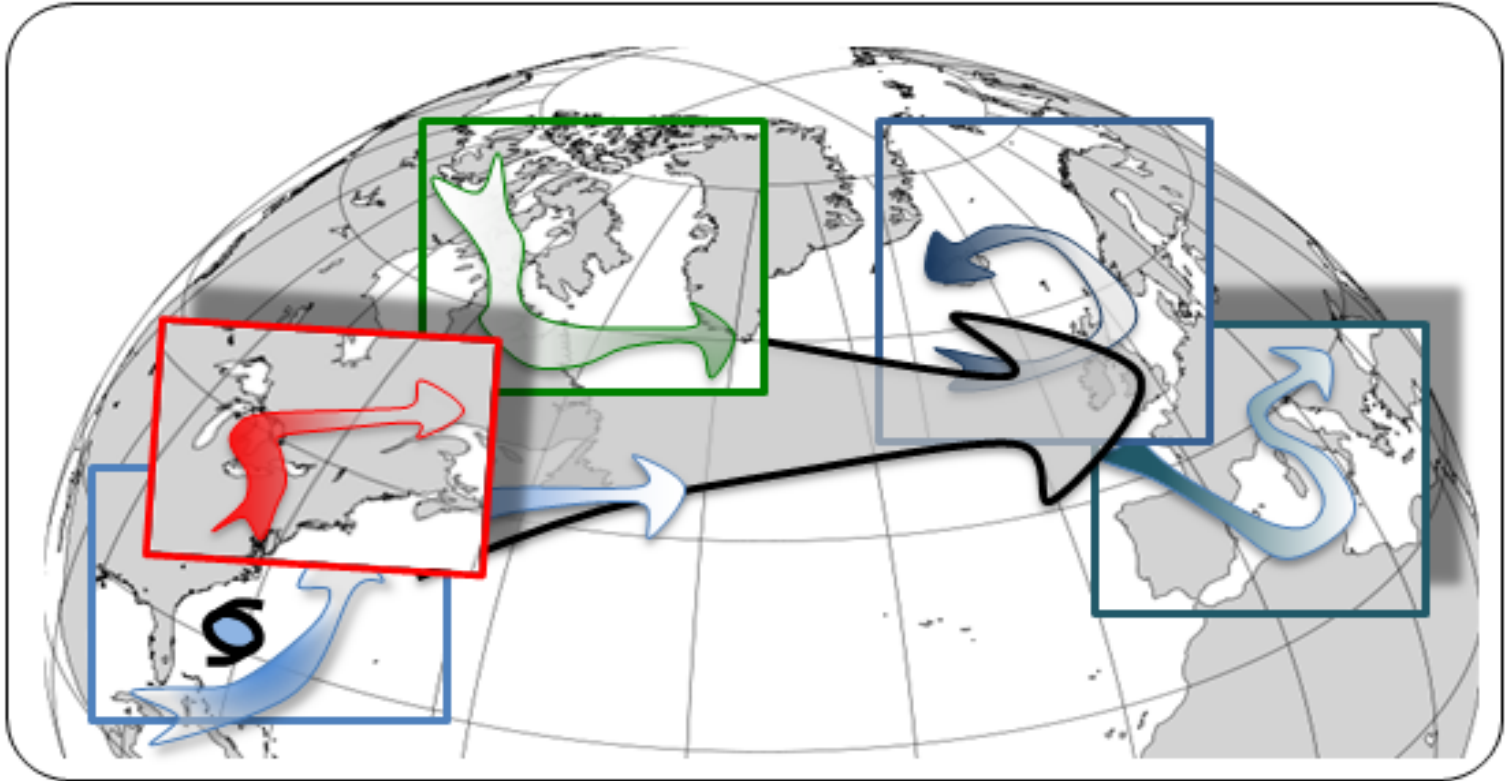


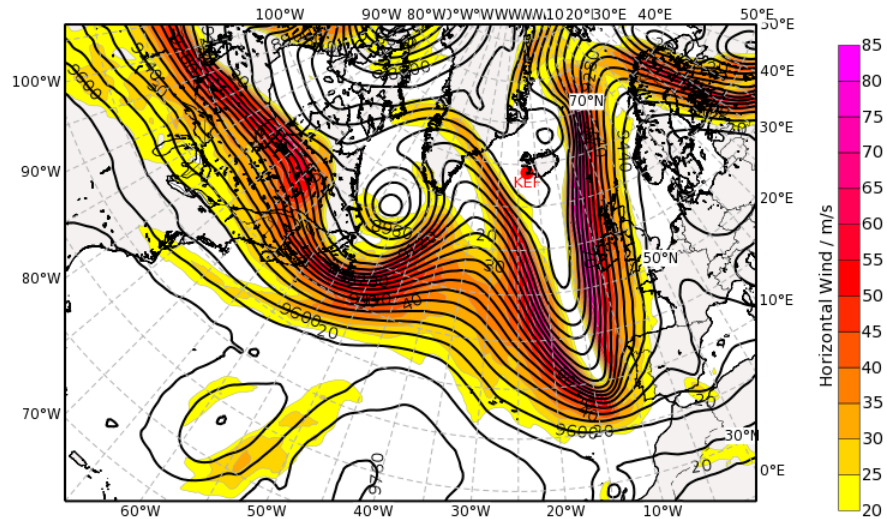
# NAWDEX – Flight Planning Meeting

13 September 2016

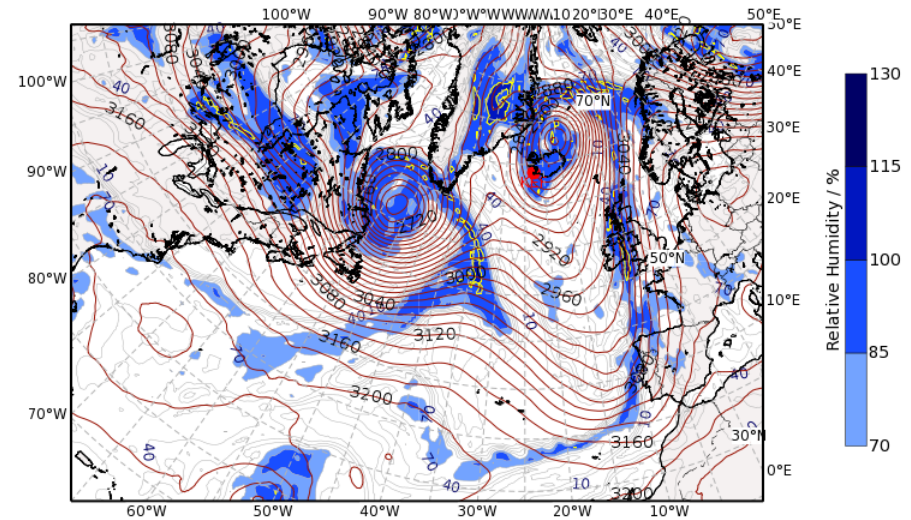


# Analysis – 13 Sep 2016, 00 UTC

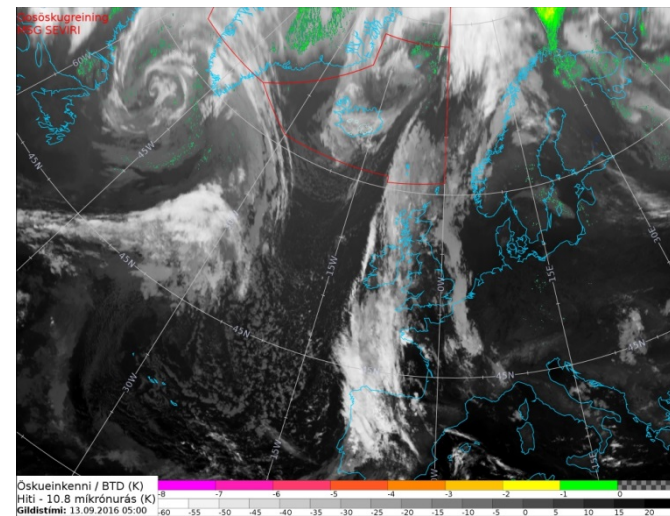
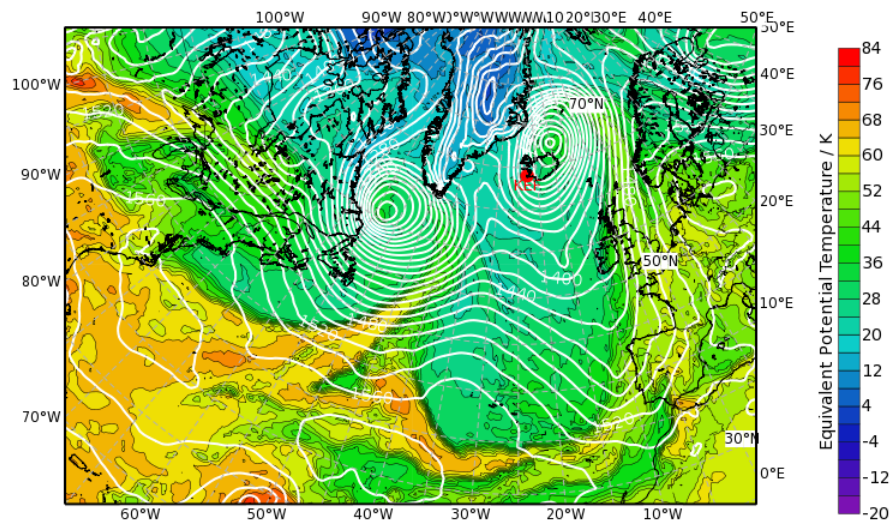
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa  
Valid: Tue, 13 Sep 2016, 00 UTC (step 000 h from Tue, 13 Sep 2016, 00 UTC)



Relative Humidity (%) and Z (m) at 700 hPa  
Valid: Tue, 13 Sep 2016, 00 UTC (step 000 h from Tue, 13 Sep 2016, 00 UTC)

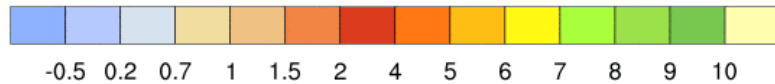
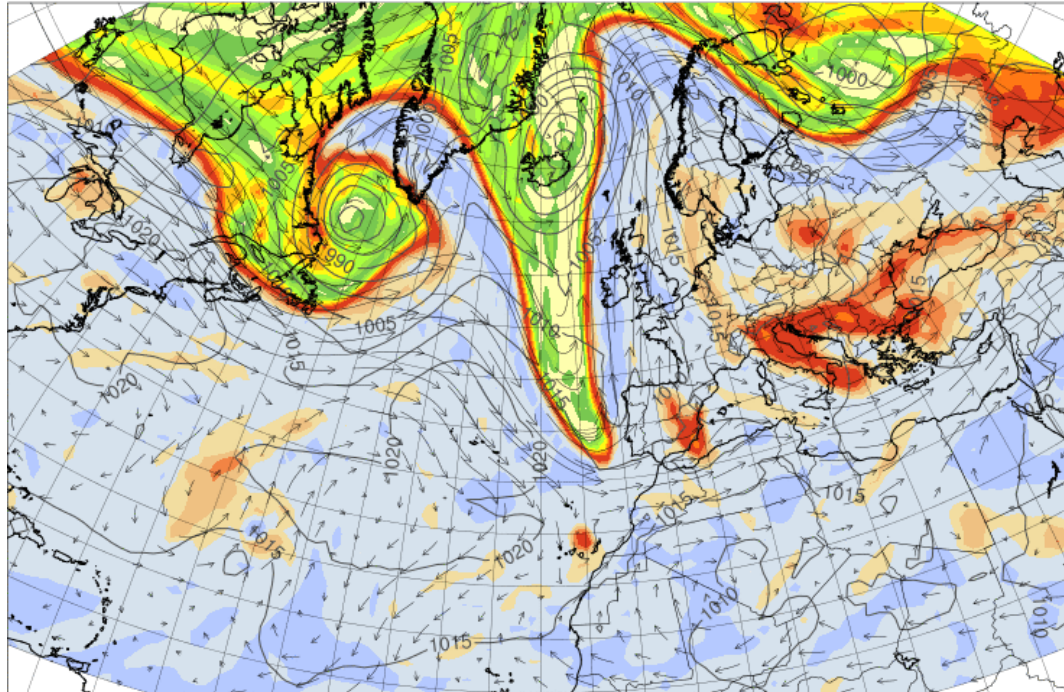


Equivalent Potential Temperature (degC) & Streamlines at 850 hPa  
Valid: Tue, 13 Sep 2016, 00 UTC (step 000 h from Tue, 13 Sep 2016, 00 UTC)





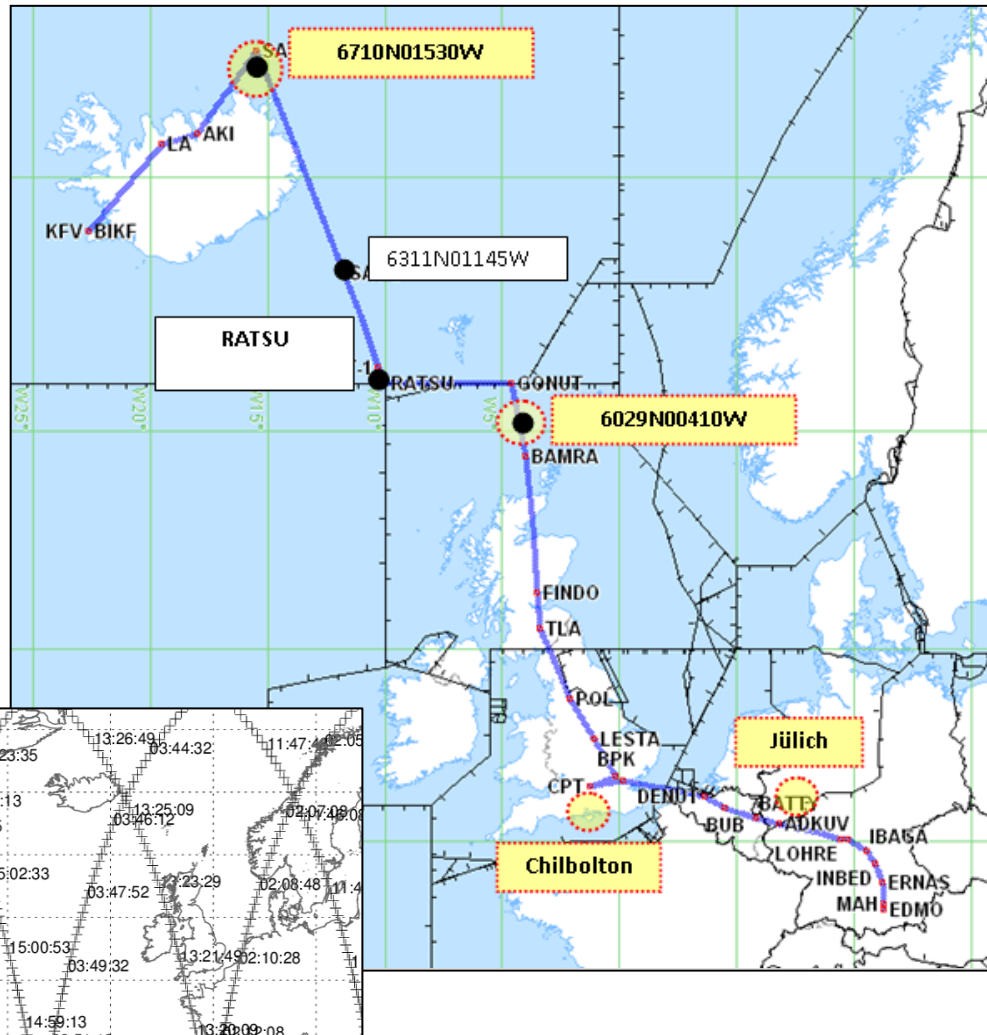
PV@330K at 20160913\_00



pvu

# Tasks & schedule

- Decision on overflights Jülich/Chilbolton → only high clouds predicted
- Outlook on Saturday and Monday



Date of flight: **15-Sep-2016**  
 Callsign: **D-ADLR**  
 Type of Aircraft: G550  
 Departure Aerodrome: EDMO  
 Destination Aerodrome: BIKF  
 Takeoff Time: 0900 UTC

**Cruising-Level:**  
 FL410

## Planned Routing:

MAH UM726 ERNAS Y101 OSBIT UL984 LOHRE UL610 BATTY UL608  
 DENUT UL610 LAM UL179 CPT UQ295 BPK UN601 TLA UL613 DCT  
**GONUT DCT 6053N01000W DCT 6311N01145W DCT 6710N01530W**  
 DCT AKI G1 KVF

## Remarks:

**req. 2 "Holding Patterns" ovhd "Jülich" at FL410** - dimensions: ~ 25 x 12 NM (see figure on next page)

**req. 2 "Holding Patterns" ovhd "Chilbolton" at FL410** - dimensions: ~ 25 x 12 NM (see figure on next page)

**req. 1 Circle (360°) @ 6029N 00410W at FL410**, duration 10 min

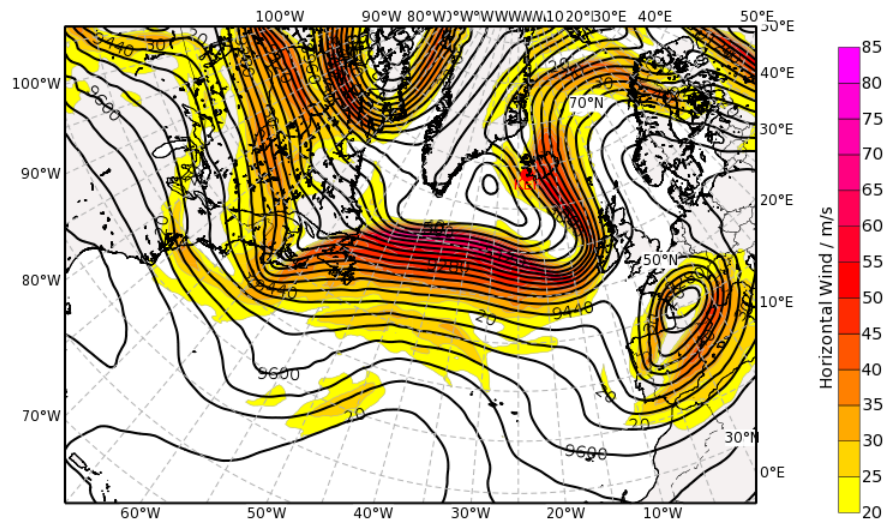
**req. to operate @ position 6710N 01530W**  
 at **FL410** for 20 min and **drop of 1 Meteorological Probe**  
 at **FL300** for 10 min /at **FL200** for 10 min



# Forecast for Thursday, 15 Sep 2016, 12 UTC

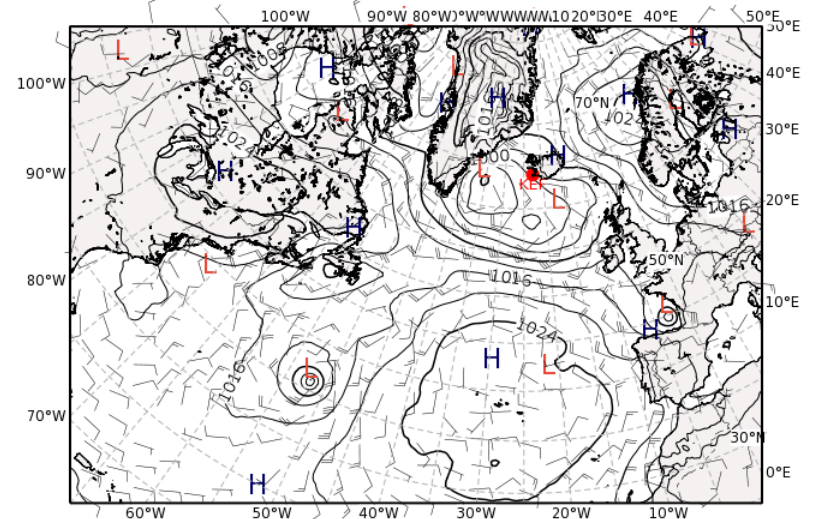
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa

Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



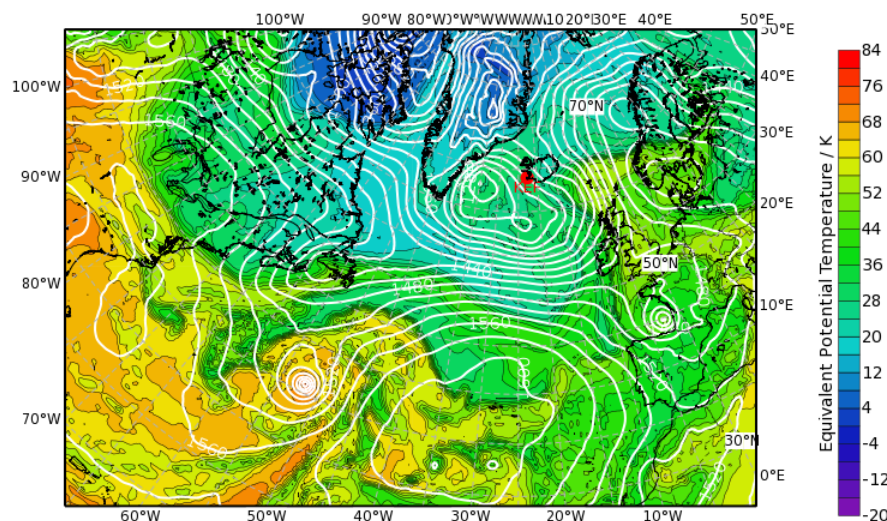
Mean Sea Level Pressure (hPa)

Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



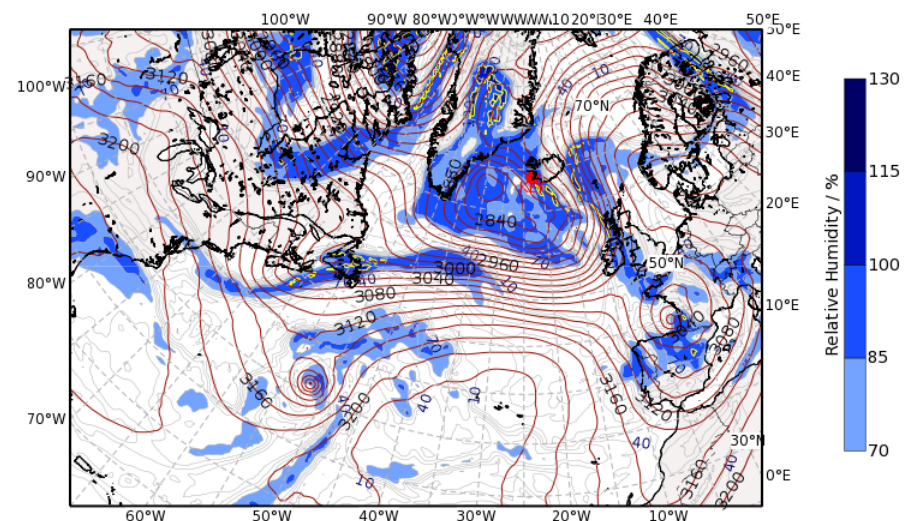
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa

Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



Relative Humidity (%) and Z (m) at 700 hPa

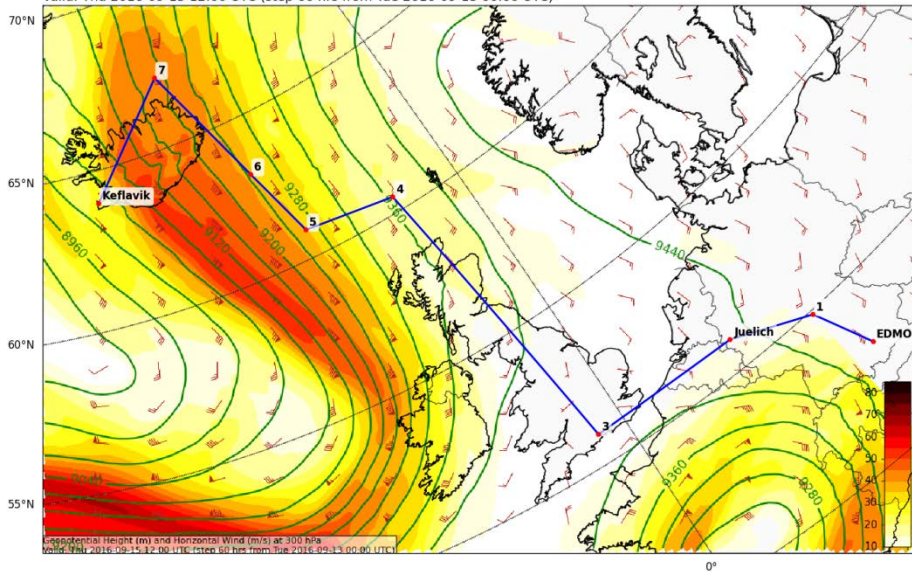
Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



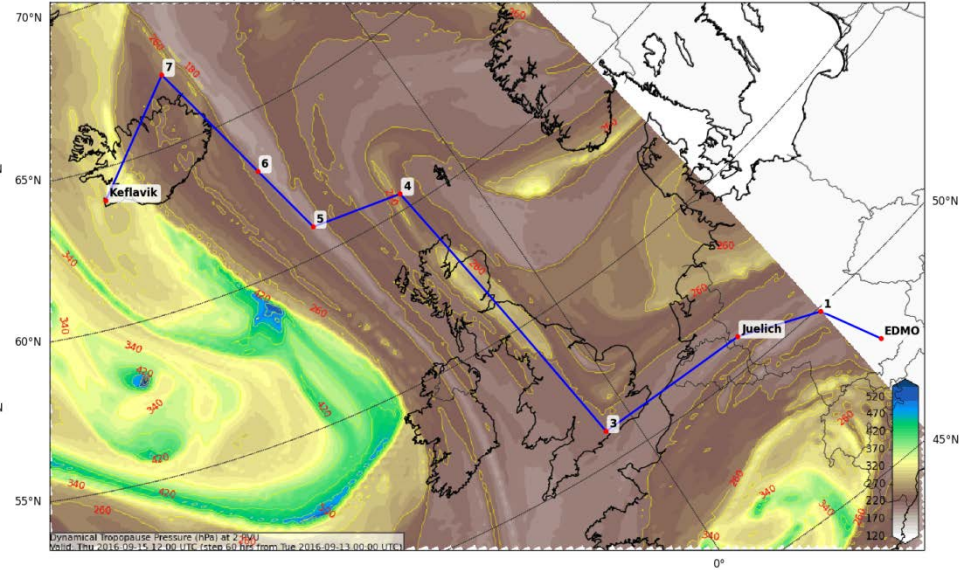


# Forecast for Thursday, 15 Sep 2016, 12 UTC

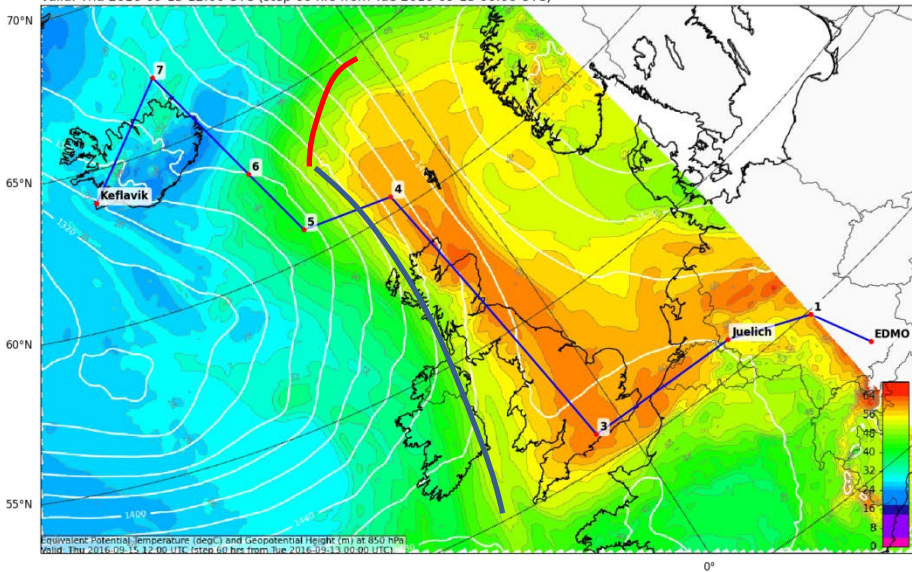
Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 300 (hPa)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



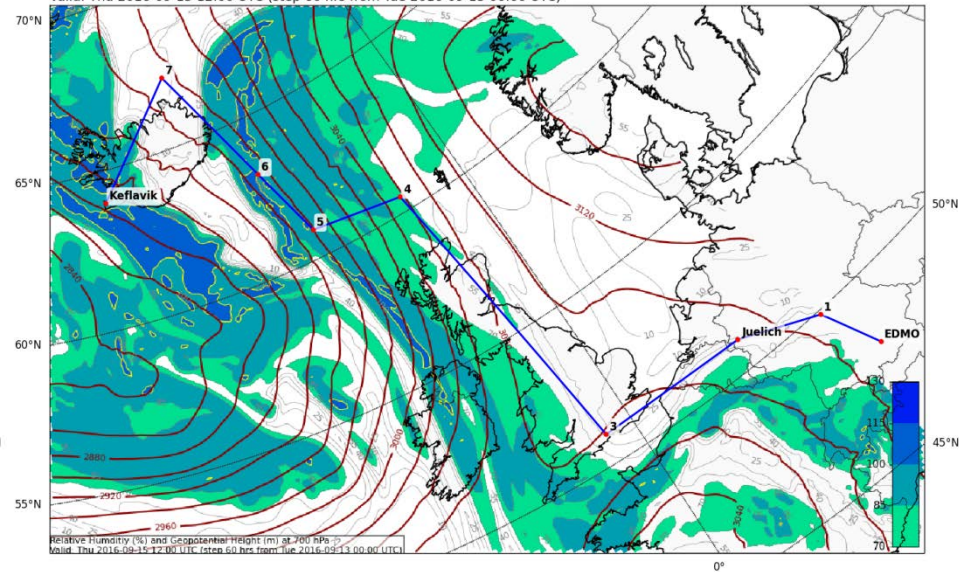
Dynamical Tropopause (Pressure (hPa)) at 2000 (10~3 PVU)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



Equivalent Potential Temperature (degC) and Geopotential Height (m) at 850 (hPa)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



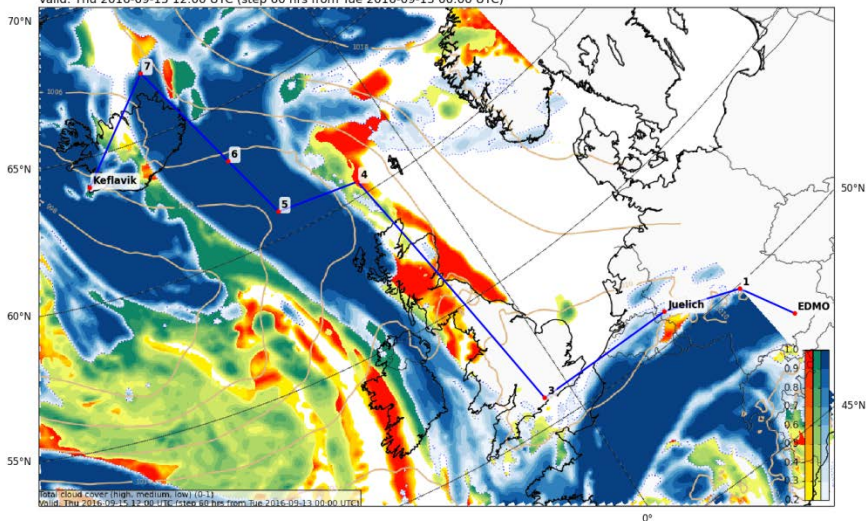
Relative Humidity (%) and Geopotential Height (m) at 700 (hPa)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



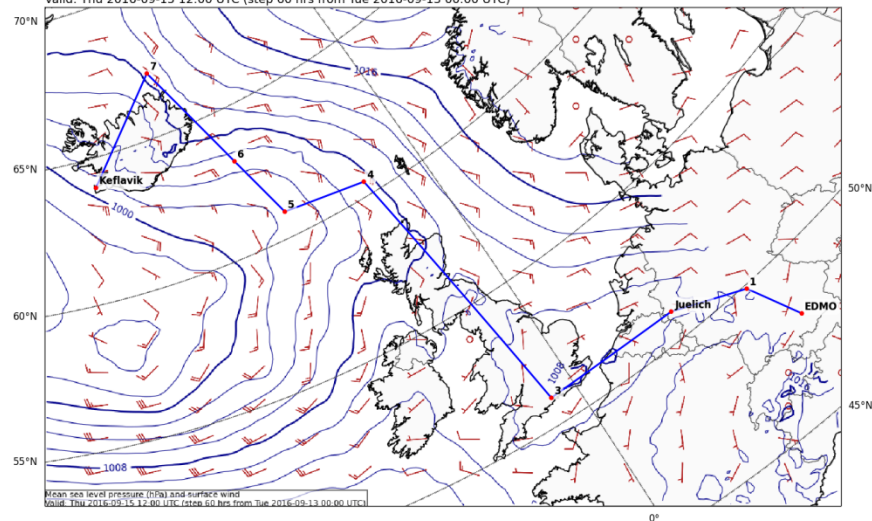


# Forecast for Thursday, 15 Sep 2016, 12 UTC

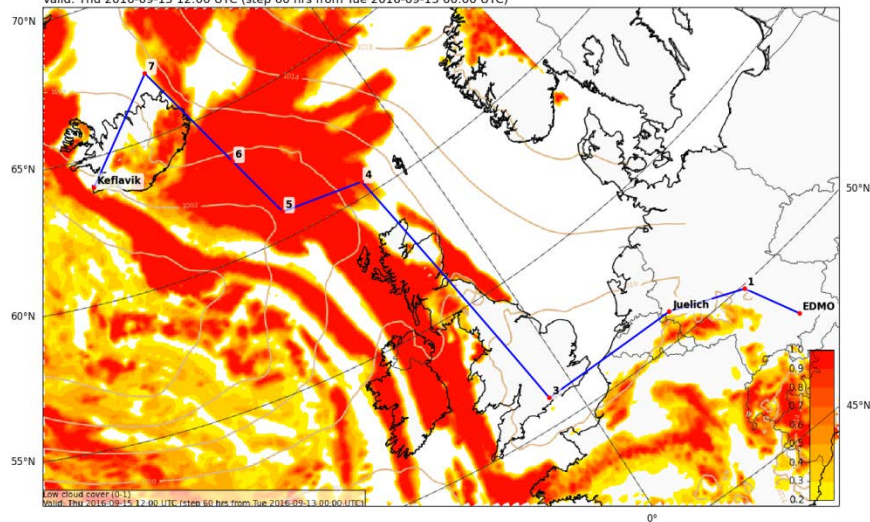
Cloud Cover (0-1) (Total Cloud Cover)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



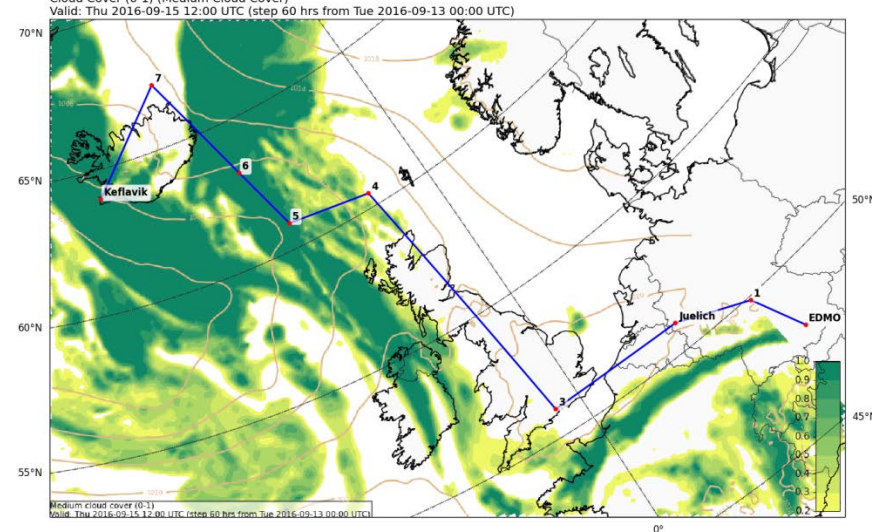
Mean Sea Level Pressure (hPa)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)



Cloud Cover (0-1) (Low Cloud Cover)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)

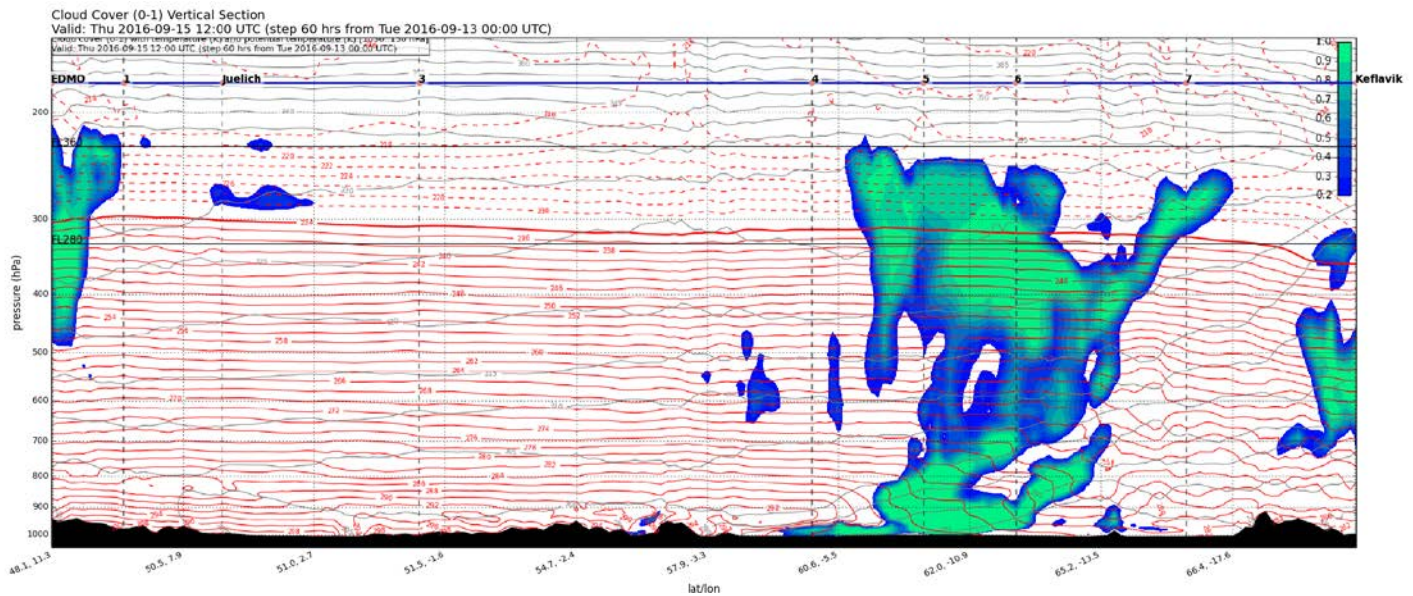
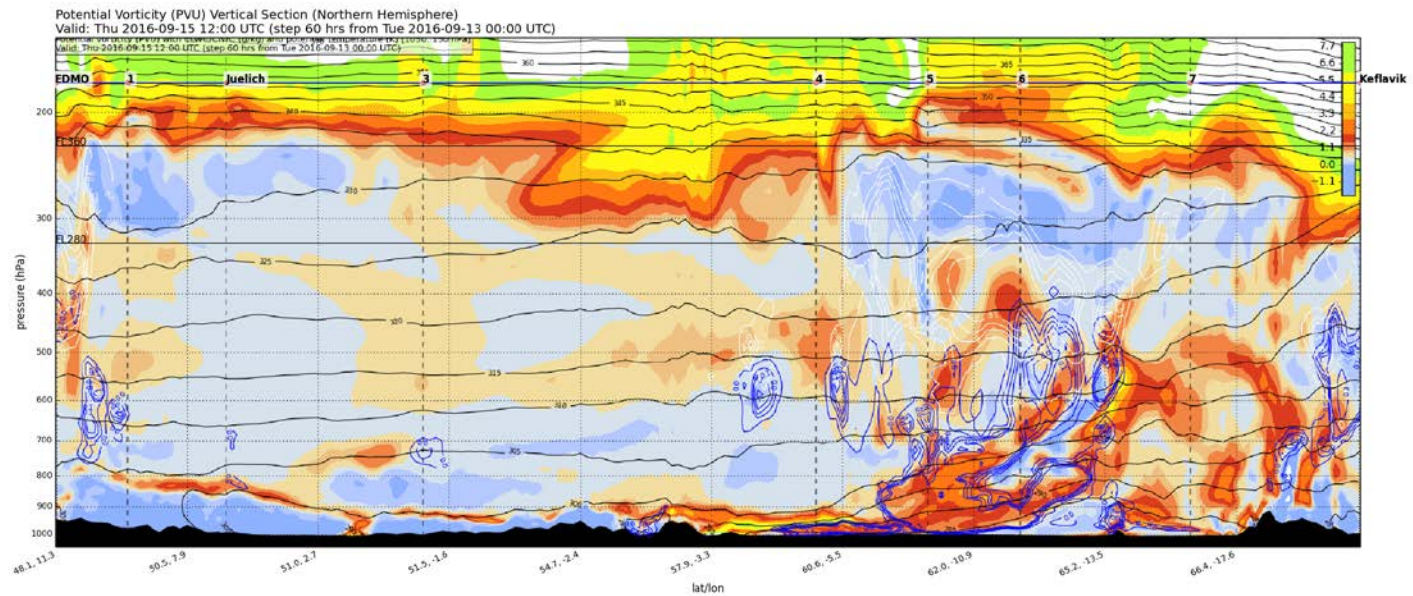


Cloud Cover (0-1) (Medium Cloud Cover)  
Valid: Thu 2016-09-15 12:00 UTC (step 60 hrs from Tue 2016-09-13 00:00 UTC)





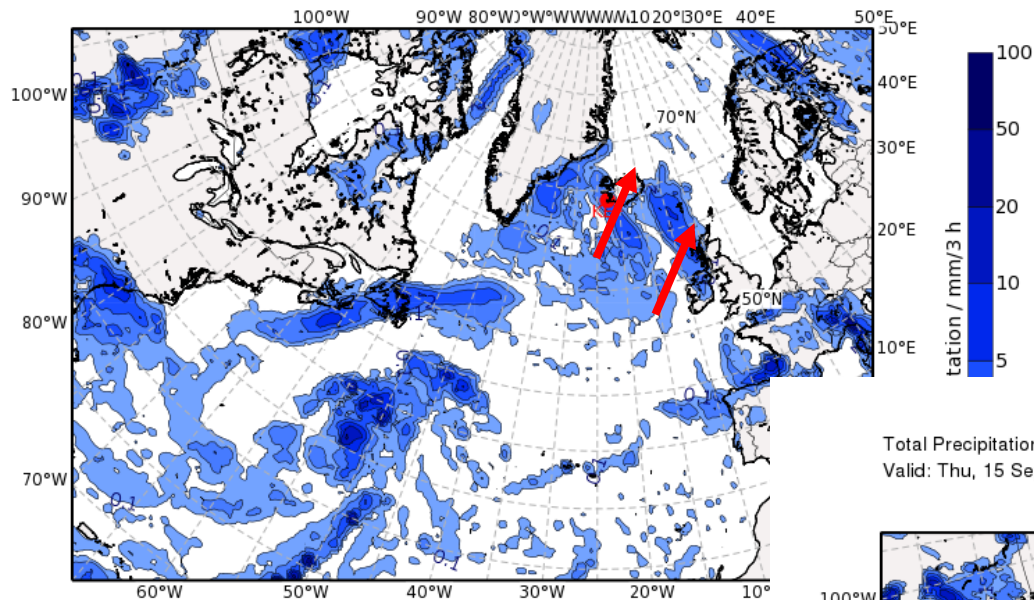
# Forecast for Thursday, 15 Sep 2016, 12 UTC



# Forecast for Thursday, 15 Sep 2016, 12 UTC

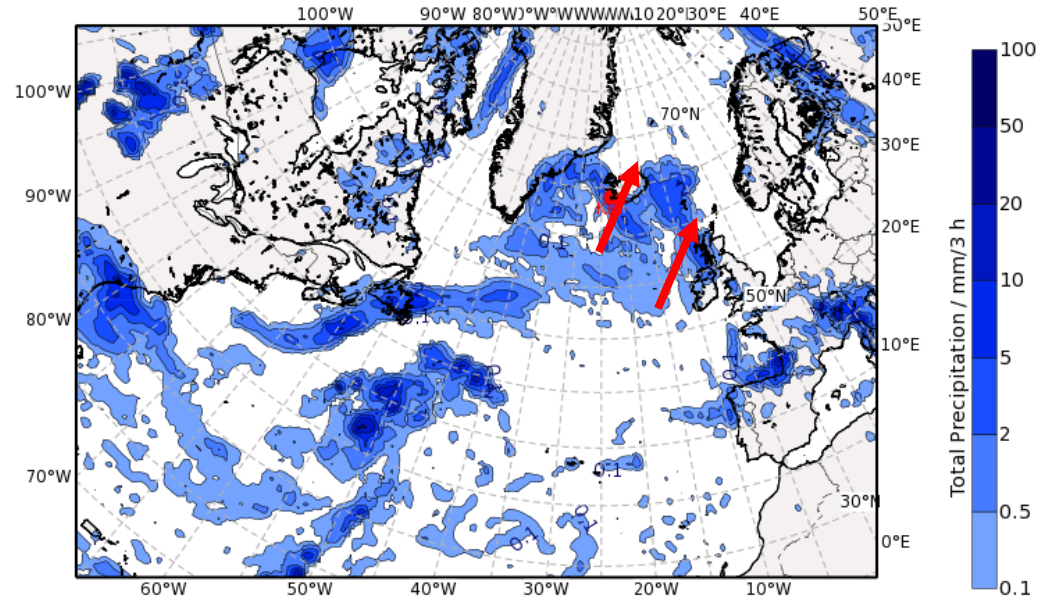
Total Precipitation, accumulated over 3 hours prior to valid time (mm)

Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



Total Precipitation, accumulated over 3 hours prior to valid time (mm)

Valid: Thu, 15 Sep 2016, 15 UTC (step 063 h from Tue, 13 Sep 2016, 00 UTC)





# Forecast for Thursday, 15 Sep 2016, 12 UTC

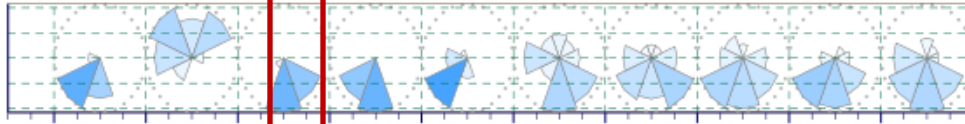
Wave ENSgram

60.52°N 4.21°W (ENS sea point)

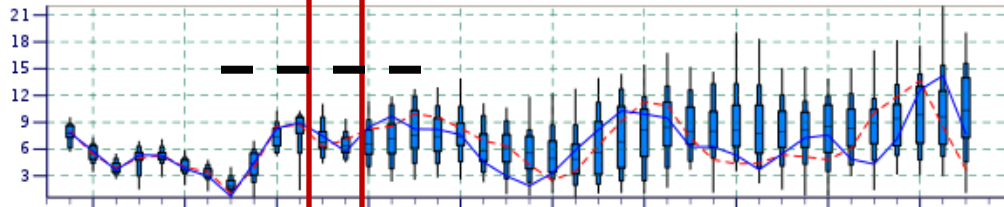
High resolution forecast and ENS distribution Monday 12 September 2016 12 UTC

Distribution of 10m Wind Direction

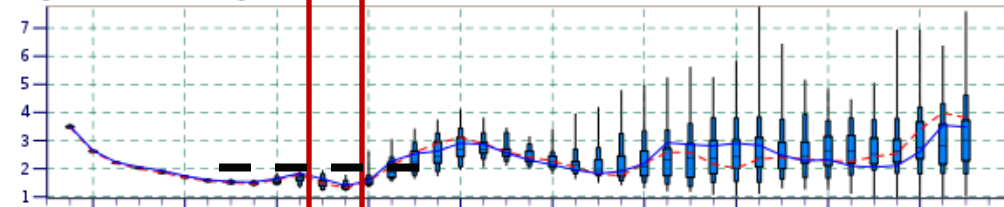
0% 25% 50% 75% 100%



10m Wind Speed (m/s)

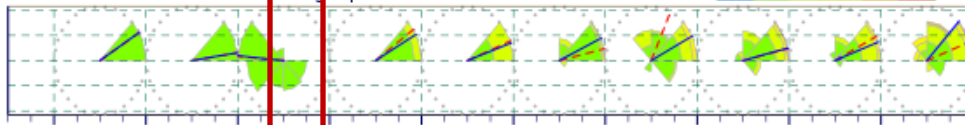


Significant wave height (m)

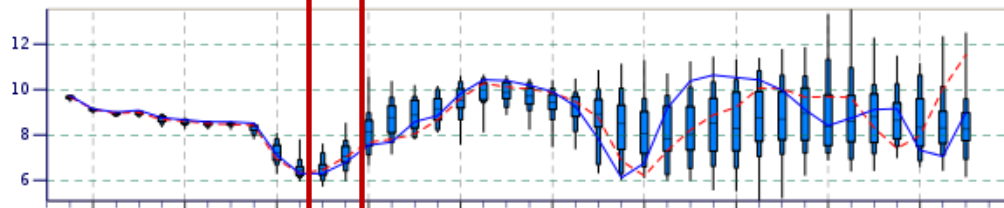


Mean Wave Direction ( oceanographic convention)

1 2.5 4 6 9 m

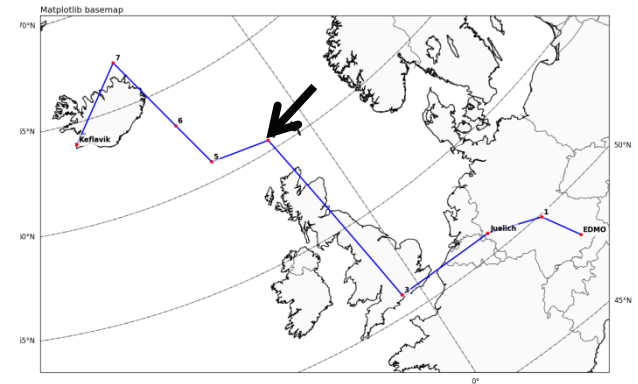


Mean Wave Period (s)

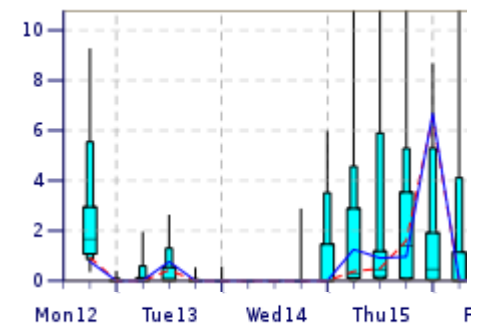


Mon12 Tue13 Wed14 Thu15 Fri16 Sat17 Sun18 Mon19 Tue20 Wed21 Thu22

## ECMWF ENS Meteogram For K7 Buoy



Total Precipitation (mm/6h) 14 13 12



Mon12 Tue13 Wed14 Thu15 F



# Forecast for Thursday, 15 Sep 2016, 12 UTC

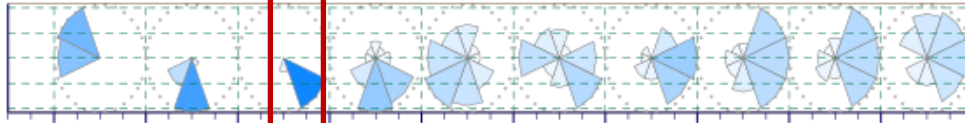
Wave ENSgram

67.12°N 15.63°W (ENS sea point)

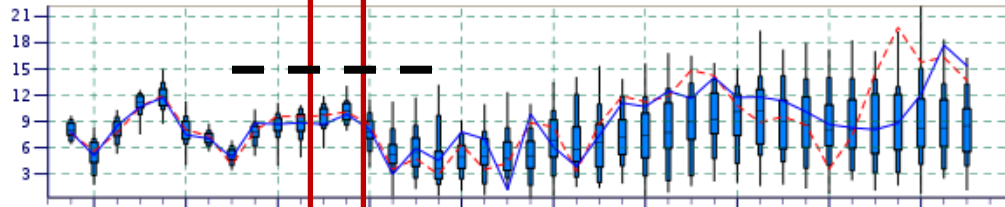
High resolution forecast and ENS distribution Monday 12 September 2016 12 UTC

Distribution of 10m Wind Direction

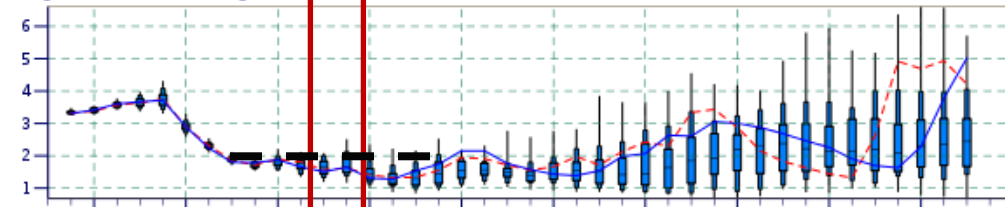
0% 25% 50% 75% 100%



10m Wind Speed (m/s)

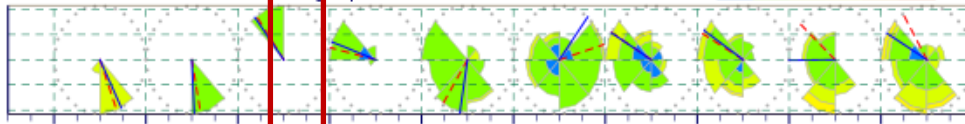


Significant wave height (m)

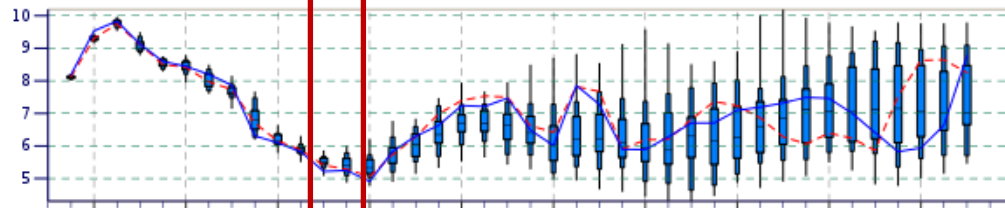


Mean Wave Direction ( oceanographic convention)

1 2.5 4 6 9 m

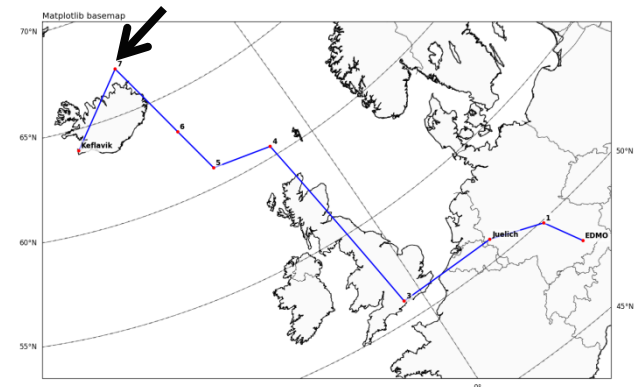


Mean Wave Period (s)

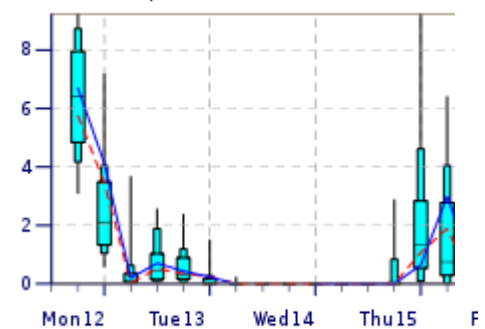


Mon12 Tue13 Wed14 Thu15 Fri16 Sat17 Sun18 Mon19 Tue20 Wed21 Thu22

## ECMWF ENS Meteogram For K7 Buoy



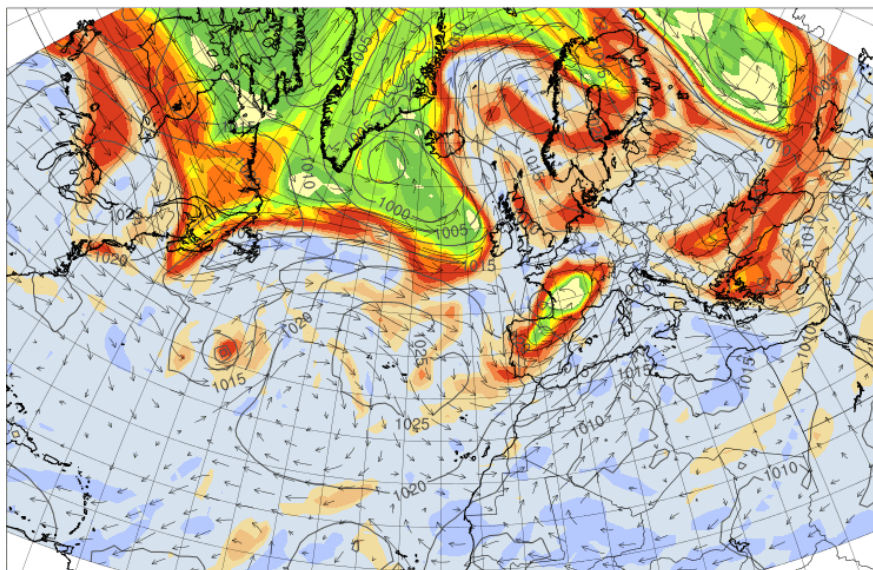
Total Precipitation (mm/6h)



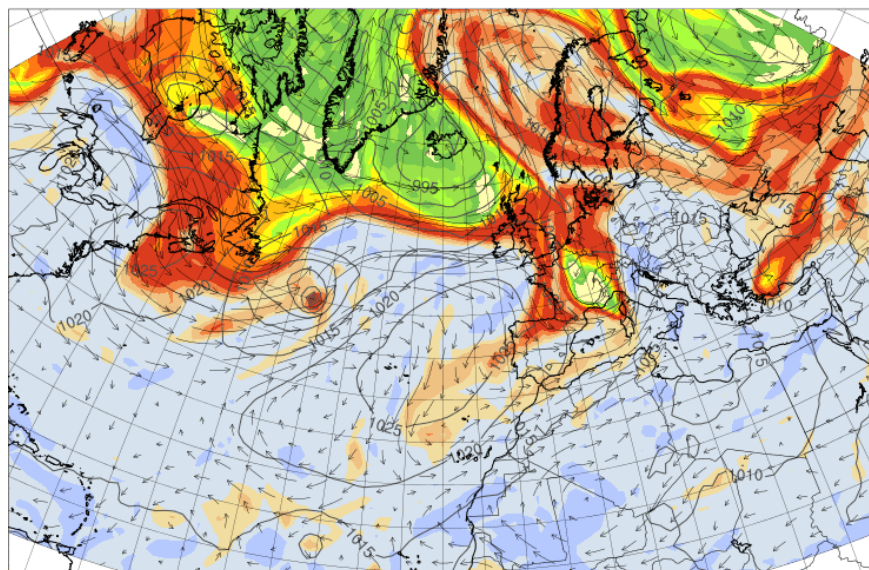
Mon12 Tue13 Wed14 Thu15 F

# Forecast until Saturday, 17 Sep 2016, 12 UTC

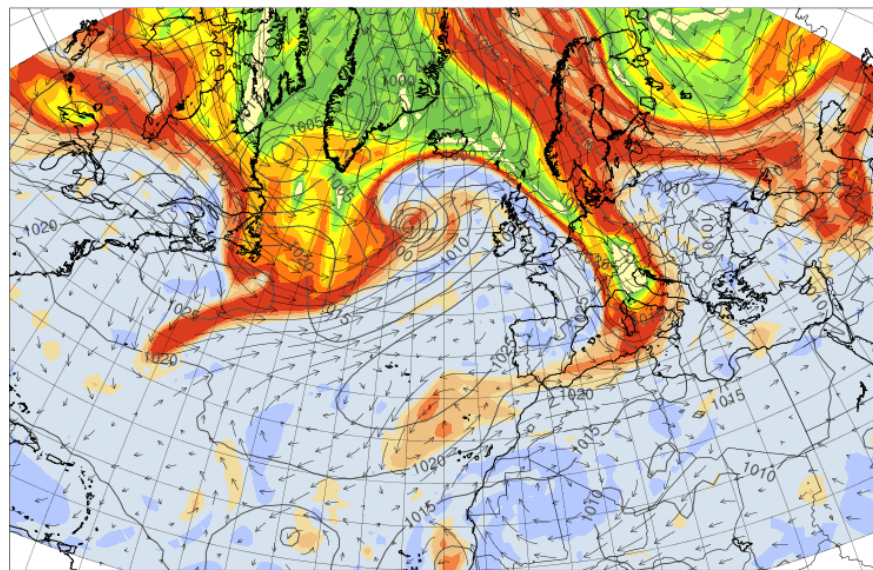
PV@330K at 20160915\_12



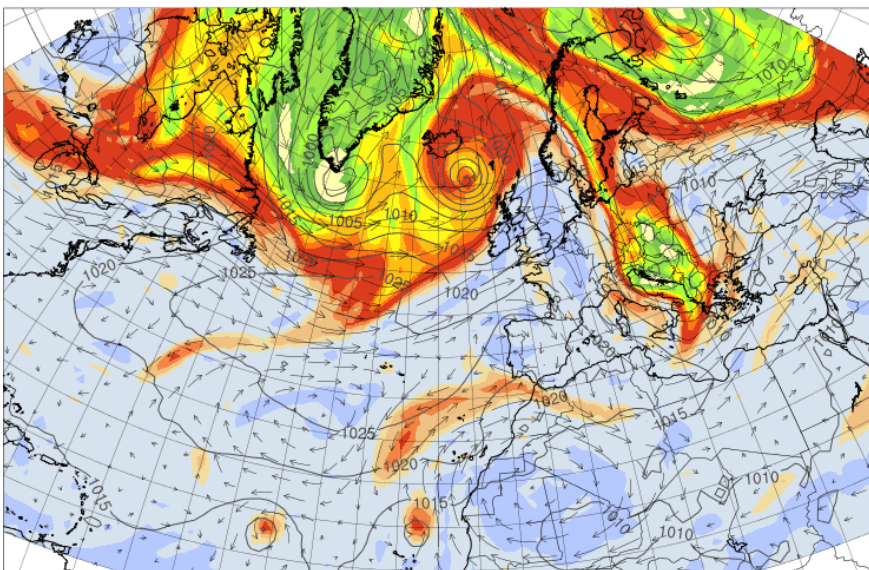
PV@330K at 20160916\_12



PV@330K at 20160917\_12



PV@330K at 20160918\_12

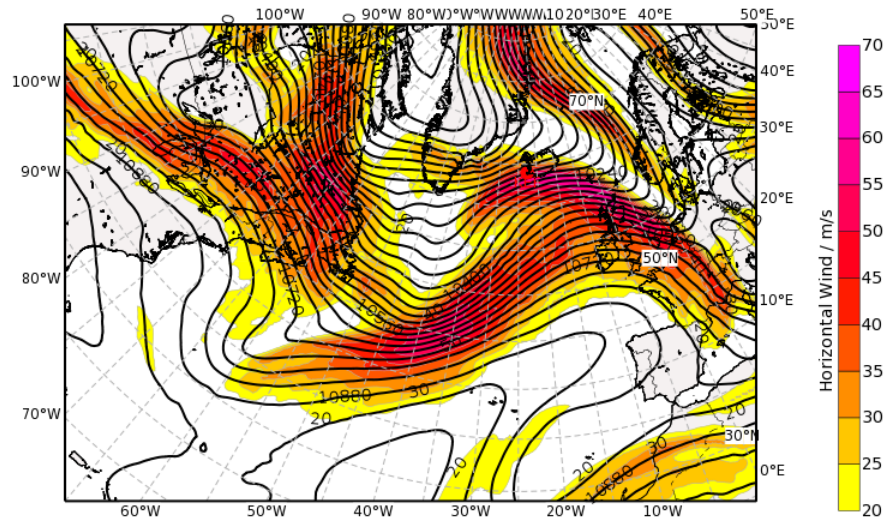




# Forecast for Saturday, 17 Sep 2016

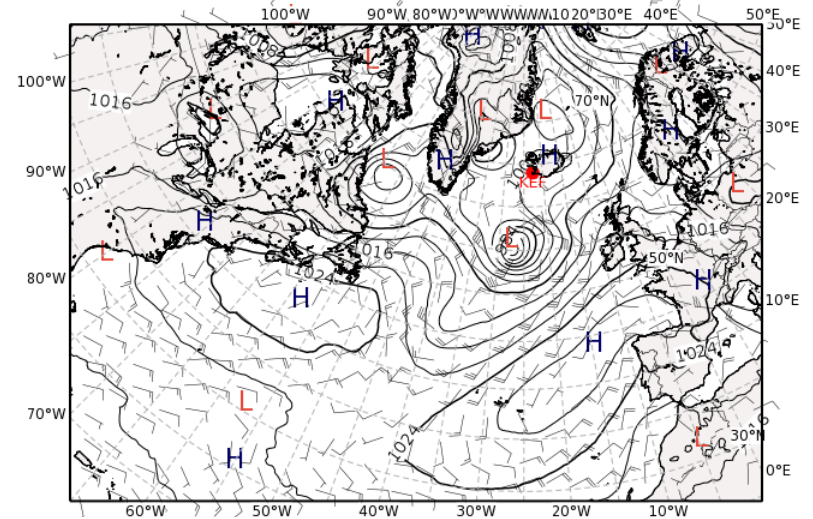
Geopotential Height (m) & Horizontal Wind (m/s) at 250 hPa

Valid: Sat, 17 Sep 2016, 12 UTC (step 108 h from Tue, 13 Sep 2016, 00 UTC)



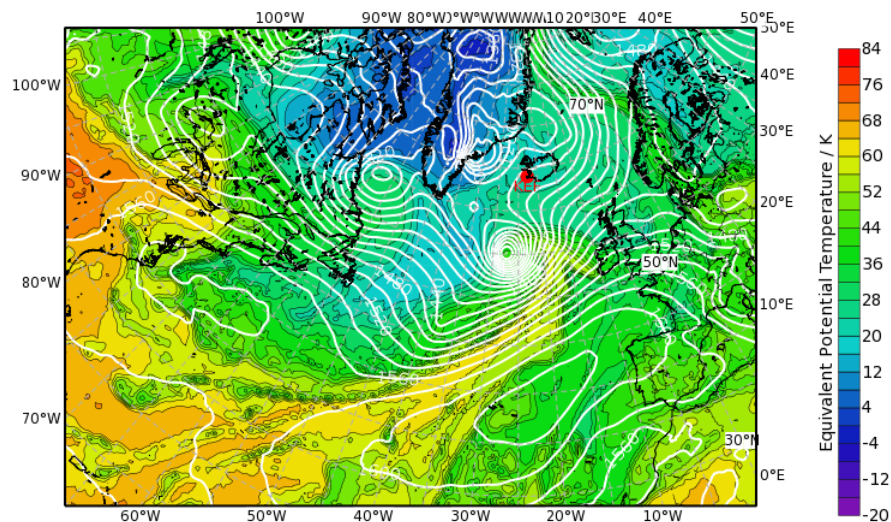
Mean Sea Level Pressure (hPa)

Valid: Sat, 17 Sep 2016, 12 UTC (step 108 h from Tue, 13 Sep 2016, 00 UTC)



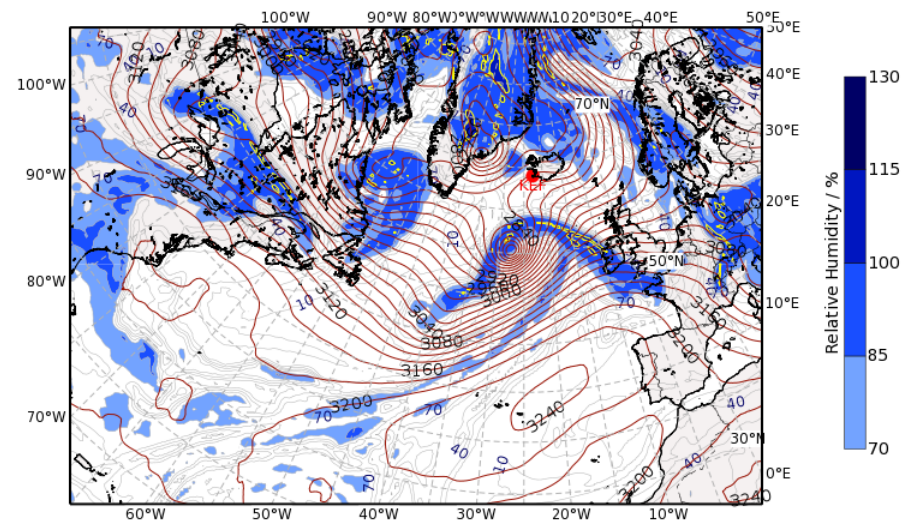
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa

Valid: Sat, 17 Sep 2016, 12 UTC (step 108 h from Tue, 13 Sep 2016, 00 UTC)



Relative Humidity (%) and Z (m) at 700 hPa

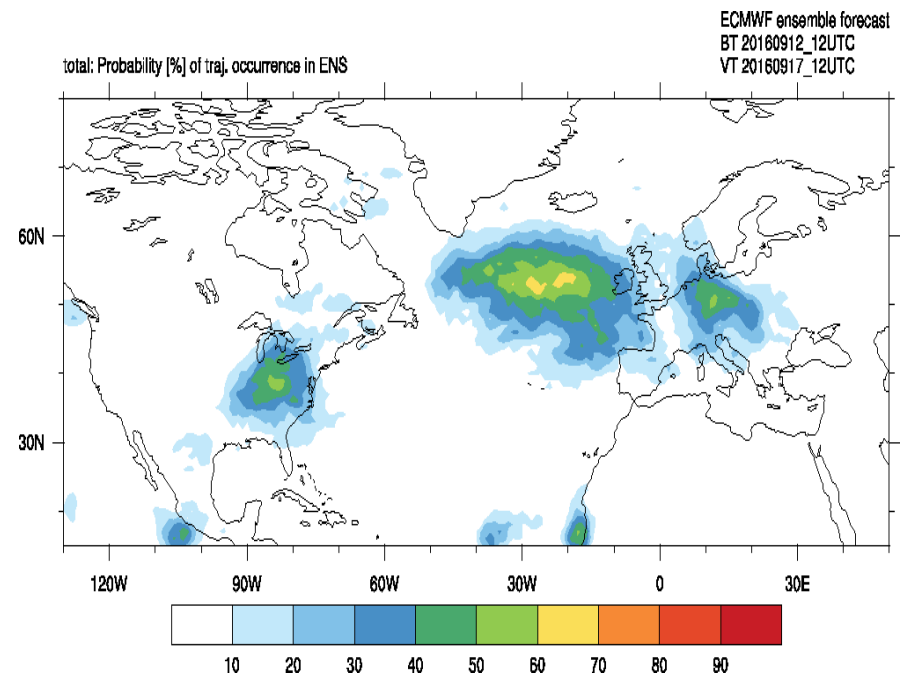
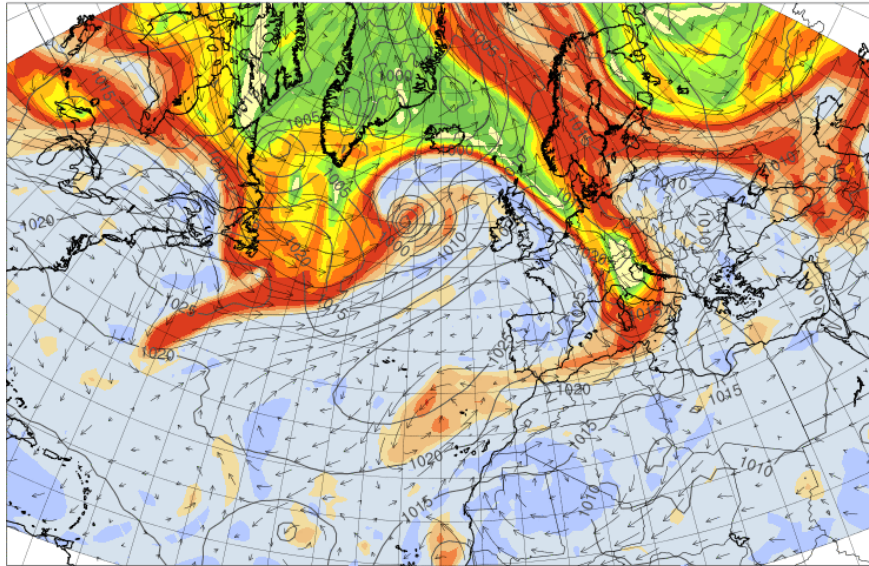
Valid: Sat, 17 Sep 2016, 12 UTC (step 108 h from Tue, 13 Sep 2016, 00 UTC)





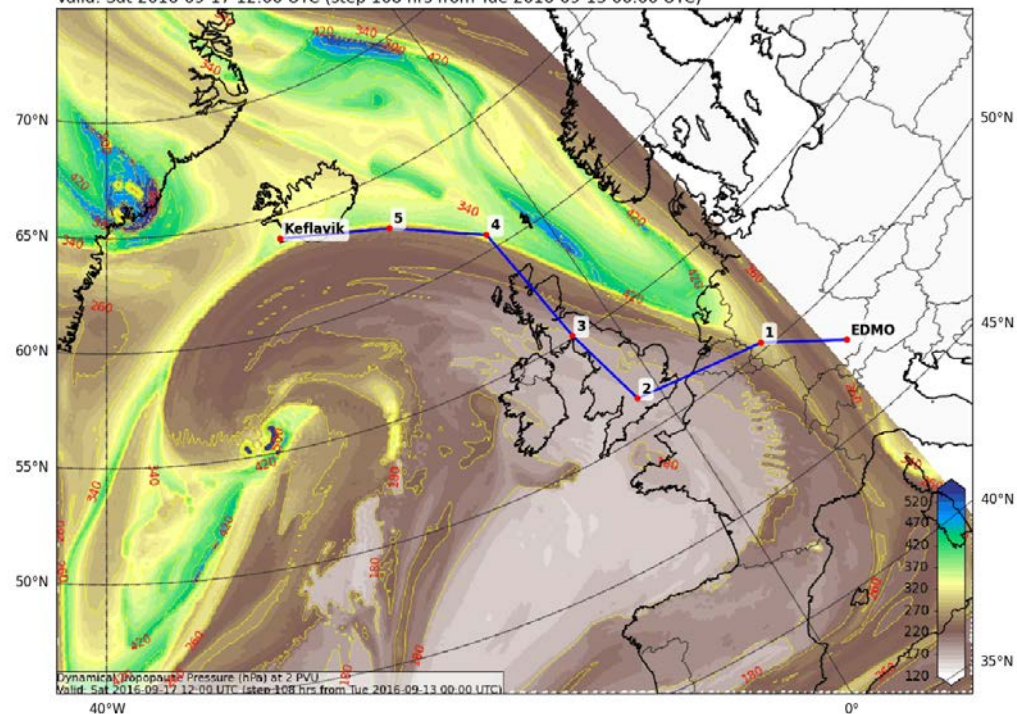
# Forecast for Saturday, 17 Sep 2016

PV@330K at 20160917\_12

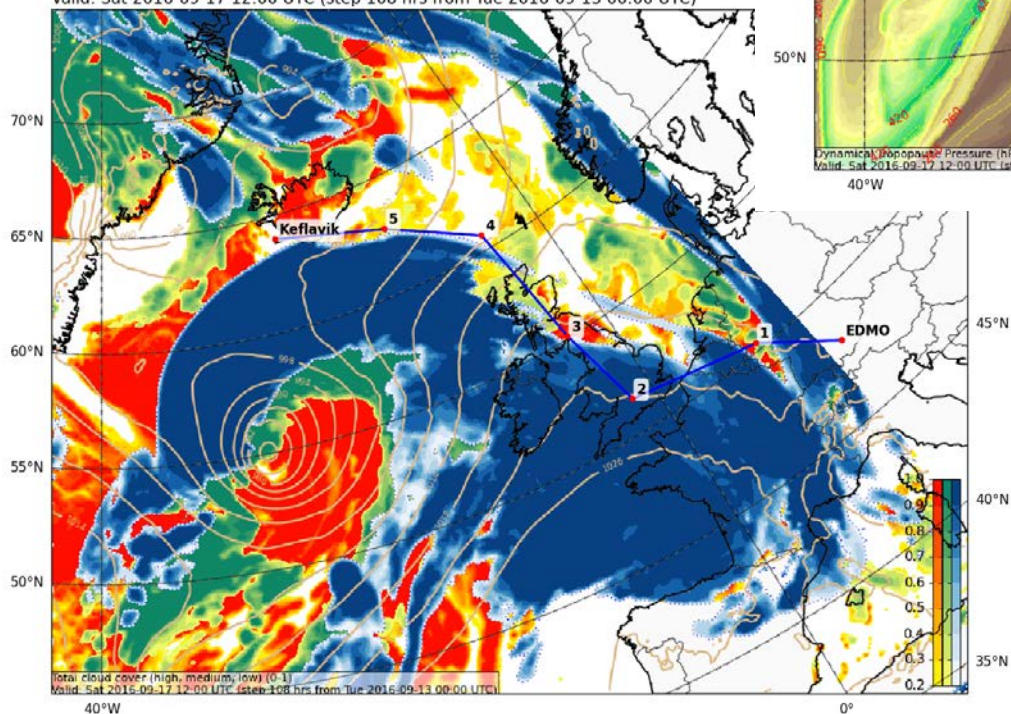


# Forecast for Saturday, 17 Sep 2016

Dynamical Tropopause (Pressure (hPa)) at 2000 ( $10^{-3}$  PVU)  
Valid: Sat 2016-09-17 12:00 UTC (step 108 hrs from Tue 2016-09-13 00:00 UTC)

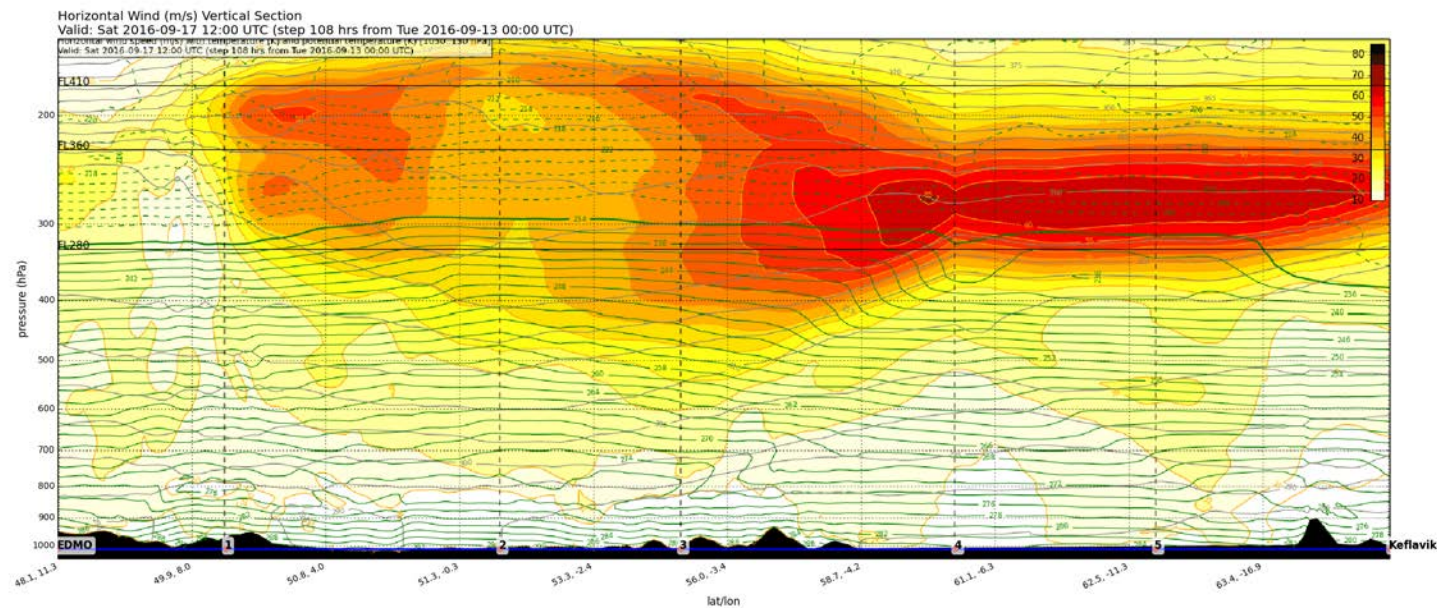
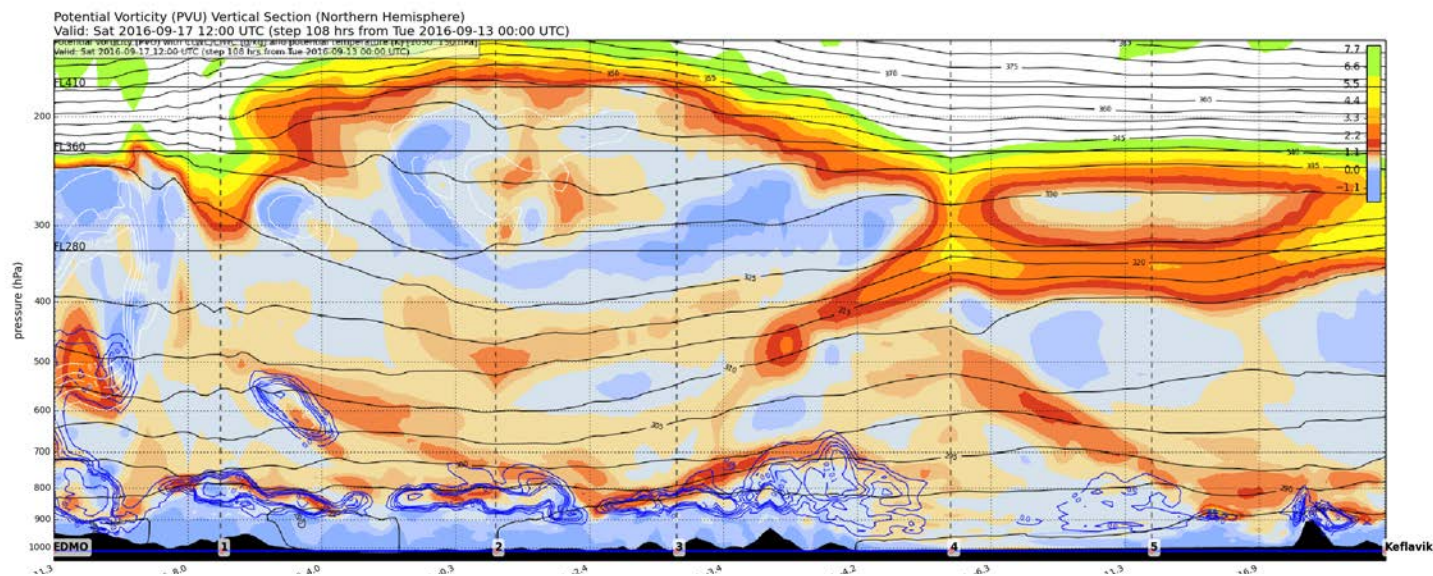


Cloud Cover (0-1) (Total Cloud Cover)  
Valid: Sat 2016-09-17 12:00 UTC (step 108 hrs from Tue 2016-09-13 00:00 UTC)





# Forecast for Saturday, 17 Sep 2016

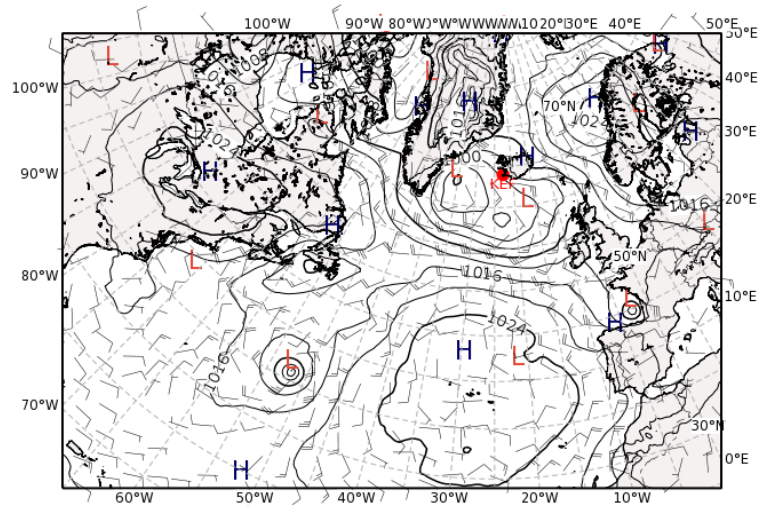




# Outlook

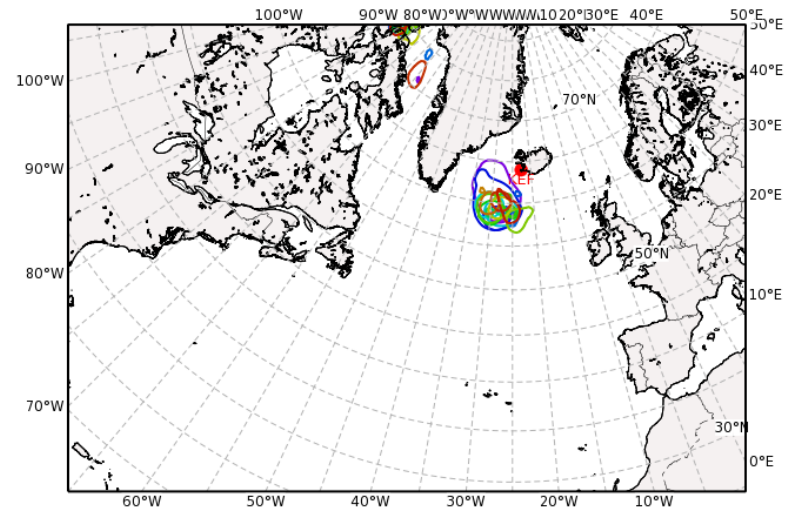
Mean Sea Level Pressure (hPa)

Valid: Thu, 15 Sep 2016, 12 UTC (step 060 h from Tue, 13 Sep 2016, 00 UTC)



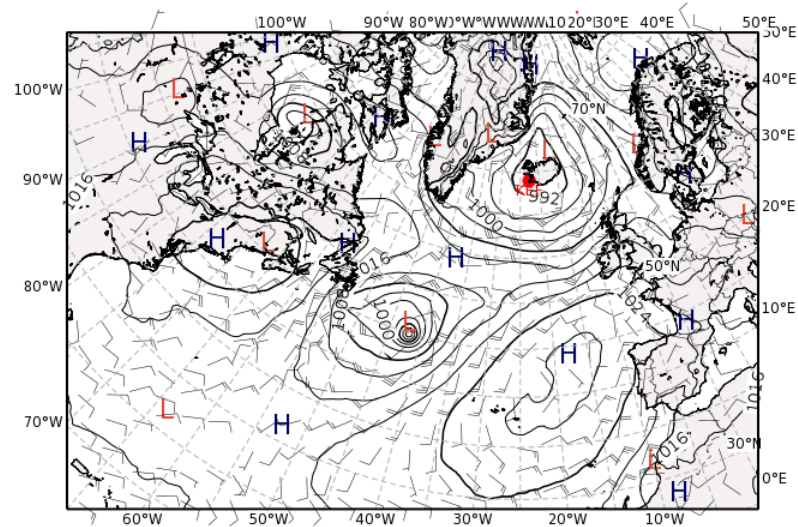
ECMWF ENS MSLP (990hPa-isoline)

Valid: Thu, 15 Sep 2016, 12 UTC (step 072 h from Mon, 12 Sep 2016, 12 UTC)



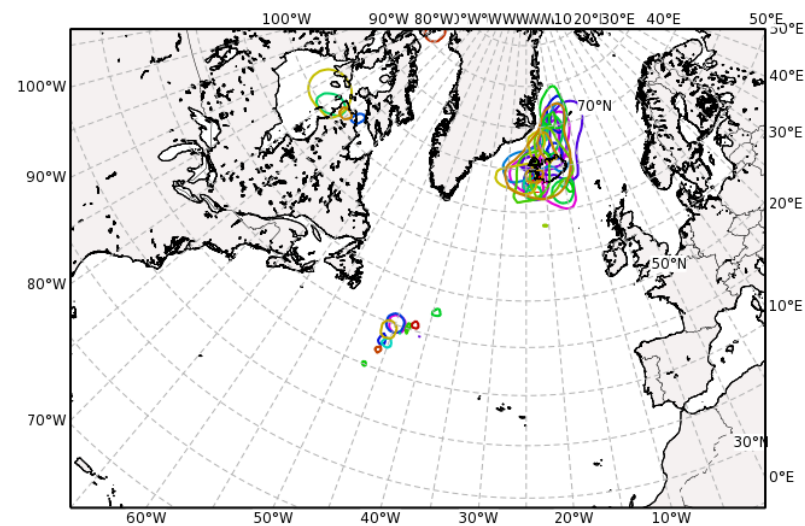
Mean Sea Level Pressure (hPa)

Valid: Fri, 16 Sep 2016, 12 UTC (step 084 h from Tue, 13 Sep 2016, 00 UTC)



ECMWF ENS MSLP (990hPa-isoline)

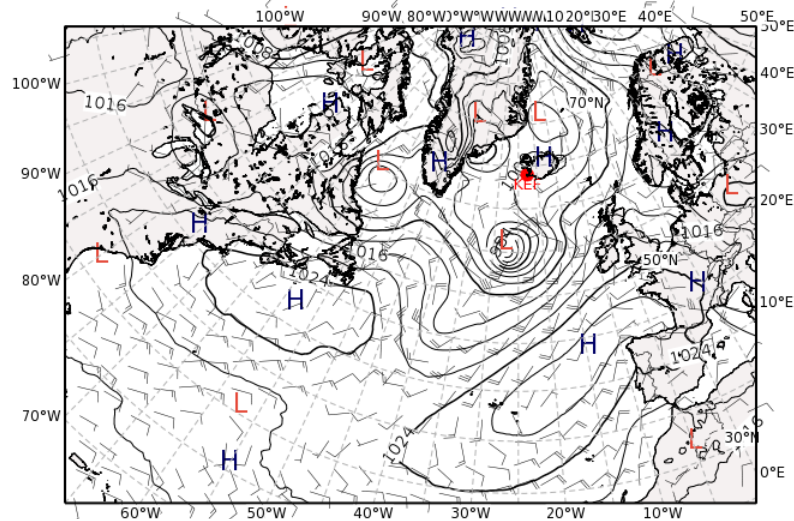
Valid: Fri, 16 Sep 2016, 12 UTC (step 096 h from Mon, 12 Sep 2016, 12 UTC)



# Outlook

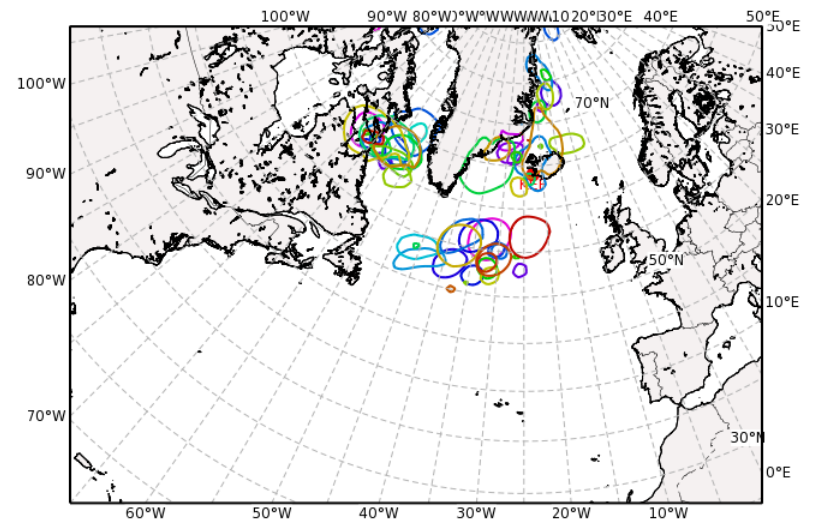
Mean Sea Level Pressure (hPa)

Valid: Sat, 17 Sep 2016, 12 UTC (step 108 h from Tue, 13 Sep 2016, 00 UTC)



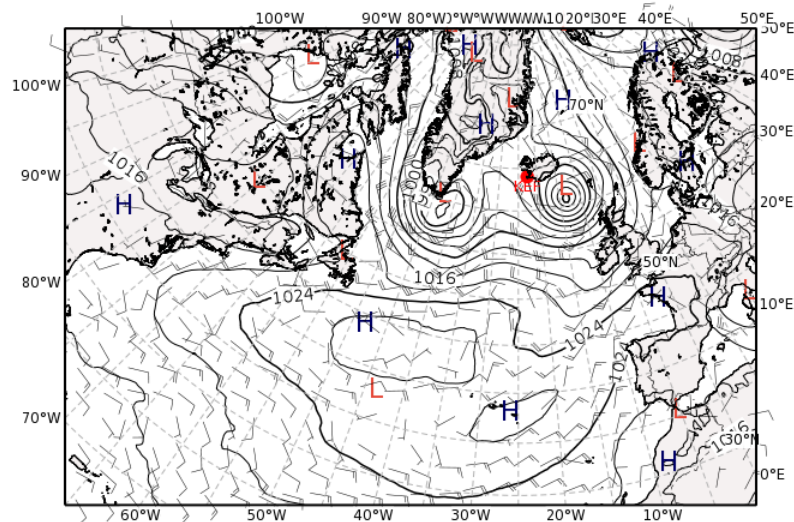
ECMWF ENS MSLP (990hPa-isoline)

Valid: Sat, 17 Sep 2016, 12 UTC (step 120 h from Mon, 12 Sep 2016, 12 UTC)



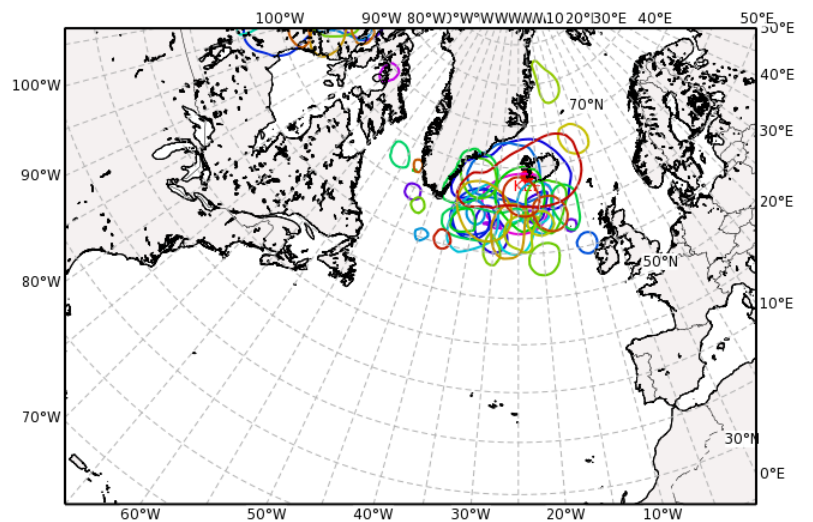
Mean Sea Level Pressure (hPa)

Valid: Sun, 18 Sep 2016, 12 UTC (step 132 h from Tue, 13 Sep 2016, 00 UTC)



ECMWF ENS MSLP (990hPa-isoline)

Valid: Sun, 18 Sep 2016, 12 UTC (step 144 h from Mon, 12 Sep 2016, 12 UTC)





- SHOUT has been watching TS Ian very closely.
- right now, the system has been forecasted to be a bit too weak to interest SHOUT.
- storm is in quite a lot of shear and intensification looks less likely, but they are keeping a close watch.
- SHOUT has 4 possible flights left.