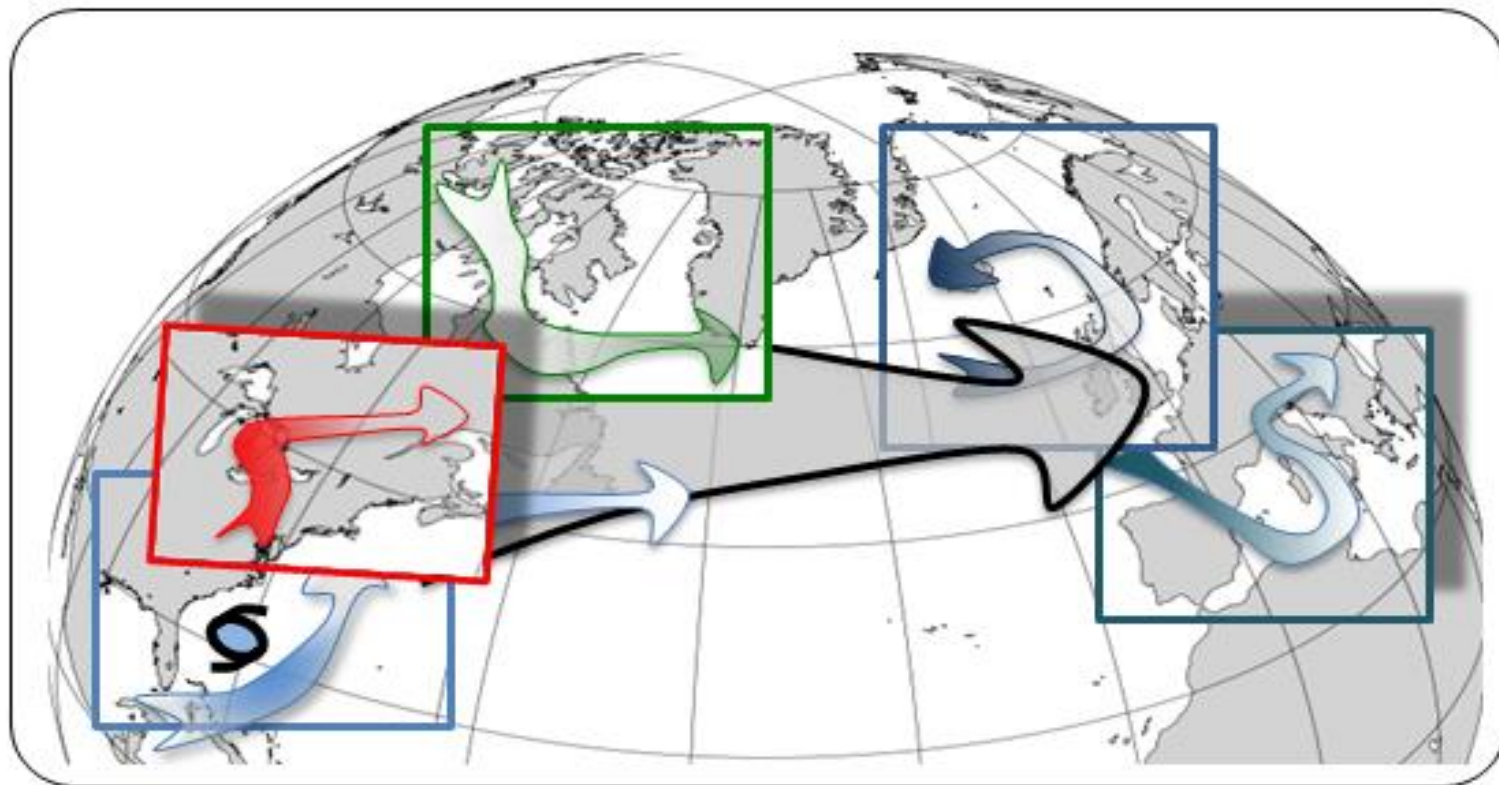


NAWDEX – General Planning Meeting

30 September 2016, Keflavik 11 UTC



NAWDEX – General Planning Meeting

30 September 2016, Keflavik 11 UTC

Key issues today

1. Confirmation of flight plans for Saturday HALO
2. Refinement of flight plans for Sunday HALO, FALCON, SAFIRE
3. Outlook next week

NAWDEX – General Planning Meeting

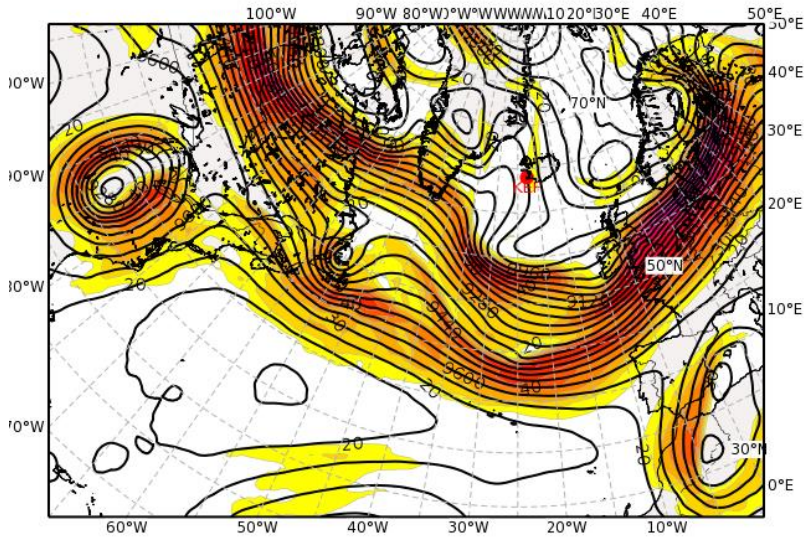
30 September 2016, Keflavik 11 UTC

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 – 30 Sep 2016, 00 UTC

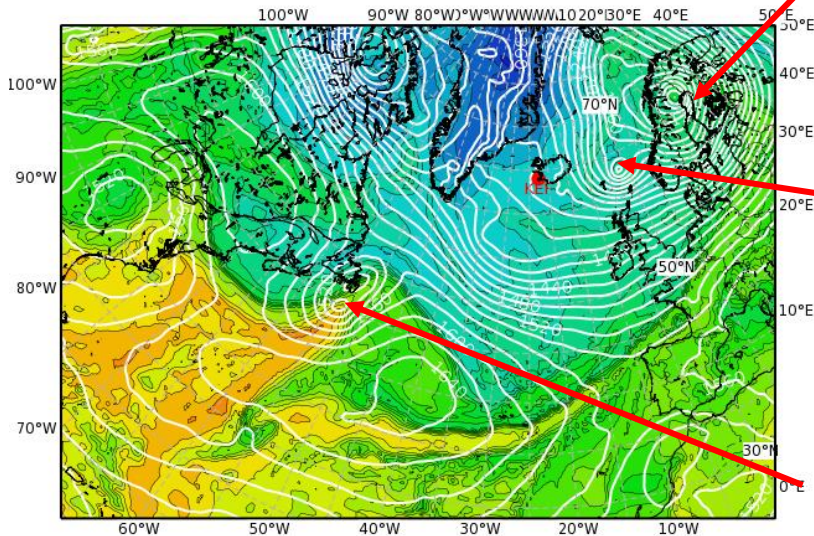
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa

Valid: Fri, 30 Sep 2016, 00 UTC (step 000 h from Fri, 30 Sep 2016, 00 UTC)



Equivalent Potential Temperature (degC) & Streamlines at 850 hPa

Valid: Fri, 30 Sep 2016, 00 UTC (step 000 h from Fri, 30 Sep 2016, 00 UTC)

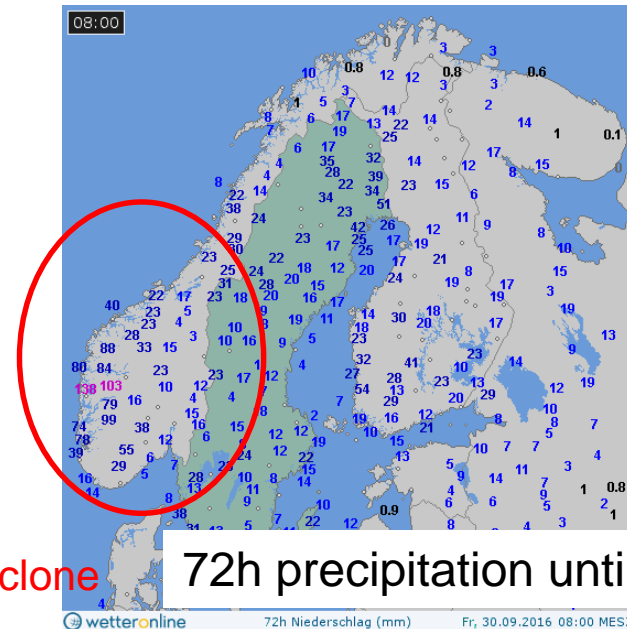
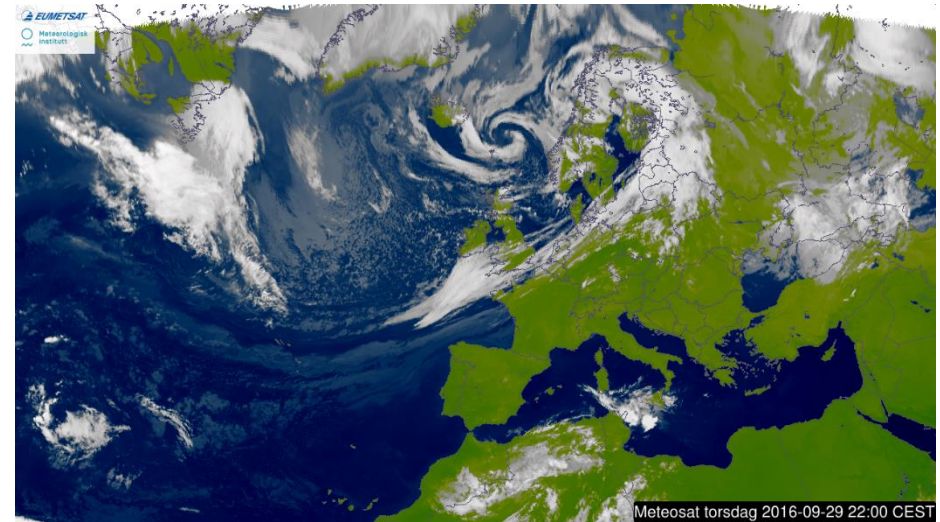


Walpurga

Ex-Karl

Saturday cyclone

Z300, SAT
THE850, RH700

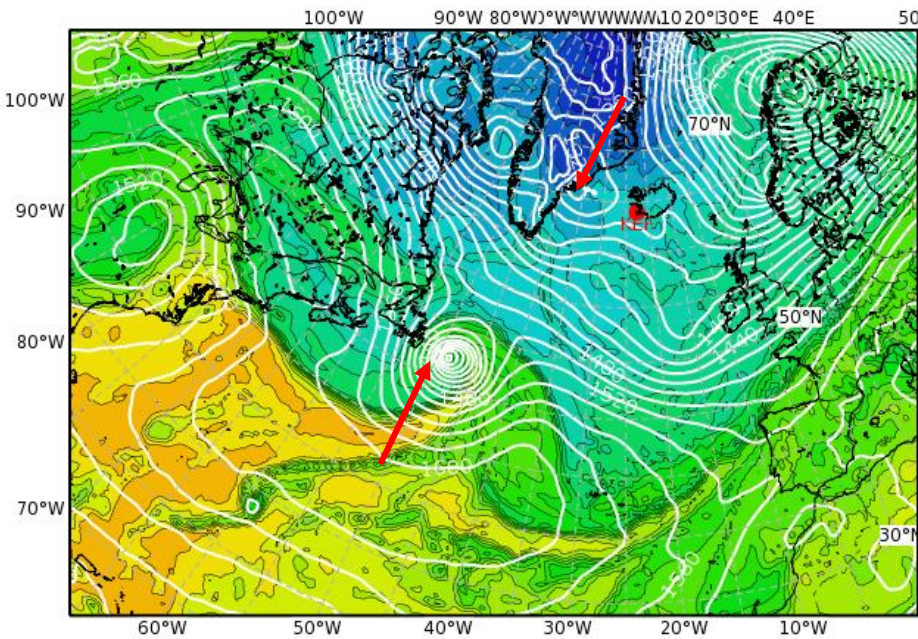


72h precipitation until 30/06UTC

Forecast for Fri 30 Sep 2016 12 UTC

THE850, Z300 BT30/00Z

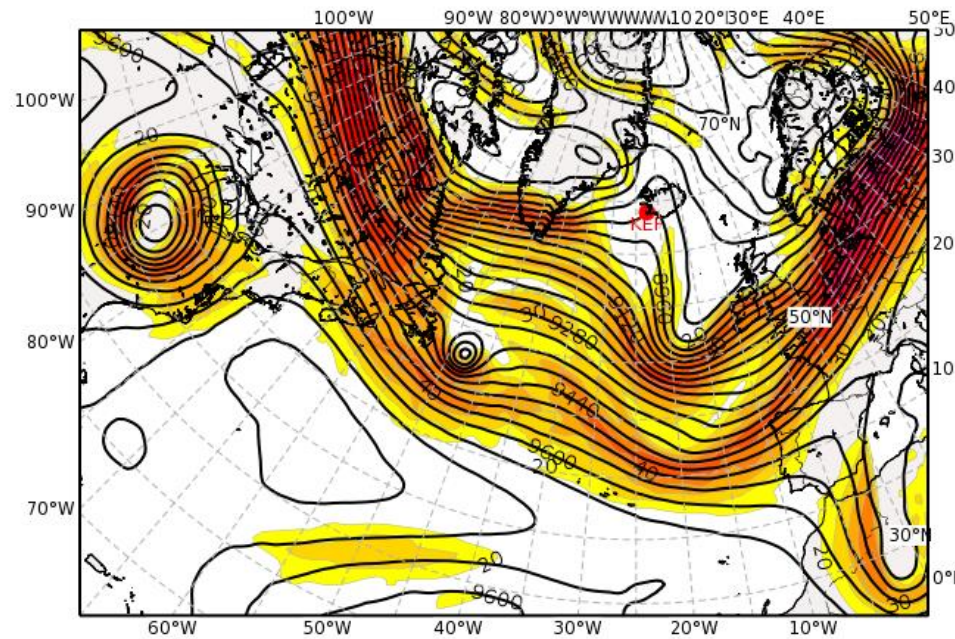
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Fri, 30 Sep 2016, 12 UTC (step 012 h from Fri, 30 Sep 2016, 00 UTC)



Saturday cyclone

Greenland lee
cyclone

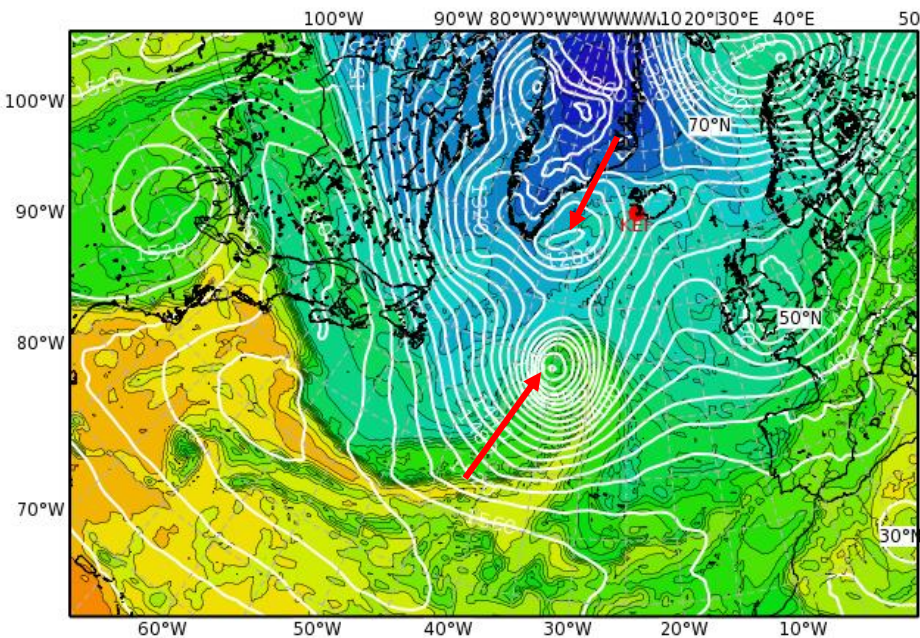
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Fri, 30 Sep 2016, 12 UTC (step 012 h from Fri, 30 Sep 2016, 00 UTC)



Forecast for Sat 1 Oct 2016 12 UTC

THE850, Z300 BT30/00Z

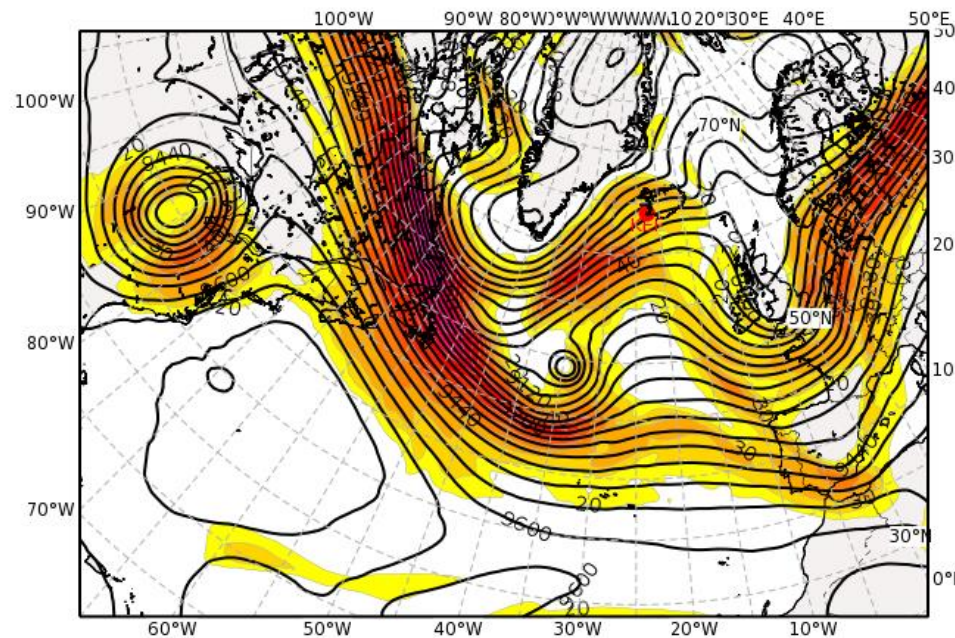
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sat, 01 Oct 2016, 12 UTC (step 036 h from Fri, 30 Sep 2016, 00 UTC)



Saturday cyclone

Greenland lee
cyclone

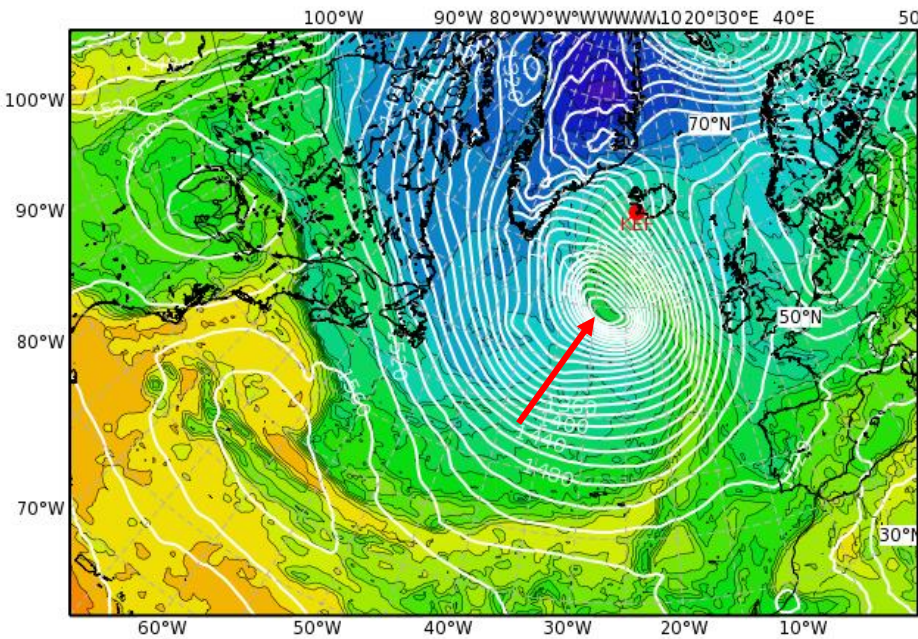
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sat, 01 Oct 2016, 12 UTC (step 036 h from Fri, 30 Sep 2016, 00 UTC)



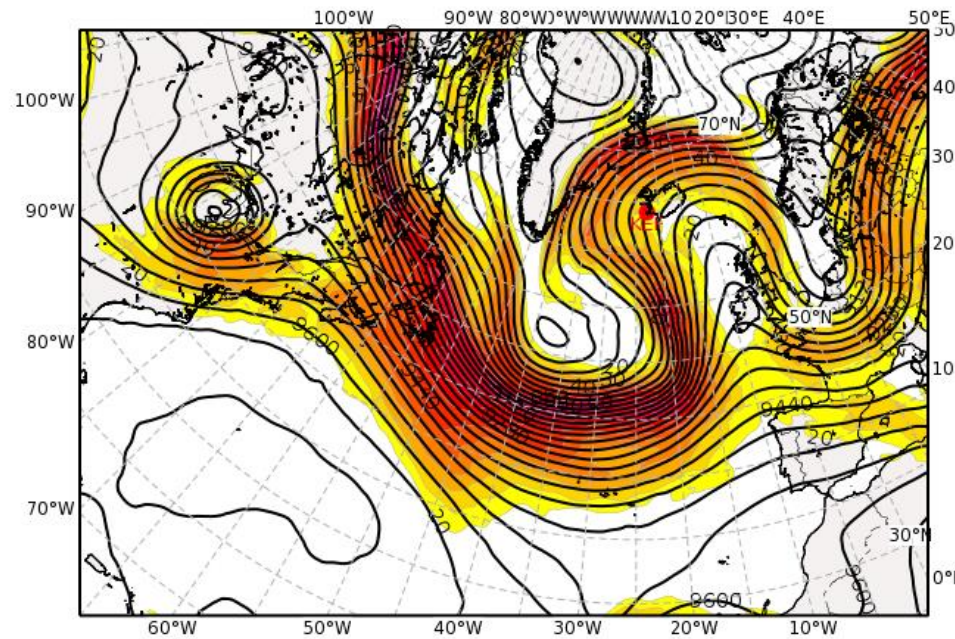
Forecast for Sun 2 Oct 2016 12 UTC

THE850, Z300 BT30/00Z

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Sun, 02 Oct 2016, 12 UTC (step 060 h from Fri, 30 Sep 2016, 00 UTC)



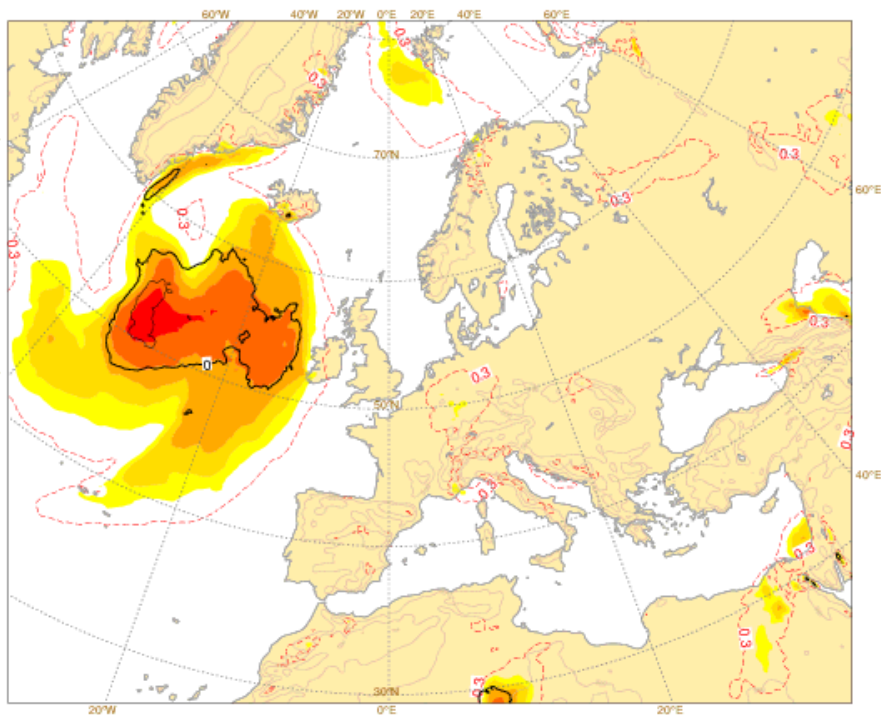
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Sun, 02 Oct 2016, 12 UTC (step 060 h from Fri, 30 Sep 2016, 00 UTC)



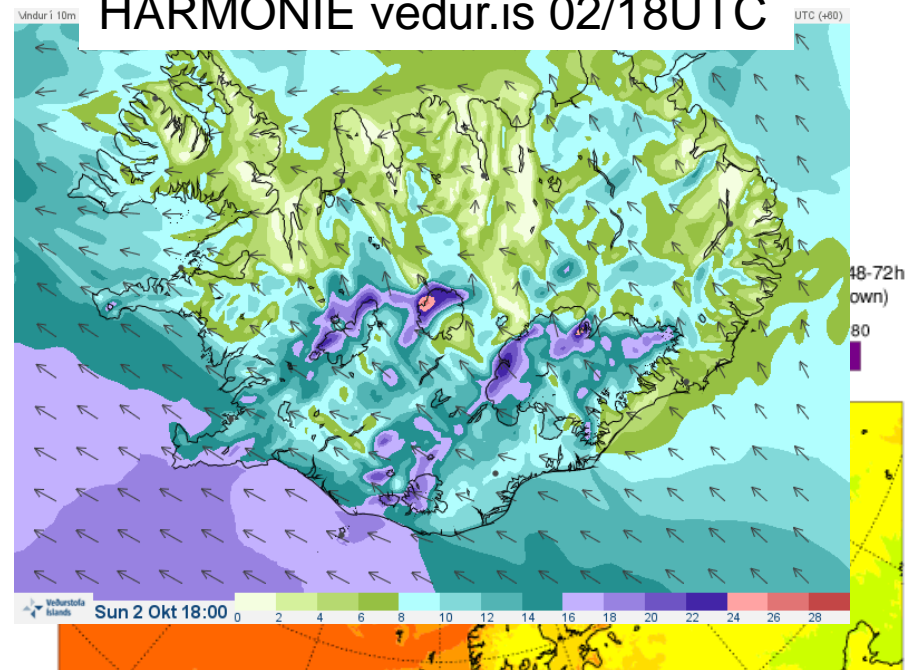
Saturday cyclone

EFI gusts for Sun (BT: 30/00z)

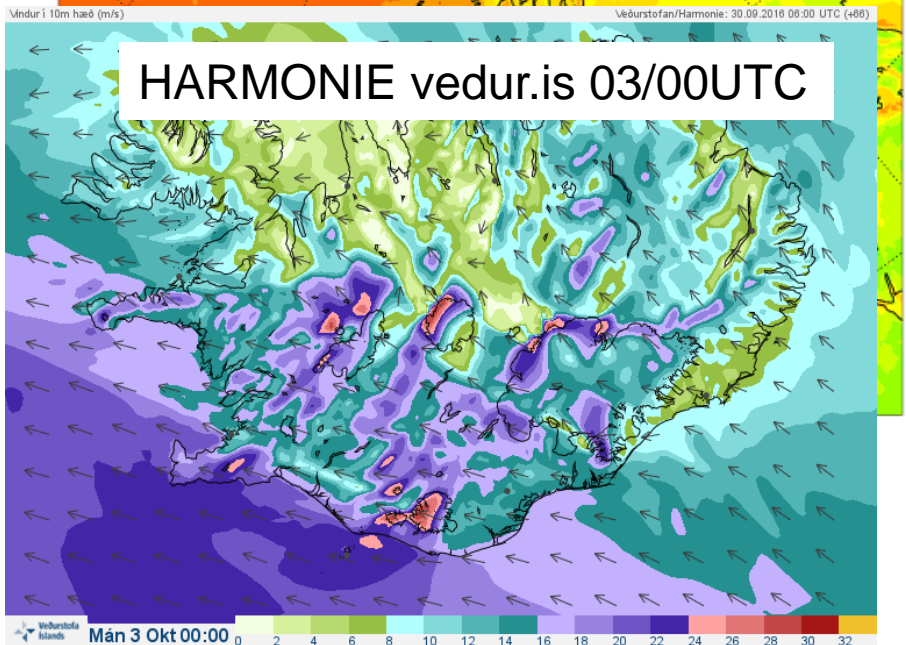
Fri 30 Sep 2016 00UTC ©ECMWF t+48-72h VT: Sun 02 Oct 2016 00UTC - Mon 03 Oct 2016 00UTC
Extreme forecast index and Shift of Tails (black contours 0,1,2,5,8) for 10m wind gusts



HARMONIE vedur.is 02/18UTC



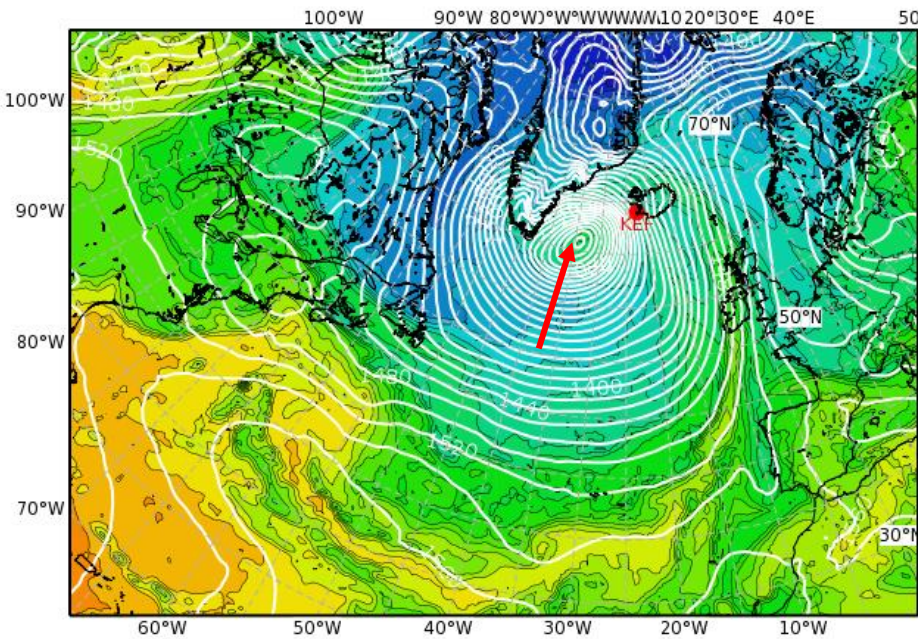
HARMONIE vedur.is 03/00UTC



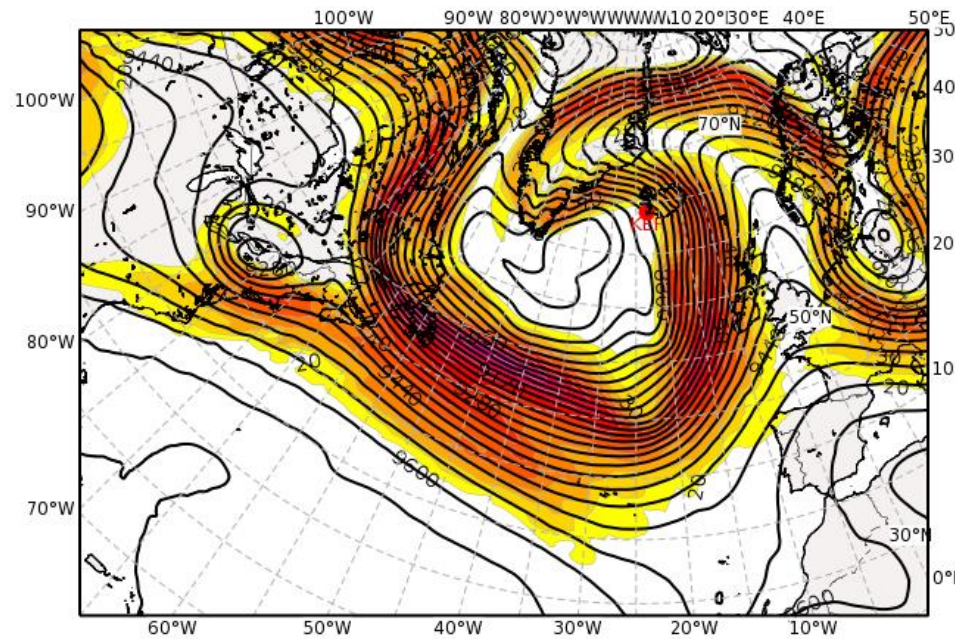
Forecast for Mon 3 Oct 2016 12 UTC

THE850, Z300 BT30/00Z

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Mon, 03 Oct 2016, 12 UTC (step 084 h from Fri, 30 Sep 2016, 00 UTC)



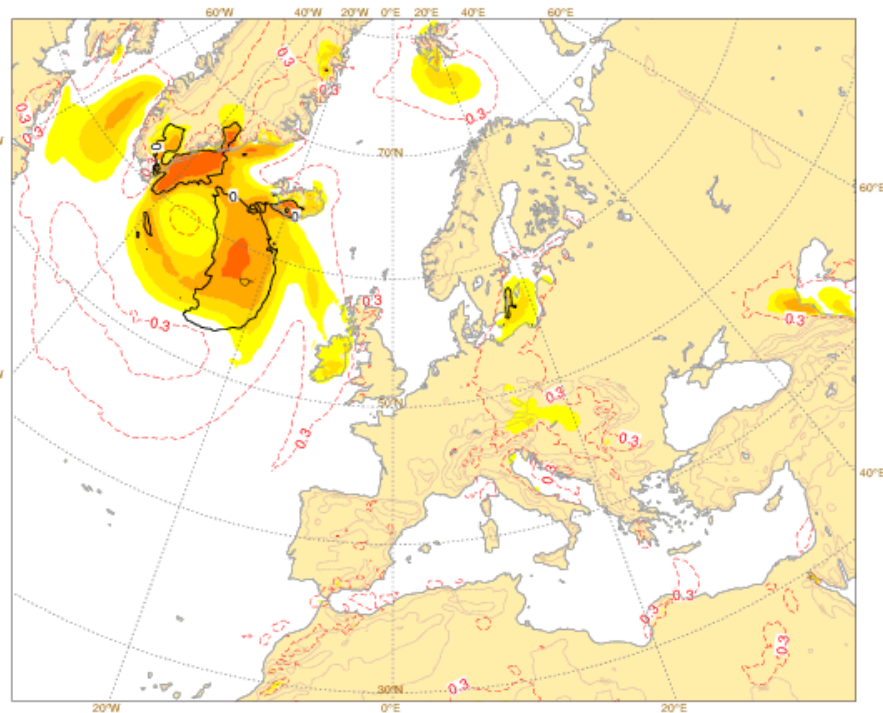
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Mon, 03 Oct 2016, 12 UTC (step 084 h from Fri, 30 Sep 2016, 00 UTC)



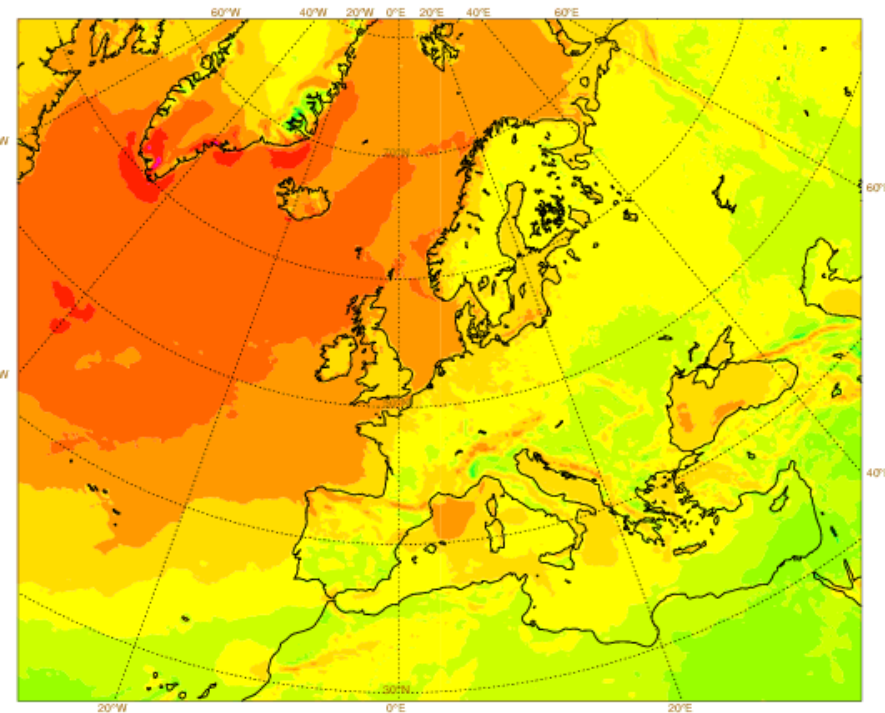
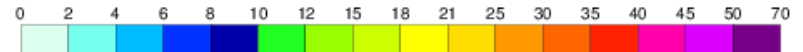
Saturday cyclone

EFI gusts for Mon (BT: 30/00z)

Fri 30 Sep 2016 00UTC ©ECMWF t+72-96h VT: Mon 03 Oct 2016 00UTC - Tue 04 Oct 2016 00UTC
Extreme forecast index and Shift of Tails (black contours 0,1,2,5,8) for 10m wind gusts



Thu 29 Sep 2016 00UTC ©ECMWF VT: Mon 03 Oct 2016 00UTC - Tue 04 Oct 2016 00UTC 72-96h
10m wind gusts (in m/s) Model climate Q99 (one in 100 occasions realises more than value shown)



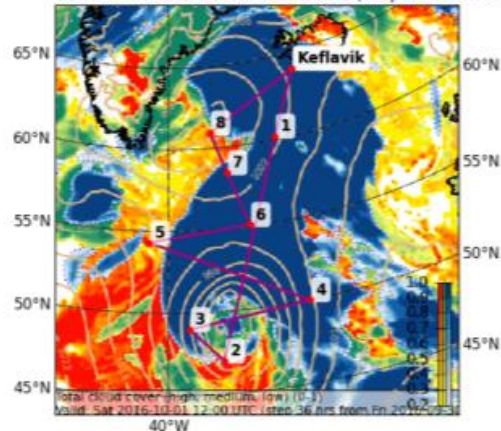
Saturday 1 October IOP6

HALO flight

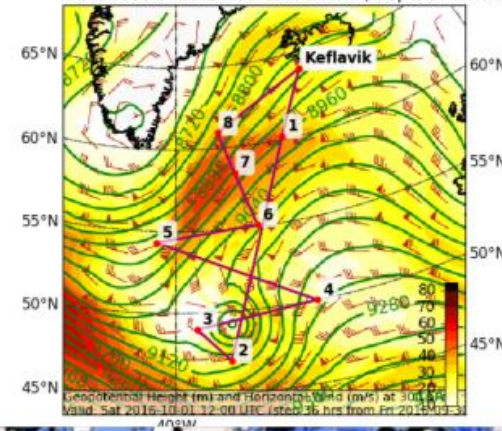
Flight Plan for Sat (1. October)

Valid time: 12 UTC

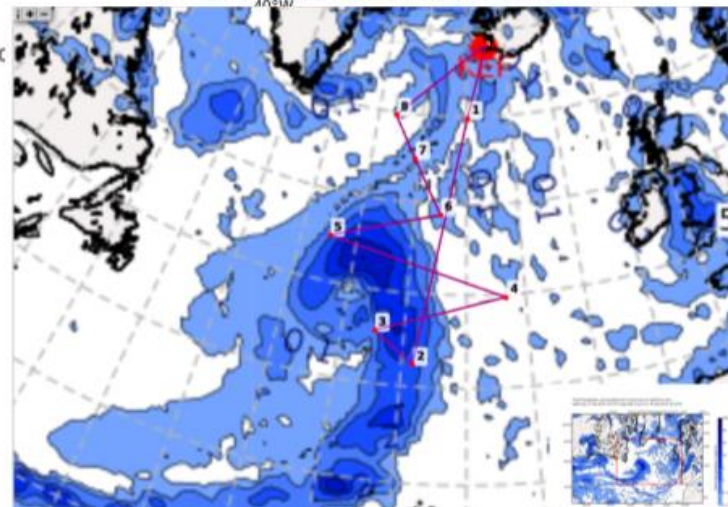
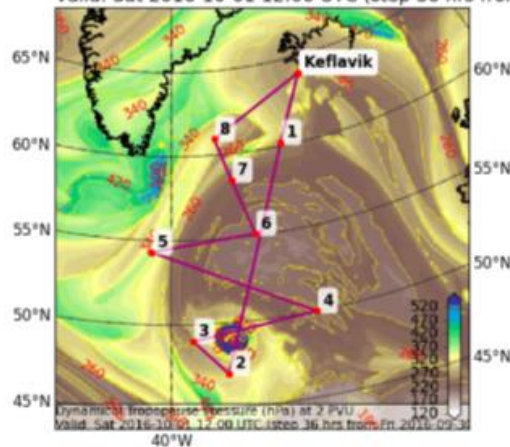
Cloud Cover (0-1) (Total Cloud Cover)
Valid: Sat 2016-10-01 12:00 UTC (step 36 hrs from Fri 2016-09-30 00)



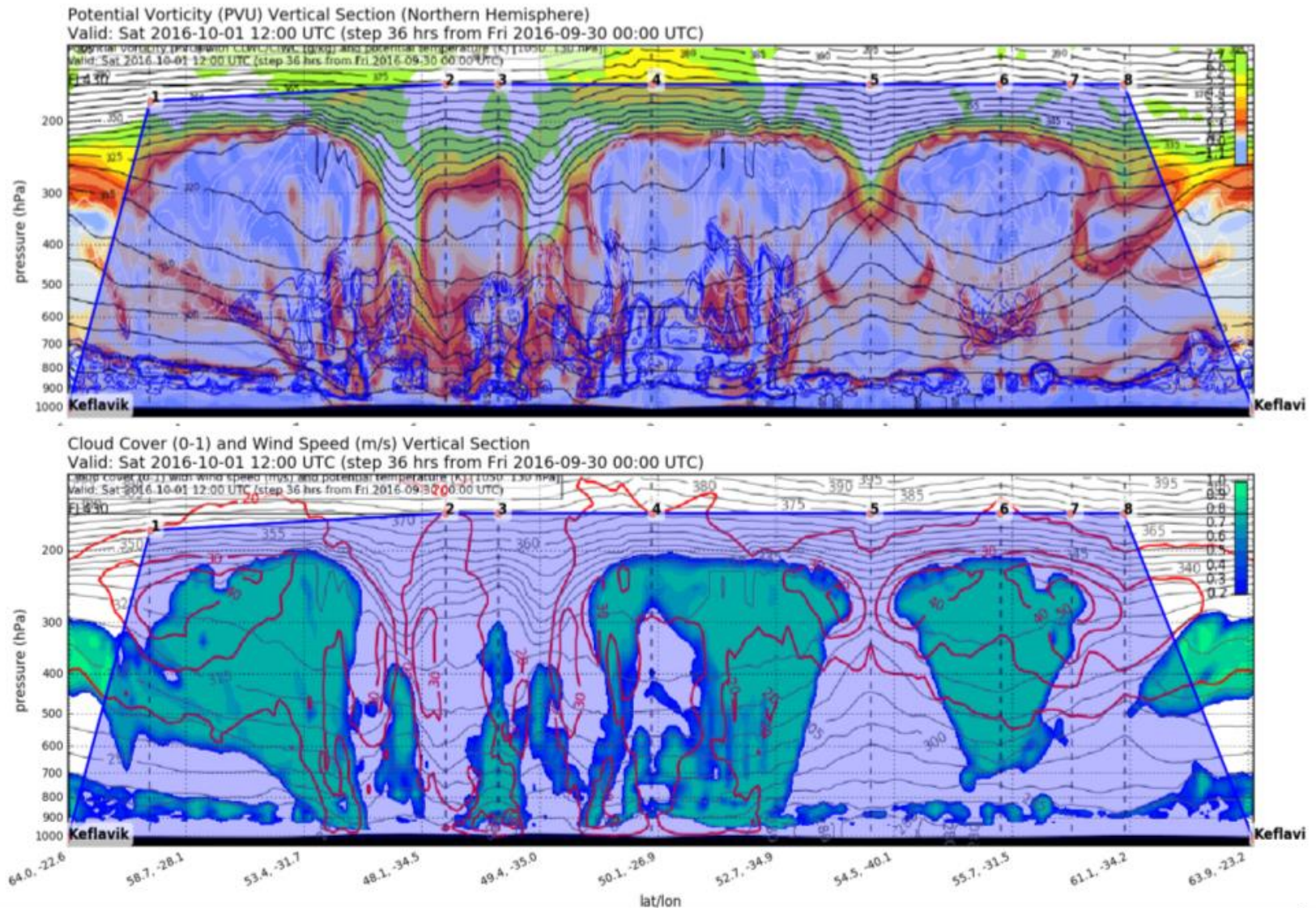
Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-8
Valid: Sat 2016-10-01 12:00 UTC (step 36 hrs from Fri 2016-09-30 00)



Dynamical Tropopause (Pressure (hPa)) at 2000 (10^{-3} PVU)
Valid: Sat 2016-10-01 12:00 UTC (step 36 hrs from Fri 2016-09-30 00)



Valid time: 12 UTC

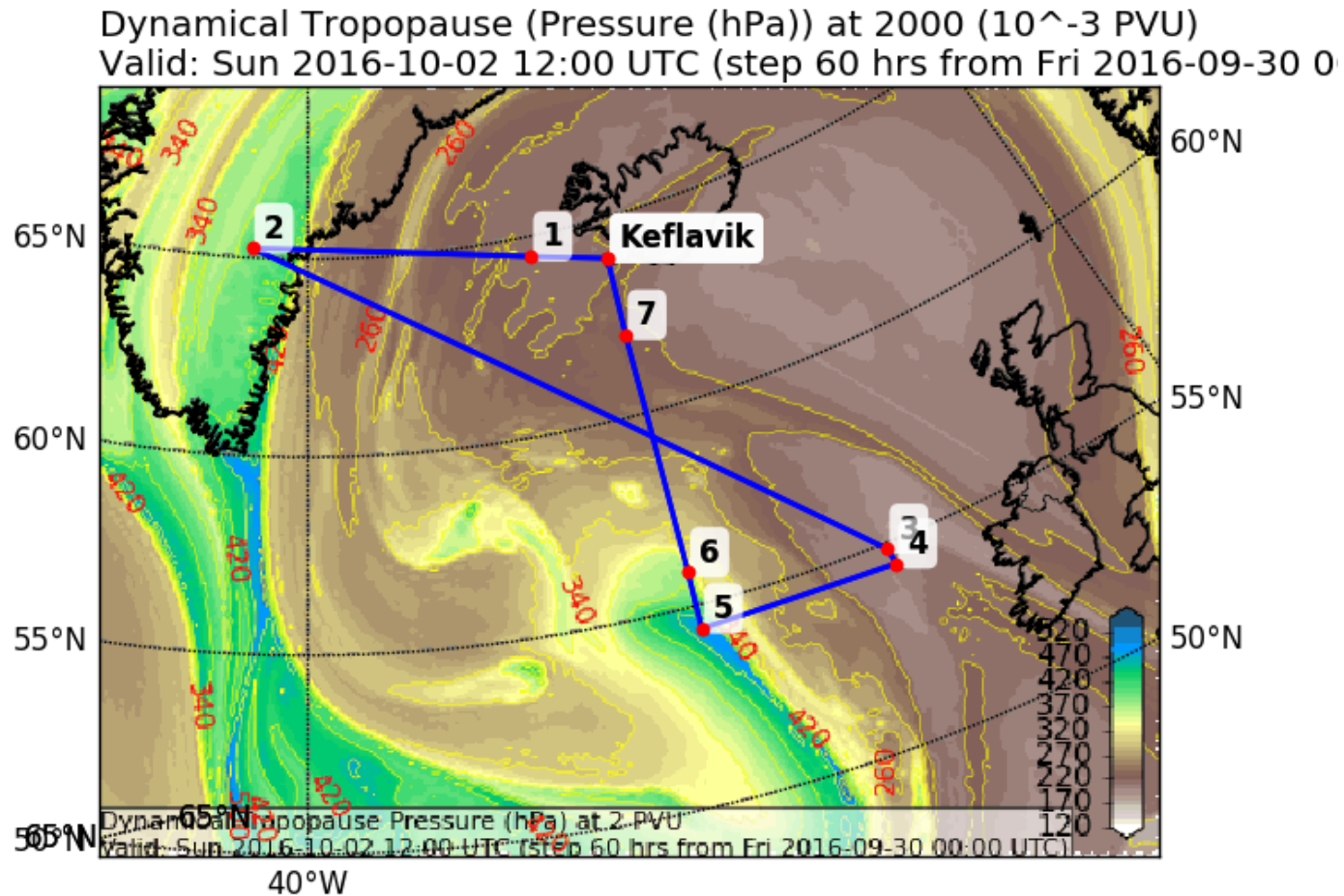


Sunday 2 October IOP7

HALO, FALCON, SAFIRE flights

Sunday 2 October IOP7 : HALO

Objective: Sample the WCB outflow associated with the rapid cyclogenesis observed in IOP6 on Sat



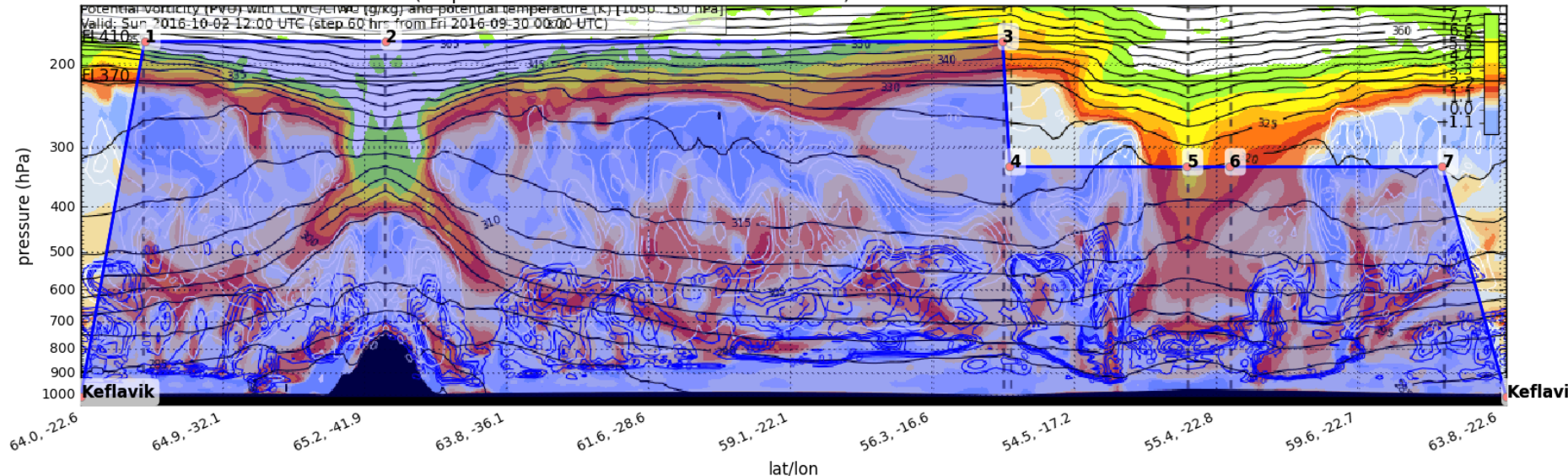
Sunday 2 October IOP7 : HALO

Potential Vorticity (PVU) Vertical Section (Northern Hemisphere)

Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)

Potential vorticity (PVU) with C₁₀₀₀/C₁₀₀₀ (g/kg) and potential temperature (K) (1050-150 hPa)

Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)

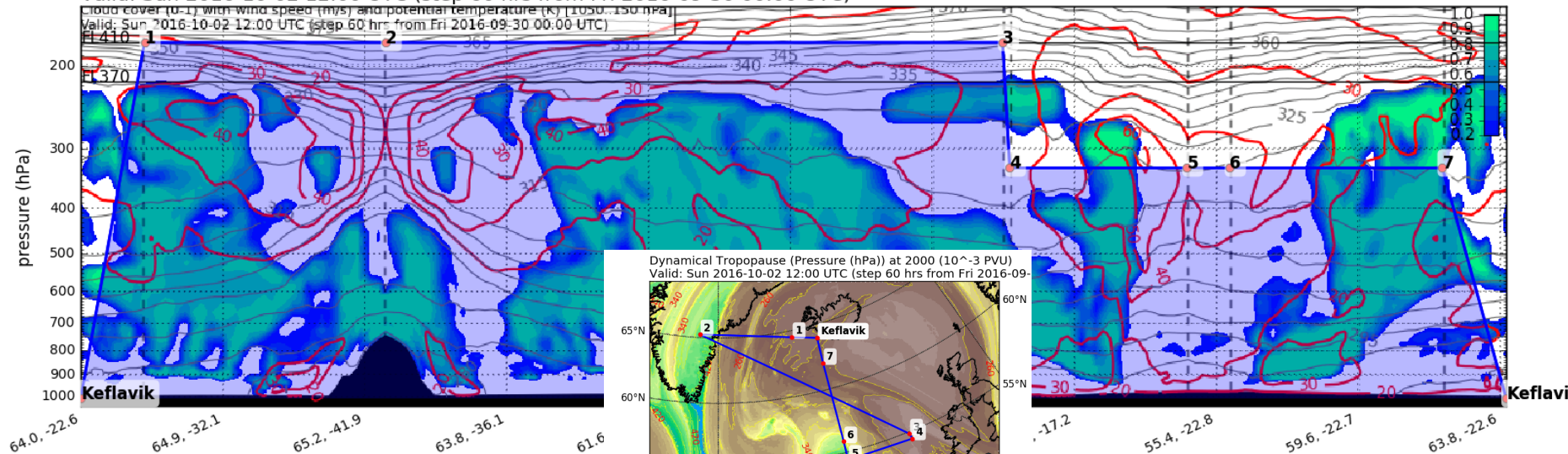


Cloud Cover (0-1) and Wind Speed (m/s) Vertical Section

Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)

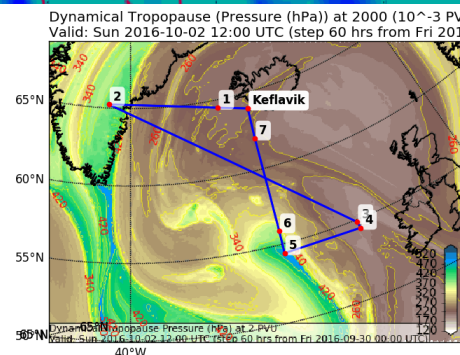
Cloud cover (0-1) with wind speed (m/s) and potential temperature (K) (1050-150 hPa)

Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)



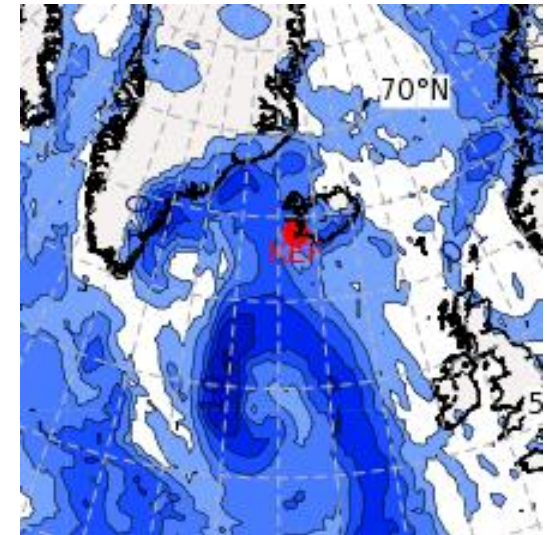
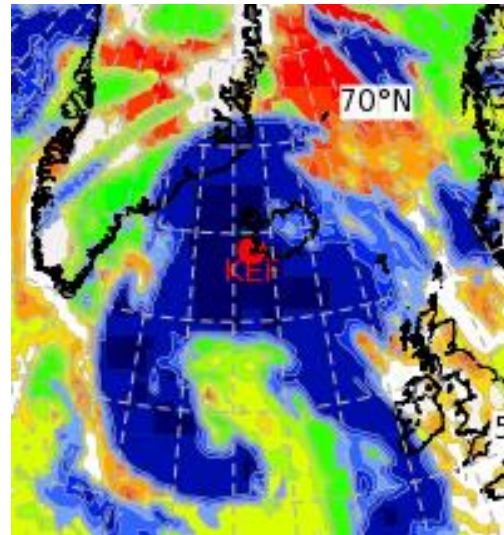
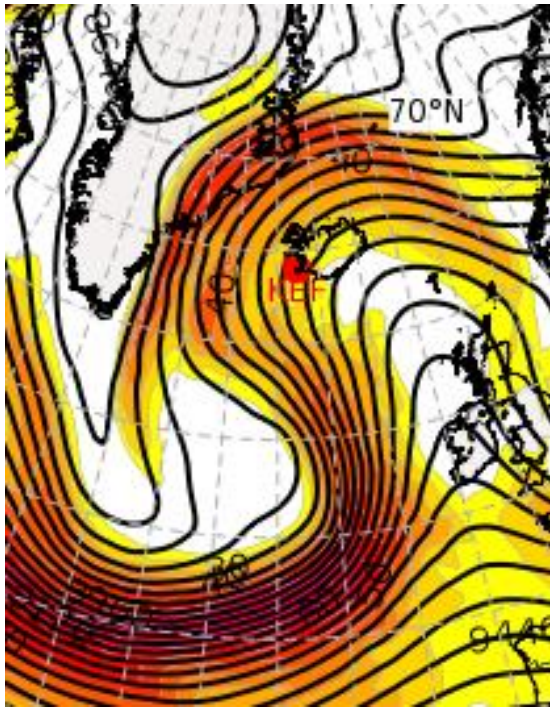
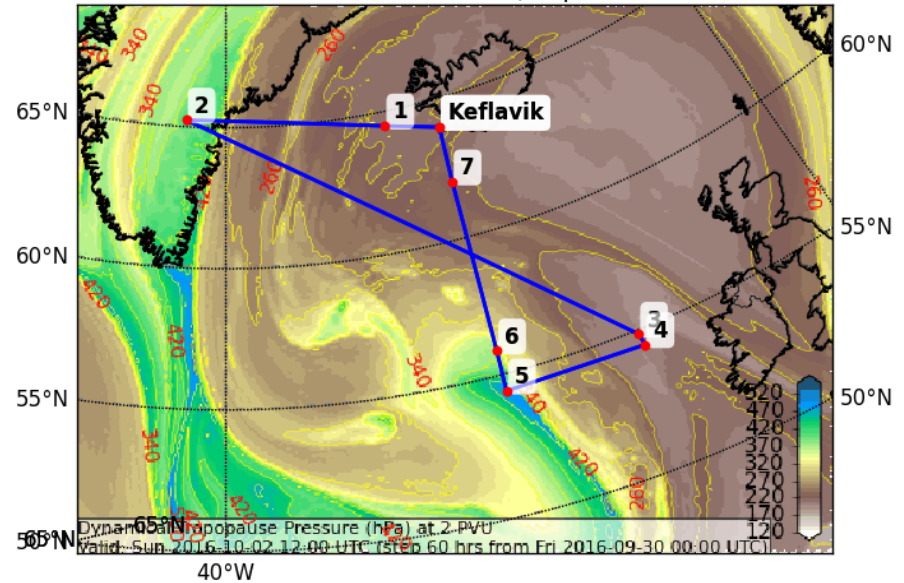
Dynamical Tropopause (Pressure (hPa)) at 2000 (10^{-3} PVU)

Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)



Sunday 2 October IOP7

Dynamical Tropopause (Pressure (hPa)) at 2000 (10^{-3} PVU)
Valid: Sun 2016-10-02 12:00 UTC (step 60 hrs from Fri 2016-09-30 00:00 UTC)



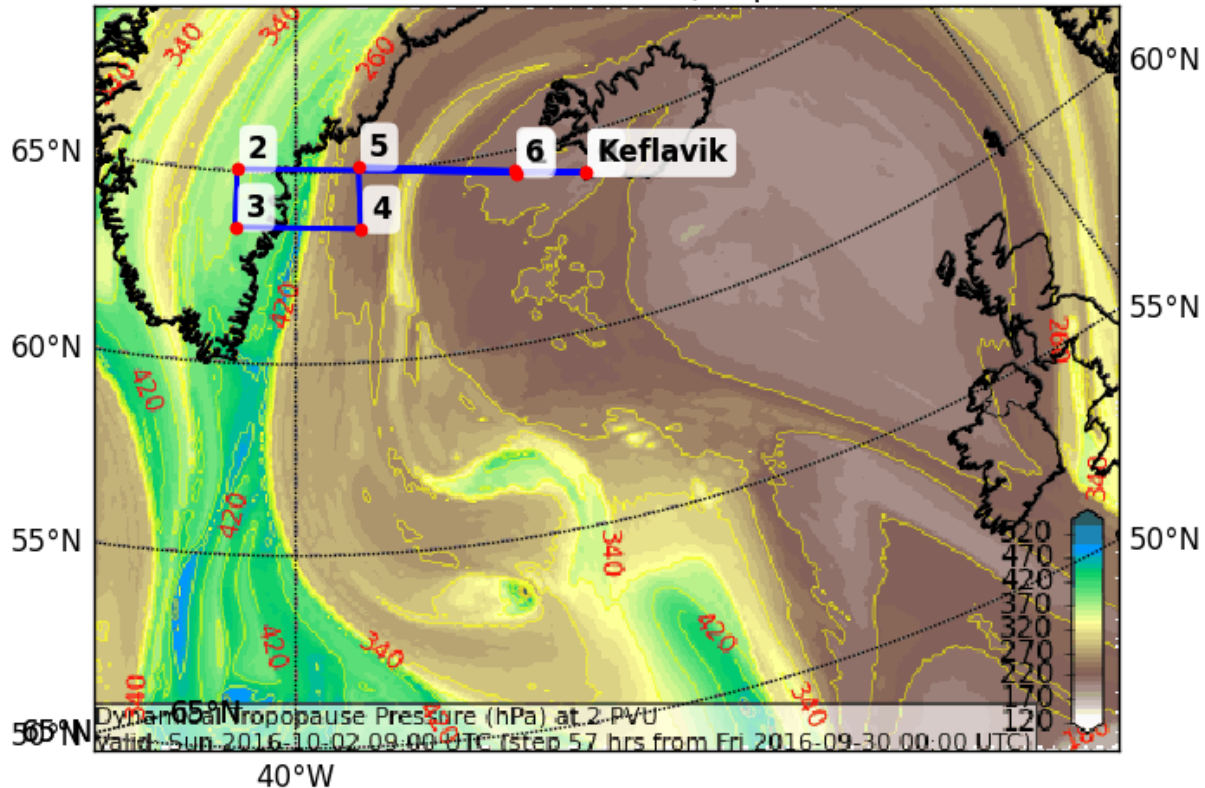
Z300, clouds, precipitation Sun 02/12Z BT 30/00Z

IOP7: Falcon flight Sunday 2 Oct

Sunday 2 October IOP7: Falcon

Dynamical Tropopause (Pressure (hPa)) at 2000 (10^{-3} PVU)

Valid: Sun 2016-10-02 09:00 UTC (step 57 hrs from Fri 2016-09-30 00:00 UTC)



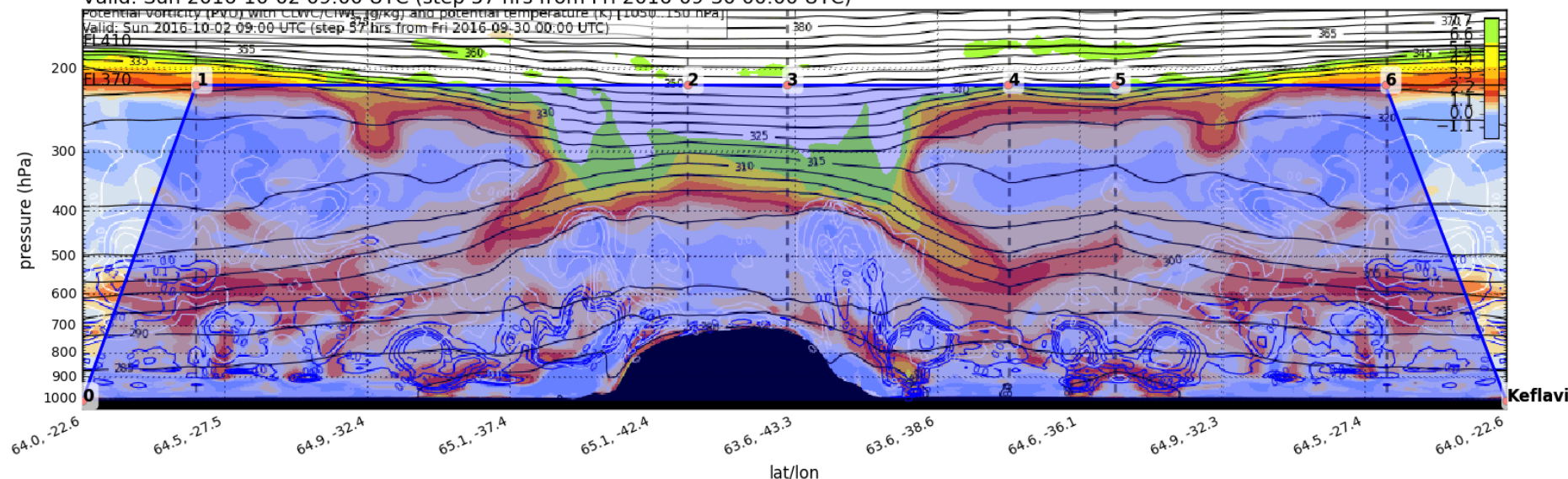
Sunday 2 October IOP7: Falcon

Potential Vorticity (PVU) Vertical Section (Northern Hemisphere)

Valid: Sun 2016-10-02 09:00 UTC (step 57 hrs from Fri 2016-09-30 00:00 UTC)

Potential vorticity (PVU) with CLWC (g/kg) and potential temperature (K) [1050-150 hPa]

Valid: Sun 2016-10-02 09:00 UTC (step 57 hrs from Fri 2016-09-30 00:00 UTC)

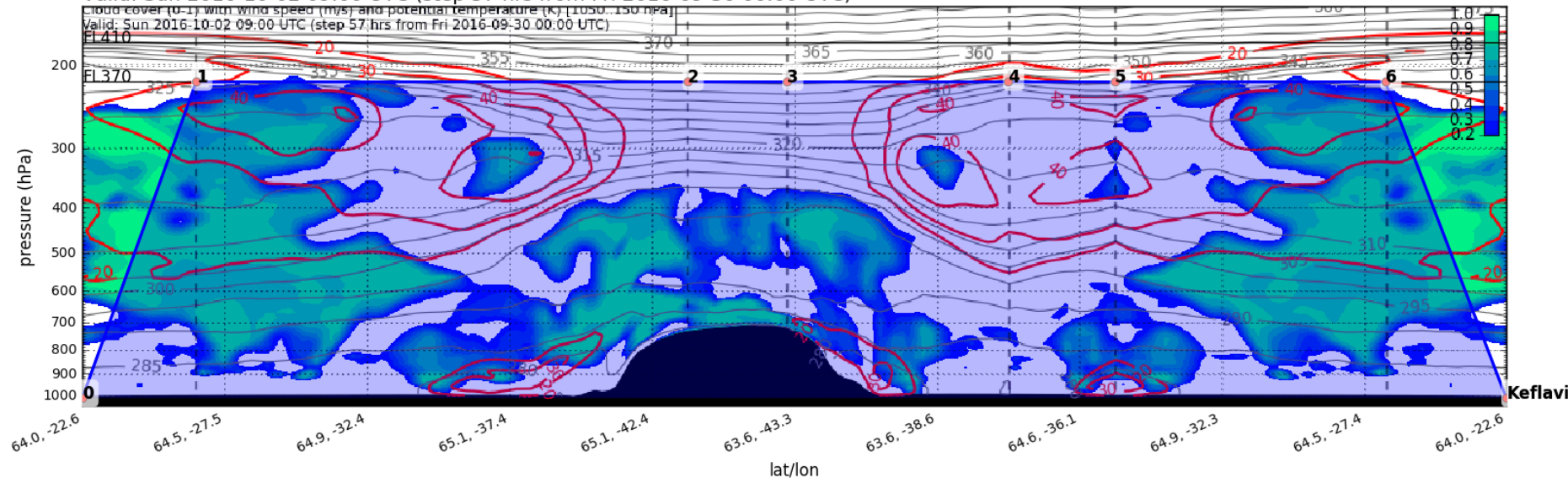


Cloud Cover (0-1) and Wind Speed (m/s) Vertical Section

Valid: Sun 2016-10-02 09:00 UTC (step 57 hrs from Fri 2016-09-30 00:00 UTC)

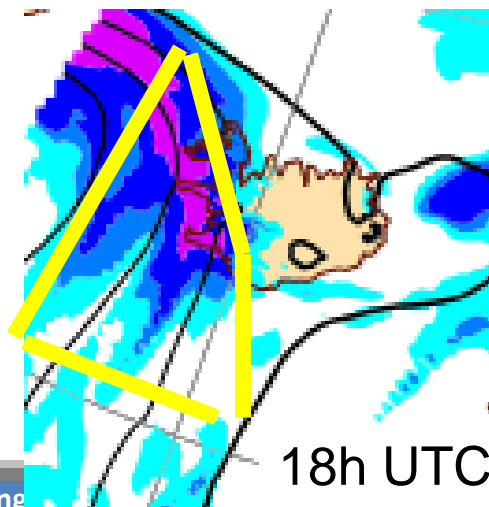
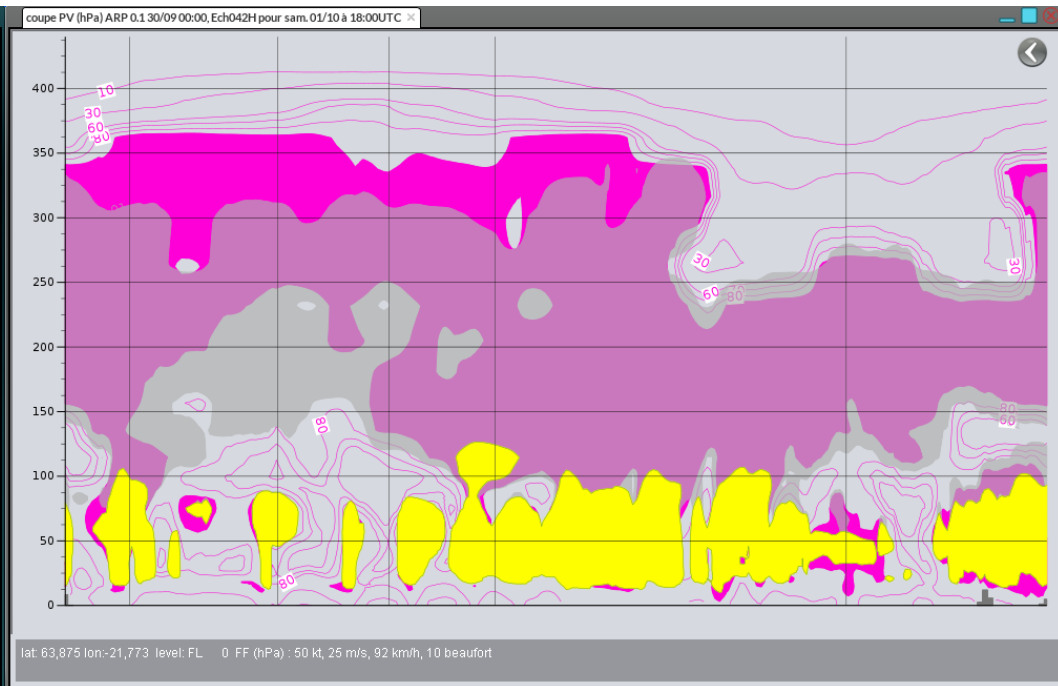
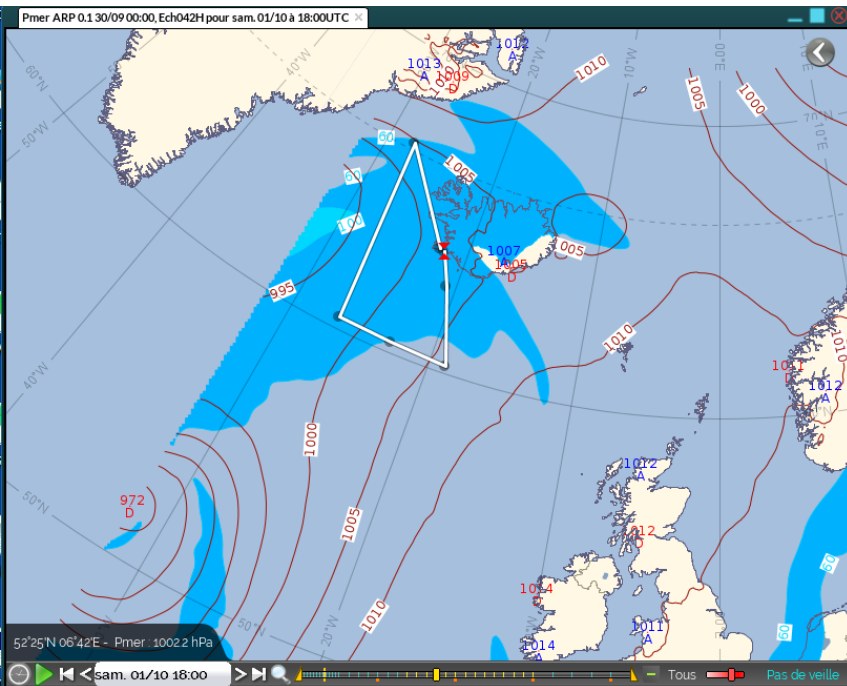
Cloud cover (0-1) with wind speed (m/s) and potential temperature (K) [1050-150 hPa]

Valid: Sun 2016-10-02 09:00 UTC (step 57 hrs from Fri 2016-09-30 00:00 UTC)

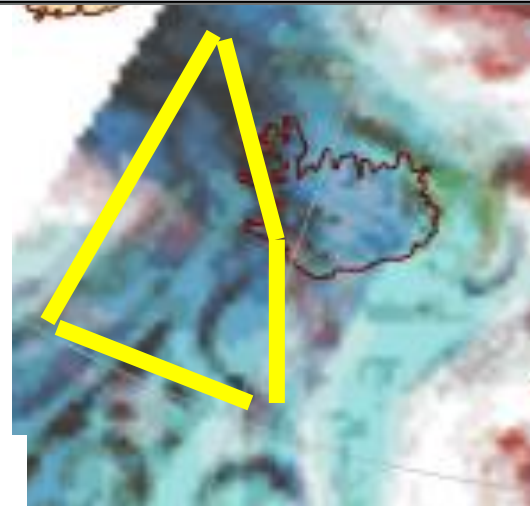


IOP7: SAFIRE flight Sunday 2 Oct

SAFIRE-French Falco: Test flight planned On Saturday between 15 UTC and 18 UTC



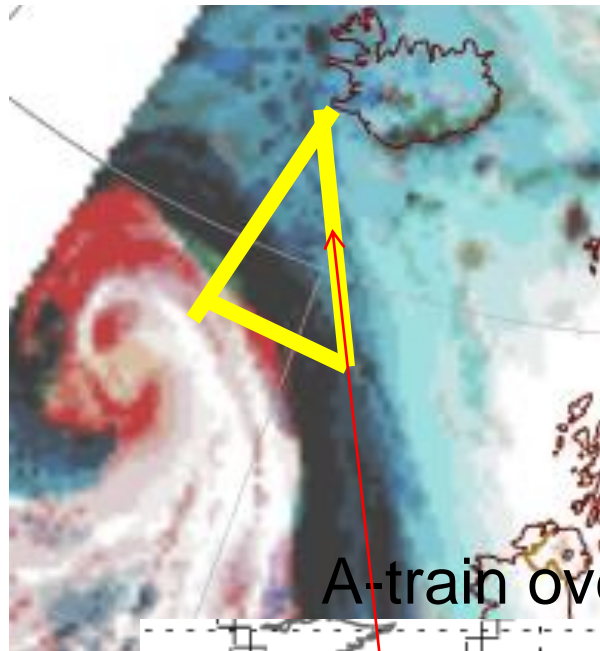
18h UTC, 1 Oct



Kennavik, 30 September 2016

Second flight of SAFIRE French Falcon on Sunday afternoon

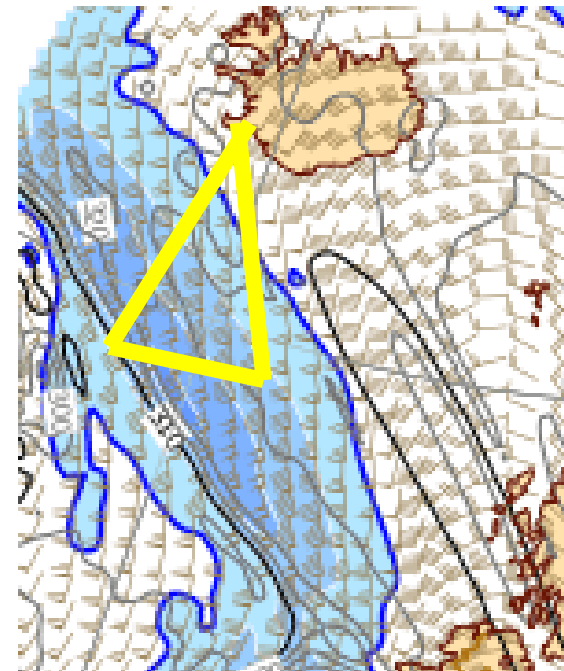
Cloud cover 2 Oct 12UTC



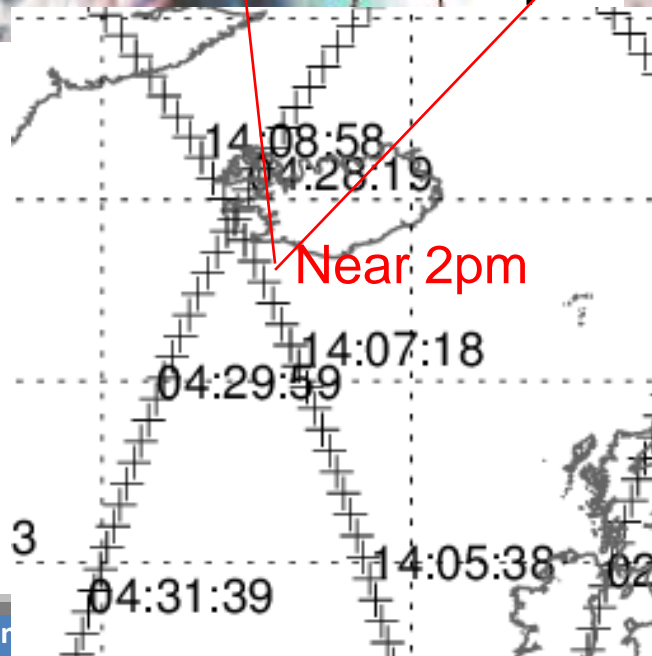
Cloud cover 2 Oct 18UTC



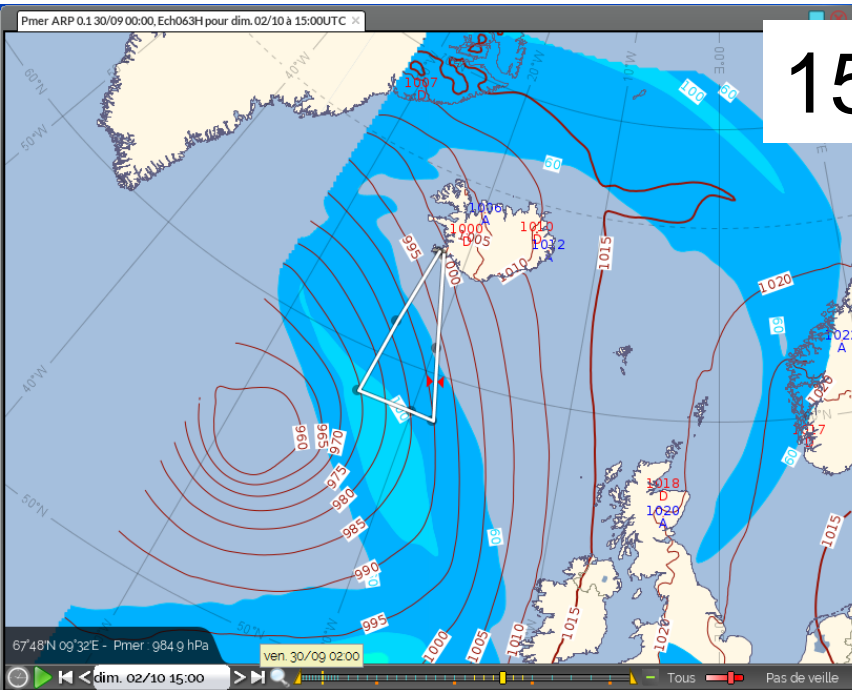
Jet at 1.5 PVU



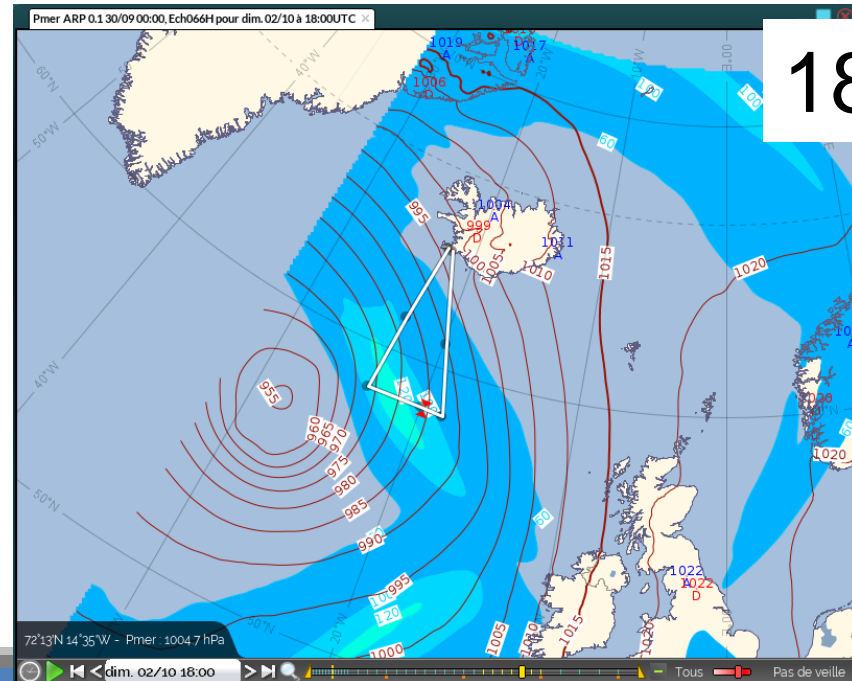
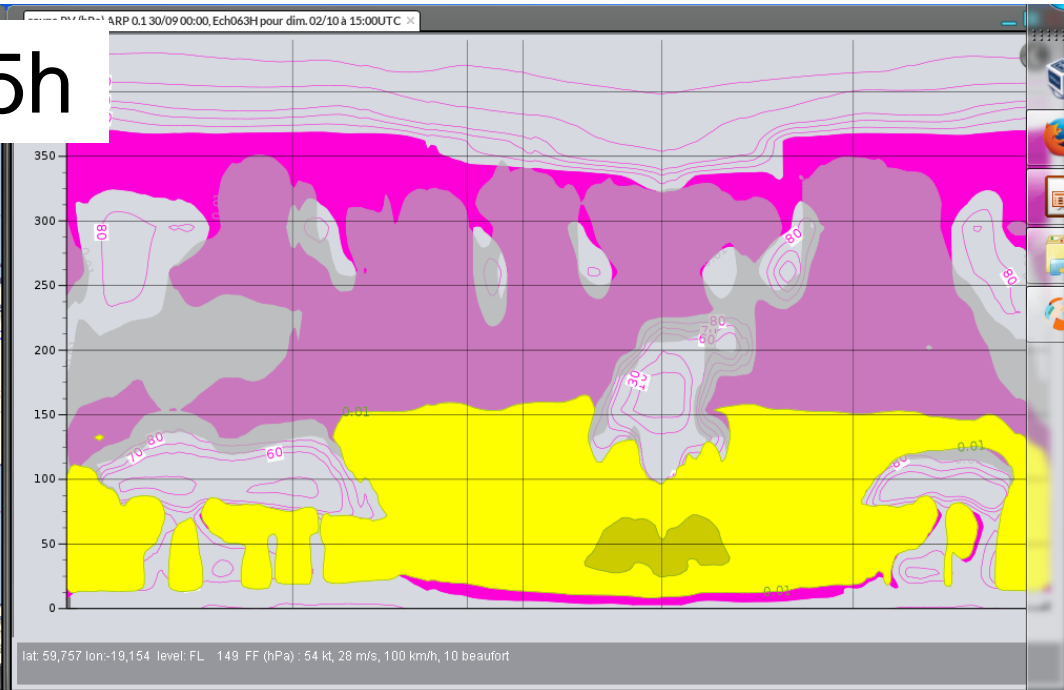
A-train overpass



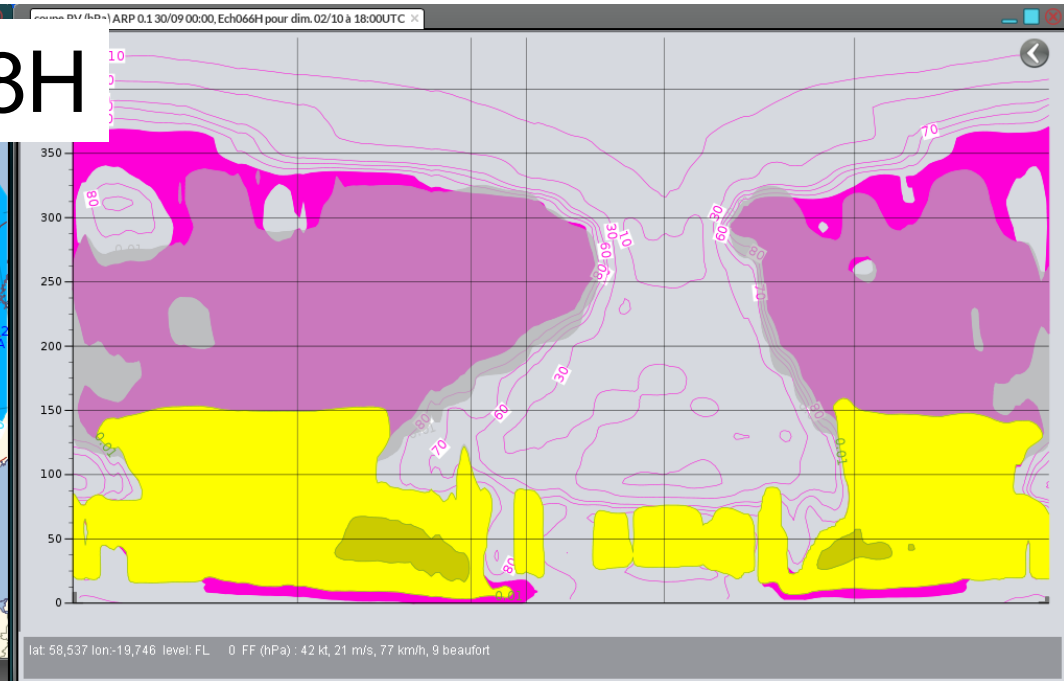
- Overpass of A-train near 2pm / mainly deep clouds
- Then crossing PV gradient / jet twice.



15h



18H

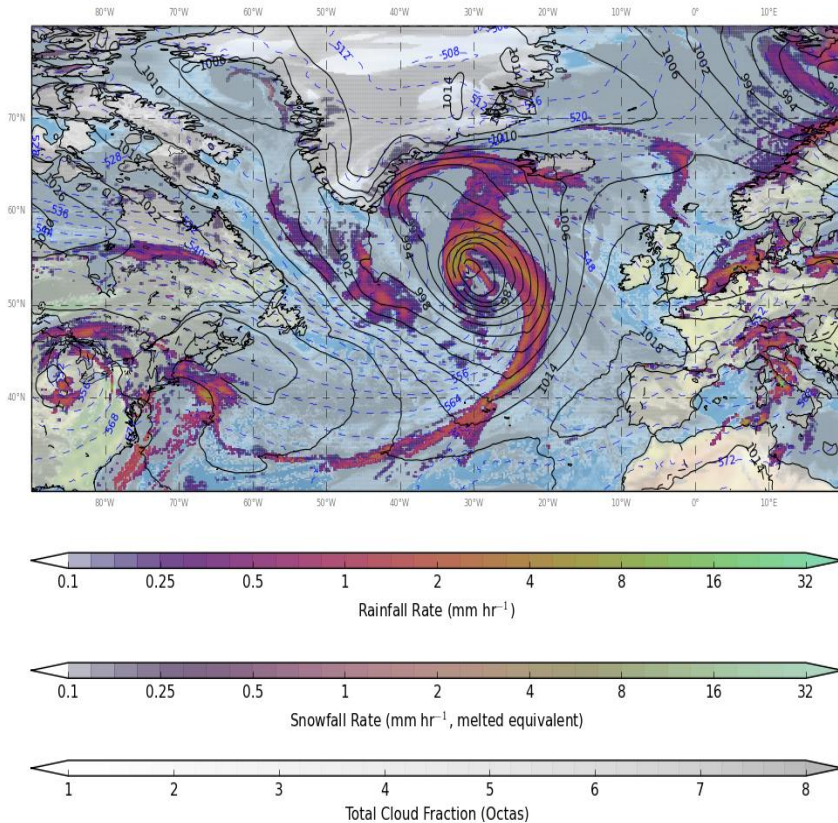


Radiosoundings

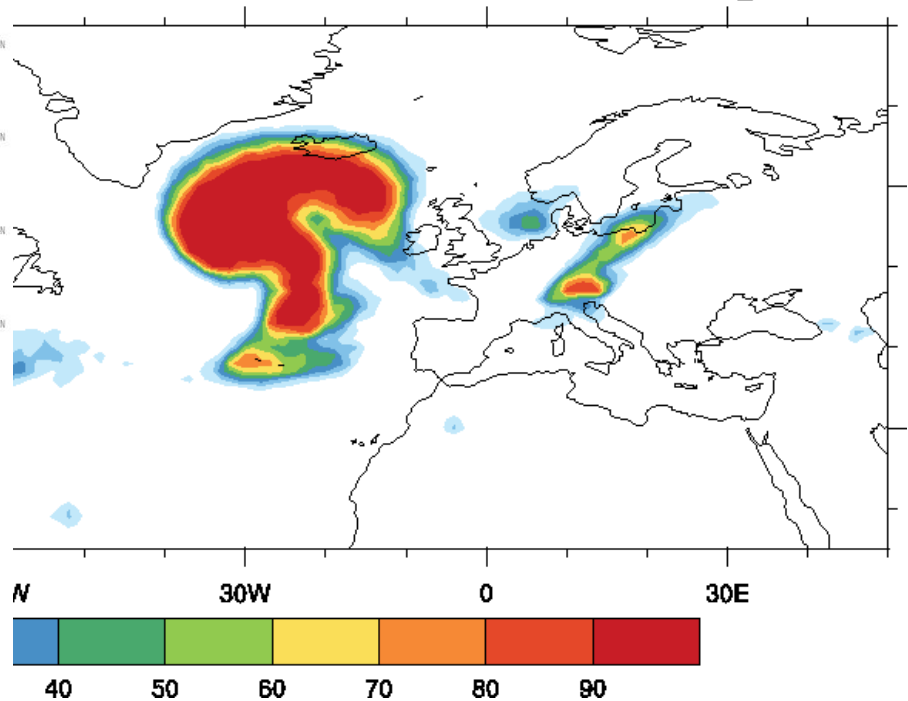
02 10 2016, 00Z



Met Office Oper. Global: P_{mal} , 500hPa Thickness, Precip Rates, Cloud
2016/10/02 00Z T+48 from 2016/09/30 00Z



ECMWF ensemble forecast
BT 20160929_12UTC
VT 20161002_00UTC

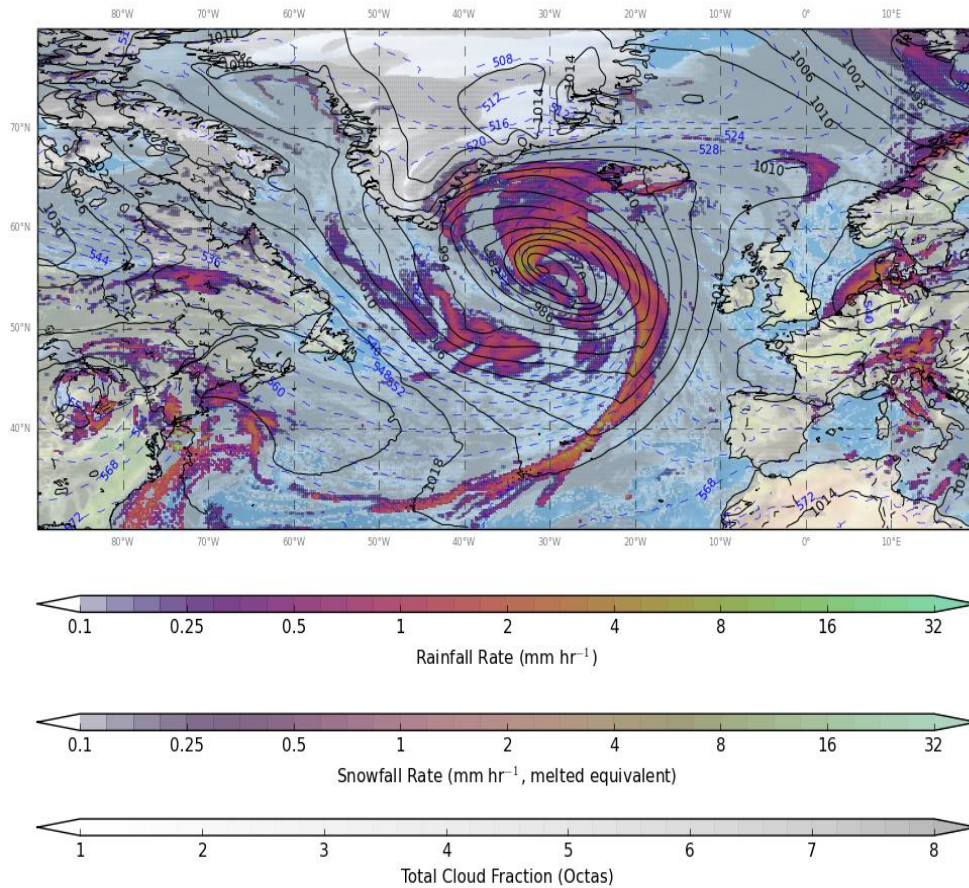


Regular Sondes: Iceland (Keflavik and Egilsstadir), UK + Greenland sites
Requests: Azores

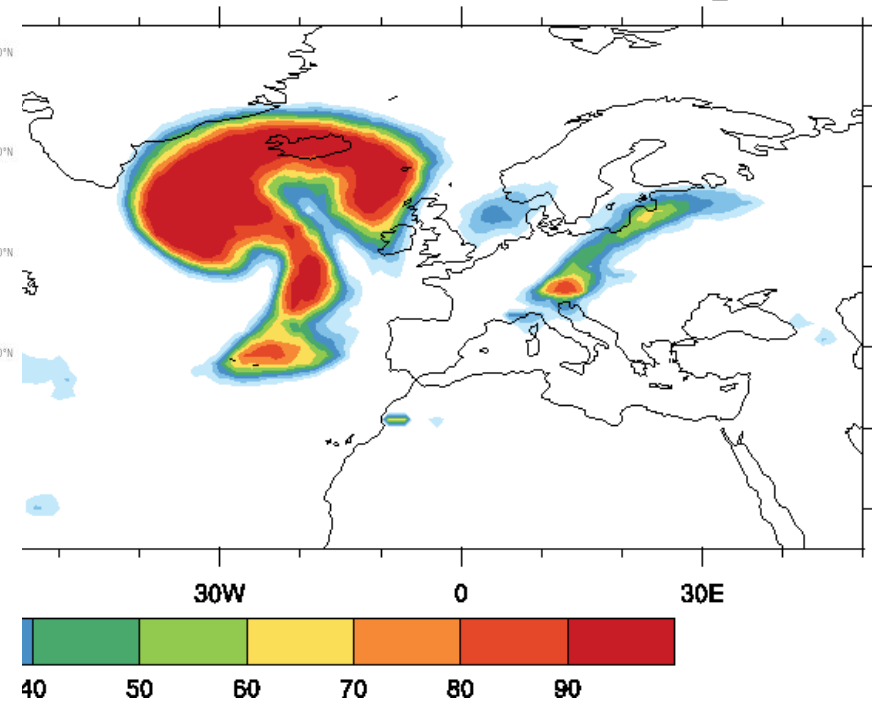
02 10 2016, 06Z



Met Office Oper. Global: P_{mst} , 500hPa Thickness, Precip Rates, Cloud
2016/10/02 06Z T+54 from 2016/09/30 00Z



ECMWF ensemble forecast
BT 20160929_12UTC
VT 20161002_06UTC

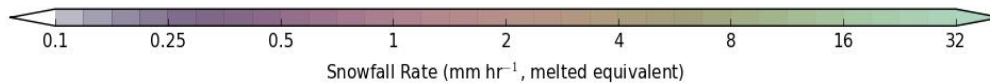
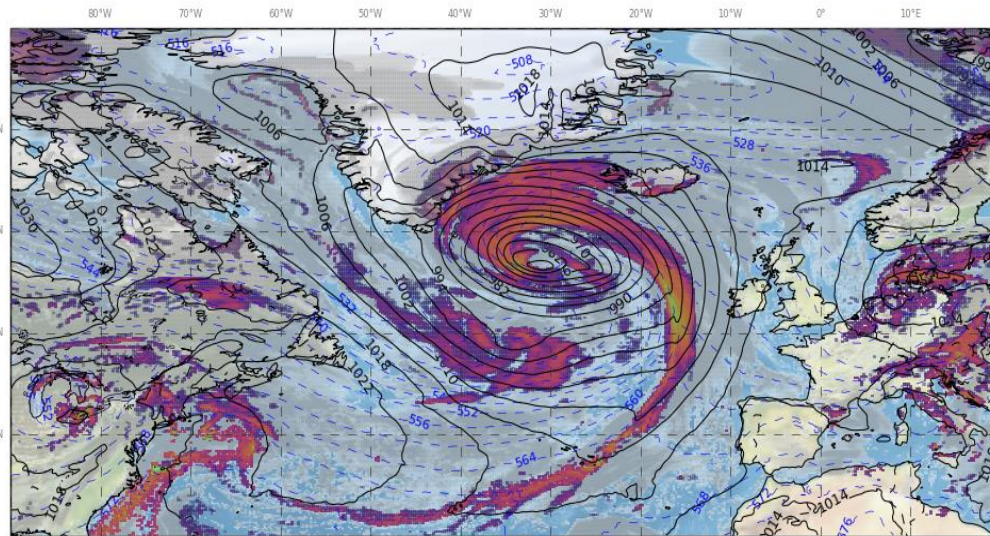


Requests: Iceland (Keflavik and Egilsstadir)

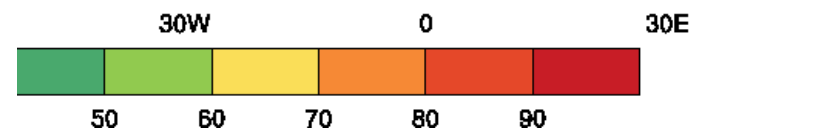
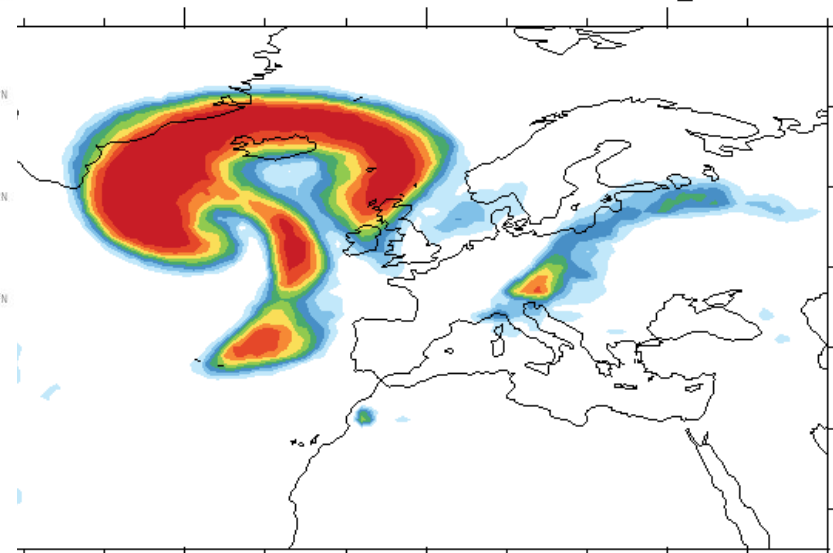
02 10 2016, 12Z



Met Office Oper. Global: P_{msl}, 500hPa Thickness, Precip Rates, Cloud
2016/10/02 12Z T+60 from 2016/09/30 00Z



ECMWF ensemble forecast
BT 20160929_12UTC
VT 20161002_12UTC



Regular Sondes: Greendland stations, Keflavik, Azores, UK (Lerwick and Cambourne)

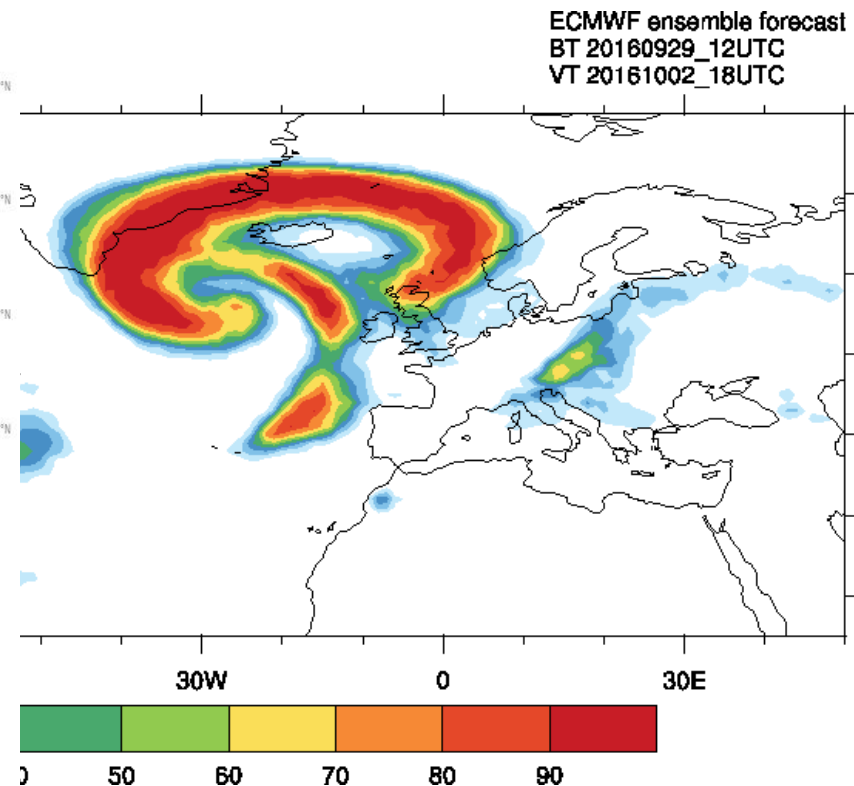
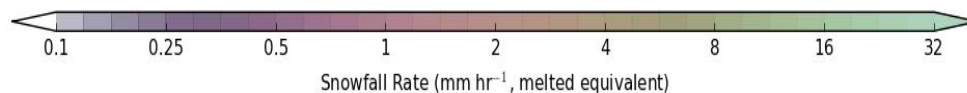
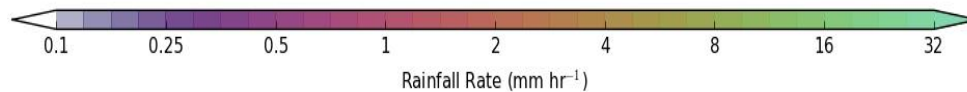
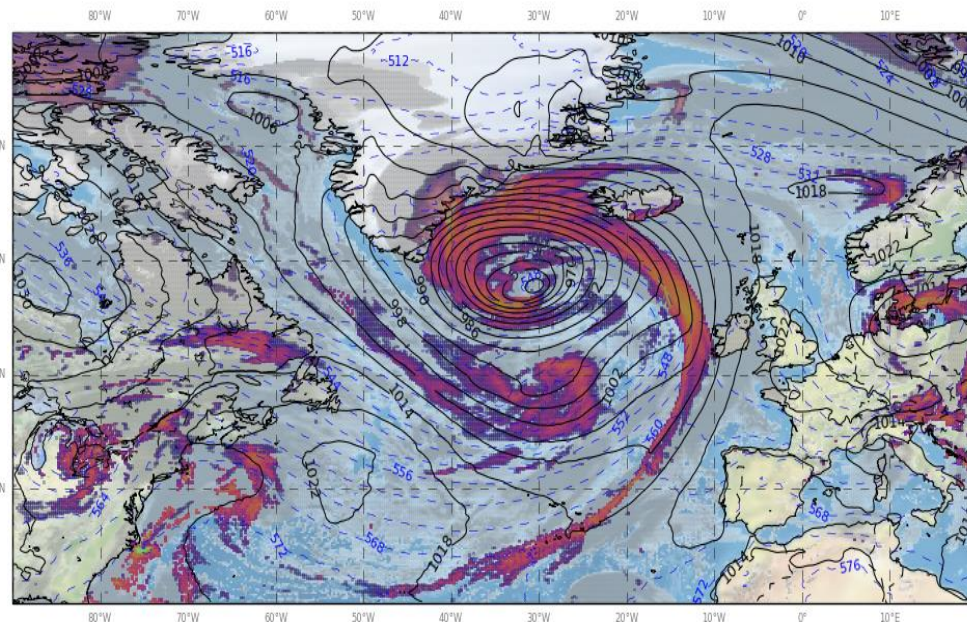
Requests: Egglisstaðir

02 10 2016, 18Z

Total Requests: 6



Met Office Oper. Global: P_{mslr}, 500hPa Thickness, Precip Rates, Cloud
2016/10/02 18Z T+66 from 2016/09/30 00Z

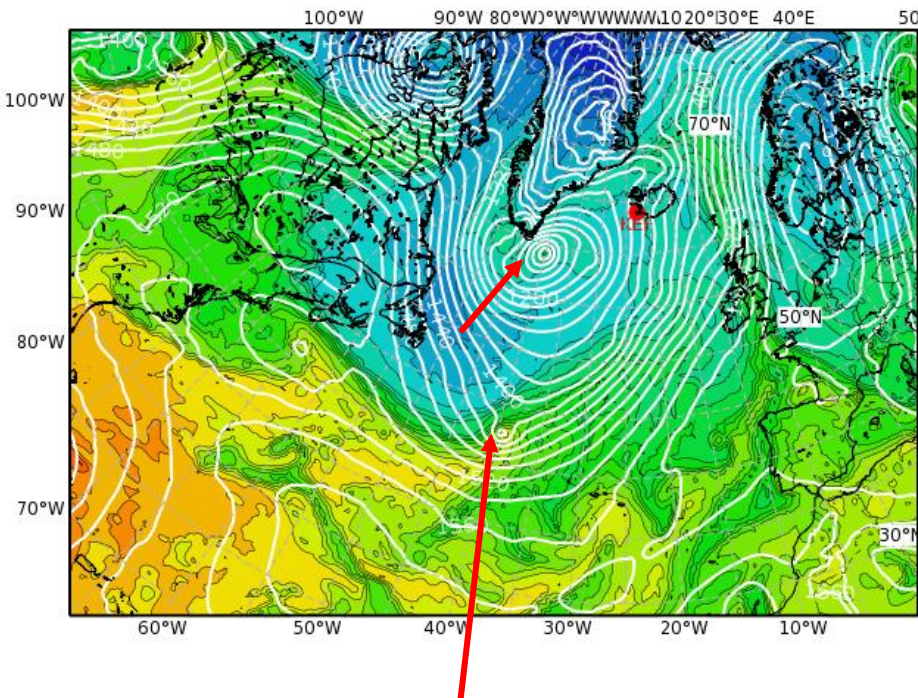


Sondes requested: Greenland sites
Request: Jan Mayen, Keflavik

Forecast for Tue 4 Oct 2016 12 UTC

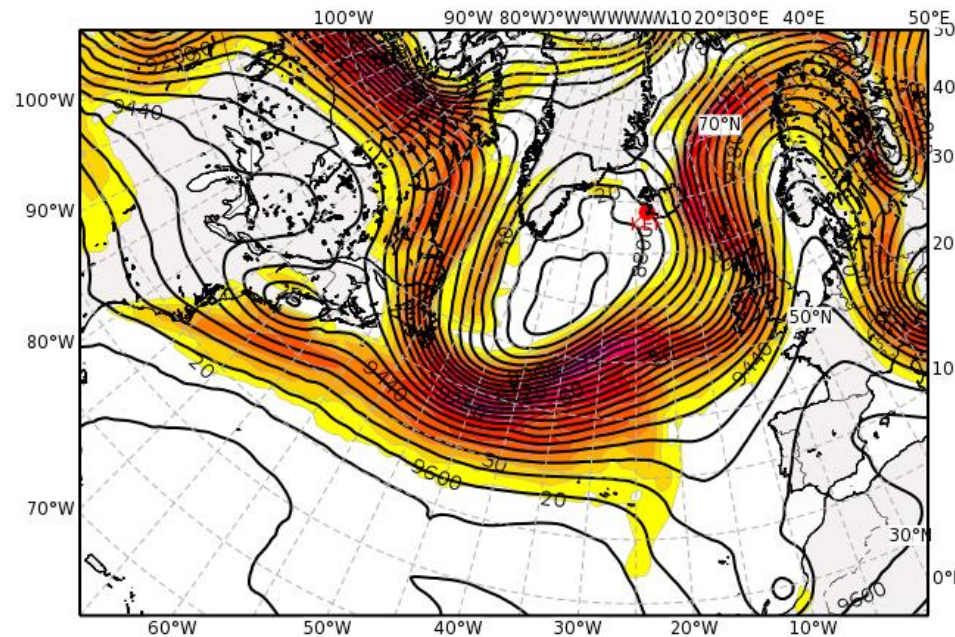
THE850, Z300 BT30/00Z

Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Tue, 04 Oct 2016, 12 UTC (step 108 h from Fri, 30 Sep 2016, 00 UTC)



New frontal wave

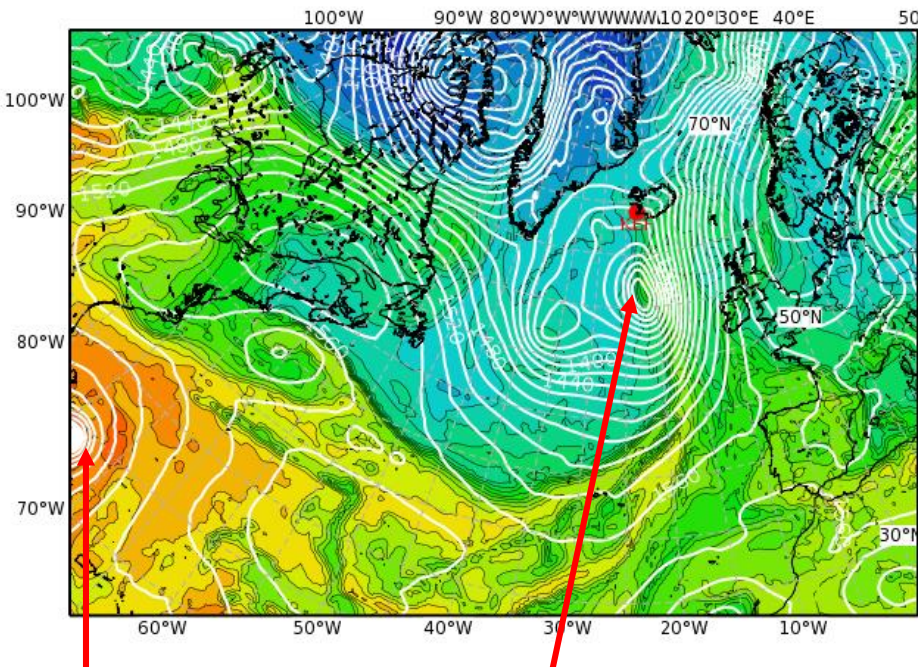
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Tue, 04 Oct 2016, 12 UTC (step 108 h from Fri, 30 Sep 2016, 00 UTC)



Forecast for Wed 5 Oct 2016 12 UTC

THE850, Z300 BT30/00Z

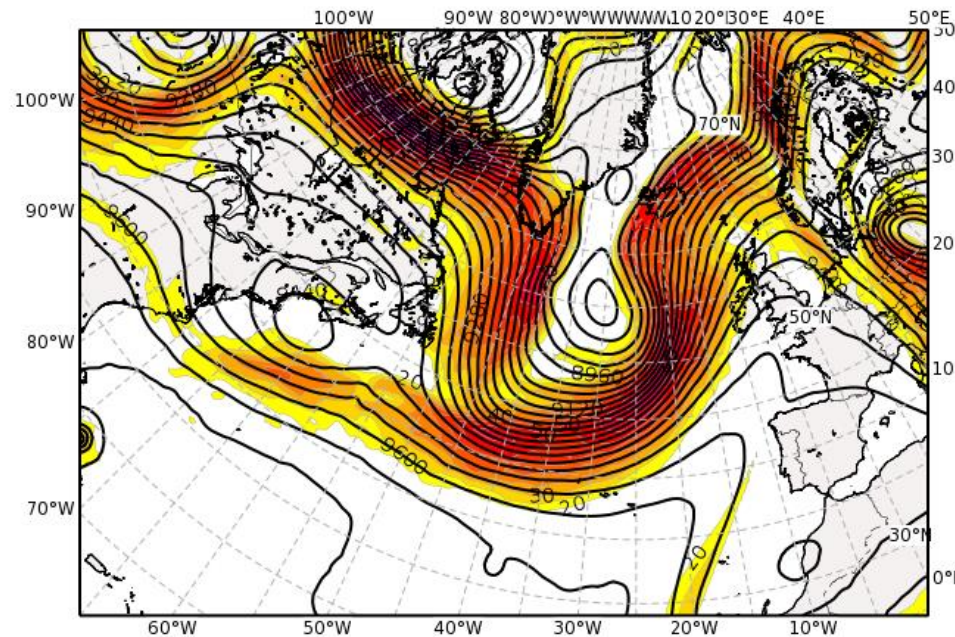
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Wed, 05 Oct 2016, 12 UTC (step 132 h from Fri, 30 Sep 2016, 00 UTC)



New frontal wave

Hurricane Matthew

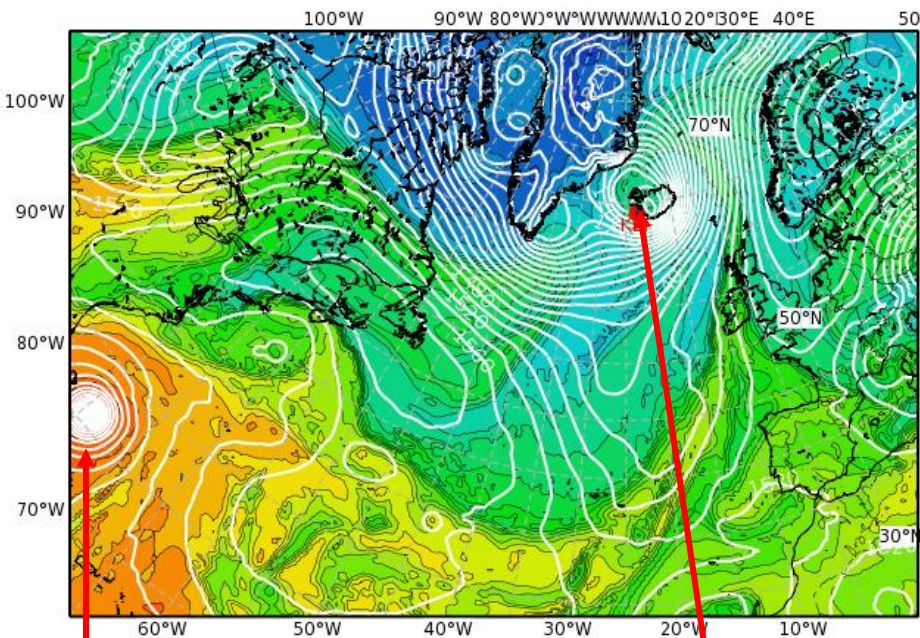
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Wed, 05 Oct 2016, 12 UTC (step 132 h from Fri, 30 Sep 2016, 00 UTC)



Forecast for Thu 6 Oct 2016 12 UTC

THE850, Z300 BT30/00Z

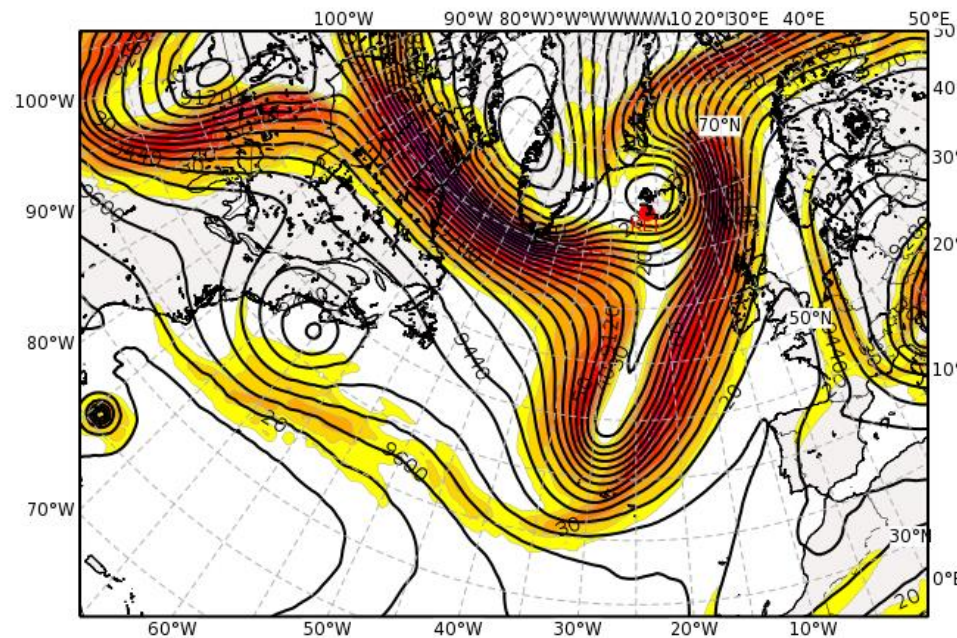
Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Thu, 06 Oct 2016, 12 UTC (step 156 h from Fri, 30 Sep 2016, 00 UTC)



Hurricane Matthew

Former frontal
wave

Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Thu, 06 Oct 2016, 12 UTC (step 156 h from Fri, 30 Sep 2016, 00 UTC)



Summary plans

- **Saturday 1 October IOP6**
 - **HALO** Tropopause structure in WCB regions, cut-off reabsorption; SAT overpass; no dropsondes
- **Sunday 2 October IOP7**
 - **HALO and FALCON and SAFIRE** Tropopause structure, WCB outflow/ascent regions; 25 HALO dropsondes
 - **SAFIRE** afternoon A-Train overpass
- **Outlook Monday – Thursday :**
 - Monday cyclone near Iceland, FALCON?
 - New frontal wave cyclone within reach Tue-Thu