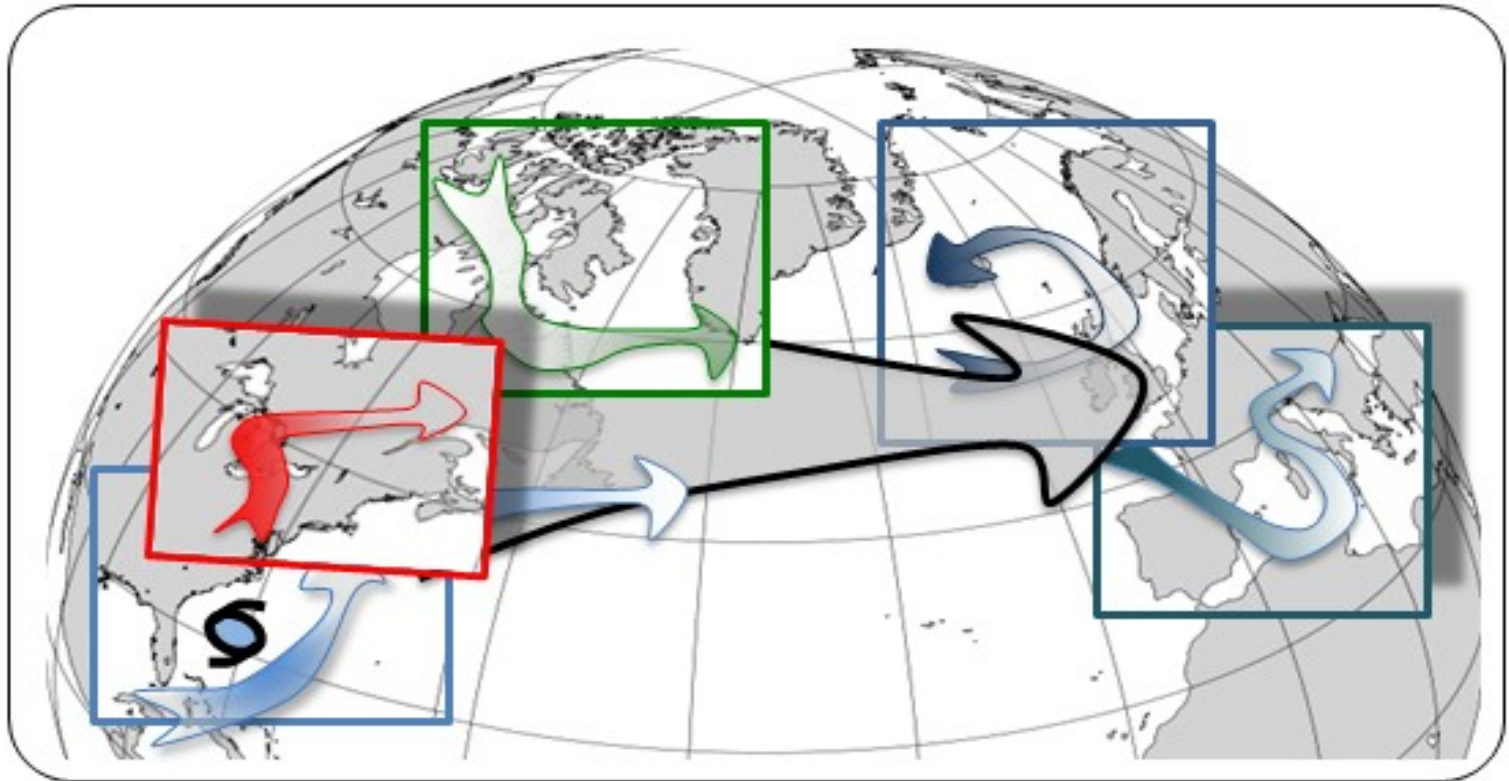


NAWDEX – General Planning Meeting

7 Oktober 2016, Keflavik 11 UTC



NAWDEX – General Planning Meeting

7 Oktober 2016, Keflavik 11 UTC

Key issues today

1. Wind constraints on Friday (today)
2. Day off on Saturday
3. Sunday: Plans for HALO / SAFIRE / DLR-Falcon?
4. Monday: Plans for HALO / DLR-Falcon
5. Tuesday/Wednesday: Radiometer intercomparison?

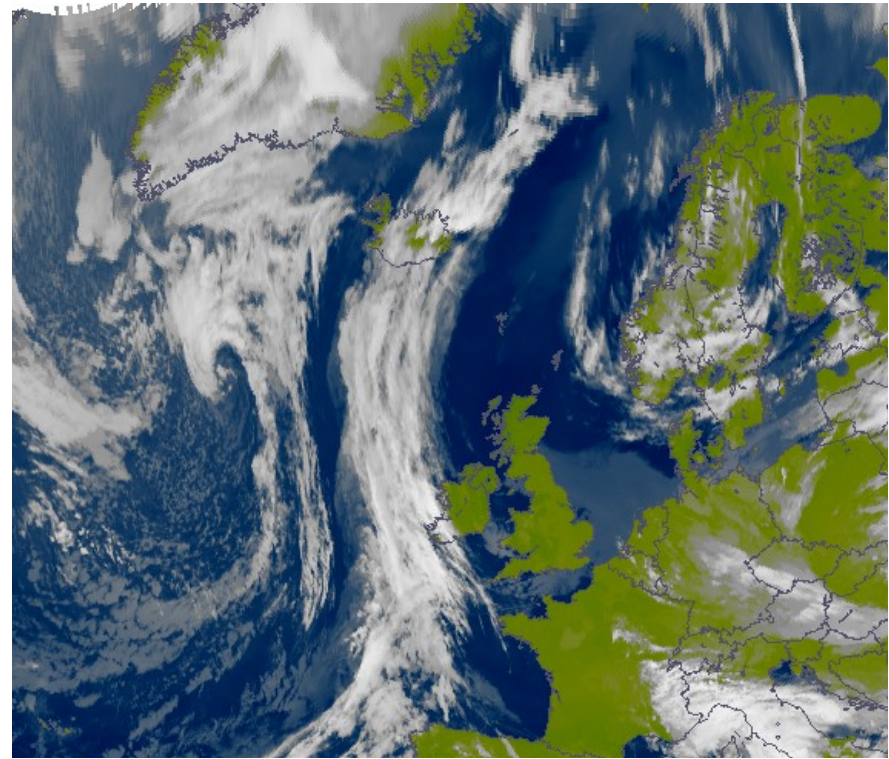
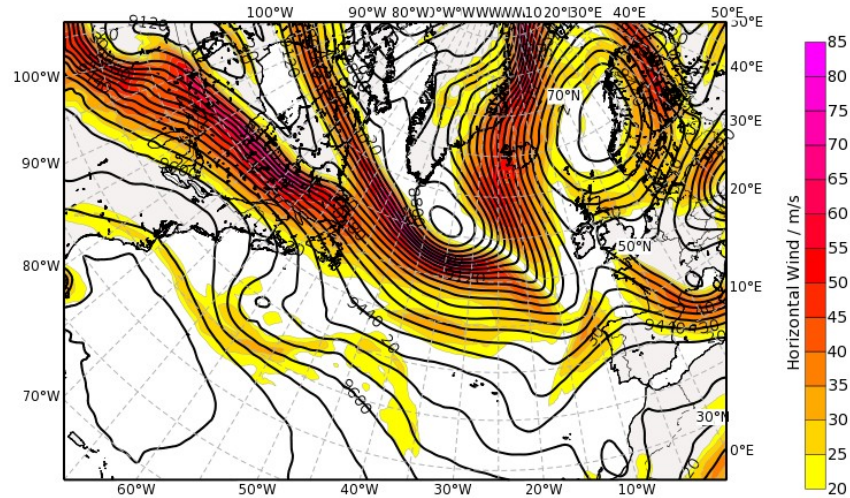
NAWDEX – General Planning Meeting

7 Oktober 2016, Keflavik 11 UTC

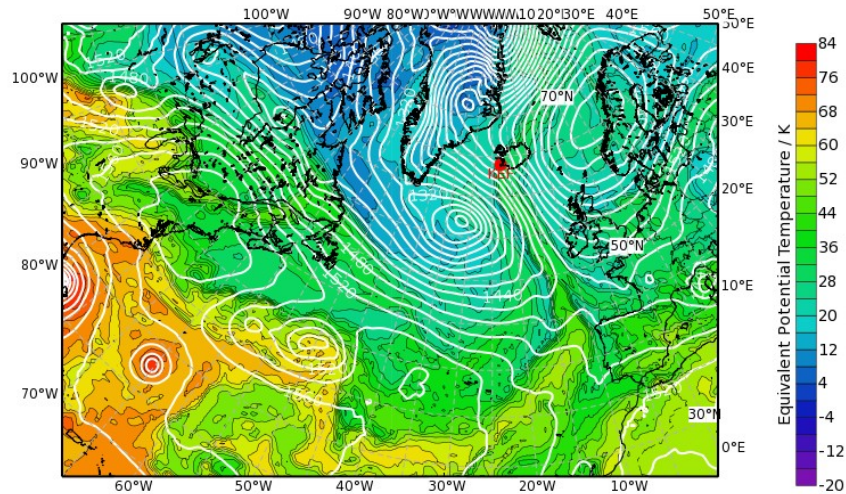
- 1.Key information from previous flight (2 minutes)
- 2.Aircraft status report by FX-Operations
- 3.Instrument status report by Instrument Manager
- 4.Short weather summary: information about flight options for the next days and update for planning for the next day with the latest forecast
- 5.Final discussion about flight pattern for next day (in case of 2 options)
- 6.Report of Ground-Based Observation coordinator
- 7.Announcement of tentative plans for Day+3
- 8.Coordination with other aircraft (Input from other groups)

Analysis – 07 Oct 2016, 00 UTC

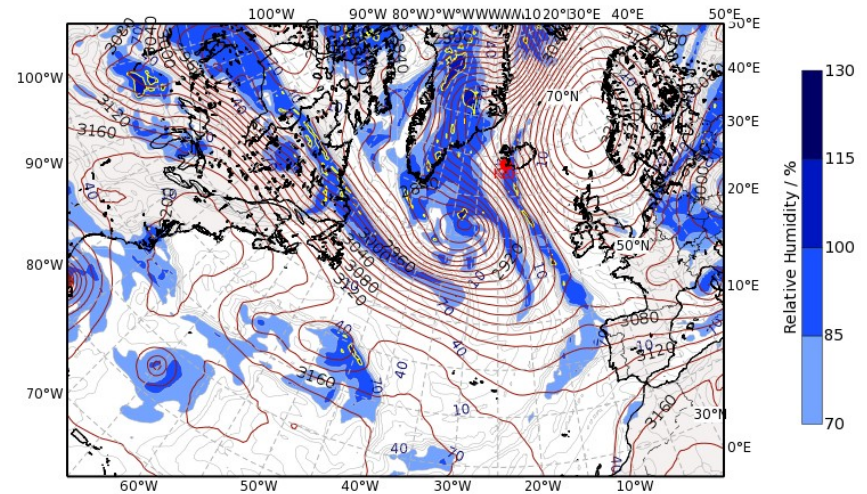
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Fri, 07 Oct 2016, 00 UTC (step 000 h from Fri, 07 Oct 2016, 00 UTC)



Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Fri, 07 Oct 2016, 00 UTC (step 000 h from Fri, 07 Oct 2016, 00 UTC)

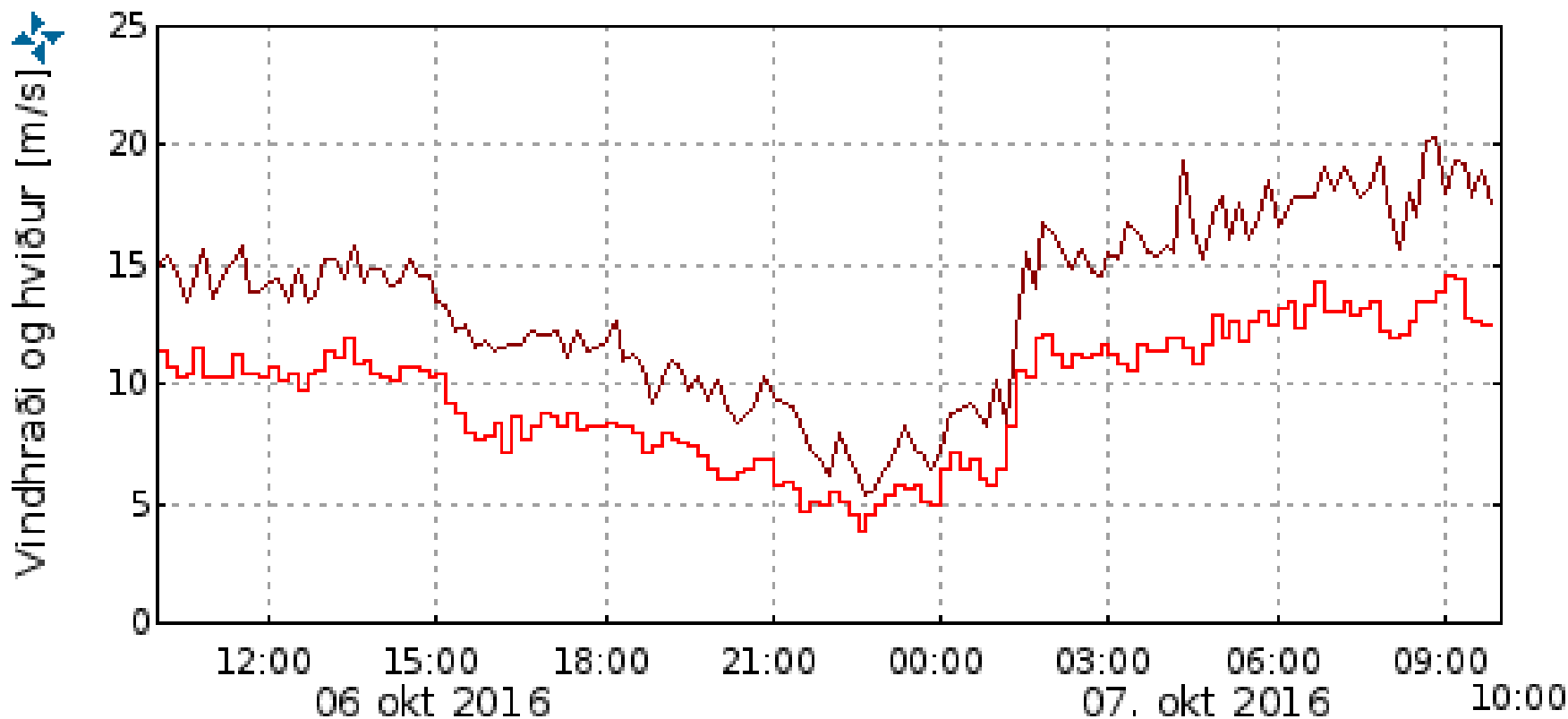
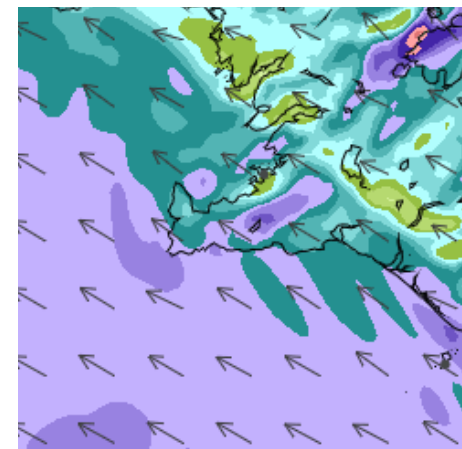


Relative Humidity (%) and Z (m) at 700 hPa
Valid: Fri, 07 Oct 2016, 00 UTC (step 000 h from Fri, 07 Oct 2016, 00 UTC)

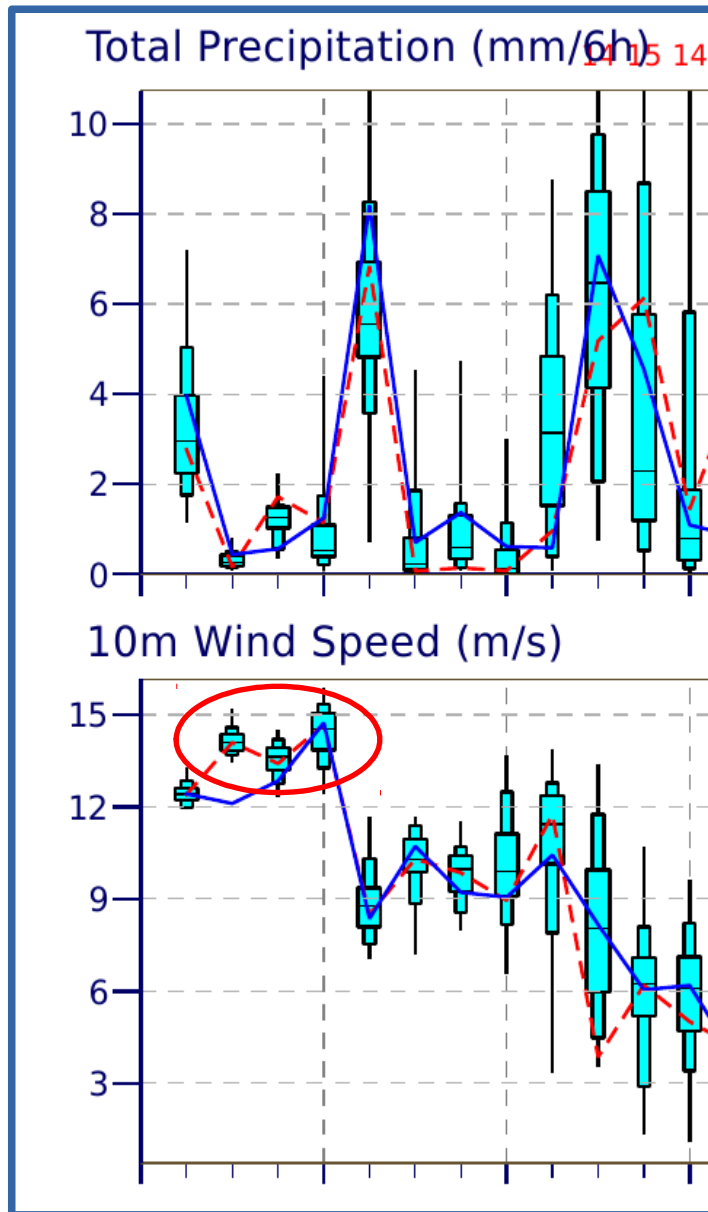


Wind Fri 07 Oct – Current obs. at Keflavik Airport

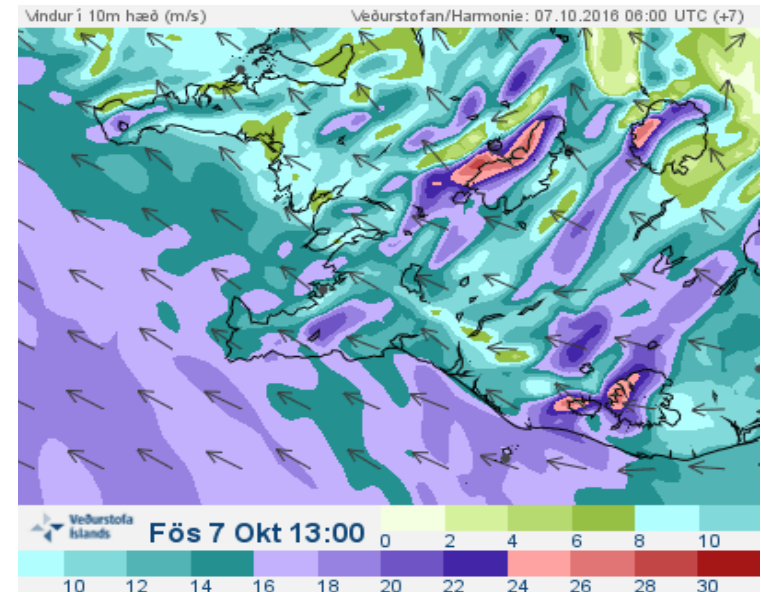
-> Agreement with HARMONIE forecast at **14 m/s (09UTC)**



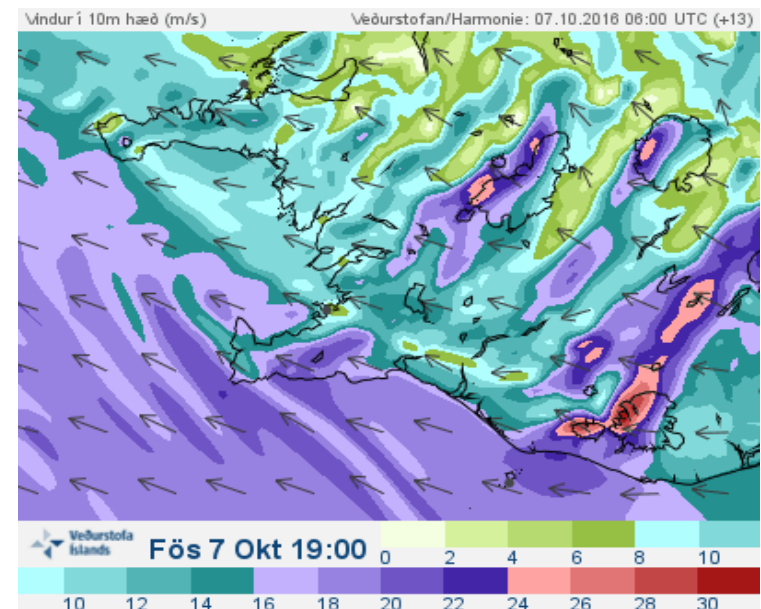
Wind Fri 07 Oct – ECMWF ensemble meteograms + Harmonie model



13UTC

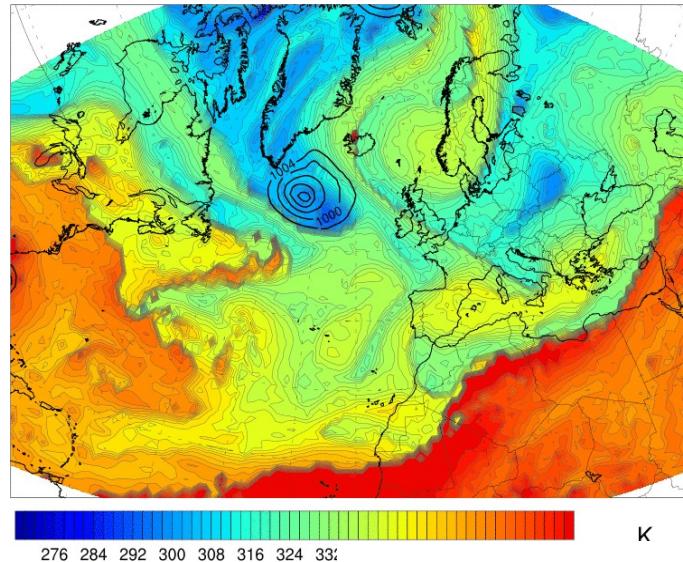


19UTC



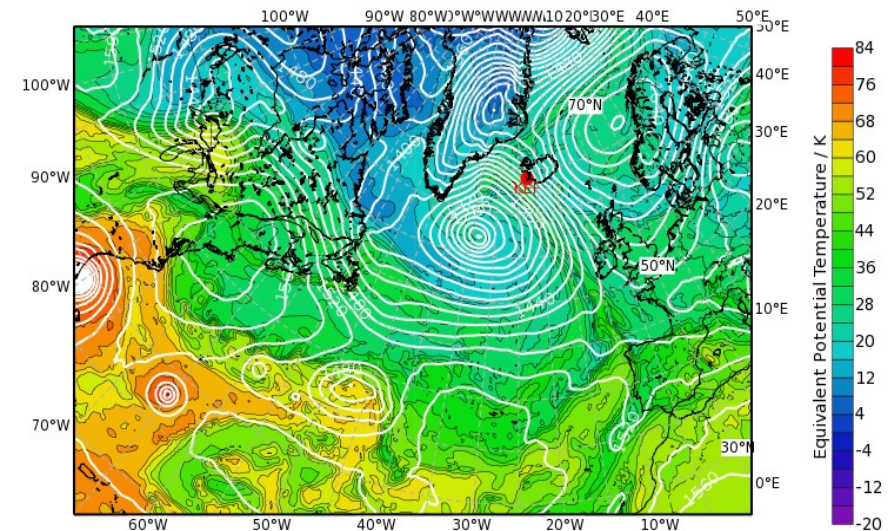
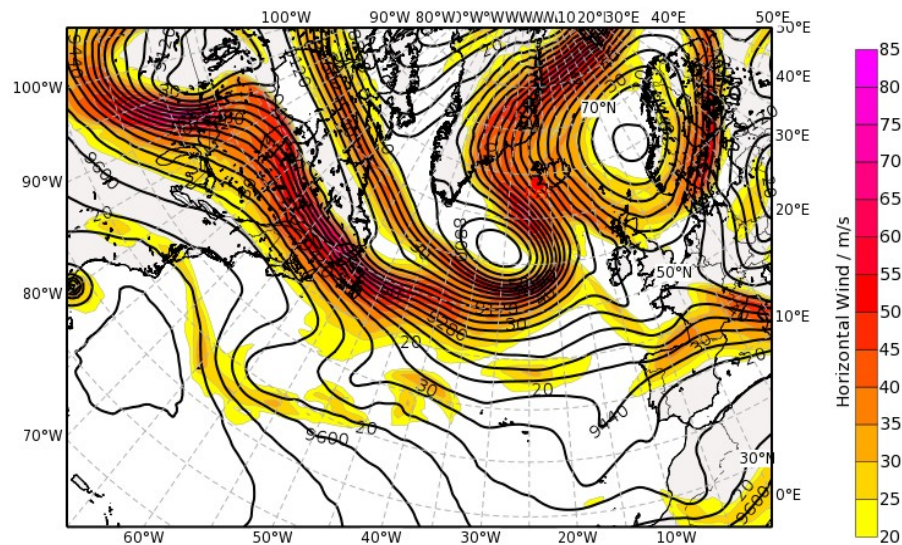
Forecast – Fri 07 Oct 2016, 12 UTC

TH-2PVU, Z300, THE850
BT0700



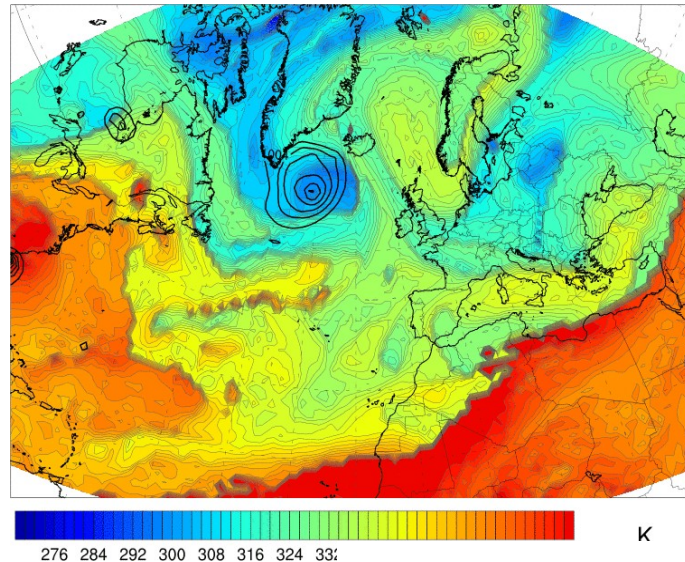
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Fri, 07 Oct 2016, 12 UTC (step 012 h from Fri, 07 Oct 2016, 00 UTC)

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Fri, 07 Oct 2016, 12 UTC (step 012 h from Fri, 07 Oct 2016, 00 UTC)



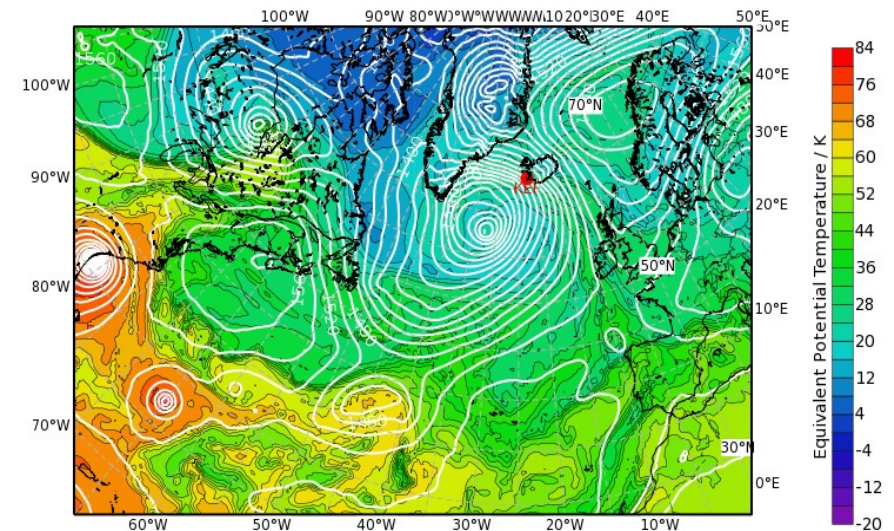
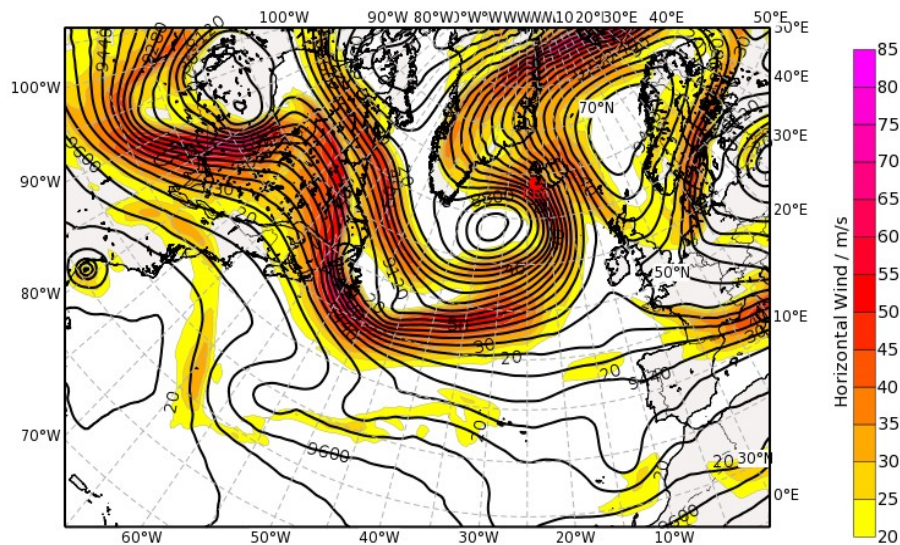
Forecast – Sat 08 Oct 2016, 00 UTC

TH-2PVU, Z300, THE850
BT0700



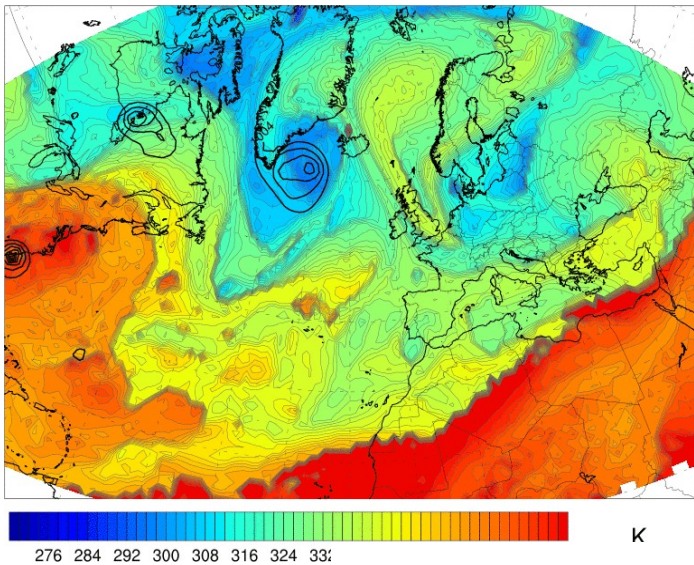
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sat, 08 Oct 2016, 00 UTC (step 024 h from Fri, 07 Oct 2016, 00 UTC)

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sat, 08 Oct 2016, 00 UTC (step 024 h from Fri, 07 Oct 2016, 00 UTC)



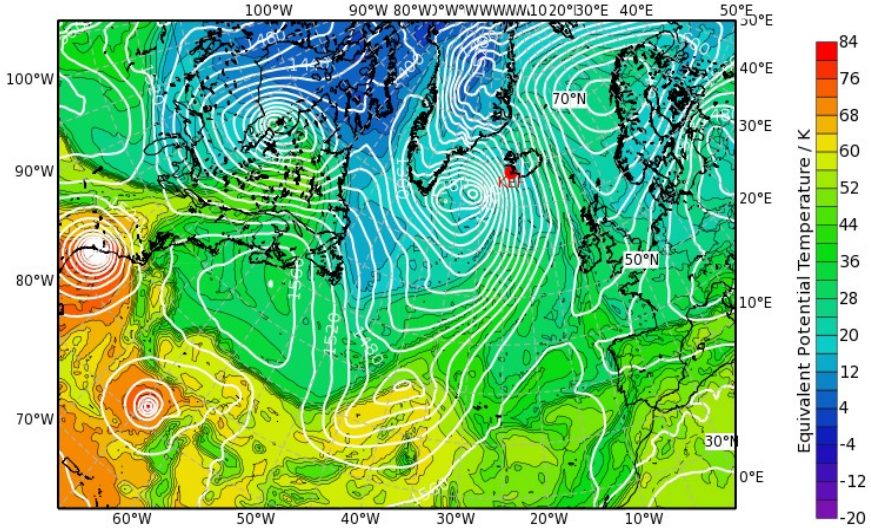
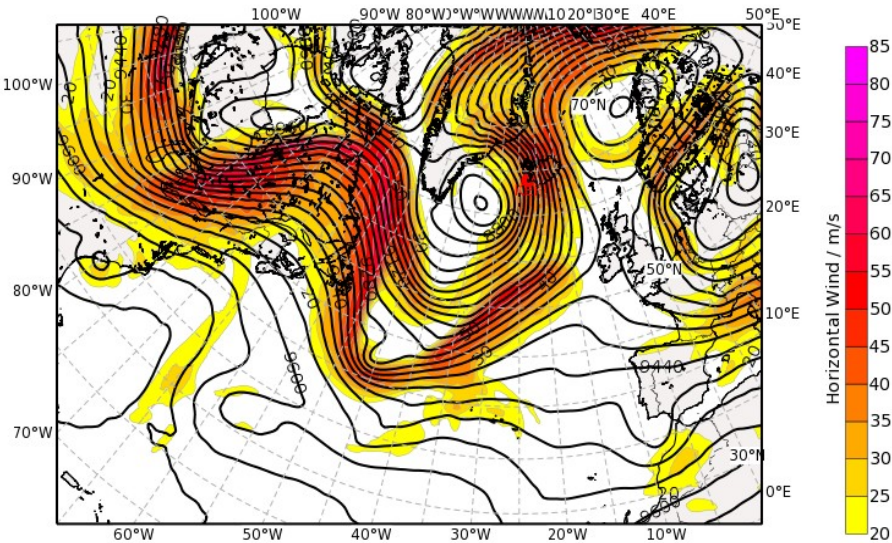
Forecast – Sat 08 Oct 2016, 12 UTC

TH-2PVU, Z300, THE850
BT0700



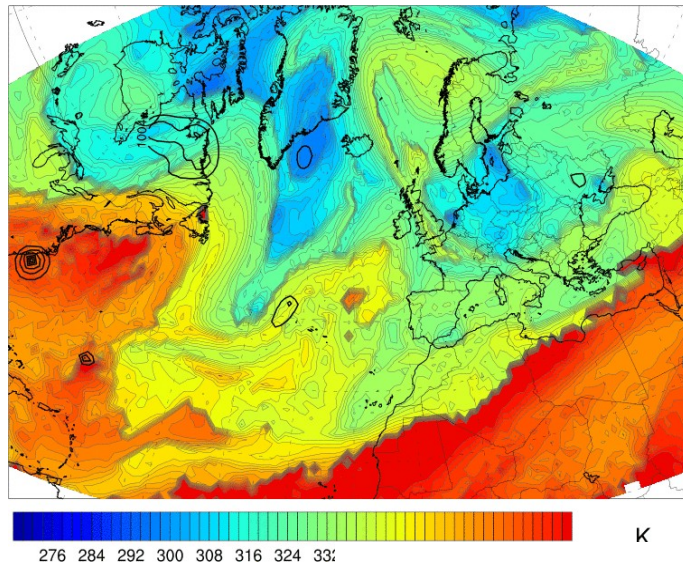
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sat, 08 Oct 2016, 12 UTC (step 036 h from Fri, 07 Oct 2016, 00 UTC)

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sat, 08 Oct 2016, 12 UTC (step 036 h from Fri, 07 Oct 2016, 00 UTC)

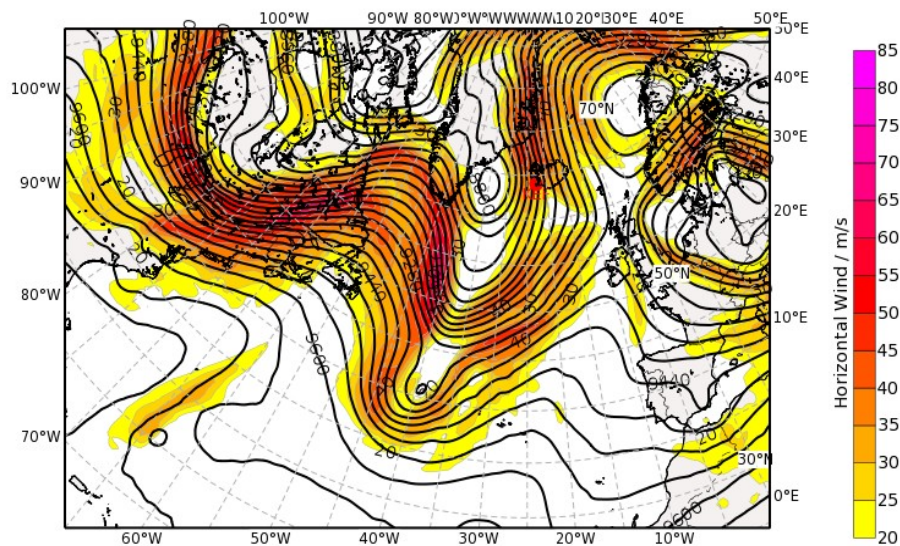


Forecast – Sun 09 Oct 2016, 00 UTC

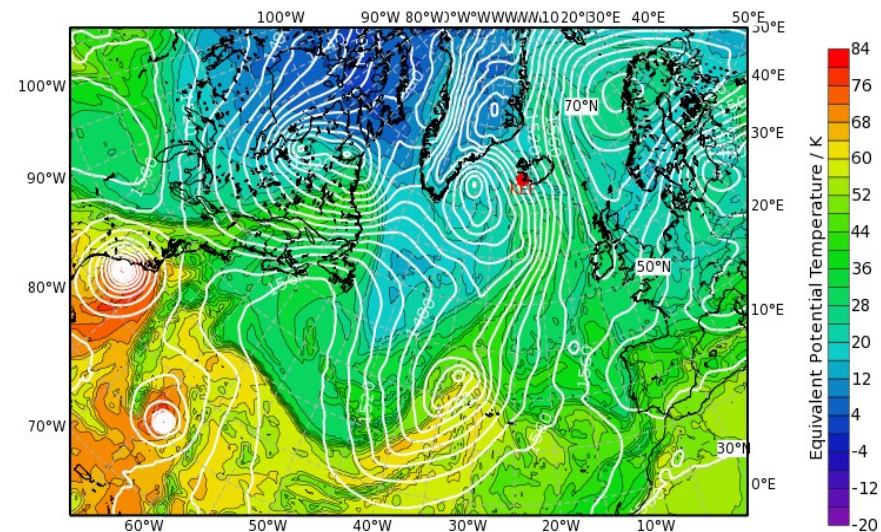
TH-2PVU, Z300, THE850
BT0700



Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sun, 09 Oct 2016, 00 UTC (step 048 h from Fri, 07 Oct 2016, 00 UTC)

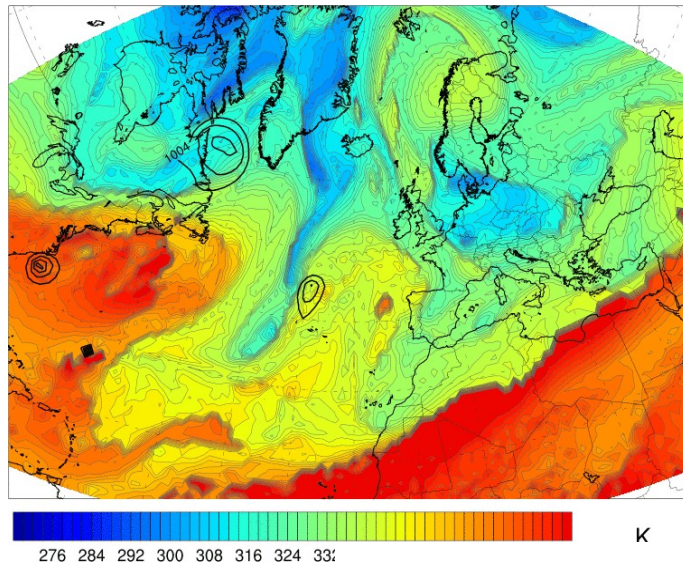


Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sun, 09 Oct 2016, 00 UTC (step 048 h from Fri, 07 Oct 2016, 00 UTC)

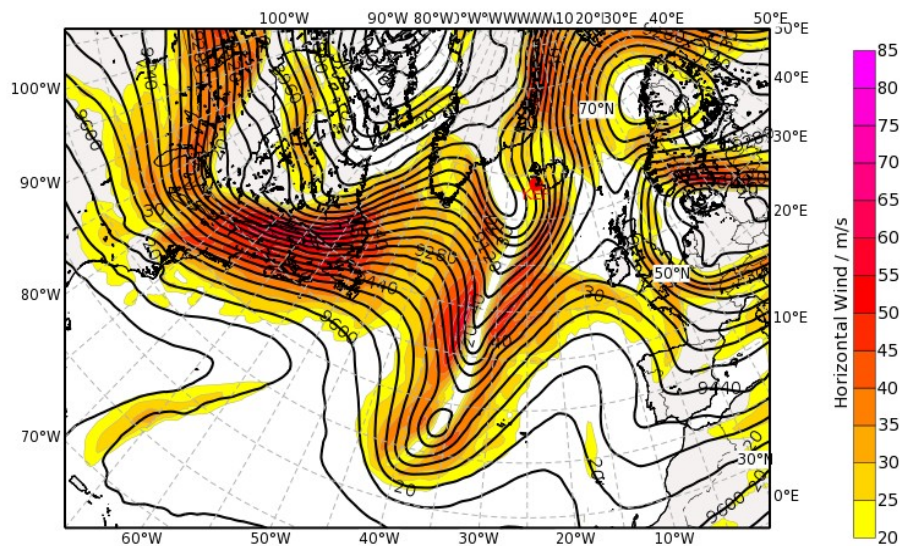


Forecast – Sun 09 Oct 2016, 12 UTC

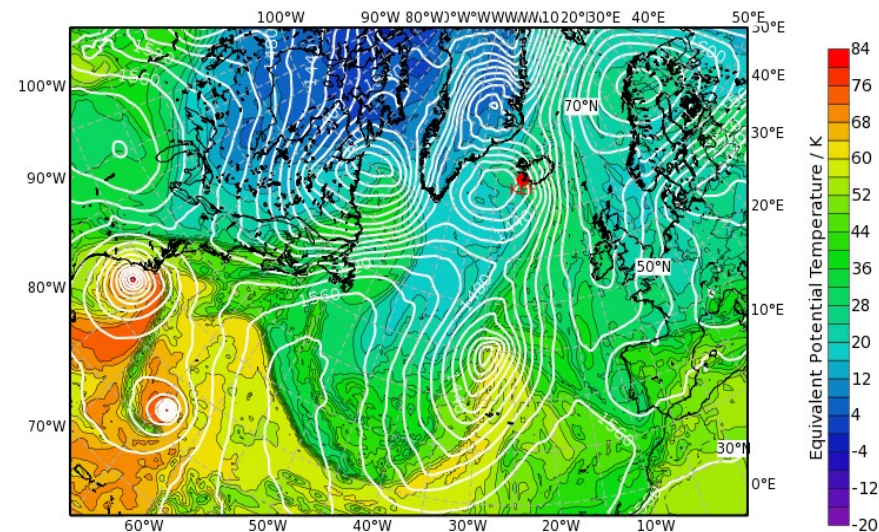
TH-2PVU, Z300, THE850
BT0700



Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sun, 09 Oct 2016, 12 UTC (step 060 h from Fri, 07 Oct 2016, 00 UTC)

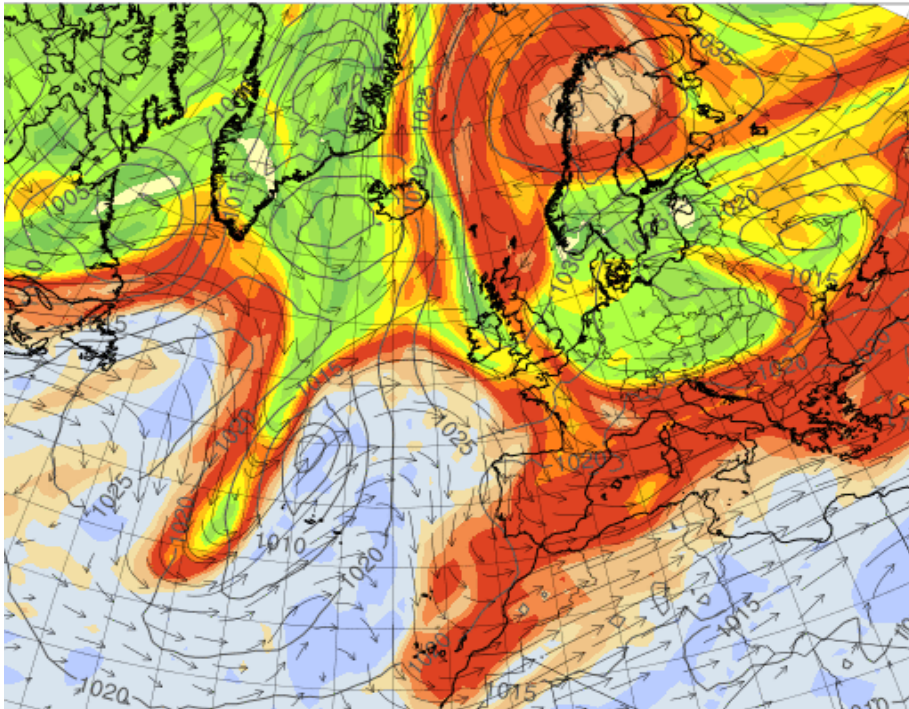


Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sun, 09 Oct 2016, 12 UTC (step 060 h from Fri, 07 Oct 2016, 00 UTC)

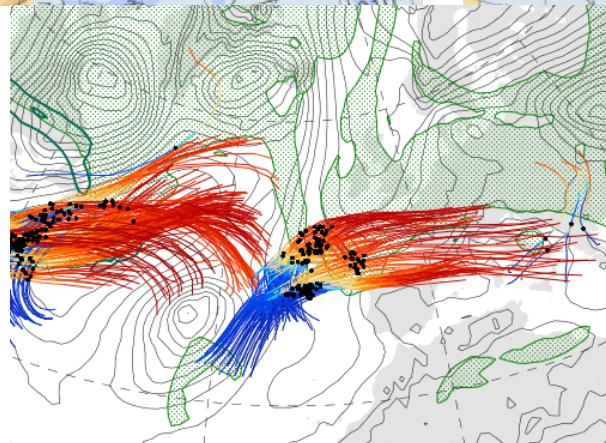
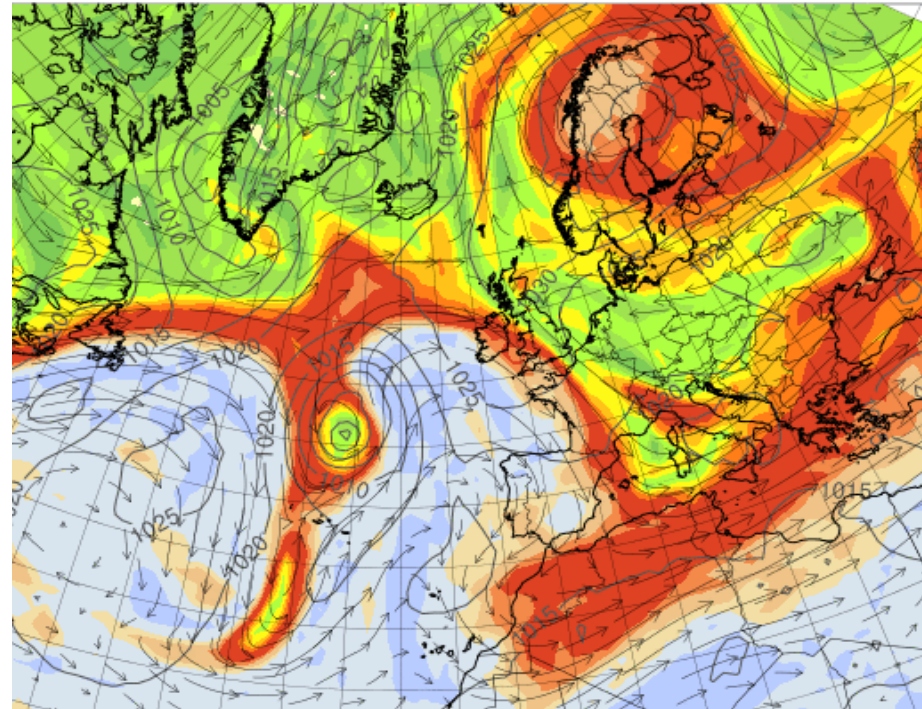


Sunday/Monday PV streamer

Sunday 12 UTC 335K



Monday 12 UTC 335K

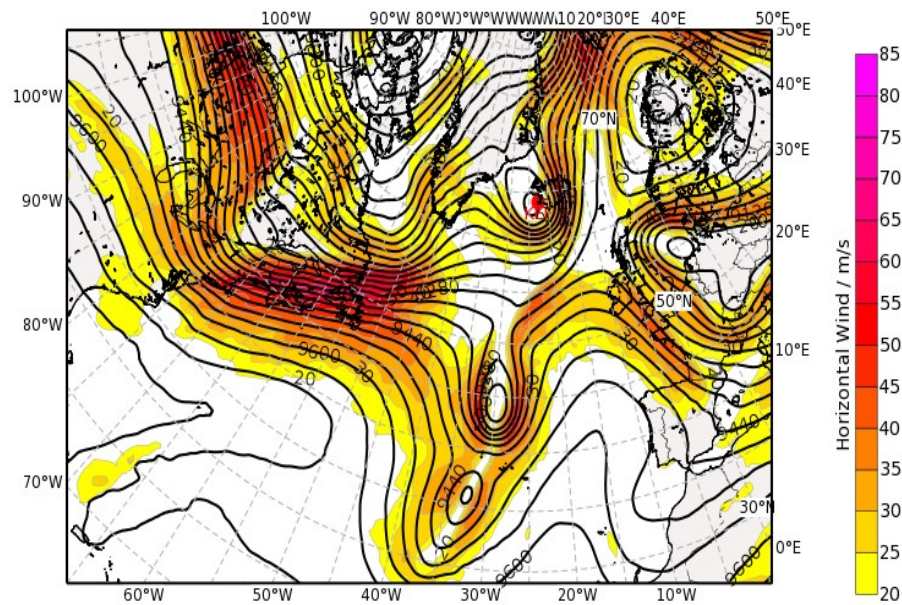


WCB Sat 12 UTC – Mon 12 UTC

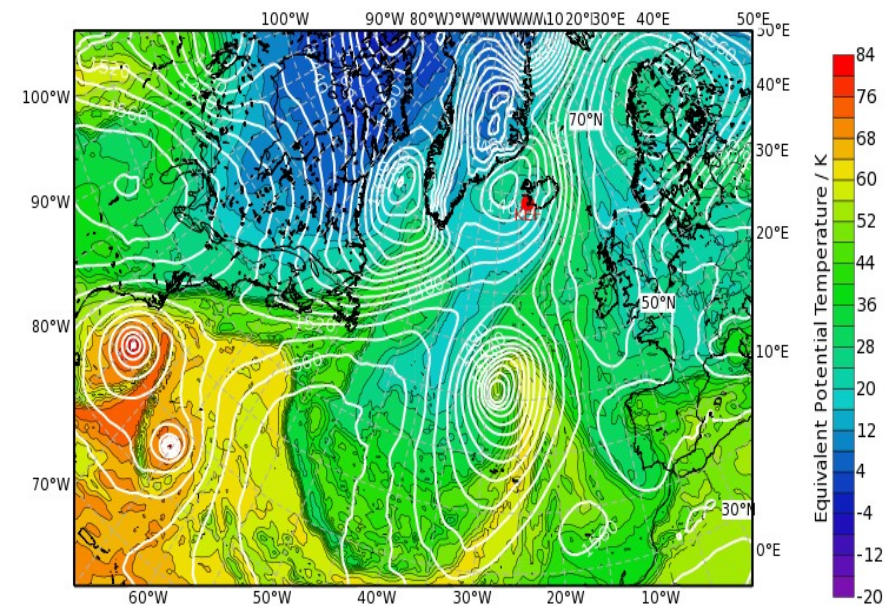
Forecast – Mon 10 Oct 2016, 00 UTC

Z300, THE850
BT0700

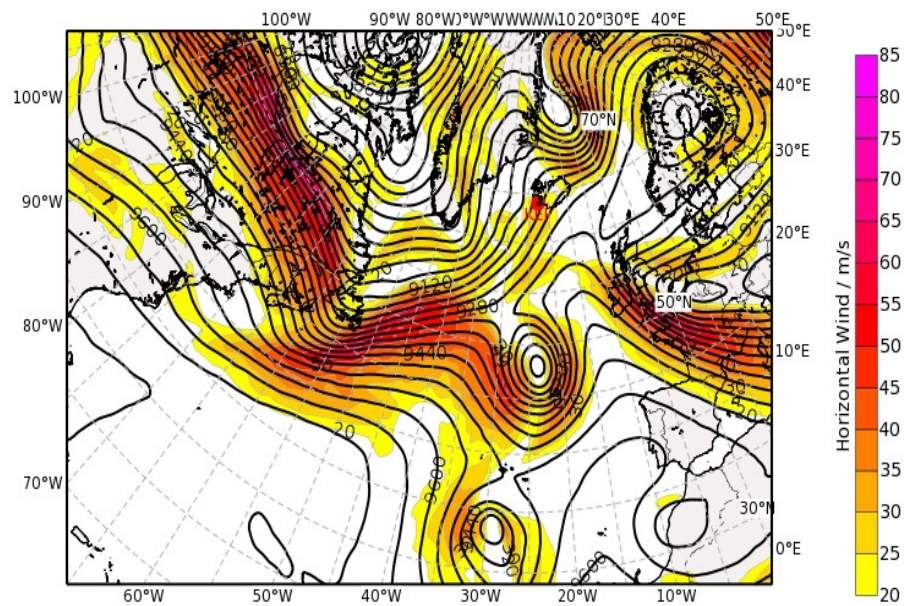
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Mon, 10 Oct 2016, 00 UTC (step 072 h from Fri, 07 Oct 2016, 00 UTC)



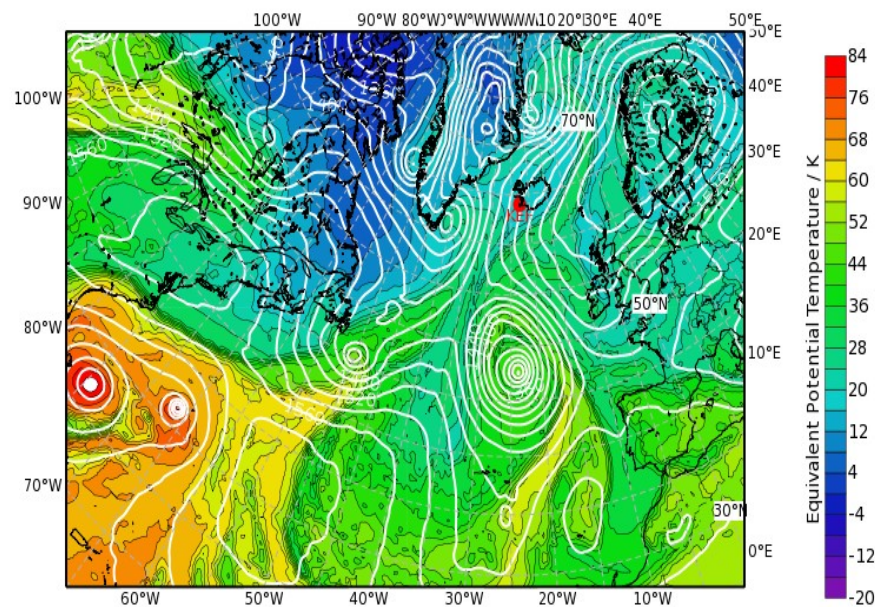
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Mon, 10 Oct 2016, 00 UTC (step 072 h from Fri, 07 Oct 2016, 00 UTC)



Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Tue, 11 Oct 2016, 00 UTC (step 096 h from Fri, 07 Oct 2016, 00 UTC)



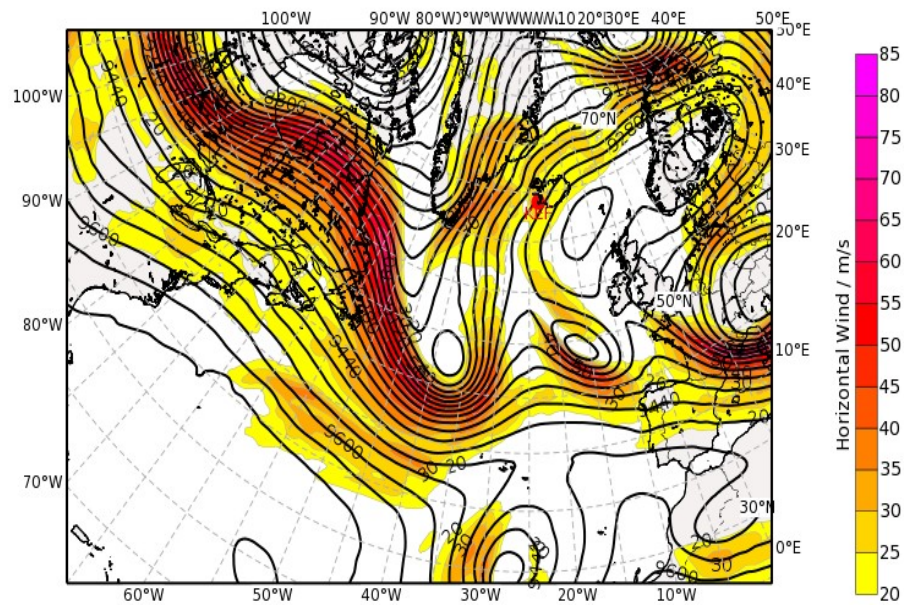
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Tue, 11 Oct 2016, 00 UTC (step 096 h from Fri, 07 Oct 2016, 00 UTC)



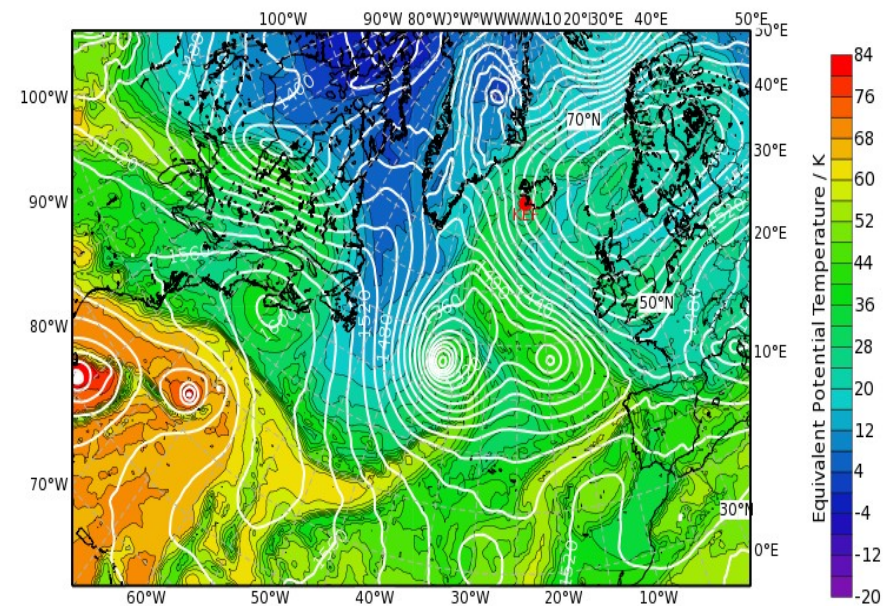
Forecast – Wed 12 Oct 2016, 00 UTC

Z300, THE850
BT0700

Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Wed, 12 Oct 2016, 00 UTC (step 120 h from Fri, 07 Oct 2016, 00 UTC)



Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Wed, 12 Oct 2016, 00 UTC (step 120 h from Fri, 07 Oct 2016, 00 UTC)

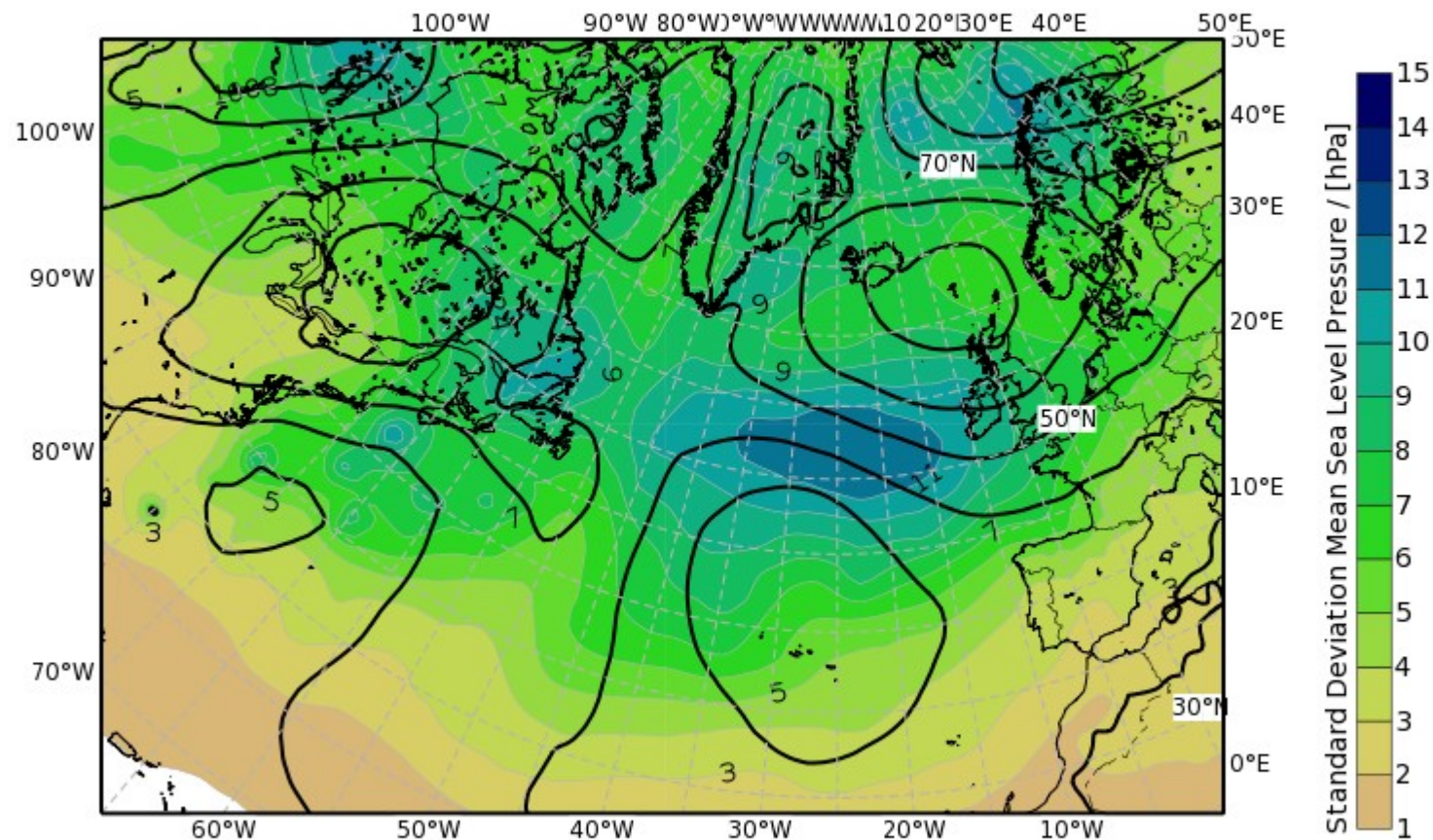


Outlook Friday – MSLP

Wed 12 UTC (BT: 07/00)

ECMWF ENS MEAN & STDEV for MSLP / [hPa]

Valid: Fri, 14 Oct 2016, 12 UTC (step 180 h from Fri, 07 Oct 2016, 00 UTC)

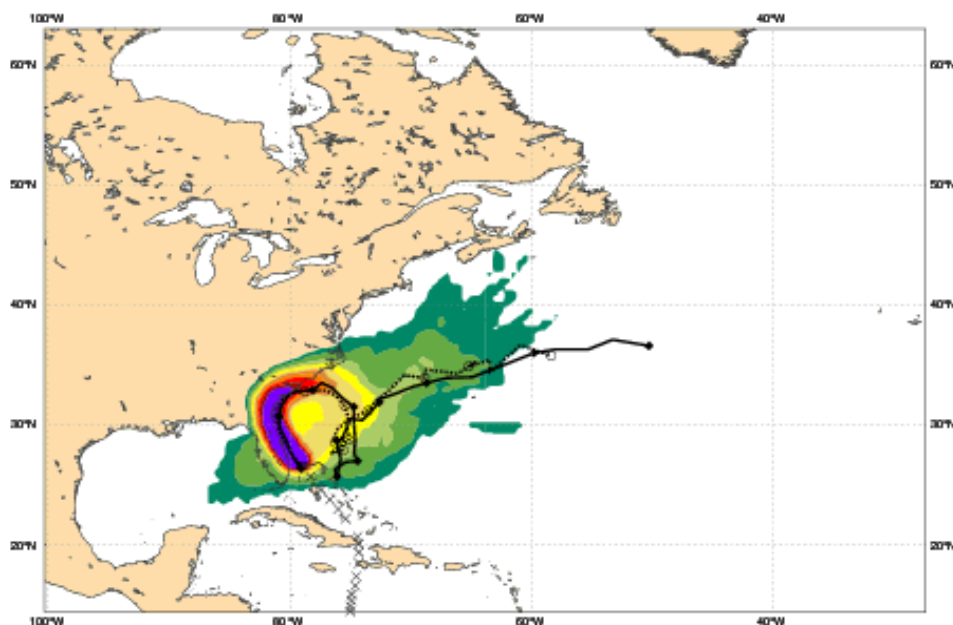


Hurricane Mathew and Tropical Storm Nicole

Date 20161007 00 UTC @ECMWF

Probability that **MATTHEW** will pass within 120 km radius during the next 240 hours
tracks: **solid**=HRES; **dot**=Ens Mean [reported minimum central pressure (hPa) **939**]

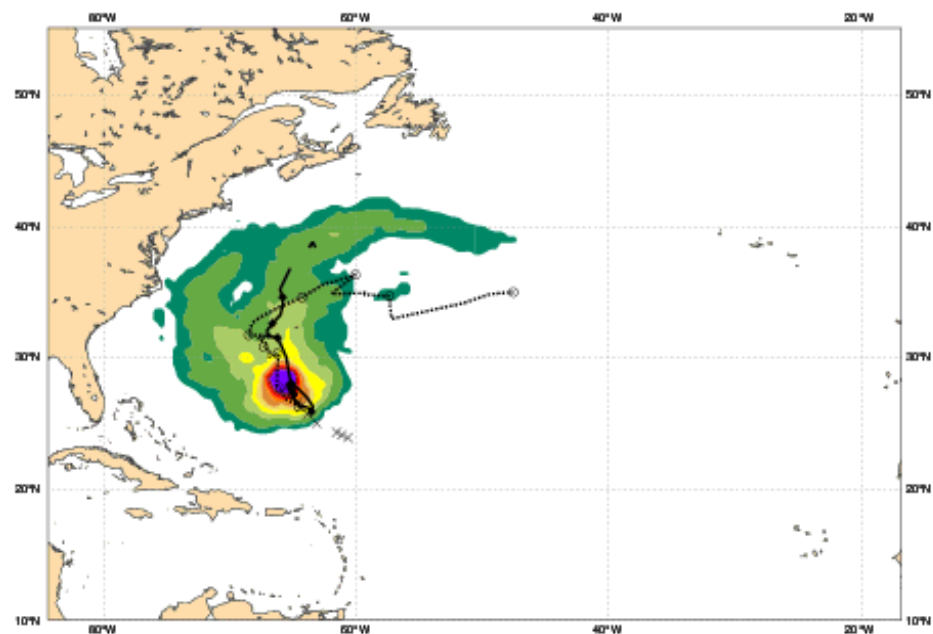
5-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 > 90%



Date 20161007 00 UTC @ECMWF

Probability that **NICOLE** will pass within 120 km radius during the next 240 hours
tracks: **solid**=HRES; **dot**=Ens Mean [reported minimum central pressure (hPa) **968**]

5-10 10-20 20-30 30-40 40-50 50-60 60-70 70-80 80-90 > 90%



Friday 7 October

HALO flight

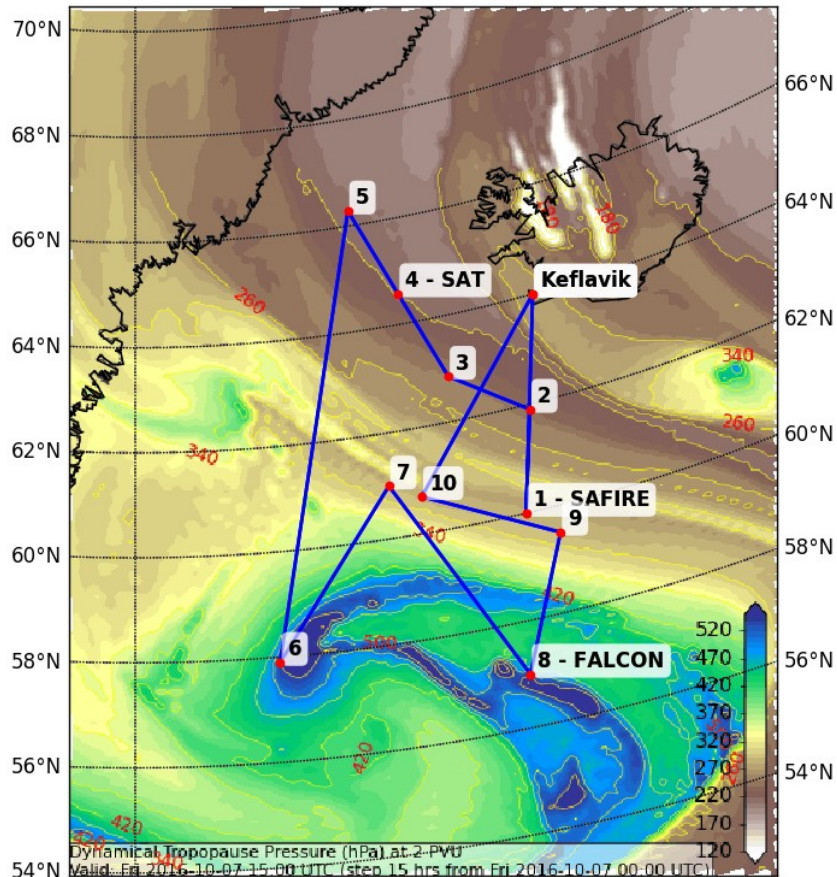
Friday 7 October HALO Flight 13:00 – 18:30 UTC

Scientific Objectives

- WCB ascent region: sample mixed phase clouds
- Lagrangian flight through EX-TPV
- SAT overpass
- Coordinated leg with SAFIRE: atmospheric river
- Coordinated leg with FALCON: PV estimation

Friday 7 October HALO Flight 13:00 – 18:30 UTC

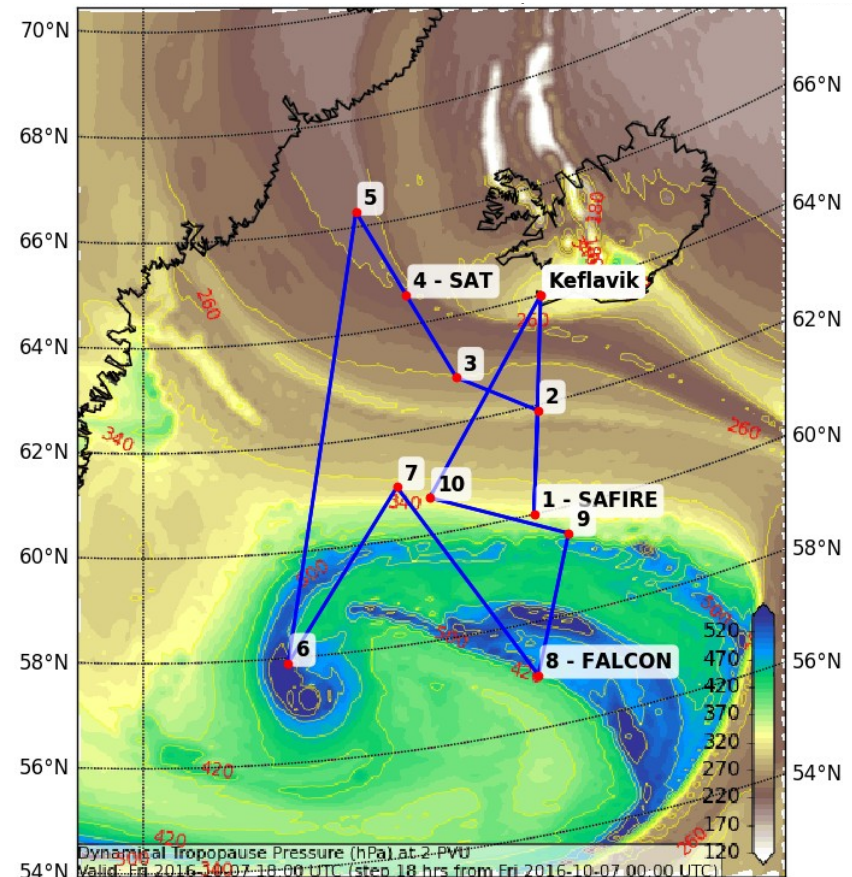
P (hPa) at 2 PVU



BT07/00Z VT07/15Z

- Meet SAFIRE at 13:40 (1)
- Coordinated leg (1-2)
- Sat overpass at 14:27 & WCB ascent (4-6)

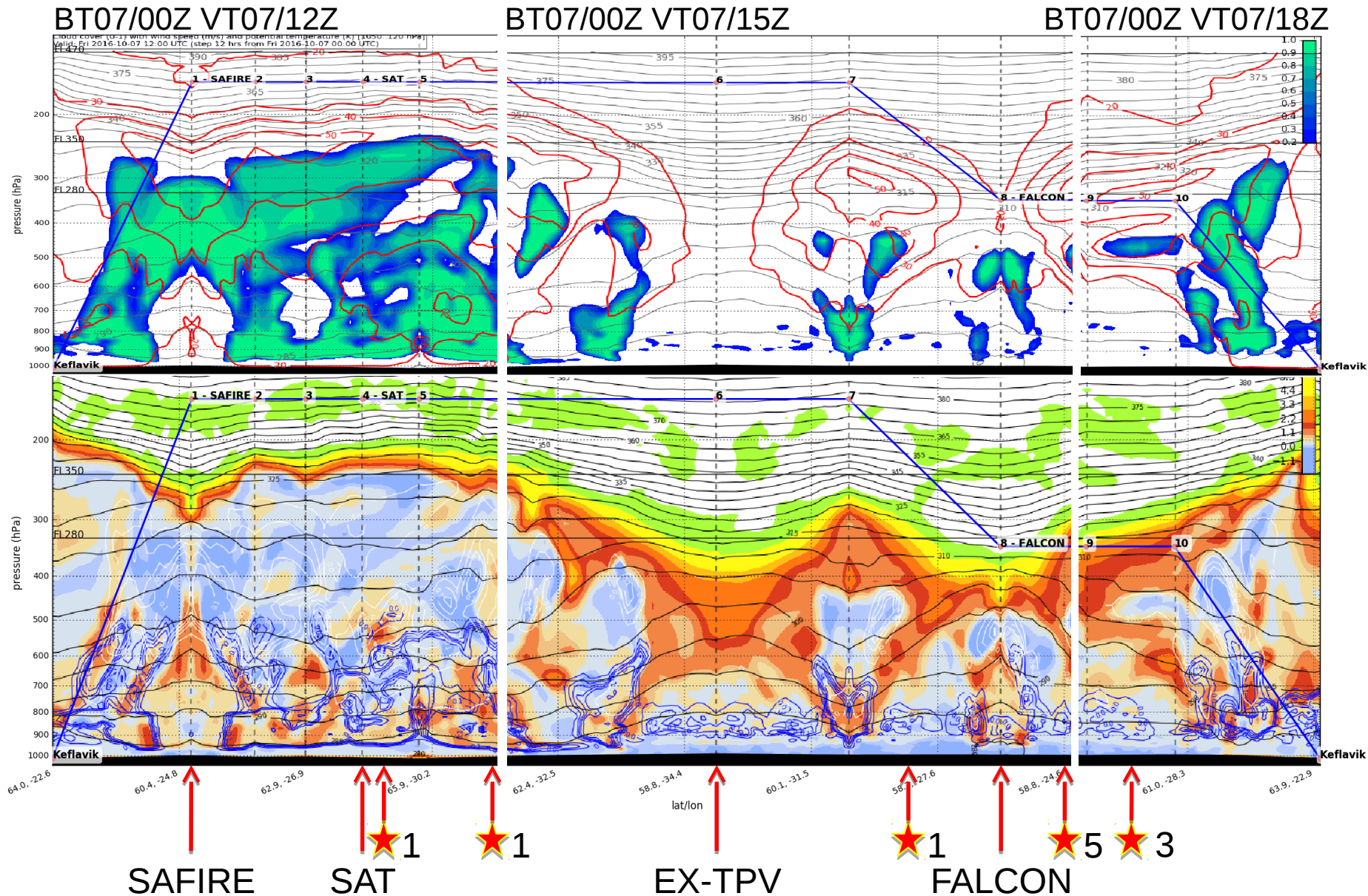
P (hPa) at 2 PVU



BT07/00Z VT07/18Z

- EX-TPV (6)
- Meet FALCON at 17:15 (8)
- Coordinated leg with drops (8-10)

Friday 7 October HALO Flight 13:00 – 18:30 UTC



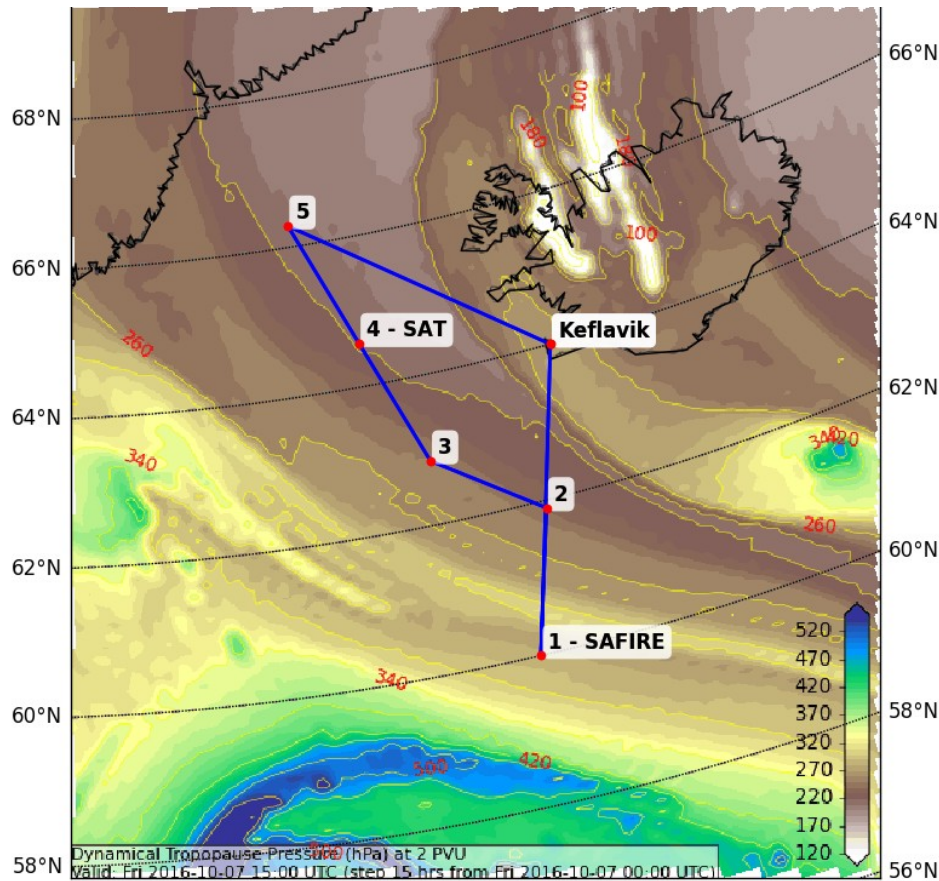
Friday 7 October HALO Flight 13:00 – 15:30 UTC

ALTERNATIVE FLIGHT Scientific Objectives

- WCB ascent region: sample mixed phase clouds
- SAT overpass
- Coordinated leg with SAFIRE: atmospheric river

Friday 7 October HALO Flight 13:00 – 15:30 UTC

P (hPa) at 2 PVU



BT07/00Z VT07/15Z

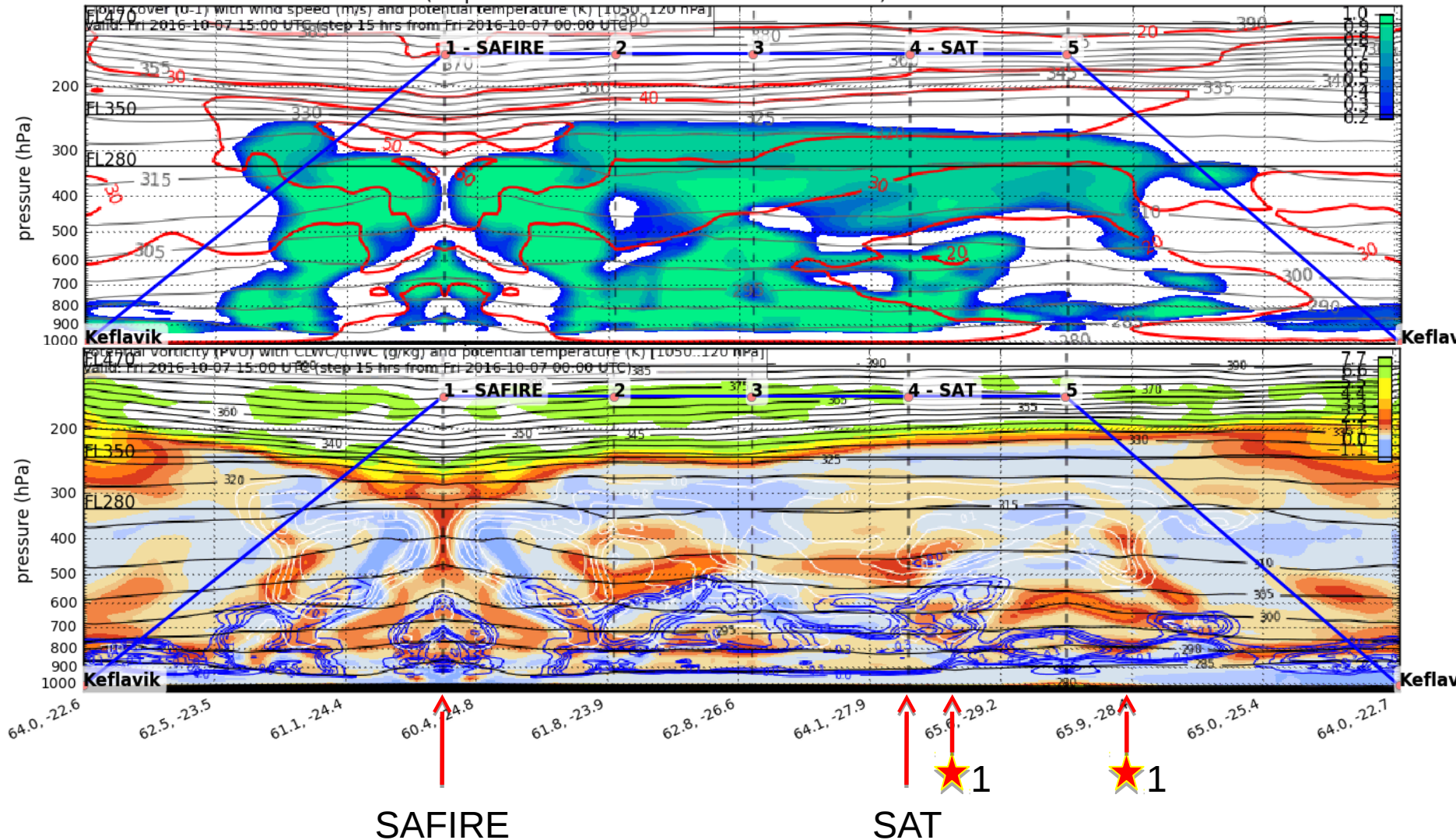
- Meet SAFIRE at 13:40 (1)
- Coordinated leg (1-2)
- Sat overpass at 14:27 & WCB ascent (4-5)

Friday 7 October HALO Flight 13:00 – 15:30 UTC

BT07/00Z VT07/15Z

Cloud Cover (0-1) and Wind Speed (m/s) Vertical Section

Valid: Fri 2016-10-07 15:00 UTC (step 15 hrs from Fri 2016-10-07 00:00 UTC)

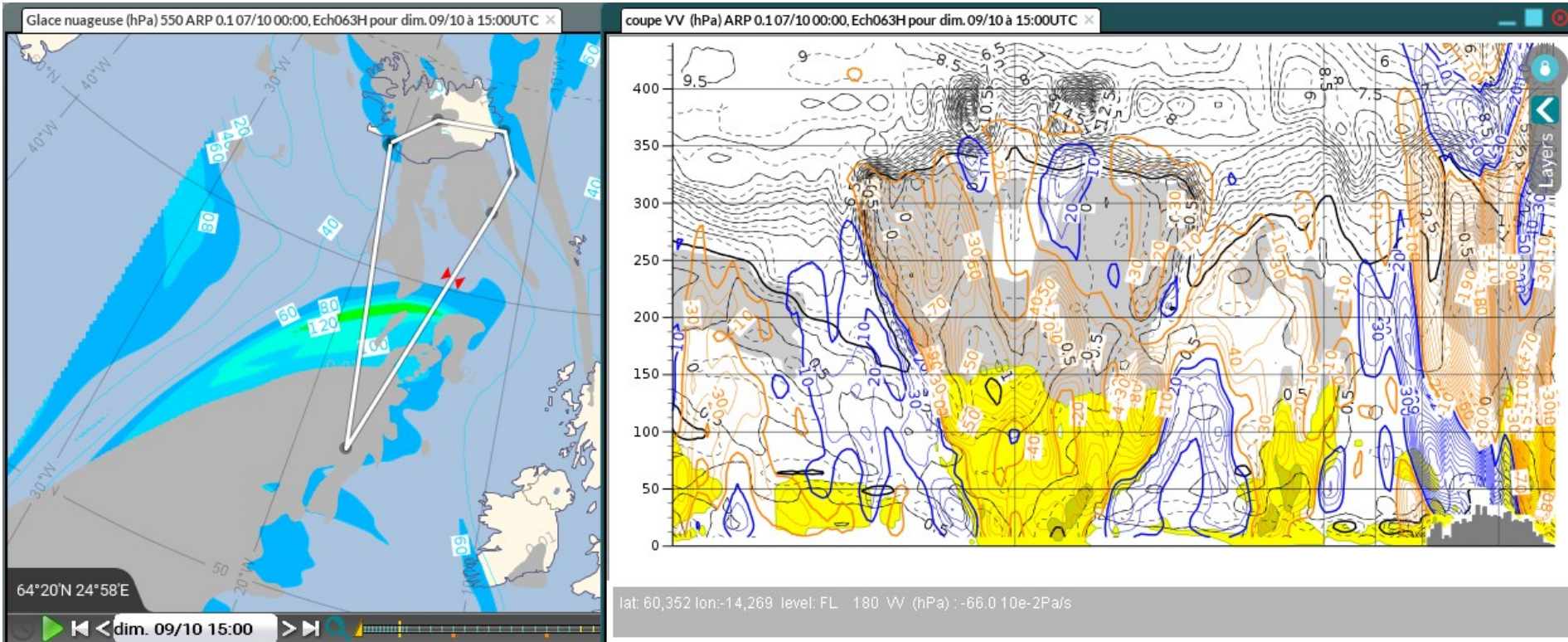


Sunday 9 October

SAFIRE

EPATAN/NEAREX plans for 9 Oct 2016

ARPEGE det, base time 20161007_00



EPATAN flight
Common leg with HALO ?
Take-off time to be discussed
Alternative flight closer to Iceland ?

Sunday 9 October

HALO

HALO flight Sun 09 Oct

System under investigation:

„Sunday PV streamer“

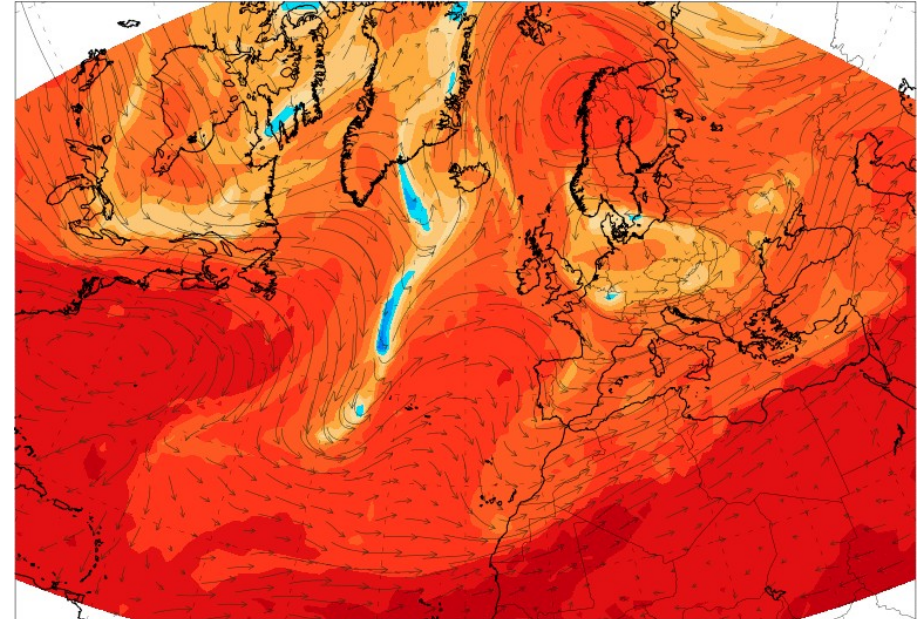
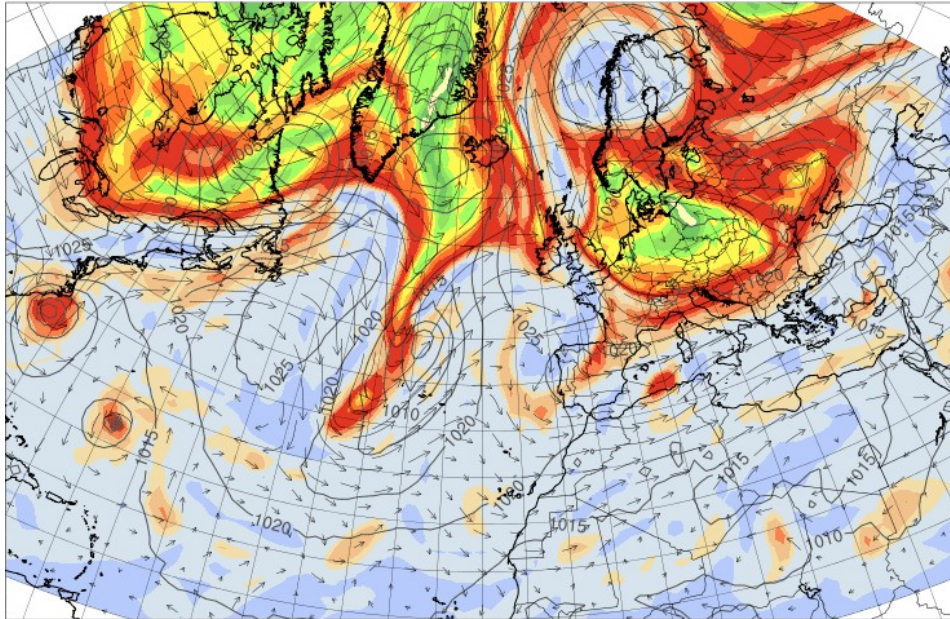
Main objectives:

- WCB ascent, frontal cloud structure
- WCB/jet interaction: divergent outflow
- Structure of PV streamer

HALO flight Sun 09 Oct

12 UTC

PV@325K at 20161009_12



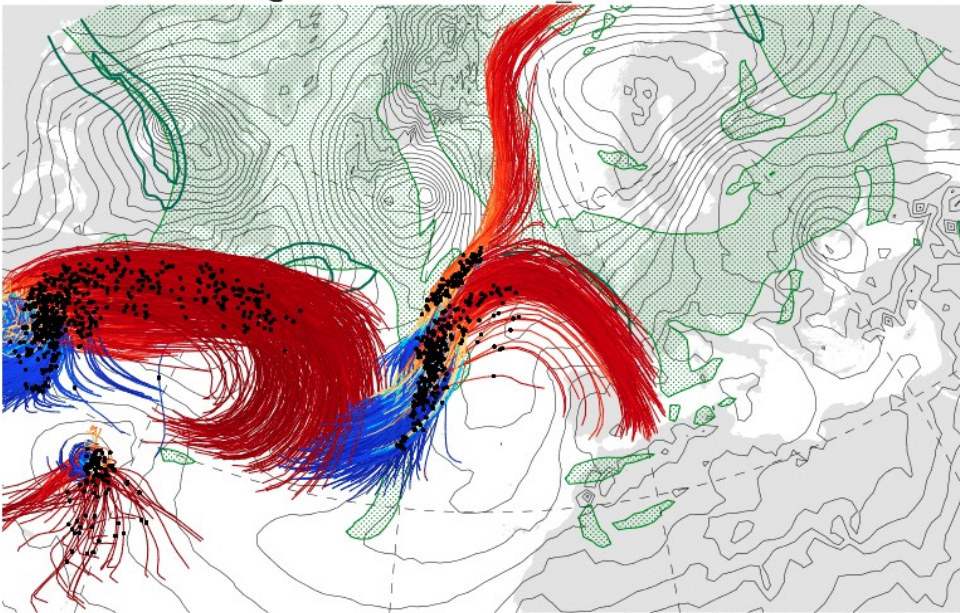
pvu

hPa

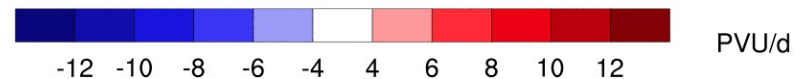
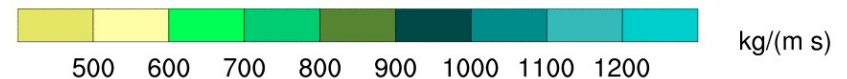
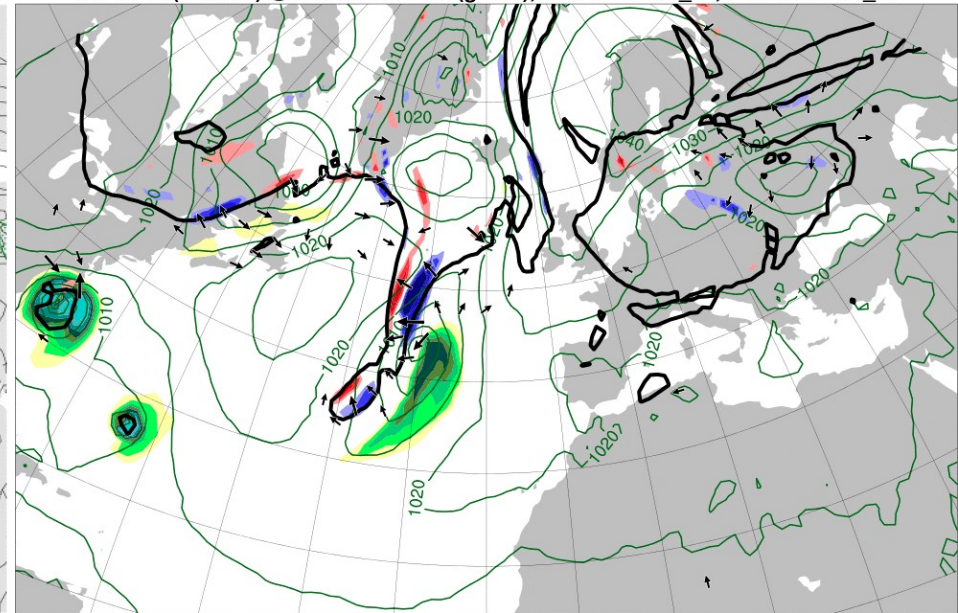
HALO flight Sun 09 Oct

12 UTC

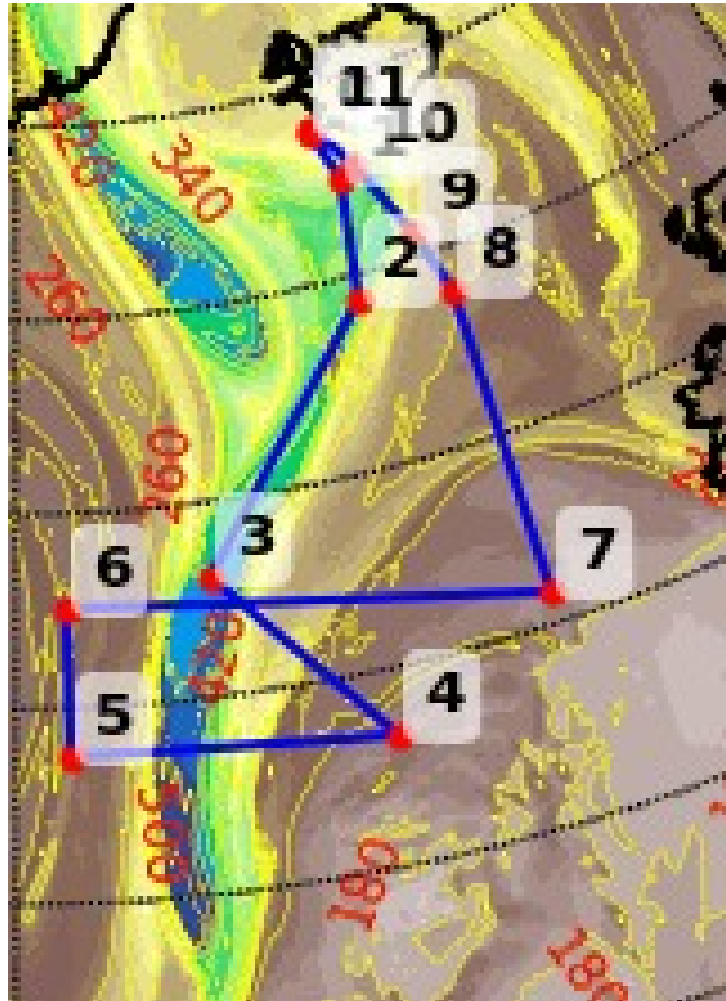
Trajectory start and SLP VT: 20161008_12
WCB outflow and PV@250hPa VT: 20161010_12



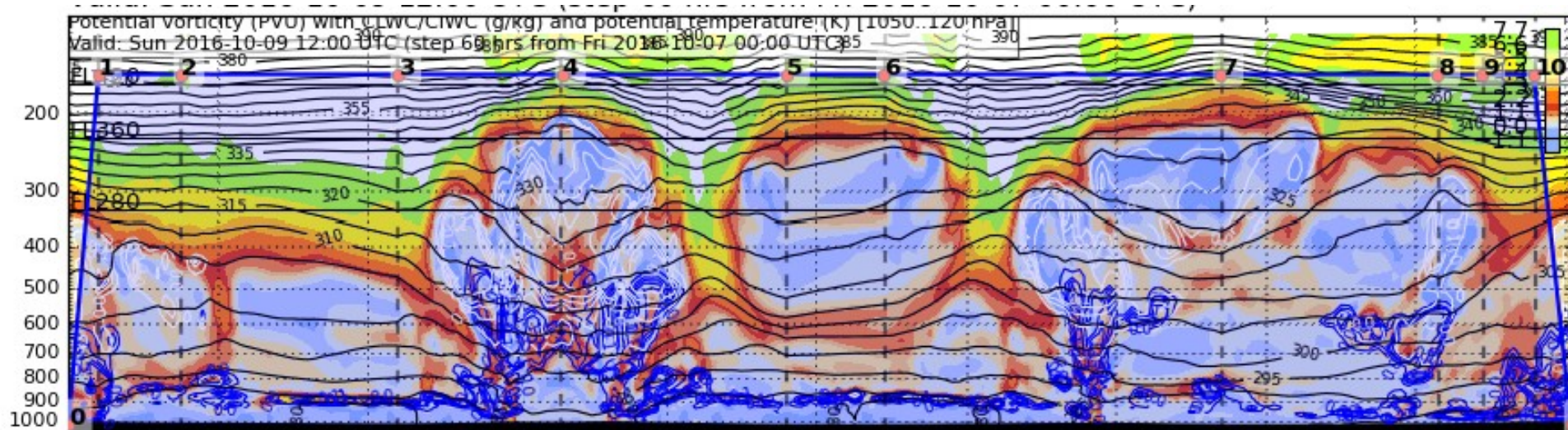
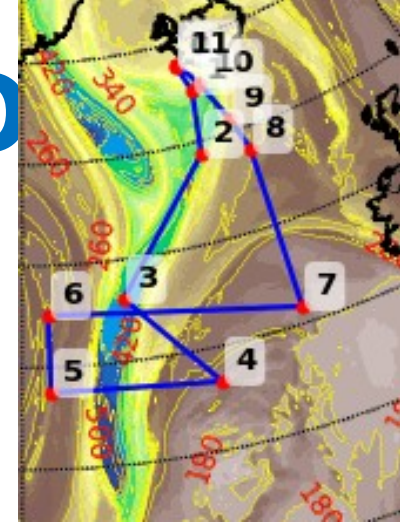
2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @325K and MSLP (green), BT: 20161007_00, VT: 20161009_09



HALO flight Sun 09 Oct



HALO flight Sun 09 Oct



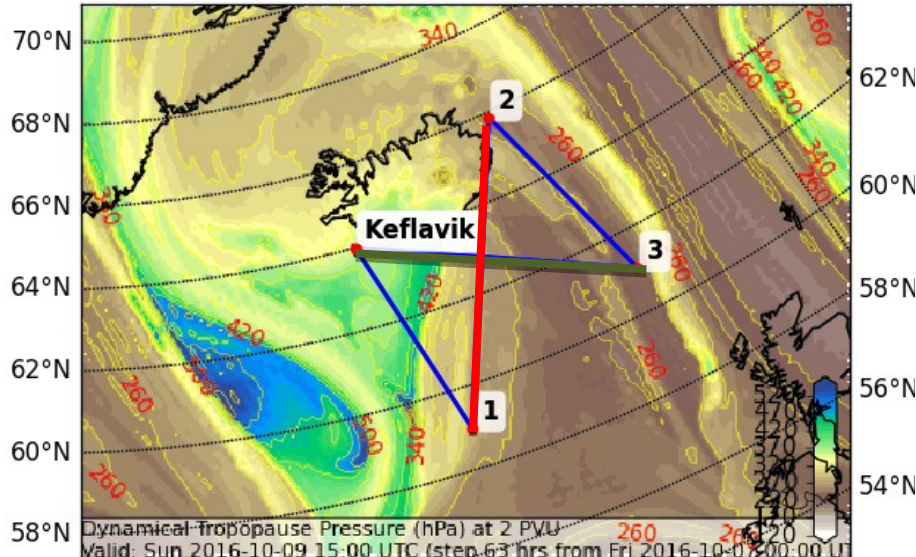
Sunday 9 October

DLR-Falcon

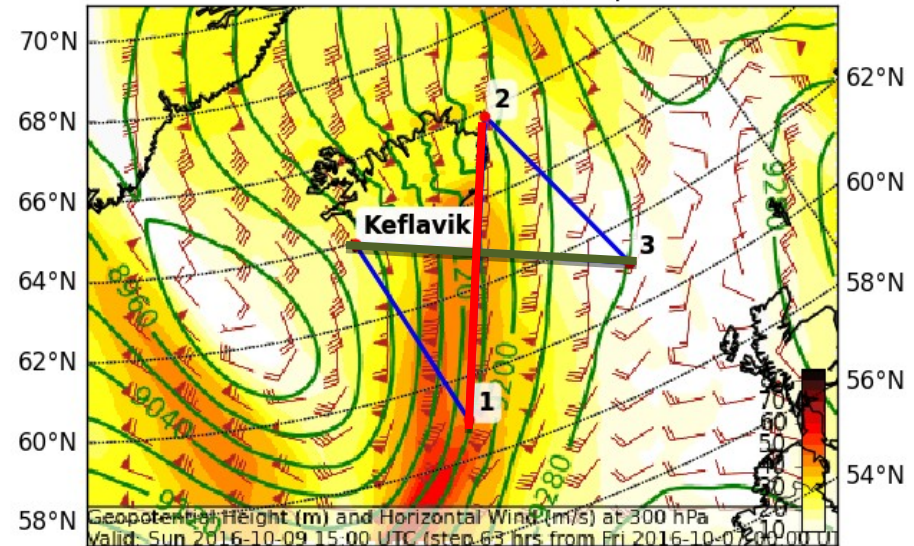
Falcon flight Friday, 07 Oct

BT 07/00Z, VT 07/18Z

Dynamical Tropopause (Pressure (hPa)) at 2000 (10^{-3} m/s)
Valid: So 2016-10-09 15:00 UTC (step 63 hrs from Fr 2016-10-07 00:00 UTC)

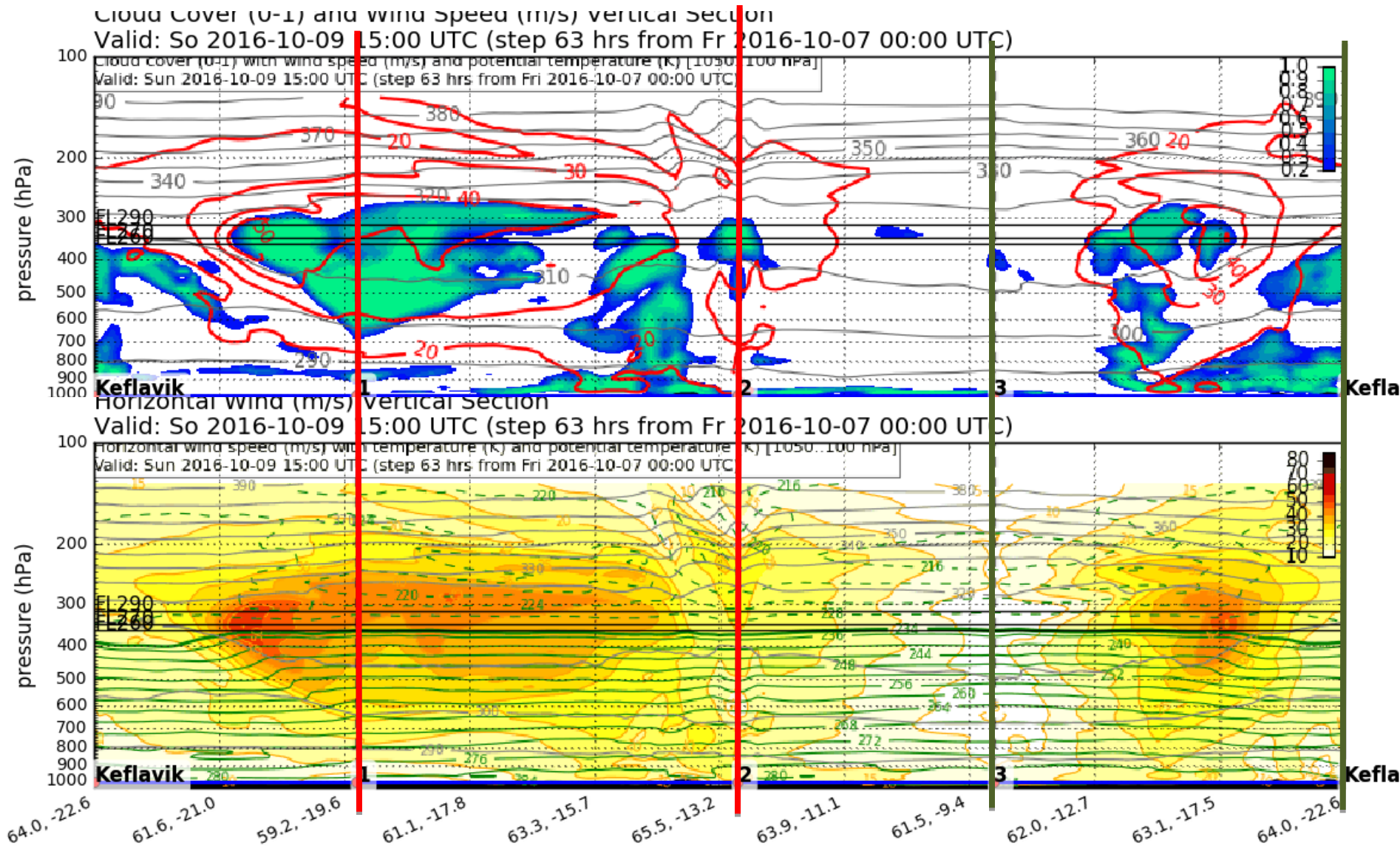


Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed) at 300 hPa
Valid: So 2016-10-09 15:00 UTC (step 63 hrs from Fr 2016-10-07 00:00 UTC)



Falcon flight Friday, 07 Oct

BT 07/00Z, VT 07/18Z



Summary plans

- **Friday 7 October IOP10?**
 - **HALO** WCB/Sat overpass and observing again ex-TPV; 11 dropsondes
- **Saturday 8 October** : Day off
- **Sunday 9 October:**
 - HALO: PV streamer break-up, moisture transport, (wcb) ascent
 - DLR Falcon / SAFIRE: WCB outflow and jet south of Iceland
- **Monday:**
 - HALO: follow-up on Sundays flight
 - No comparison flight
- **Tuesday/Wednesday:**
 - Radiometer intercomparison?