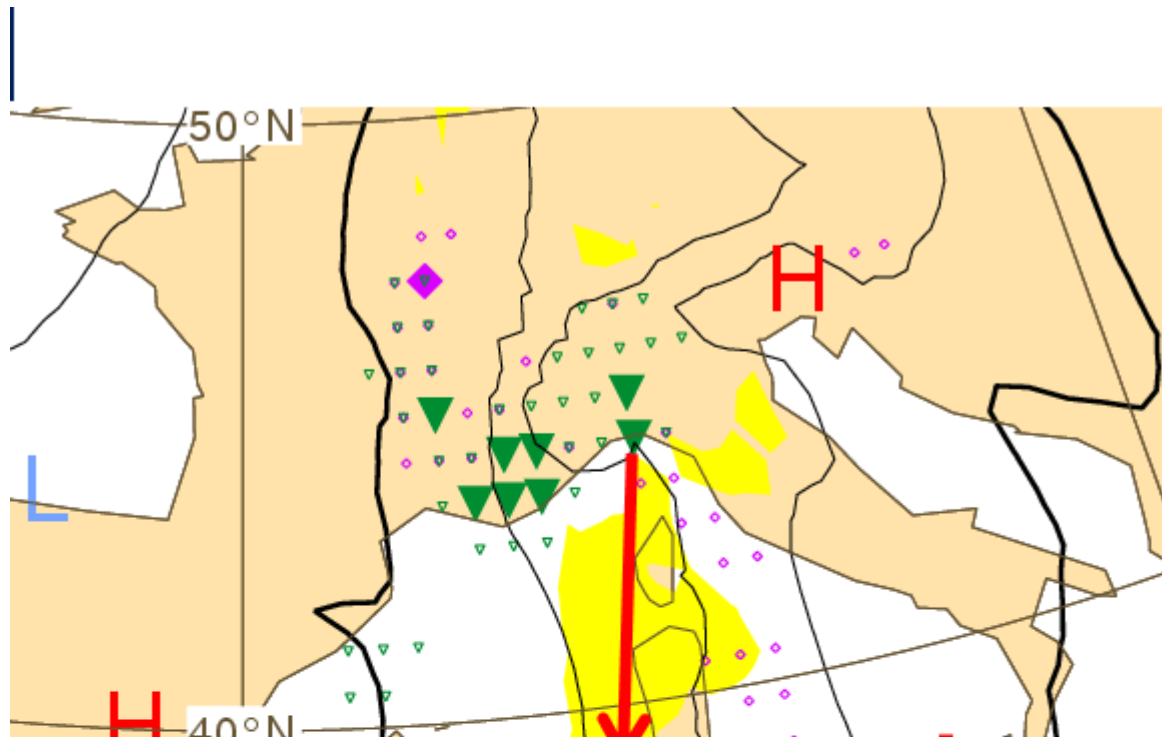
Thursday 3 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 100mm  
(exper -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+24-72h



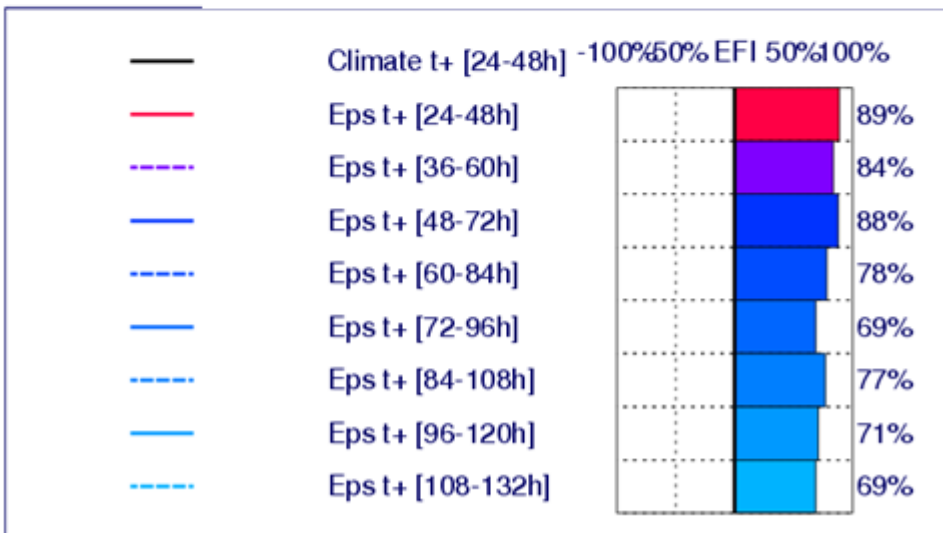
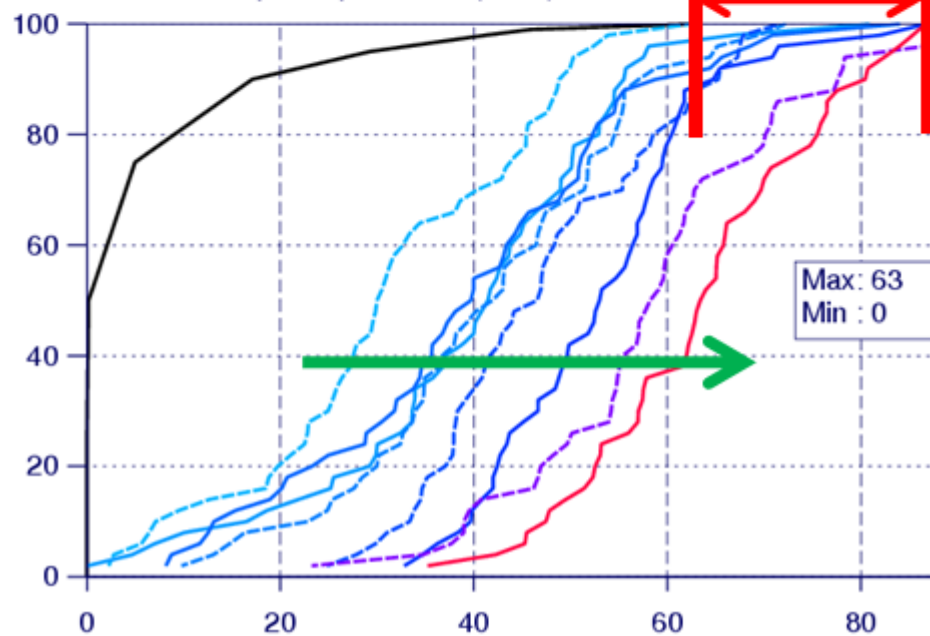
Thursday 3 November 2011 00UTC @ECMWF EPS: total precipitation probability of exceeding 150mm  
(exper -1) VT: Friday 04 November 2011 00UTC - Sunday 06 November 2011 00UTC t+24-72h



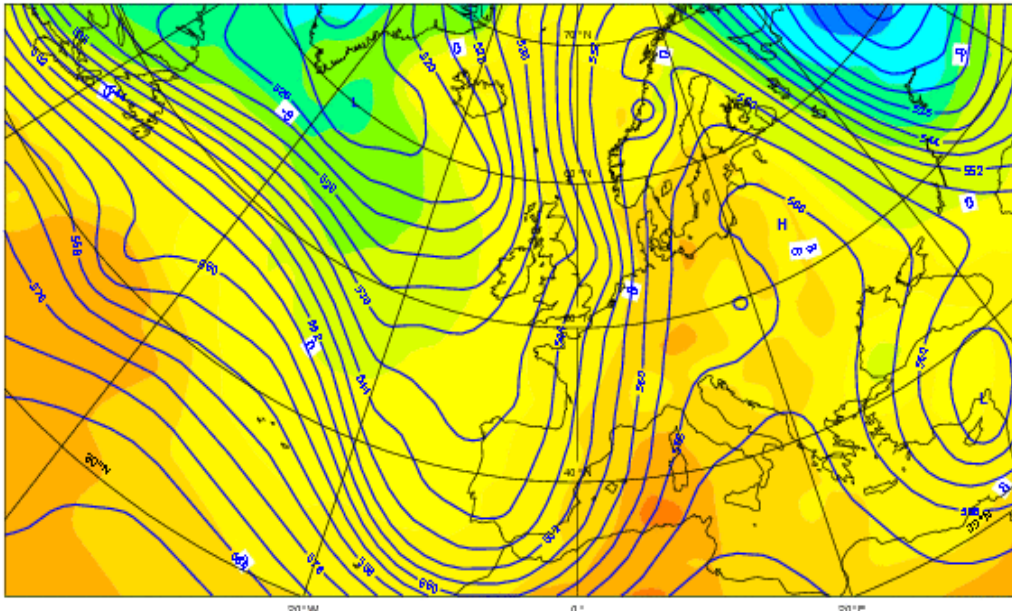




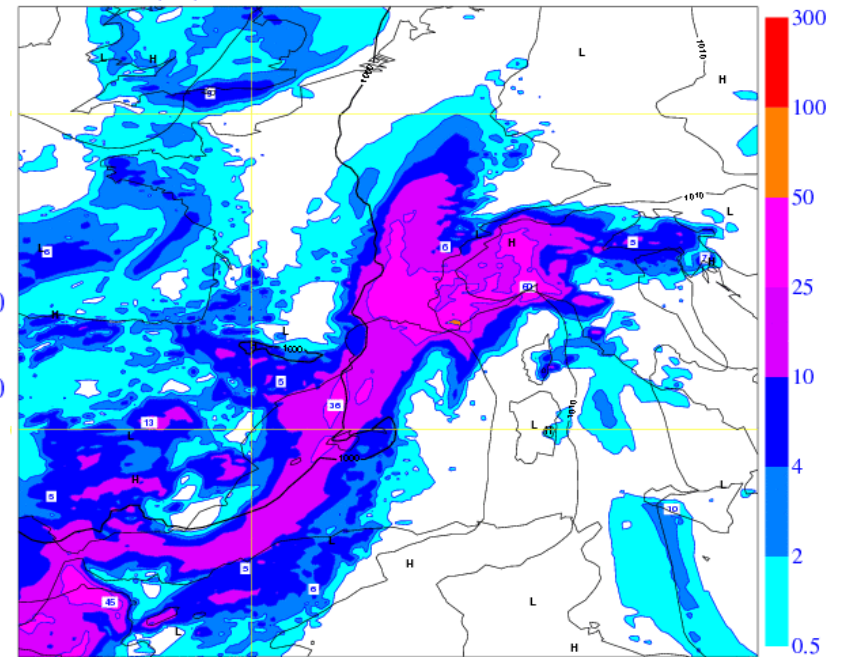
CDF for 24h precipitation (mm)



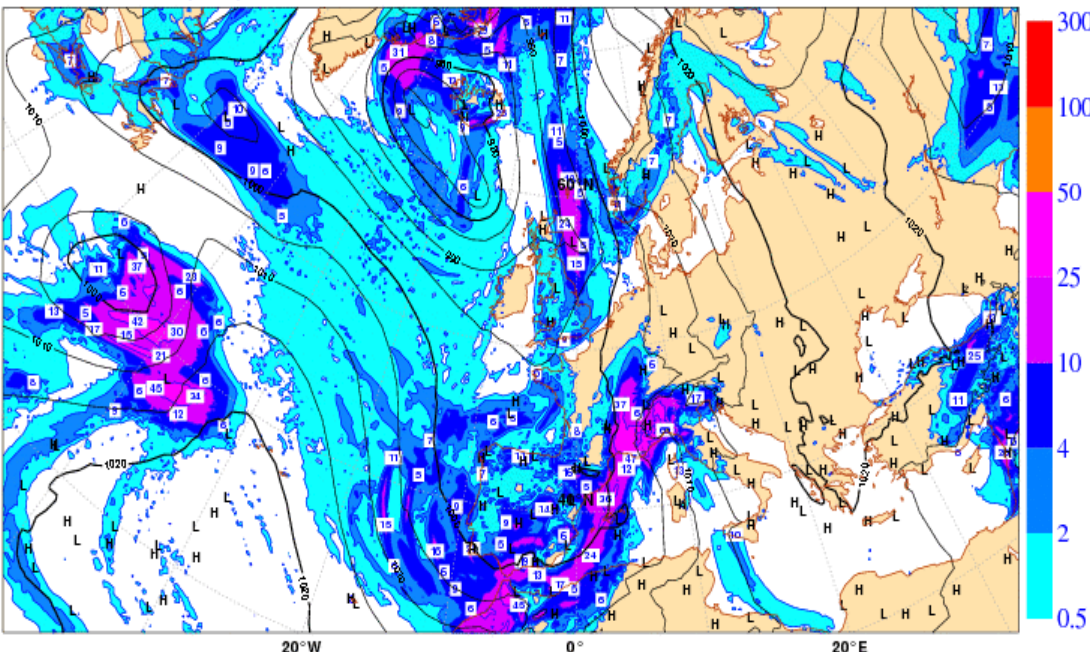
Thursday 3 November 2011 12UTC ECMWF Forecast t+ 24 VT: Friday 4 November 2011 12UTC  
 500 hPa Height / 850 hPa Temperature



Thursday 03 November 2011 12UTC @ECMWF MSLP T+24 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

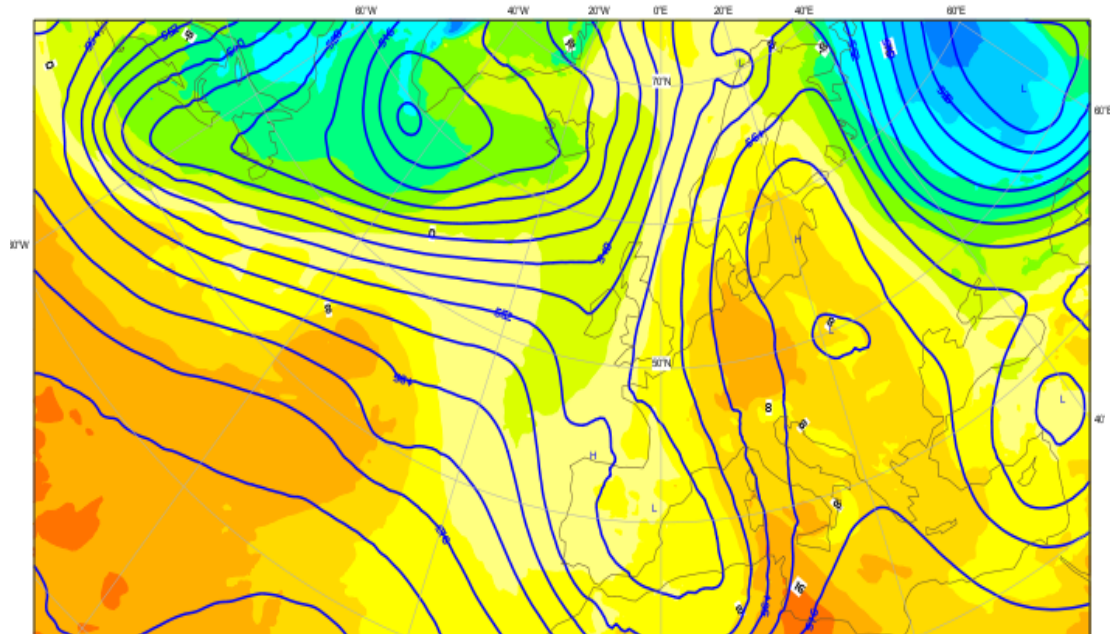


Thursday 03 November 2011 12UTC @ECMWF MSLP T+24 VT: Friday 04 November 2011 12UTC  
 12 hr accumulated precipitation VT: Friday 04 November 2011 06UTC-Friday 04 November 2011 18UTC

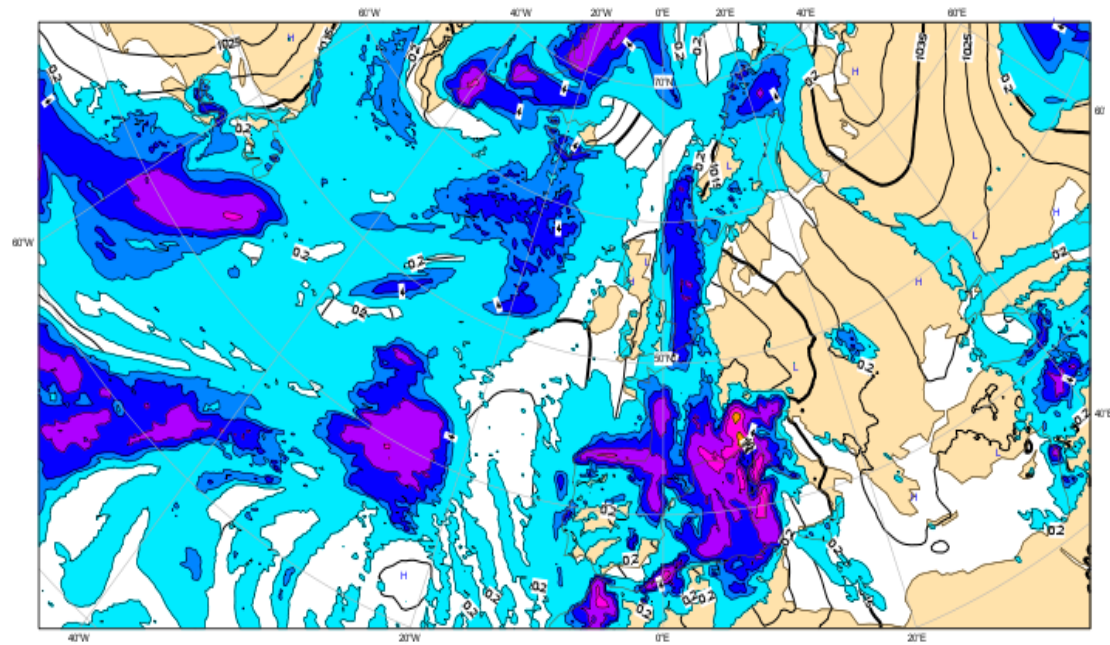




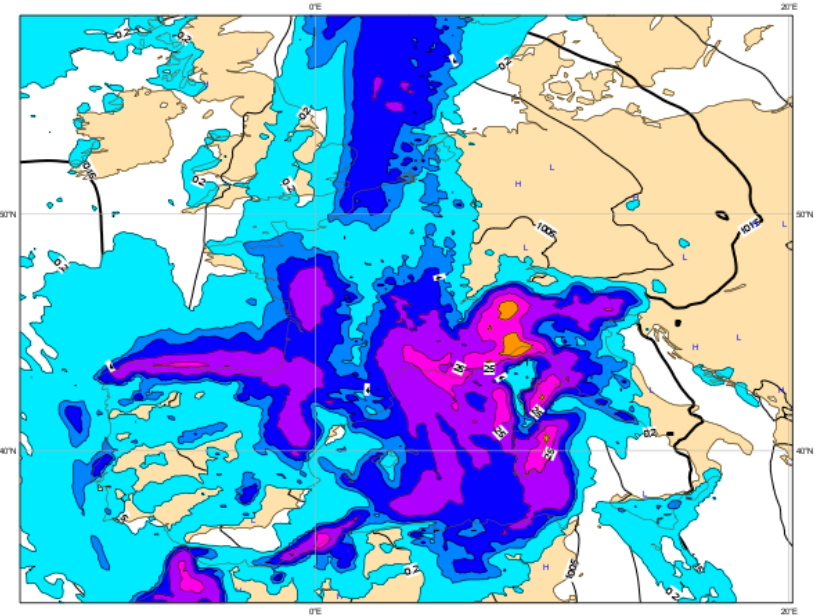
Thursday 03 November 2011 12 UTC ecmt+48 VT: Saturday 05 November 2011 12 UTC 500 hPa Geopotential  
Thursday 03 November 2011 12 UTC ecmt+48 VT: Saturday 05 November 2011 12 UTC 850 hPa Temperature



Thursday 03 November 2011 12 UTC ecmt+54 VT: Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 03 November 2011 12 UTC ecmt+48 VT: Saturday 05 November 2011 12 UTC surface Mean sea level pressure

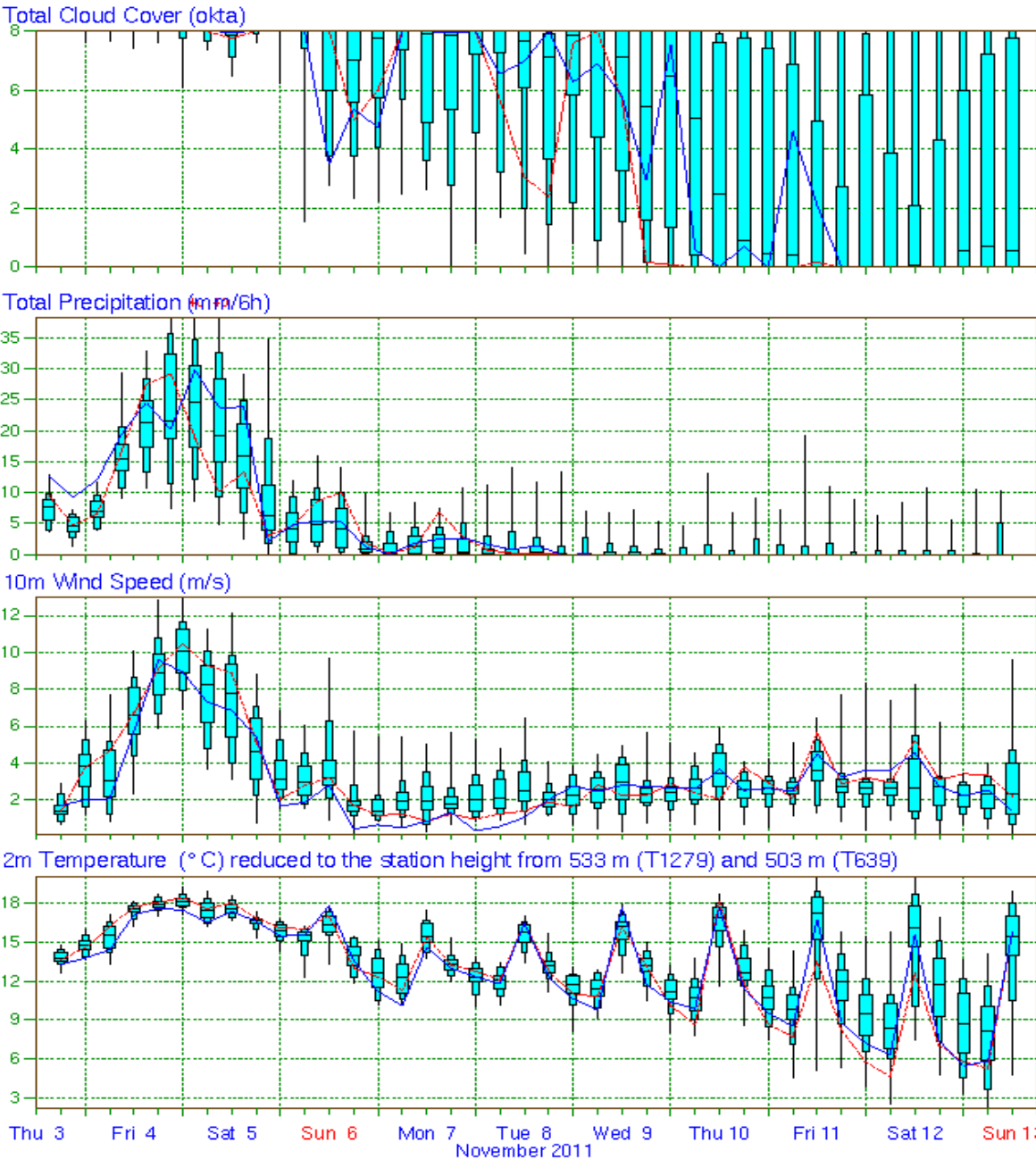


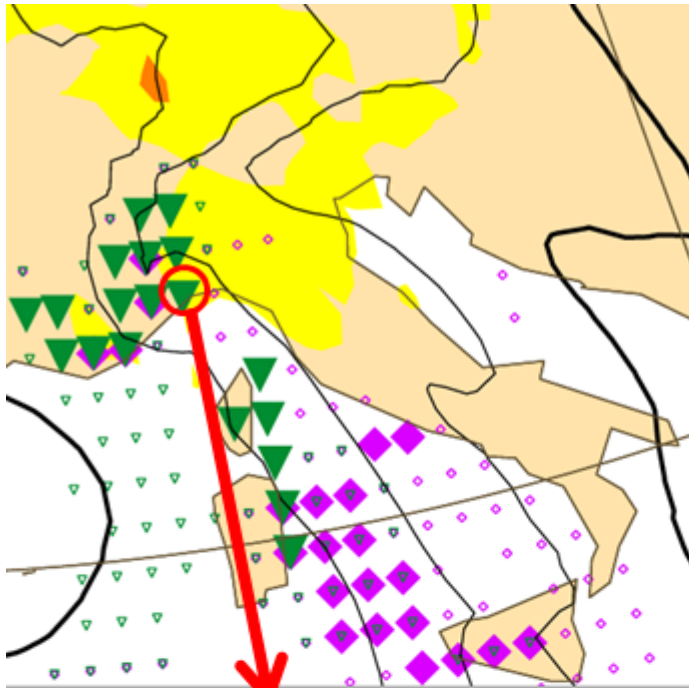
Thursday 03 November 2011 12 UTC ecmt+54 VT: Saturday 05 November 2011 18 UTC surface Total precipitation  
Thursday 03 November 2011 12 UTC ecmt+48 VT: Saturday 05 November 2011 12 UTC surface Mean sea level pressure





EPS Meteogram  
Genoa 44.54° N 9° E (EPS land point) 37 m  
Deterministic Forecast and EPS Distribution Thursday 3 November 2011 12 UTC

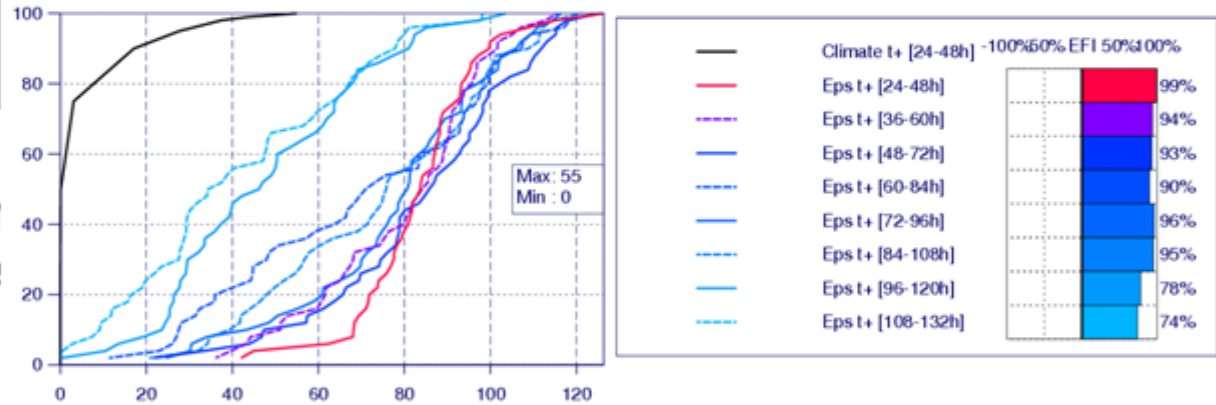




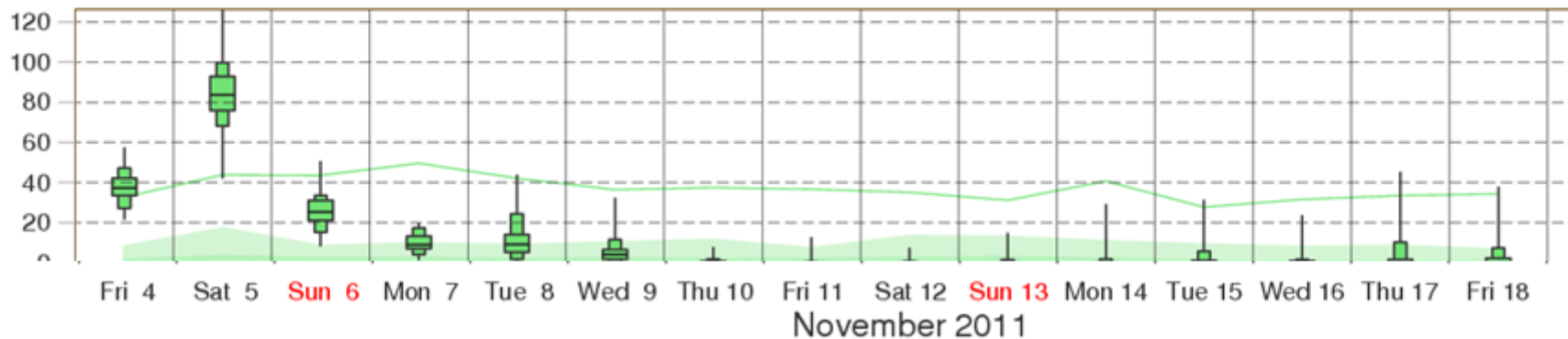
**EPS Meteogram**  
**44.65°N 8.25°E (EPS land pair)**  
**Extended Range Forecast base**

Forecast and M-Climate cumulative distribution functions with EFI values at 44.16°N/8.23°E valid for 24 hours from Saturday 5 November 2011 00 UTC to Sunday 6 November 2011 00 UTC

CDF for 24h precipitation (mm)



Total Precipitation (mm/24h)



Observed precipitation amounts in mm from 04.11.2011/06UTC to 07.11.2011/06UTC

✕ 0.5 - 2 ✕ 2 - 4 ✕ 4 - 10 ✕ 10 - 25 ✕ 25 - 50 ✕ 50 - 100 ✕ 100 - 300

