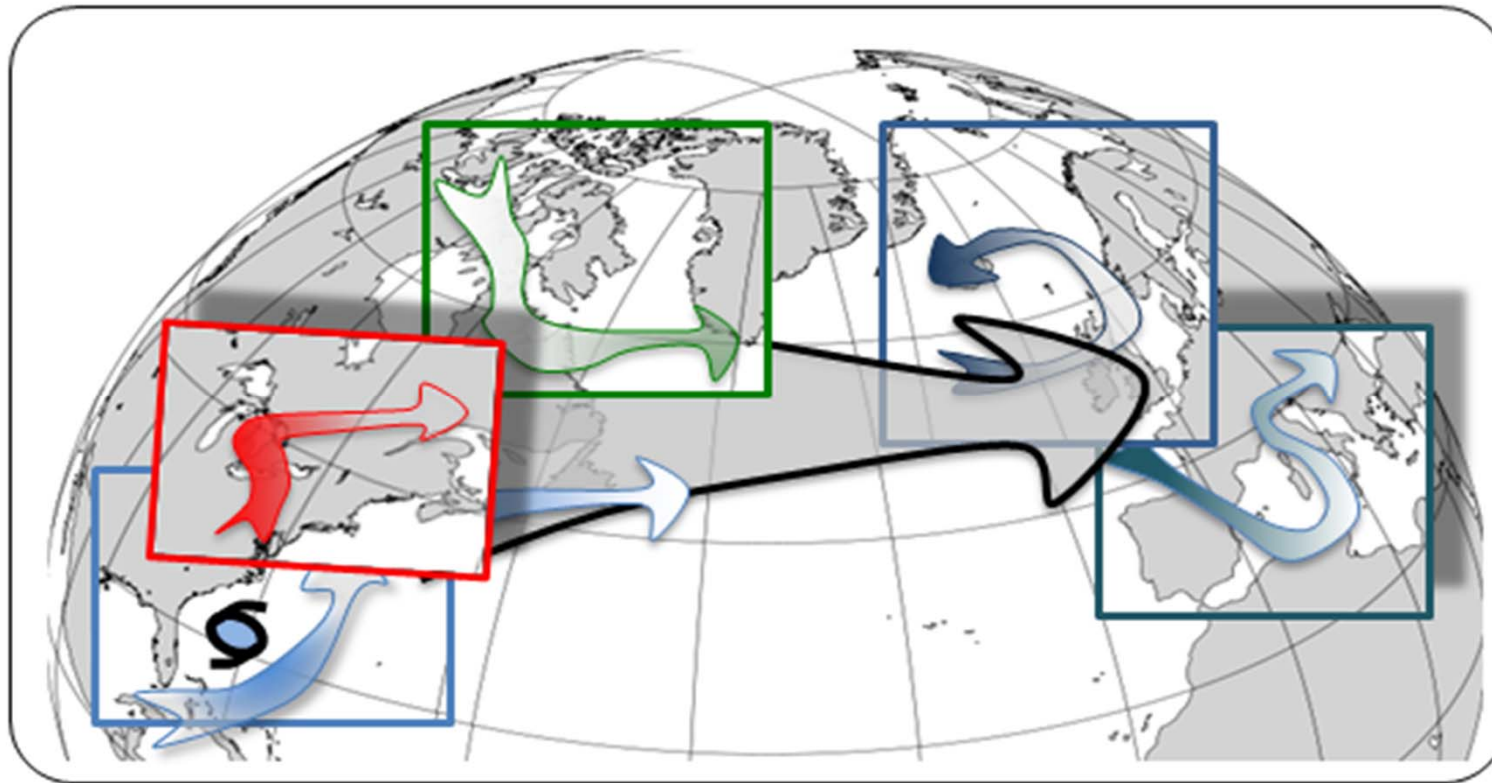


NAWDEX – Weather Discussion

4 October 2016, Keflavik 16 UTC



NAWDEX – Weather Discussion

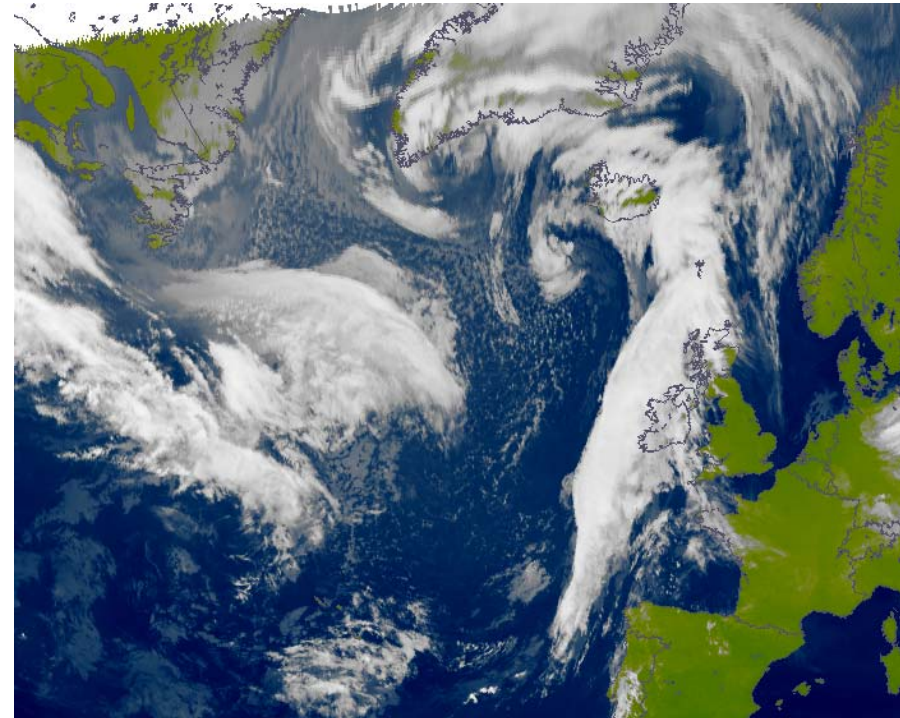
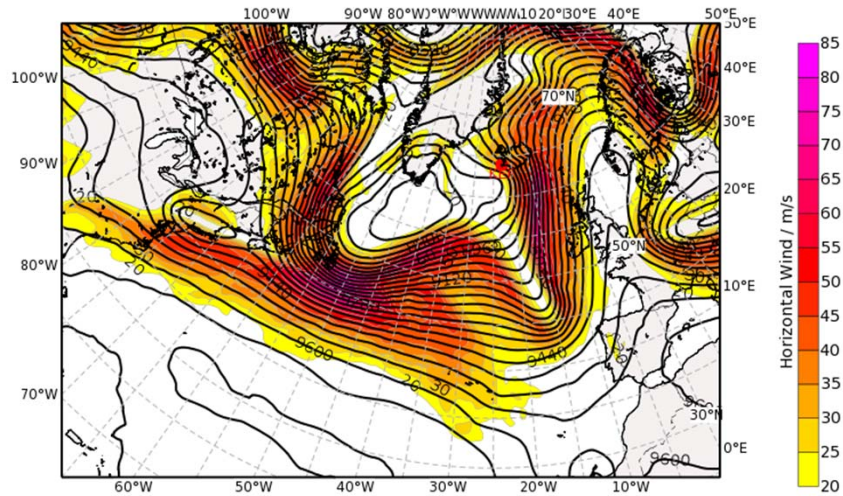
4 October 2016, Keflavik 16 UTC

- Current situation & evolution until Friday 9 October
- **Update on aircraft status**
- **Mission THU**
- **Outlook to the weekend**
- **Radiosonde Overview**

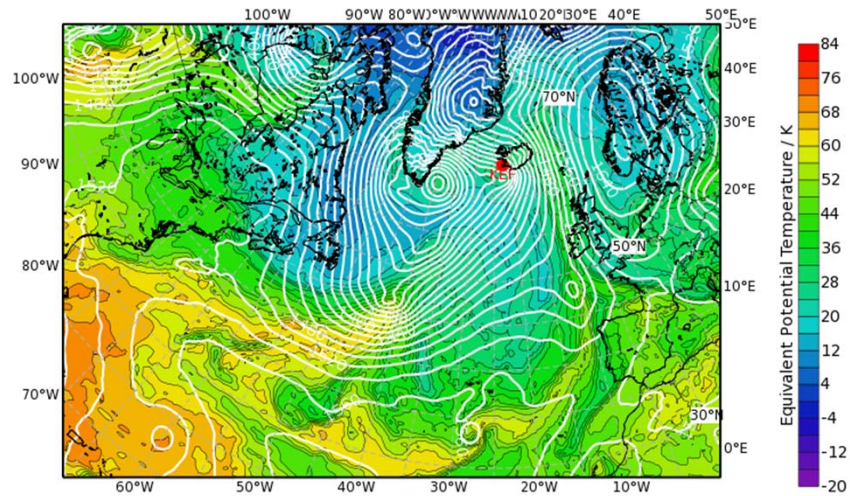
Falcon Day-Off Wednesday

Analysis – 04 Oct 2016, 00 UTC

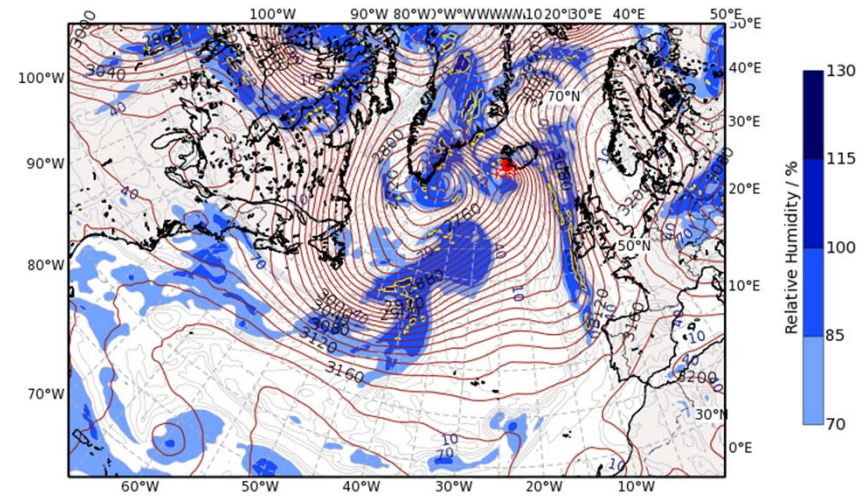
Geopotential Height (m) & Horizontal Wind (m/s) at 300 hPa
Valid: Tue, 04 Oct 2016, 00 UTC (step 000 h from Tue, 04 Oct 2016, 00 UTC)



Equivalent Potential Temperature (degC) & Streamlines at 850 hPa
Valid: Tue, 04 Oct 2016, 00 UTC (step 000 h from Tue, 04 Oct 2016, 00 UTC)

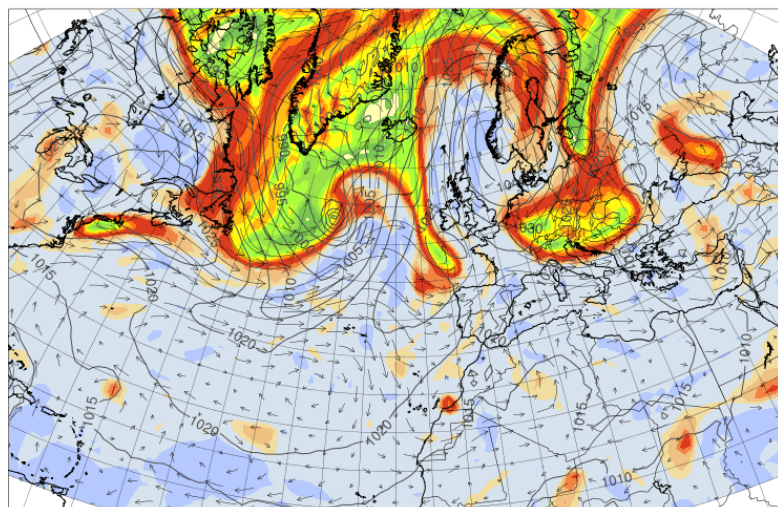


Relative Humidity (%) and Z (m) at 700 hPa
Valid: Tue, 04 Oct 2016, 00 UTC (step 000 h from Tue, 04 Oct 2016, 00 UTC)

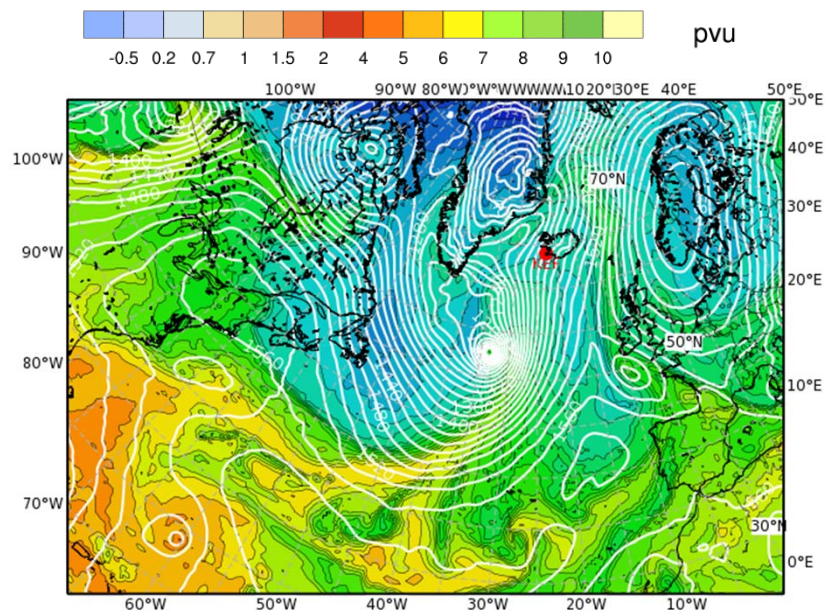
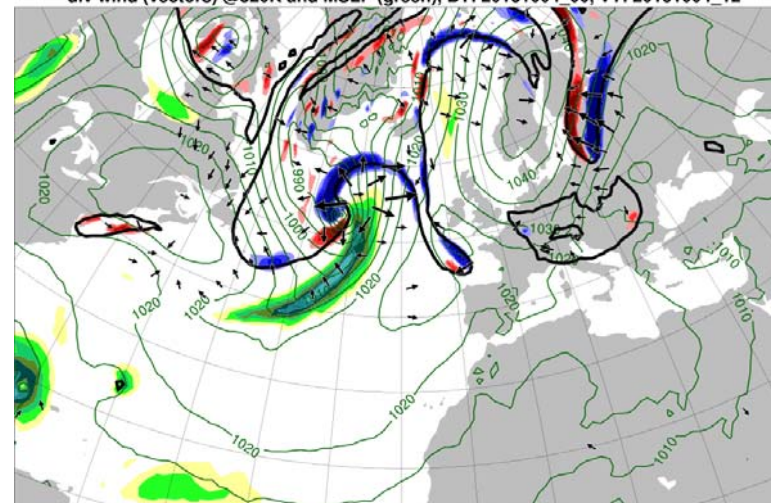


Forecast – Tue 4 Oct 2016, 12UTC PV320K, irrwind320K, THE850K, trajectories

PV@325K at 20161004_12

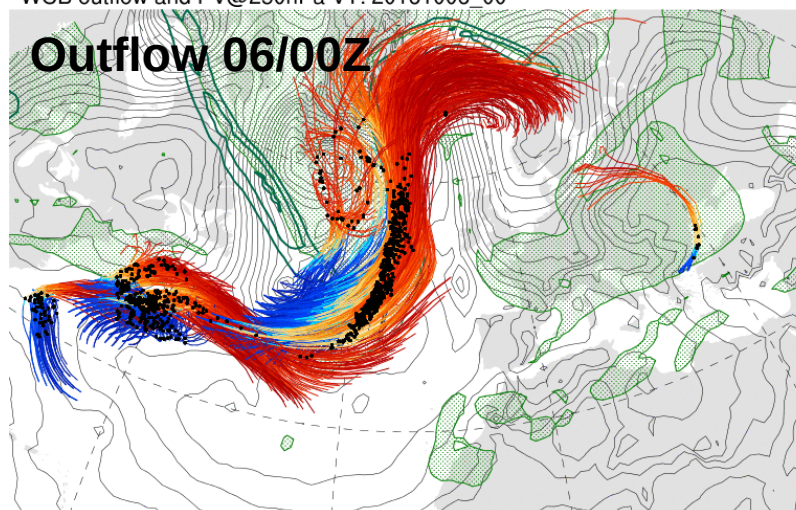


2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004_00, VT: 20161004_12



500 600 700 800 900 1000 1100 1200 kg/(m s)

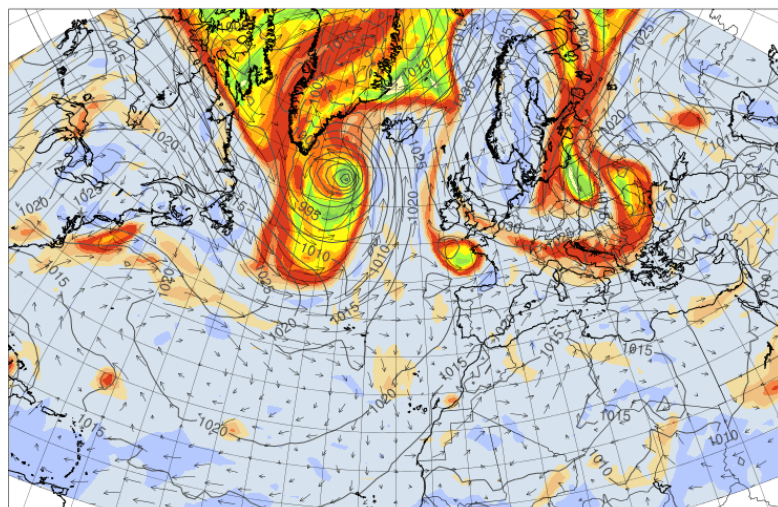
Trajectory start and SLP VT: 20161004_00
WCB outflow and PV@250hPa VT: 20161006_00



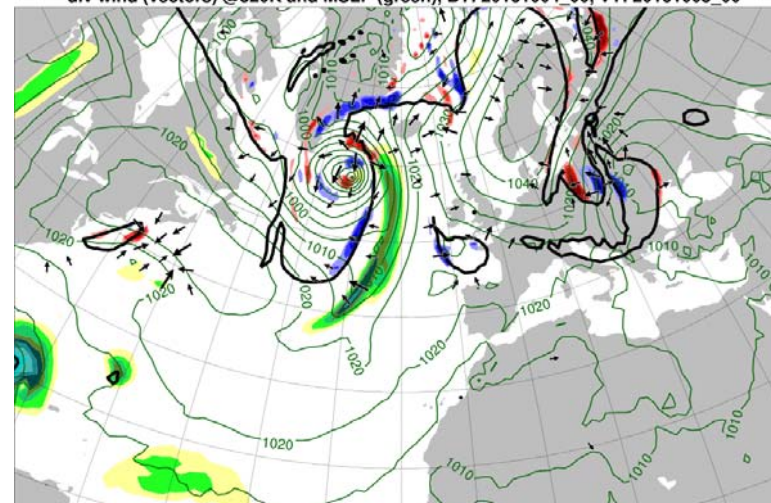
200 300 400 500 600 700 800 900 1000 hPa

Forecast – Wed 5 Oct 2016, 00UTC PV320K, irrwind320K, THE850K, trajectories

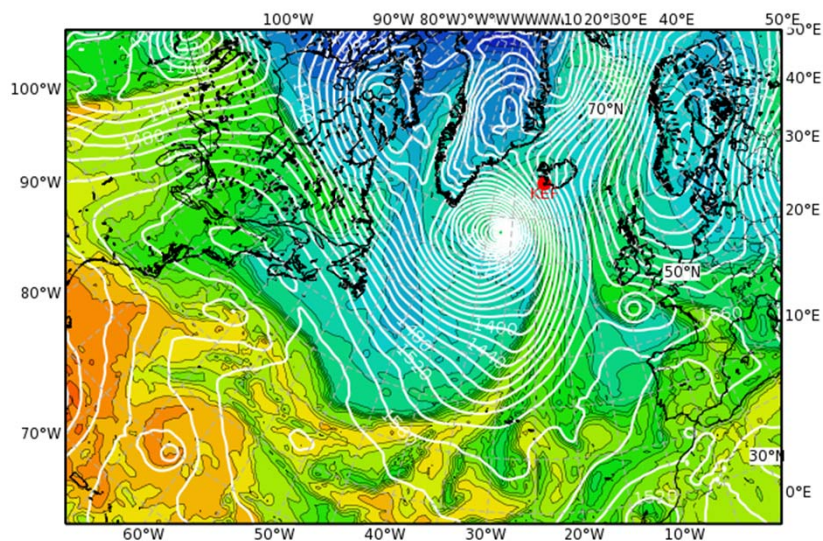
PV@320K at 20161005_00



2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004_00, VT: 20161005_00

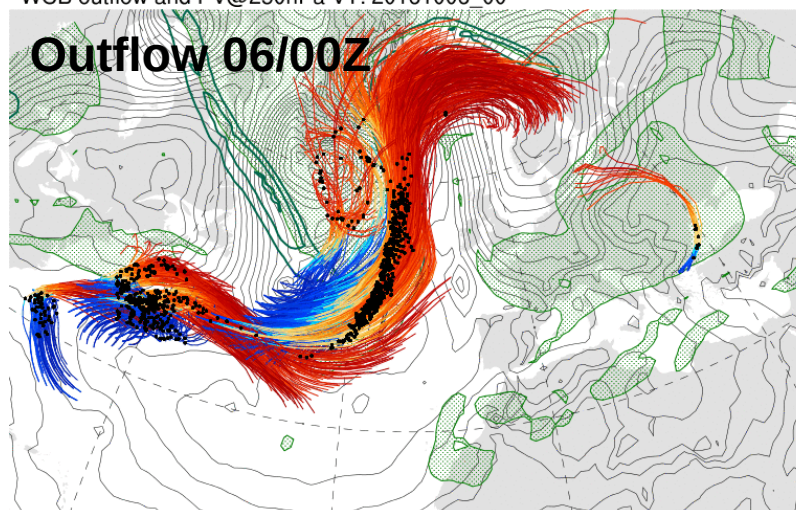


Color scale for PVU (Potential Vorticity Units): -0.5, 0.2, 0.7, 1, 1.5, 2, 4, 5, 6, 7, 8, 9, 10.



Color scale for kg/(m s): 500, 600, 700, 800, 900, 1000, 1100, 1200.

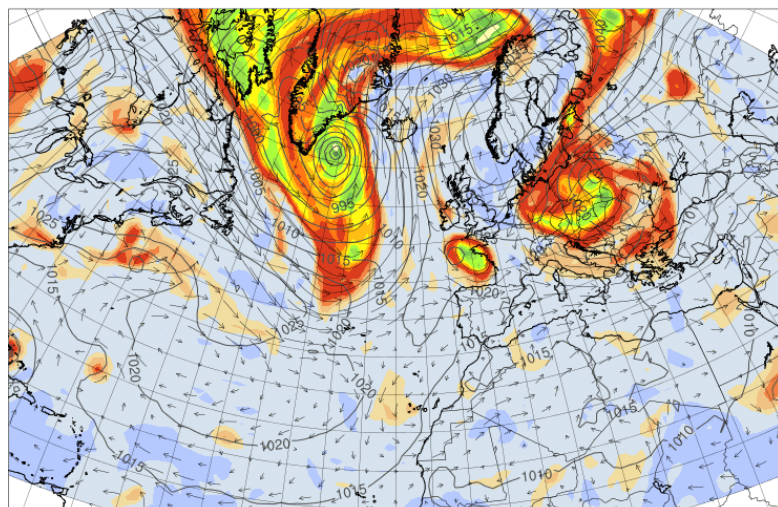
Trajectory start and SLP VT: 20161004_00
WCB outflow and PV@250hPa VT: 20161006_00



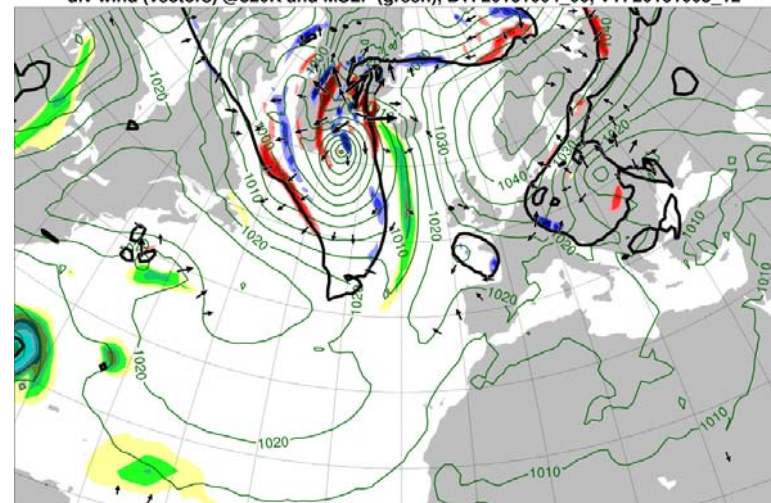
Color scale for hPa: 200, 300, 400, 500, 600, 700, 800, 900, 1000.

Forecast – Wed 5 Oct 2016, 12UTC PV320K, irrwind320K, THE850K, trajectories

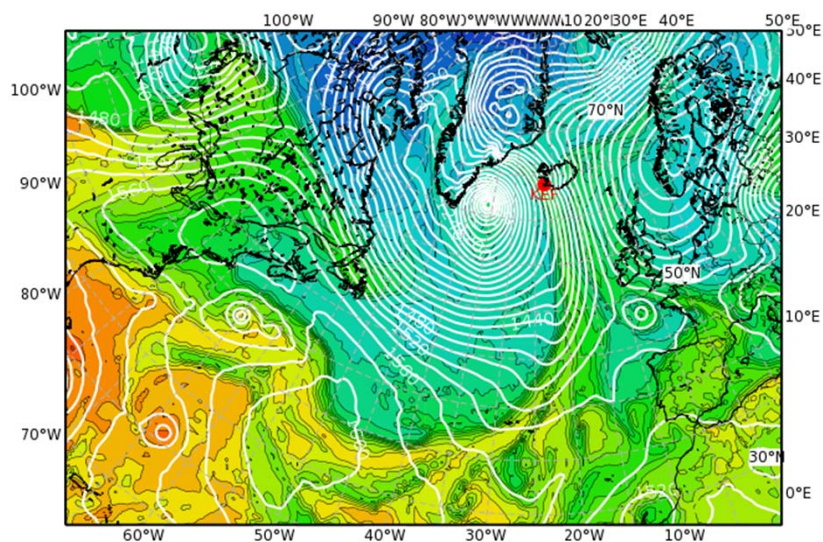
PV@320K at 20161005_12



2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004_00, VT: 20161005_12

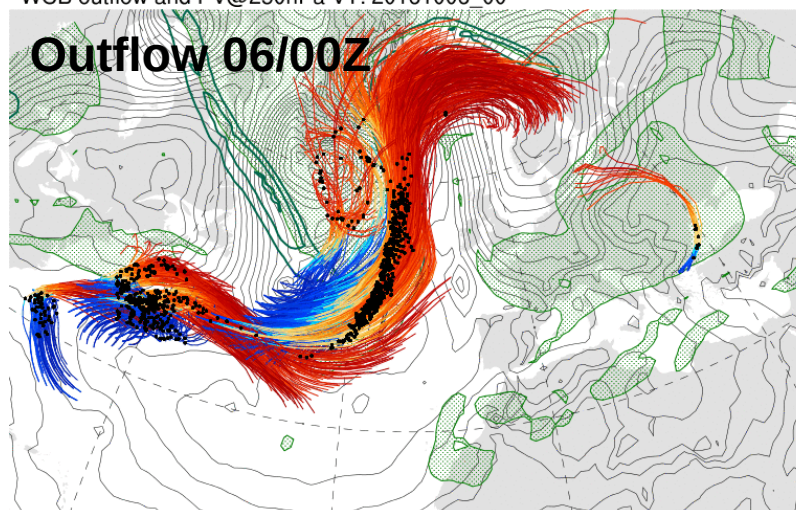


pvu
-0.5 0.2 0.7 1 1.5 2 4 5 6 7 8 9 10



kg/(m s)
500 600 700 800 900 1000 1100 1200

Trajectory start and SLP VT: 20161004_00
WCB outflow and PV@250hPa VT: 20161006_00



hPa
200 300 400 500 600 700 800 900 1000

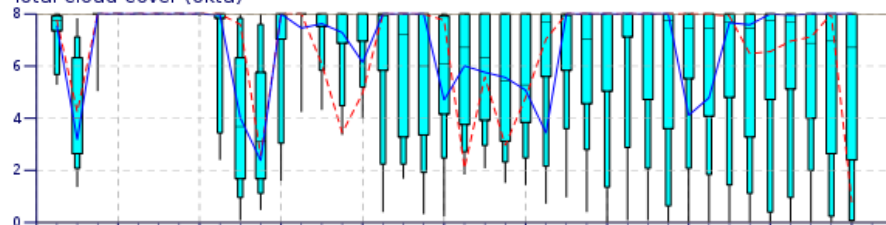
Forecast – Wed 5 Oct 2016, 12UTC PV320K, irrwind320K, THE850K, trajectories

ENS Meteogram

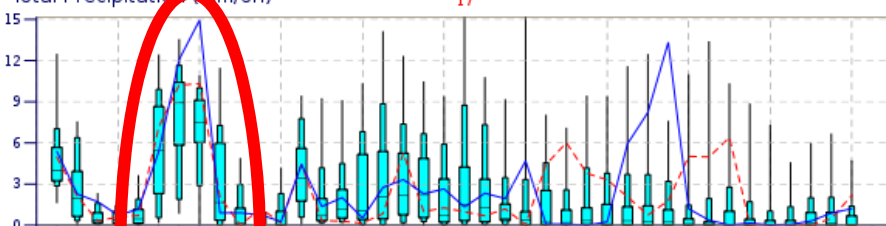
Keflavík, Iceland 63.89°N 22.26°W (ENS land point) 5 m

High Resolution Forecast and ENS Distribution Tuesday 4 October 2016 00 UTC

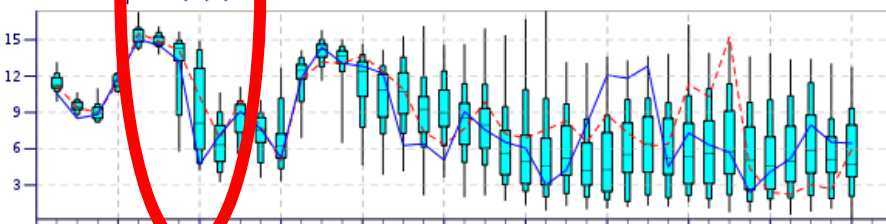
Total Cloud Cover (okta)



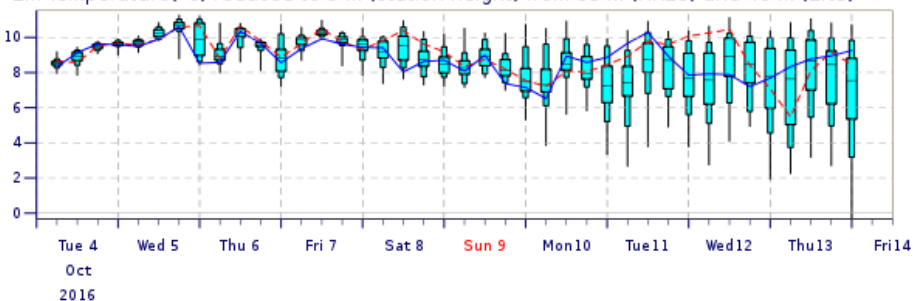
Total Precipitation (mm/6h)



10m Wind speed (m/s)

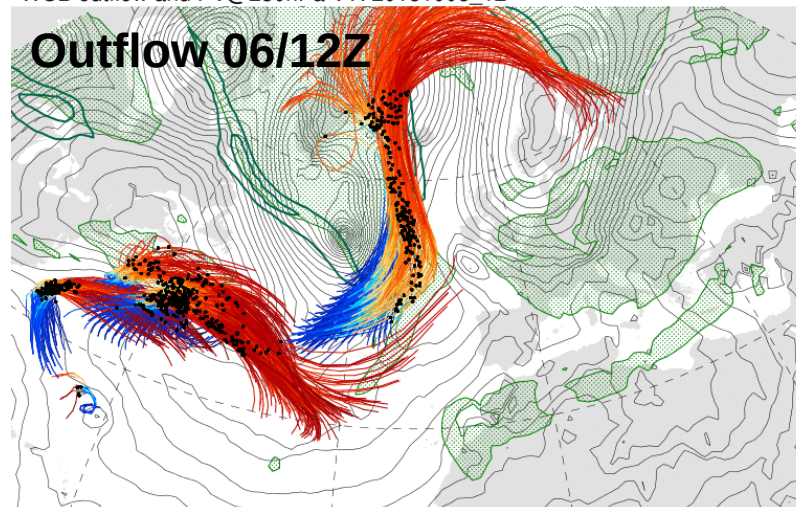


2m Temperature(°C) reduced to 5 m (station height) from 83 m (HRES) and 46 m (ENS)



Trajectory start and SLP VT: 20161004_12

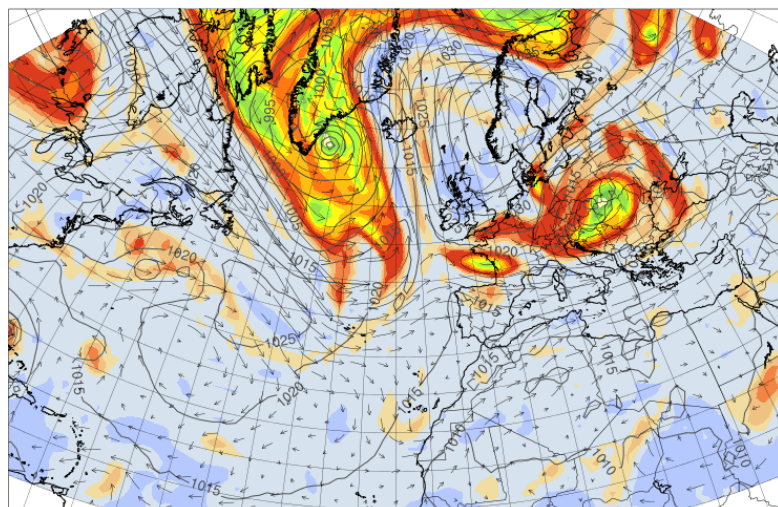
WCB outflow and PV@250hPa VT: 20161006_12



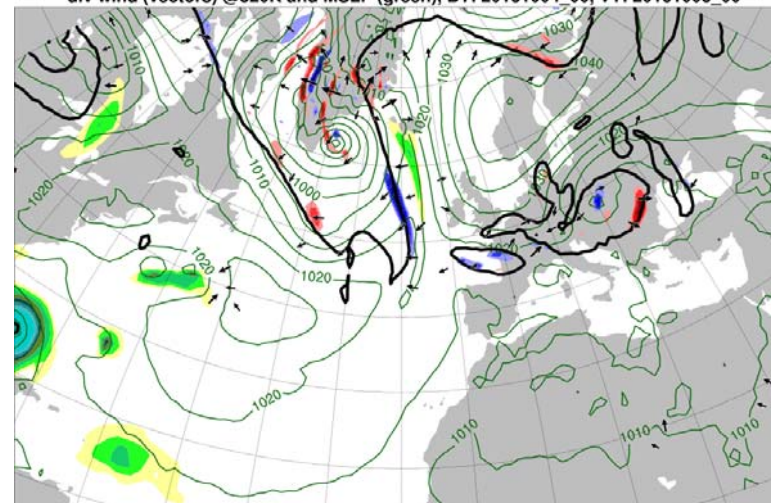
200 300 400 500 600 700 800 900 1000 hPa

Forecast – Thu 6 Oct 2016, 00UTC PV320K, irrwind320K, THE850K, trajectories

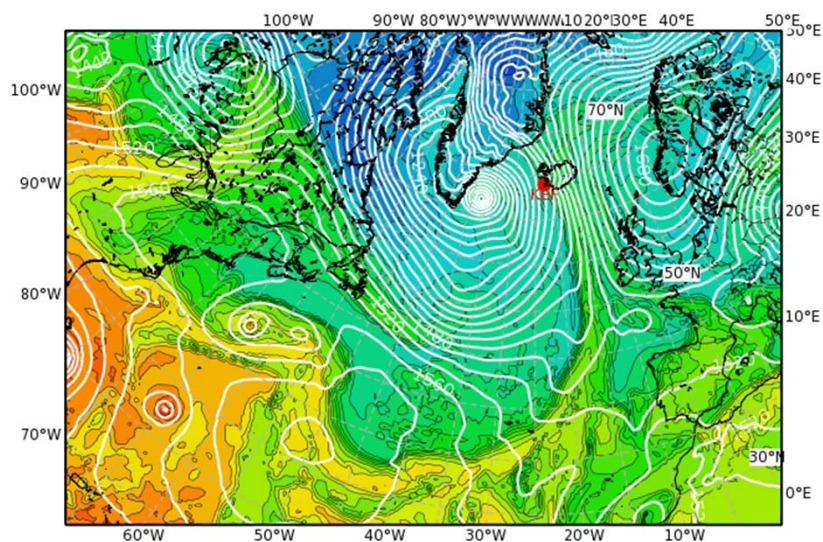
PV@320K at 20161006_00



2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004_00, VT: 20161006_00

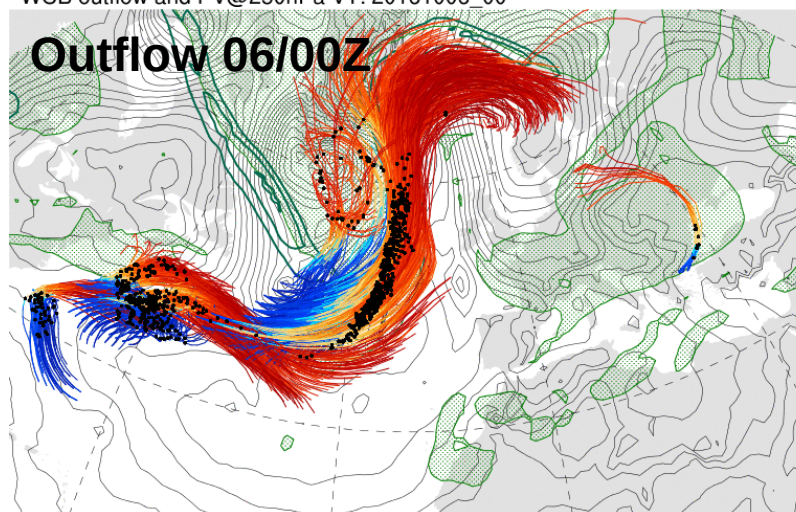


pvu
-0.5 0.2 0.7 1 1.5 2 4 5 6 7 8 9 10



kg/(m s)
500 600 700 800 900 1000 1100 1200

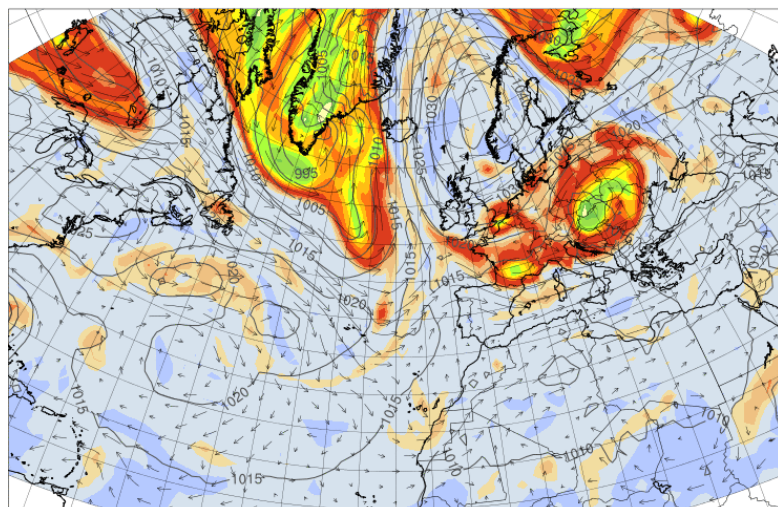
Trajectory start and SLP VT: 20161004_00
WCB outflow and PV@250hPa VT: 20161006_00



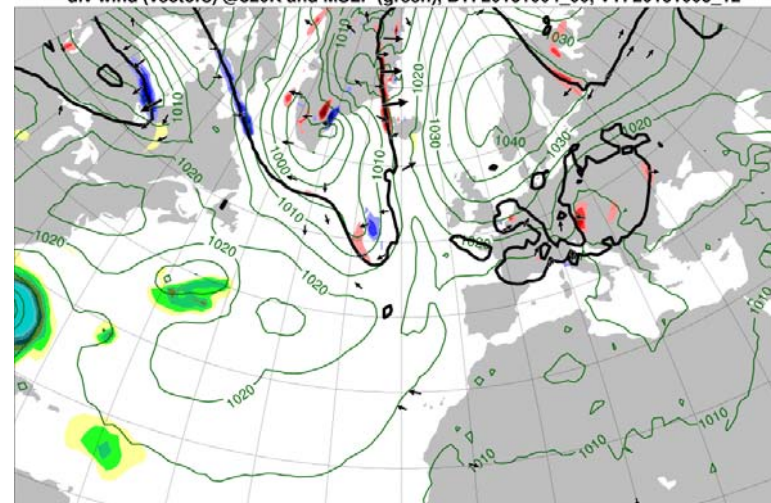
hPa
200 300 400 500 600 700 800 900 1000

Forecast – Thu 6 Oct 2016, 12UTC PV320K, irrwind320K, THE850K, trajectories

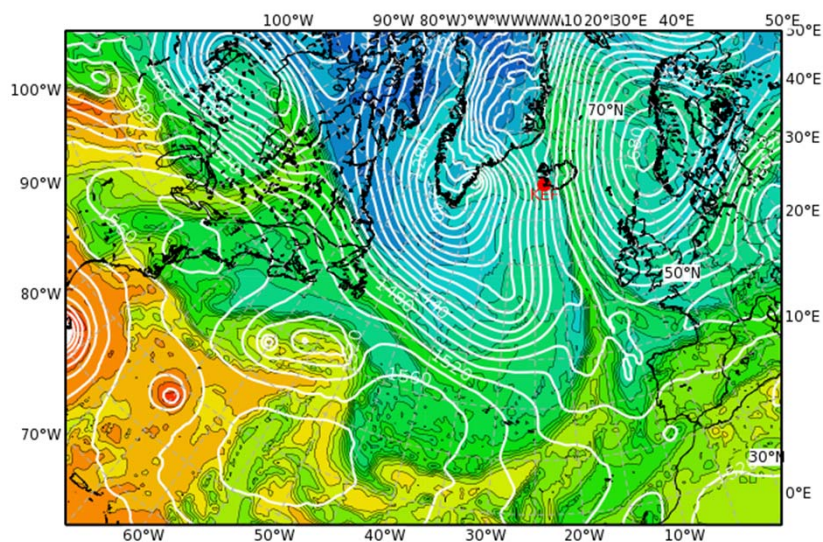
PV@320K at 20161006_12



2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004 00, VT: 20161006_12

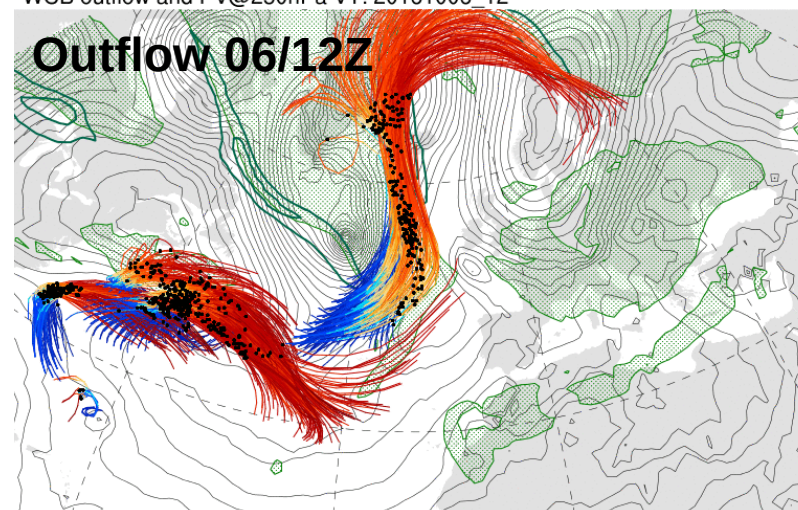


pvu
-0.5 0.2 0.7 1 1.5 2 4 5 6 7 8 9 10



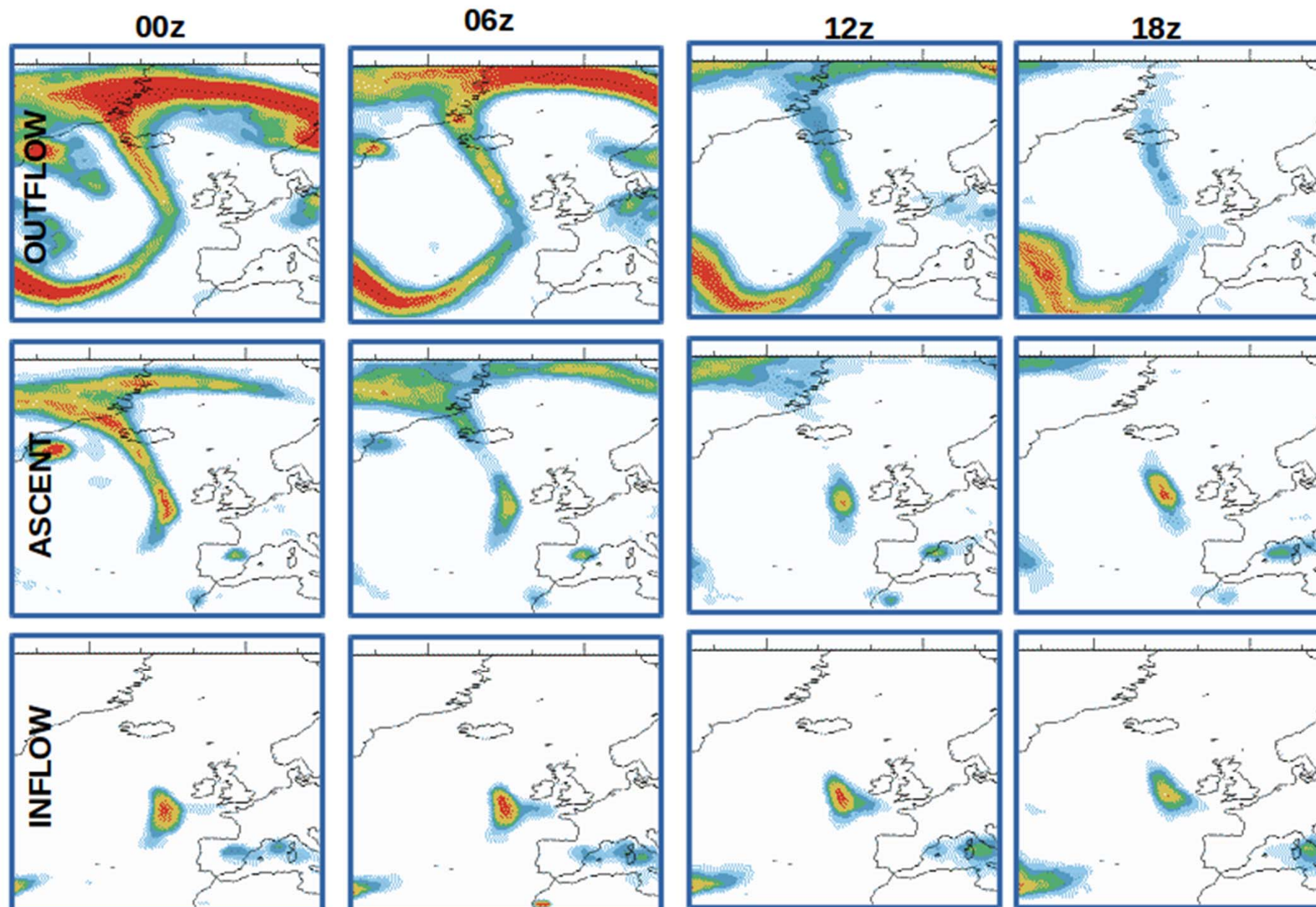
kg/(m s)
500 600 700 800 900 1000 1100 1200

Trajectory start and SLP VT: 20161004_12
WCB outflow and PV@250hPa VT: 20161006_12



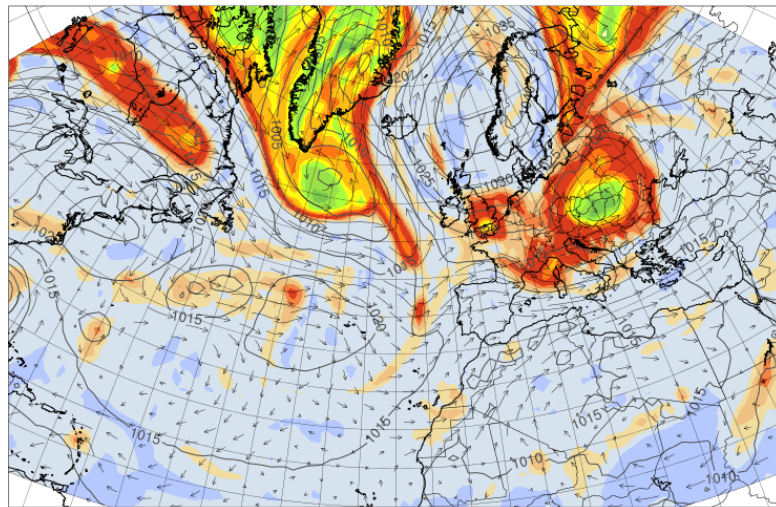
hPa
200 300 400 500 600 700 800 900 1000

WCB Ens Probabilities Thursday 6 Oct (BT: 04/00z)



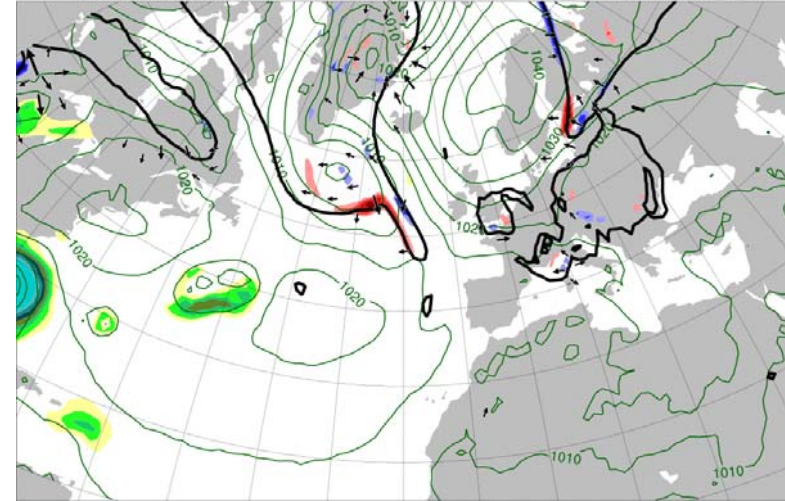
Forecast – Fri 7 Oct 2016, 00UTC

PV@320K at 20161007_00

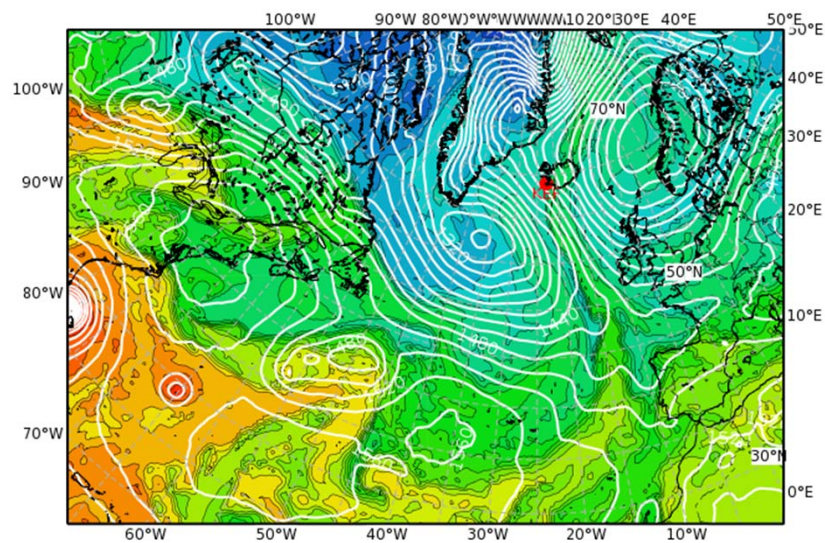


PV320K, irrwind320K, THE850K, trajectories

2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004_00, VT: 20161007_00



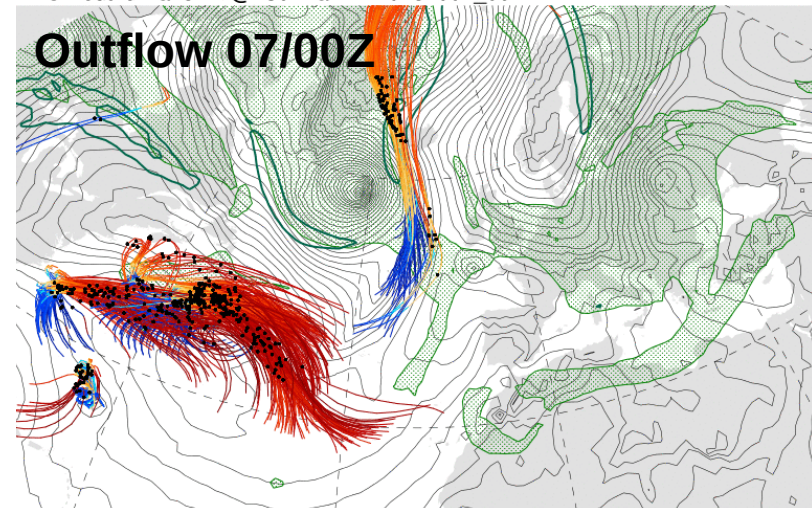
Color scale for PVU (Potential Vorticity Units) ranging from -0.5 to 10.



Color scale for Equivalent Potential Temperature (K) ranging from -20 to 84.

Color scale for kg/(m s) ranging from 500 to 1200.

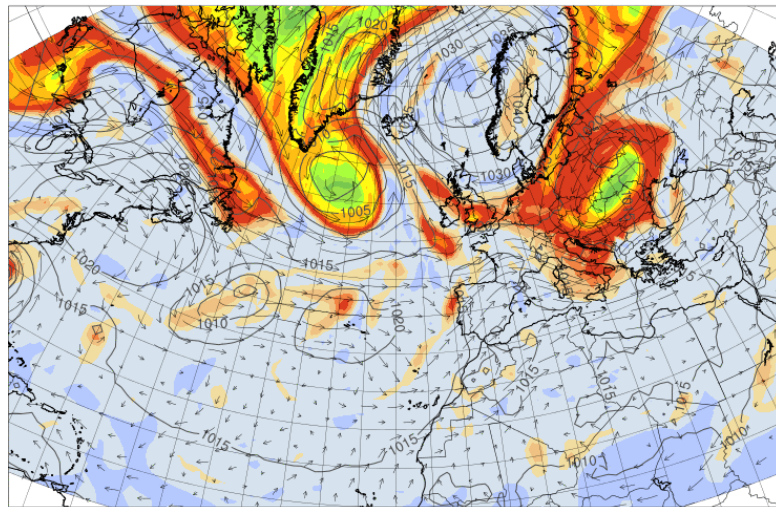
Trajectory start and SLP VT: 20161005_00
WCB outflow and PV@250hPa VT: 20161007_00



Color scale for hPa ranging from 200 to 1000.

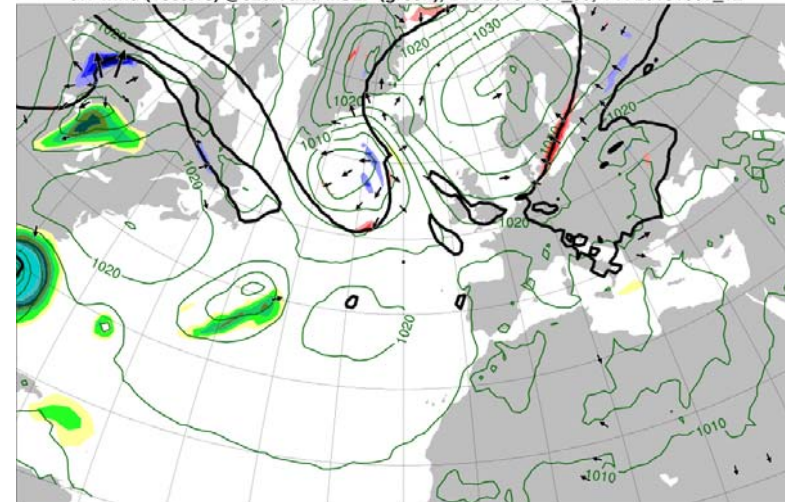
Forecast – Fri 7 Oct 2016, 12UTC

PV@320K at 20161007_12

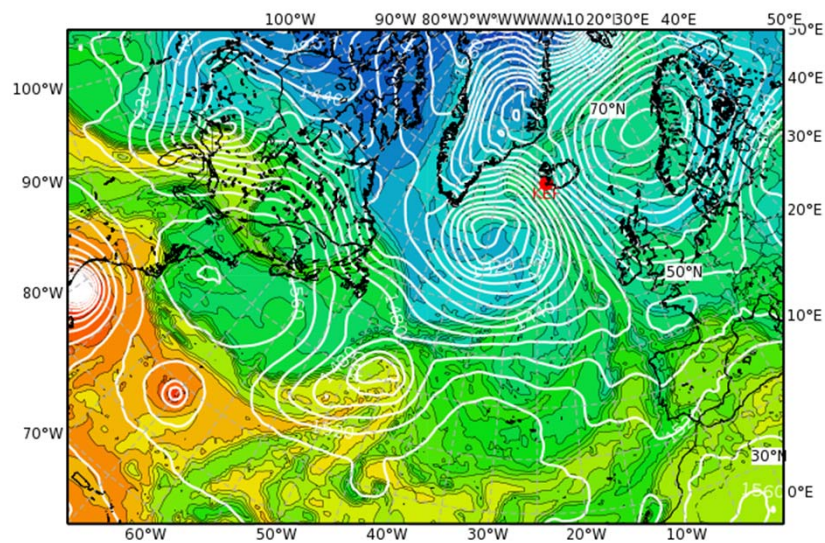


PV320K, irrwind320K, THE850K, trajectories

2 PVU (black), PV adv by div wind (shading),
div wind (vectors) @320K and MSLP (green), BT: 20161004 00, VT: 20161007_12

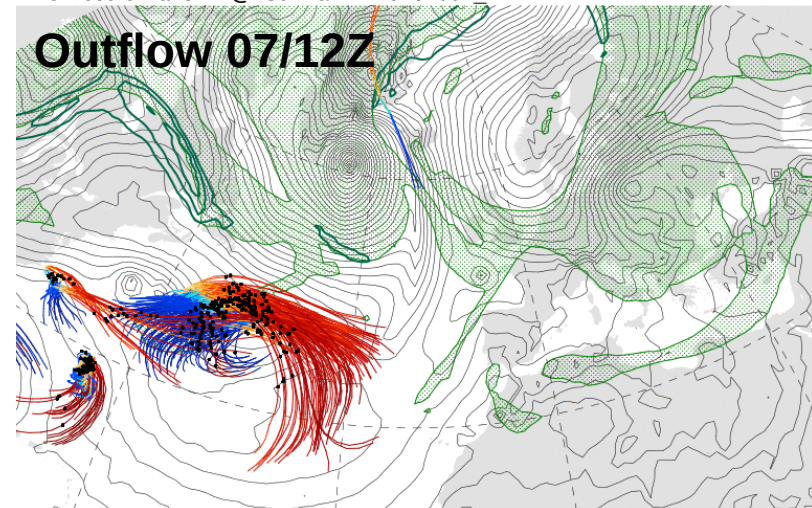


pvu
-0.5 0.2 0.7 1 1.5 2 4 5 6 7 8 9 10



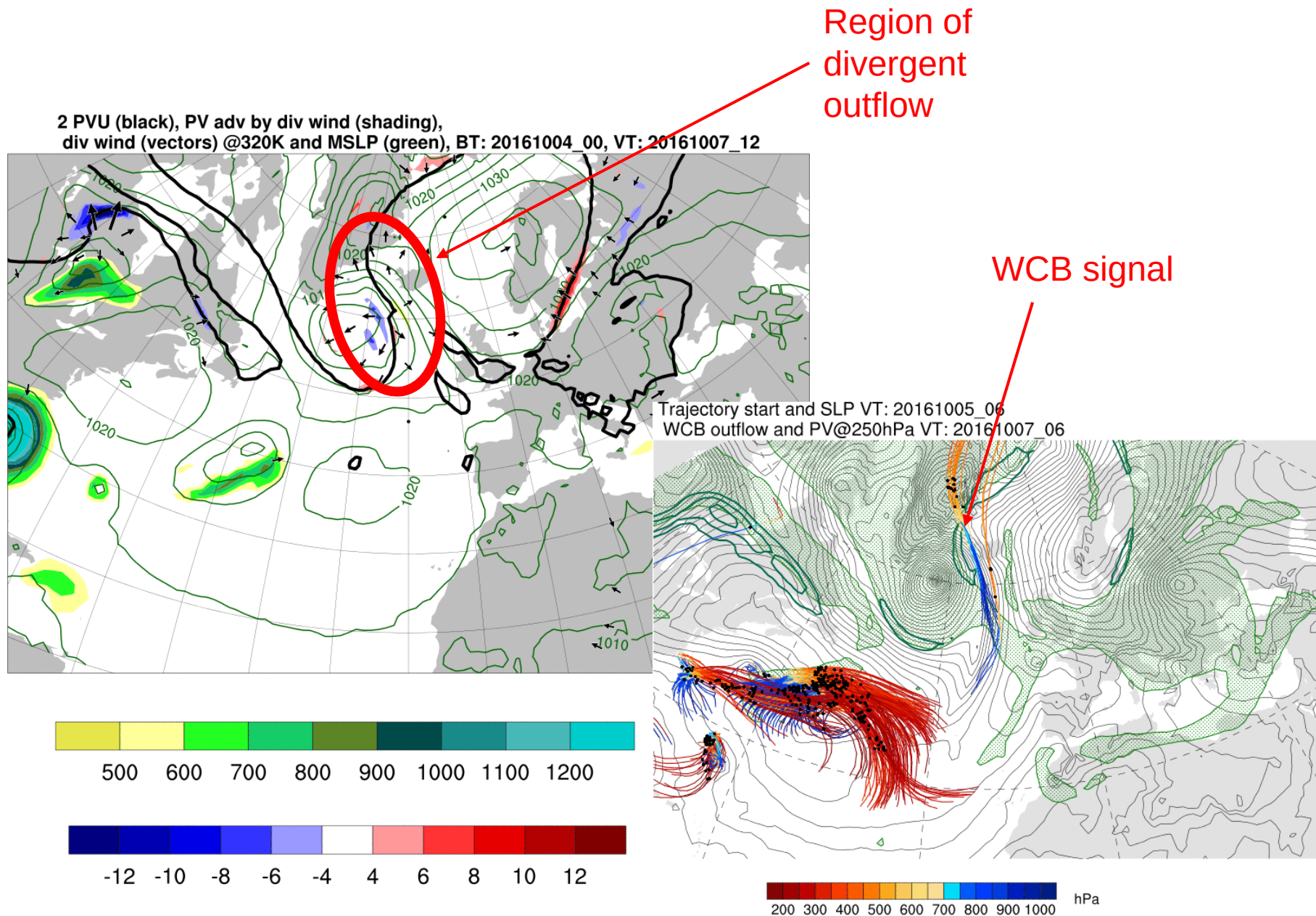
kg/(m s)
500 600 700 800 900 1000 1100 1200

Trajectory start and SLP VT: 20161005_12
WCB outflow and PV@250hPa VT: 20161007_12

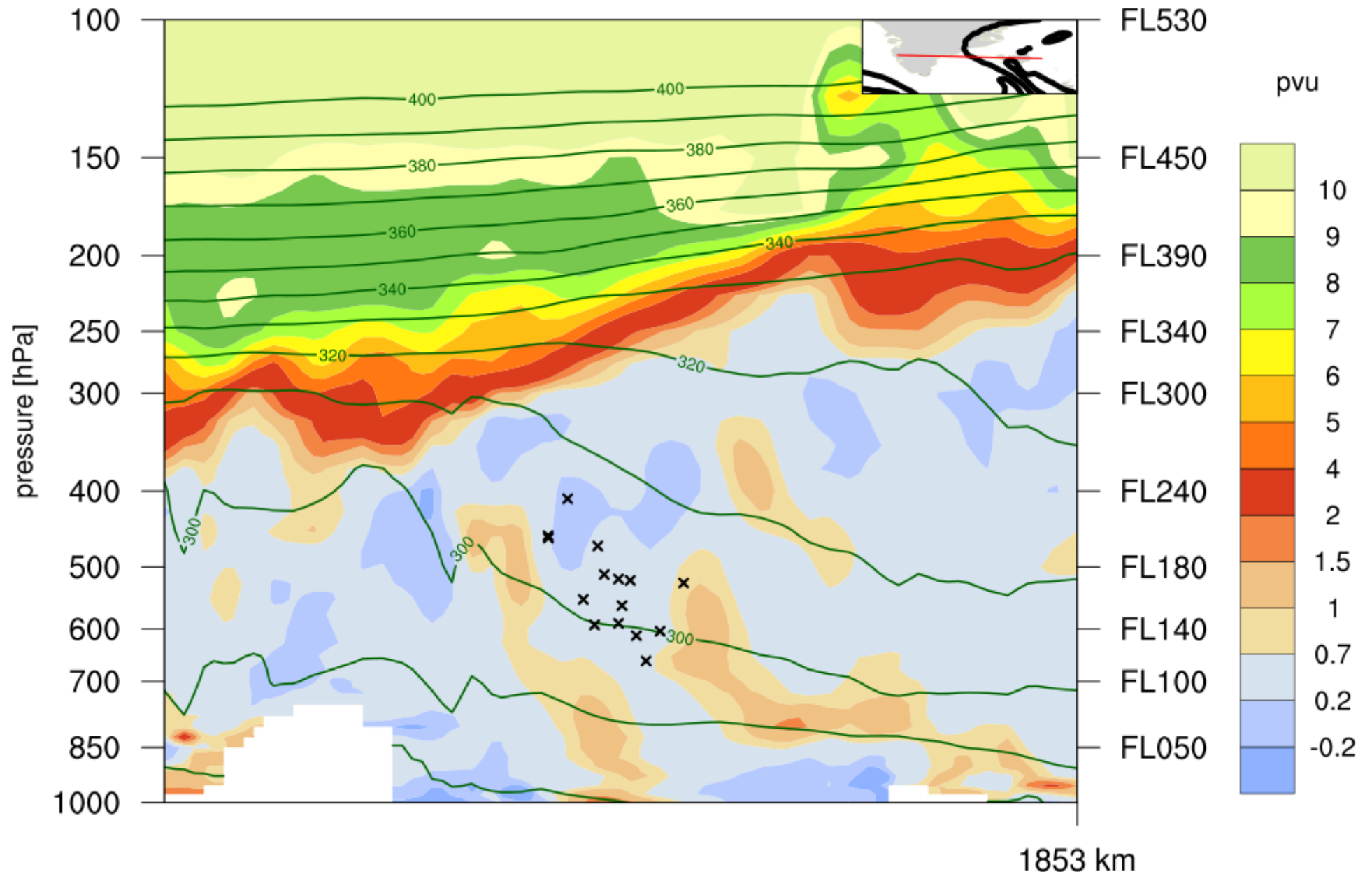


hPa
200 300 400 500 600 700 800 900 1000

Focus: possible WCB activity on Friday 07

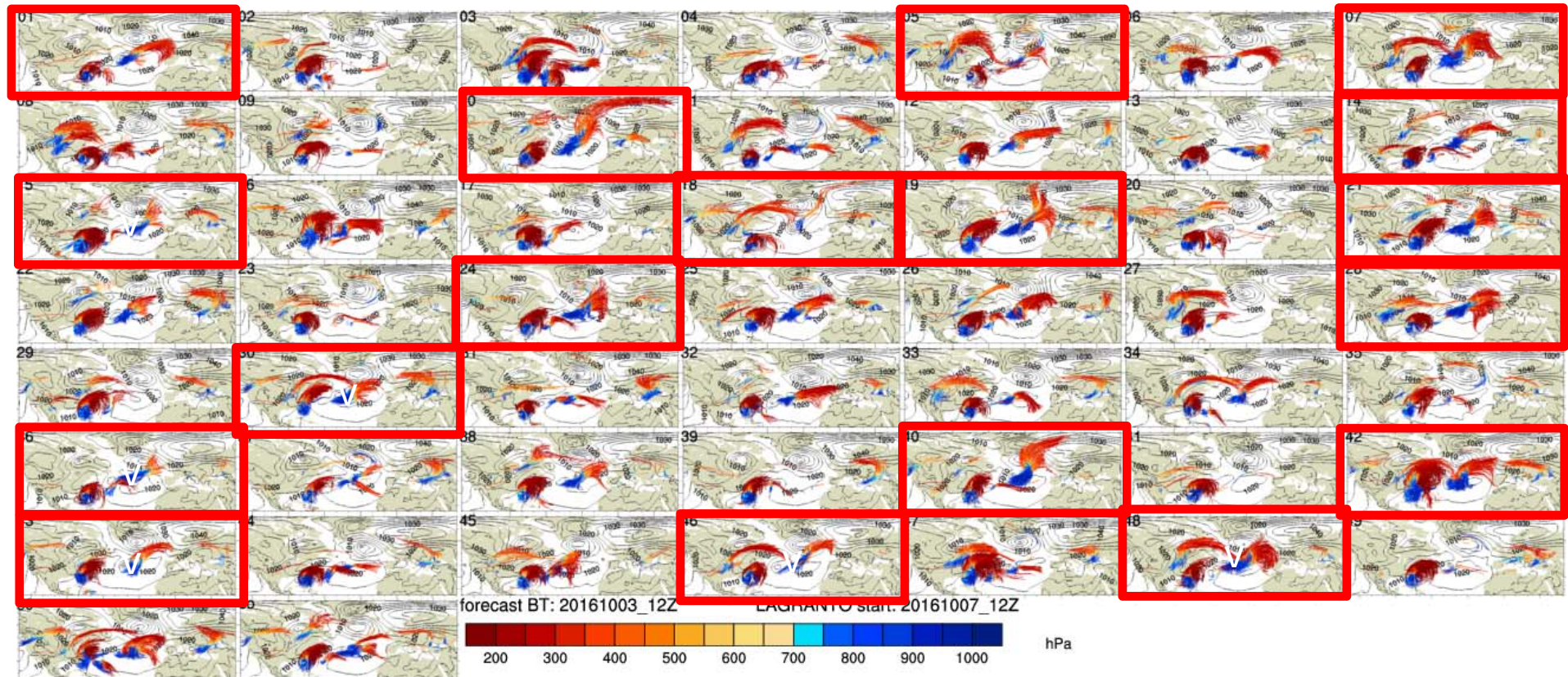


Focus: possible WCB activity on Friday 07



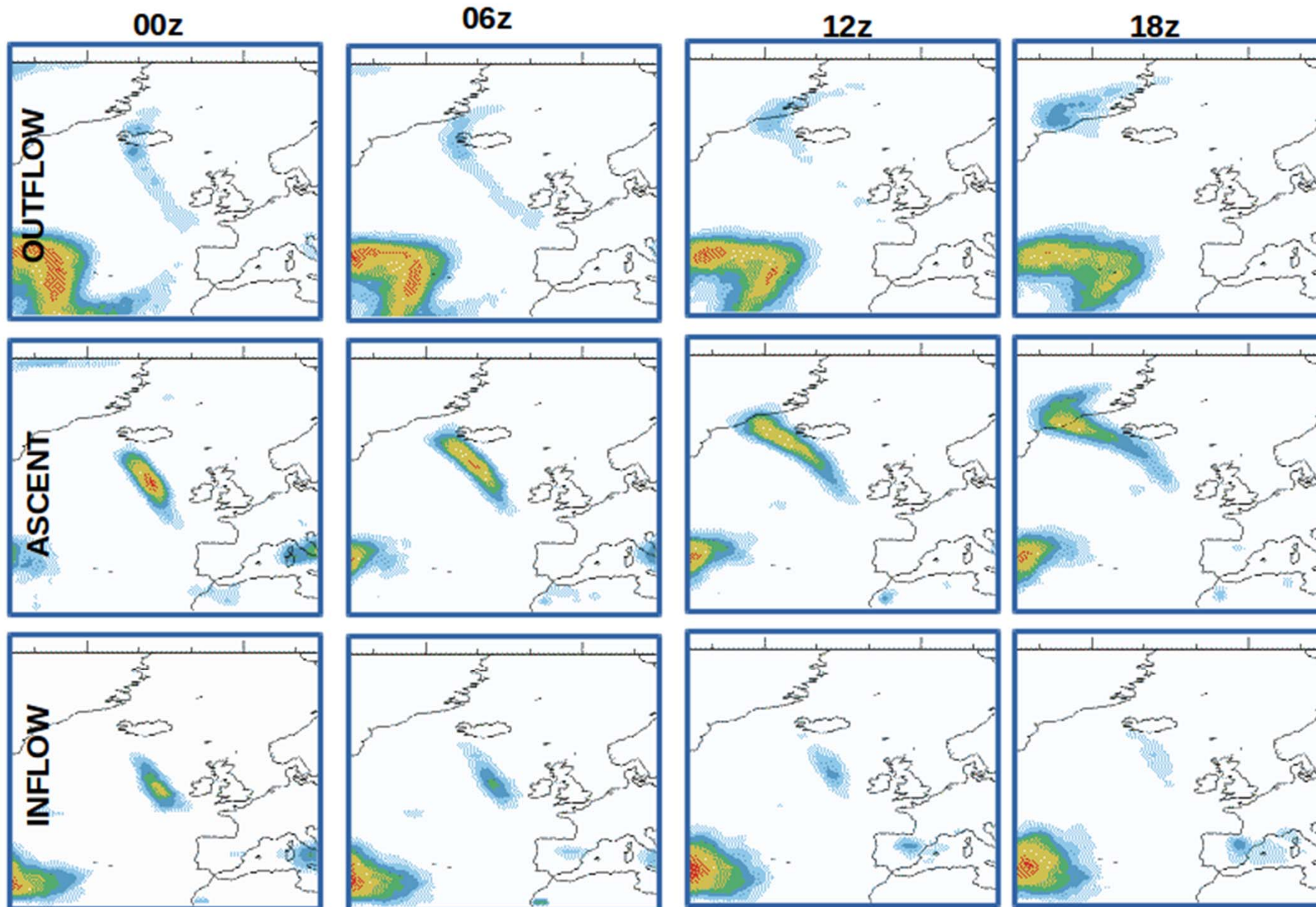
Focus: possible WCB activity on Friday 07

Some ensemble members show very significant WCB activity just SW of Iceland between **06 and 12 UTC**.



To be monitored for possible flight planning.

WCB Ens Probabilities Friday 7 Oct (BT: 04/00z)

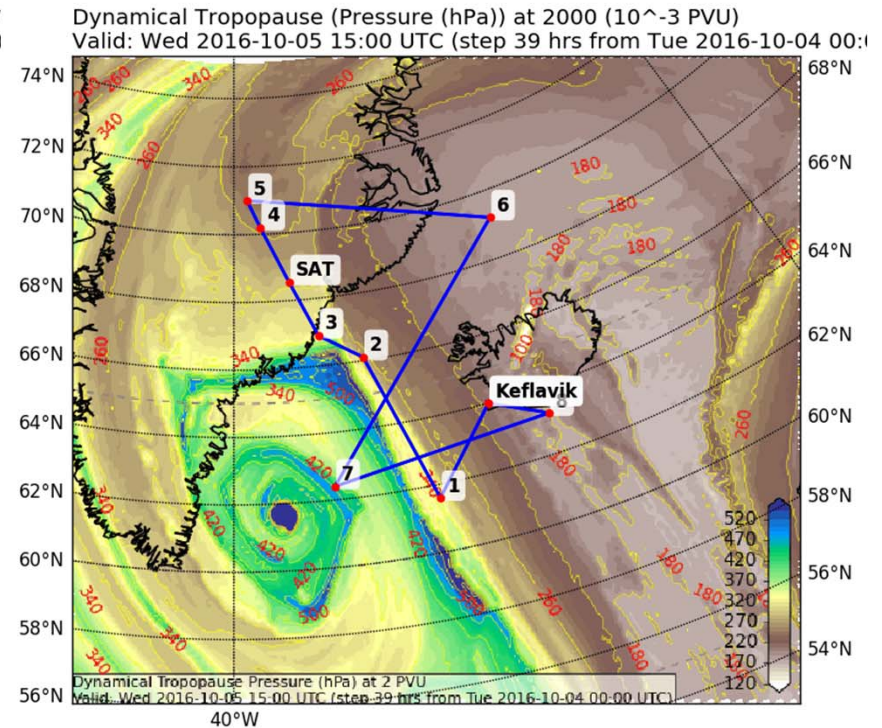
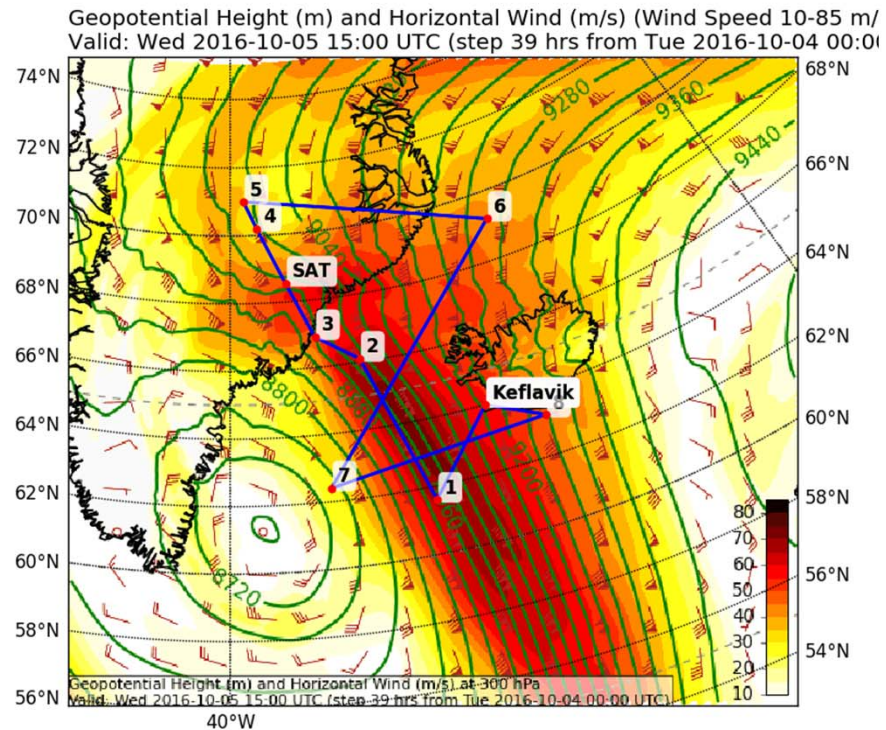


PLAN FOR HALO WED FLIGHT „very unlikely“

Wednesday 5 October HALO flight

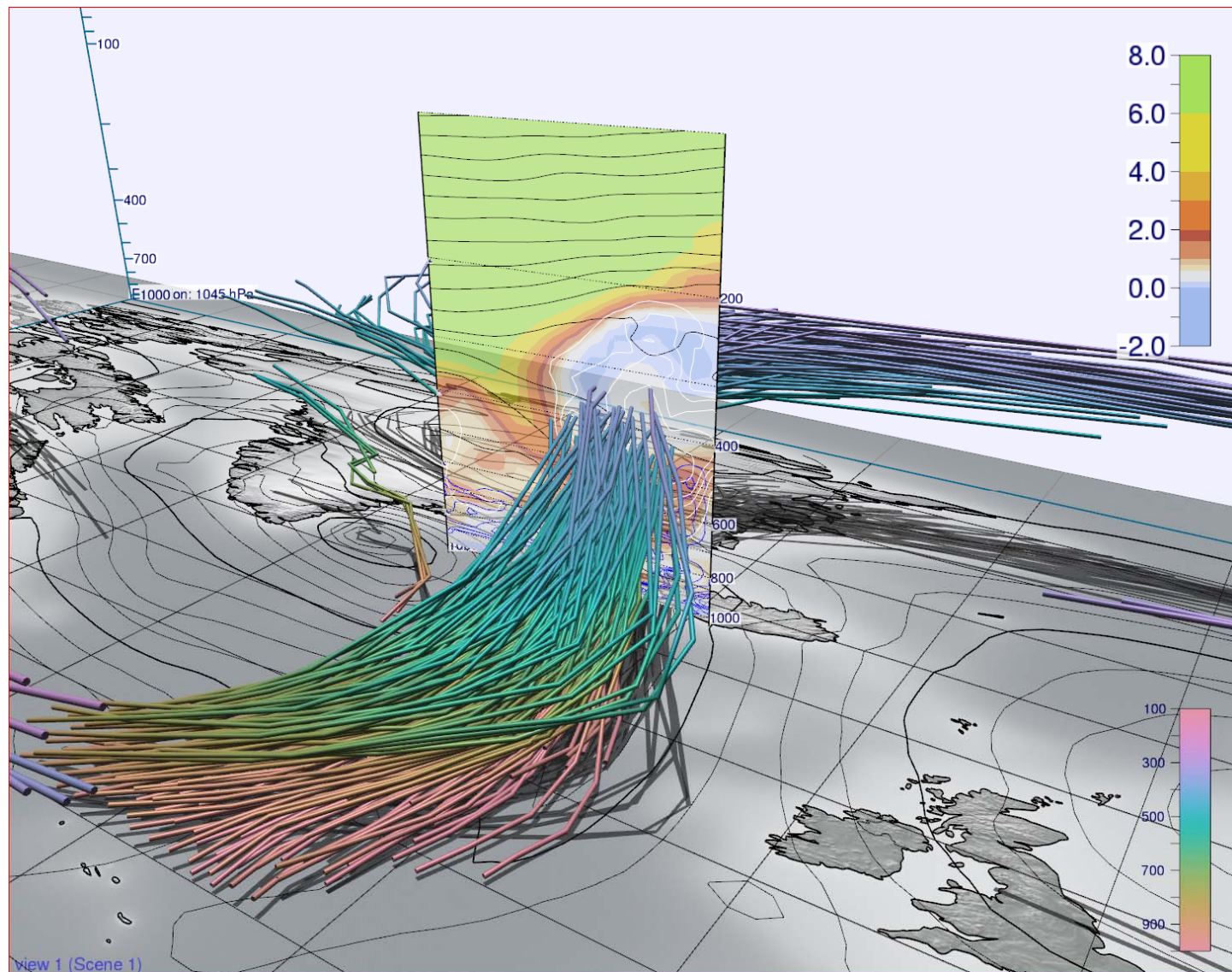
Geopot & Hor Wind at 300 hPa

P at 2 PVU



BT04/00Z VT05/15Z

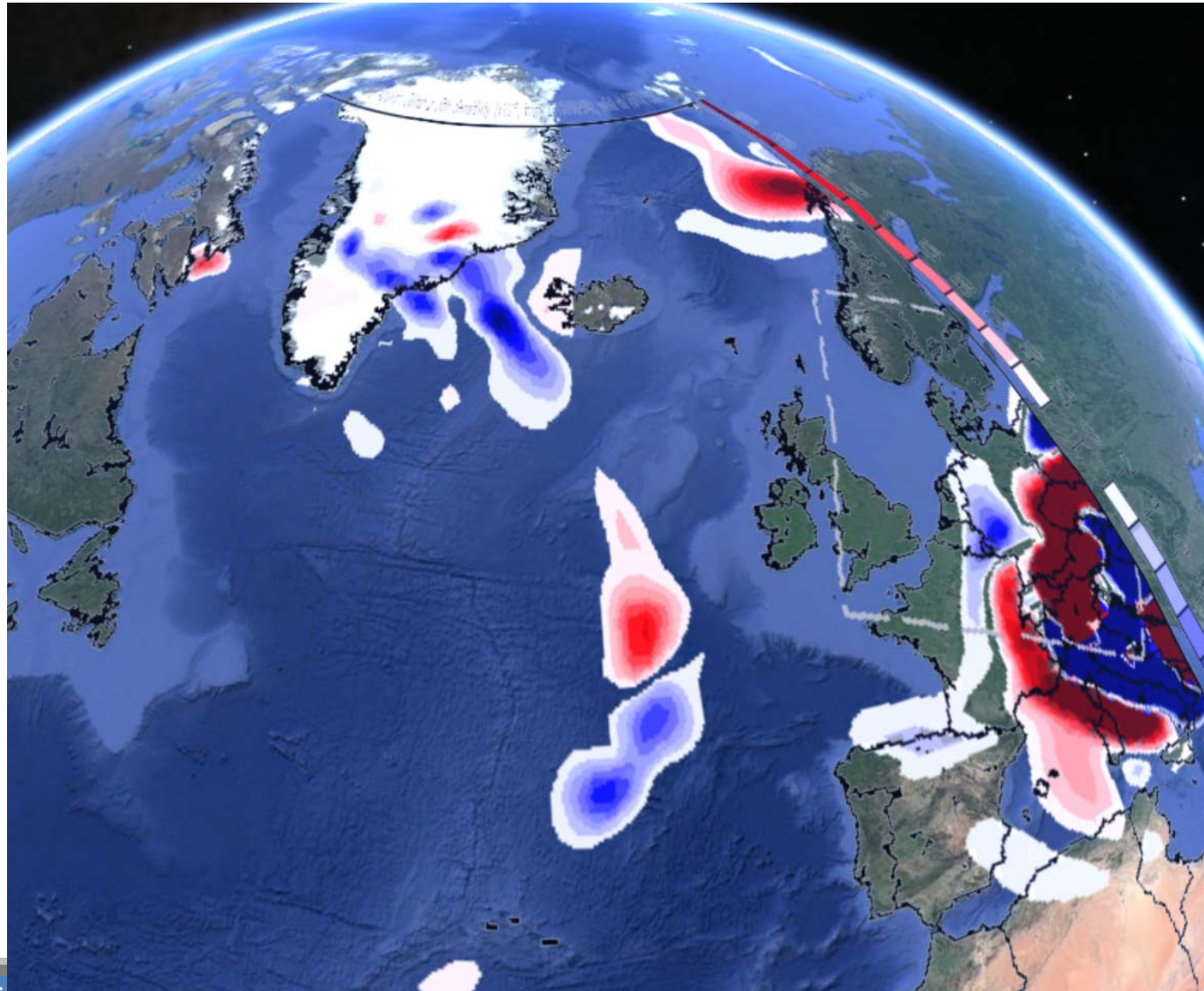
Wednesday 5 October HALO flight



COAMPS Sensitivity (48h) Valid 12Z 5 Oct (Wed Flight)

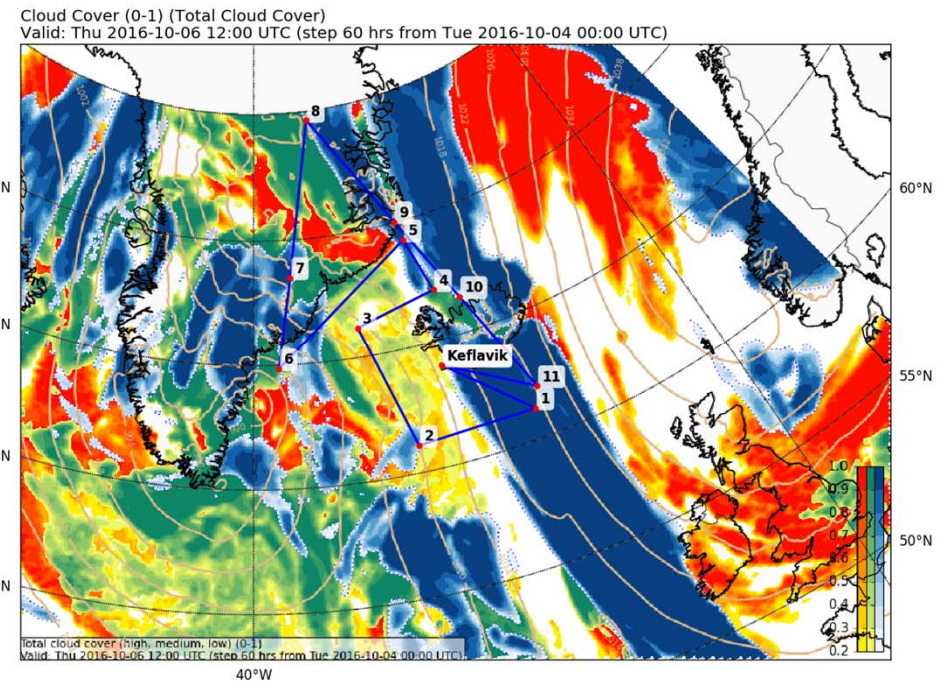
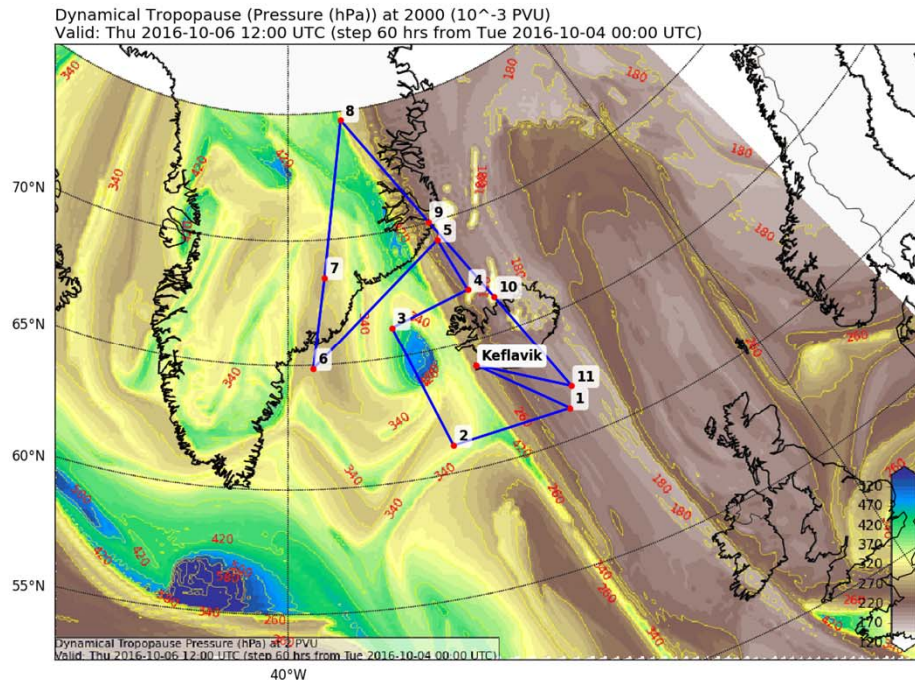
Box centered on central Europe (rainfall)

q Sensitivity at 700 hPa
valid 12Z 5 OCT



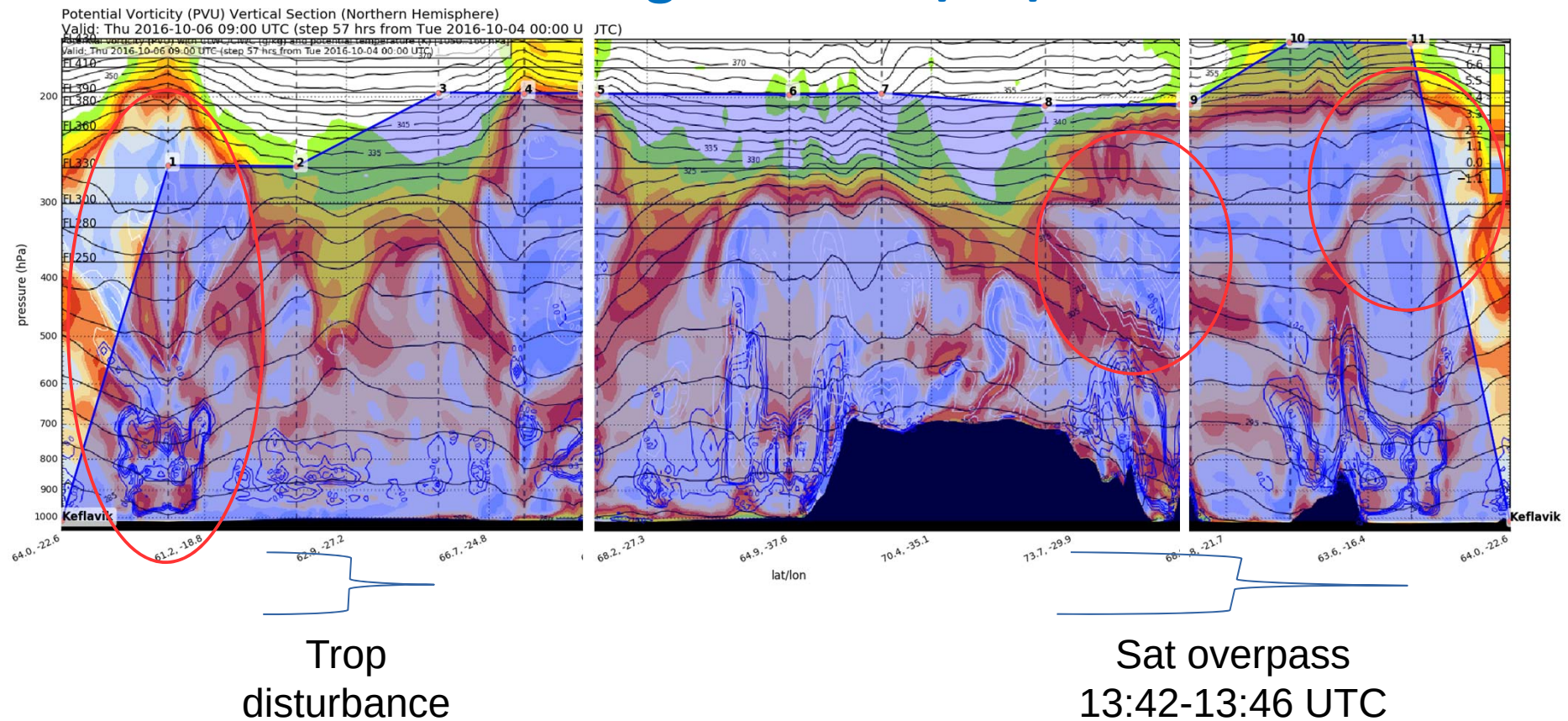
THURSDAY

HALO flighttrack 06/10/2016, 12 UTC

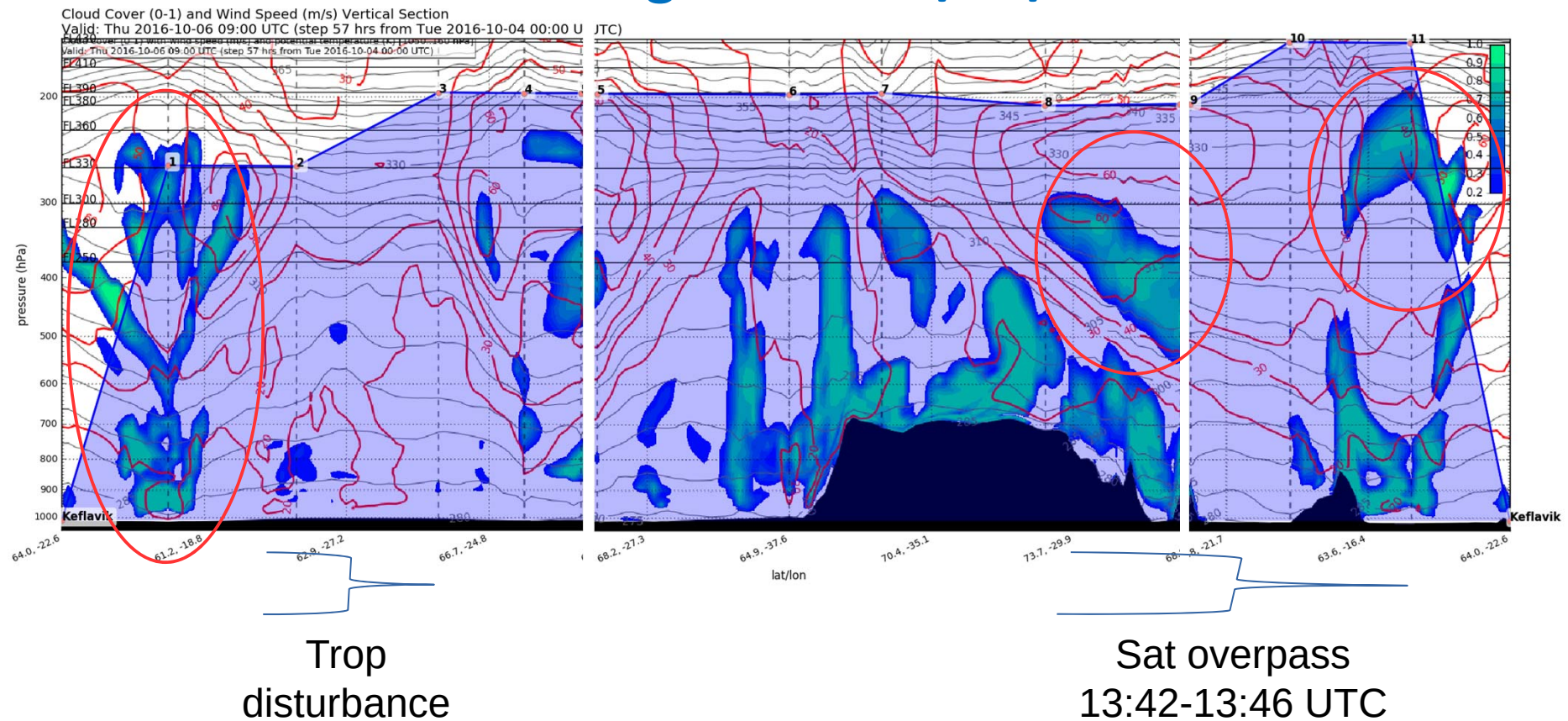


- Tropopause structure of south-north oriented jet
- Structure of tropopause disturbance west of Iceland
- Mixed-phase clouds over Greenland
- Calipso satellite overpass at around 13:41 UTC
- Coordinated leg with Safire Falcon
- Turbulence measurements in strong jet stream

HALO flighttrack 06/10/2016

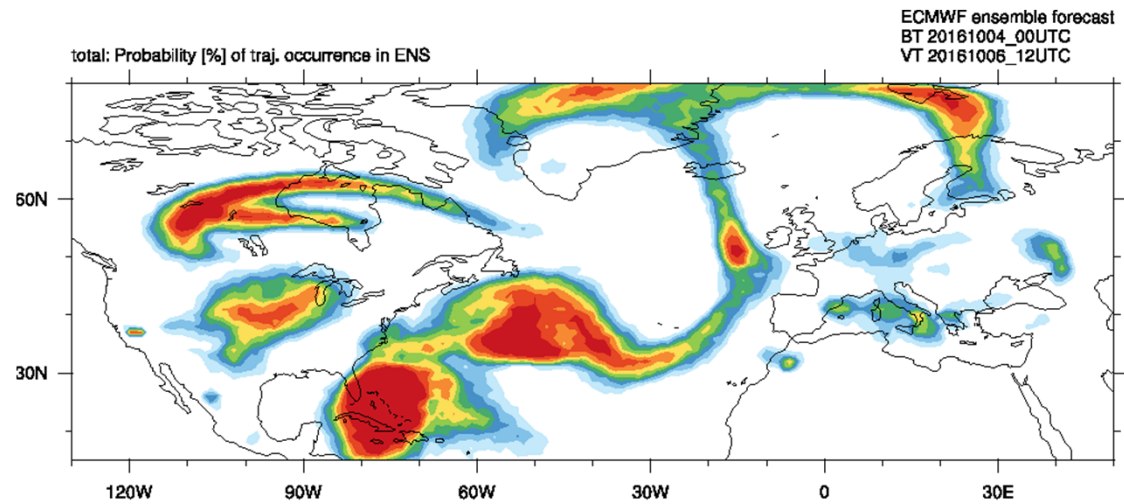


HALO flighttrack 06/10/2016

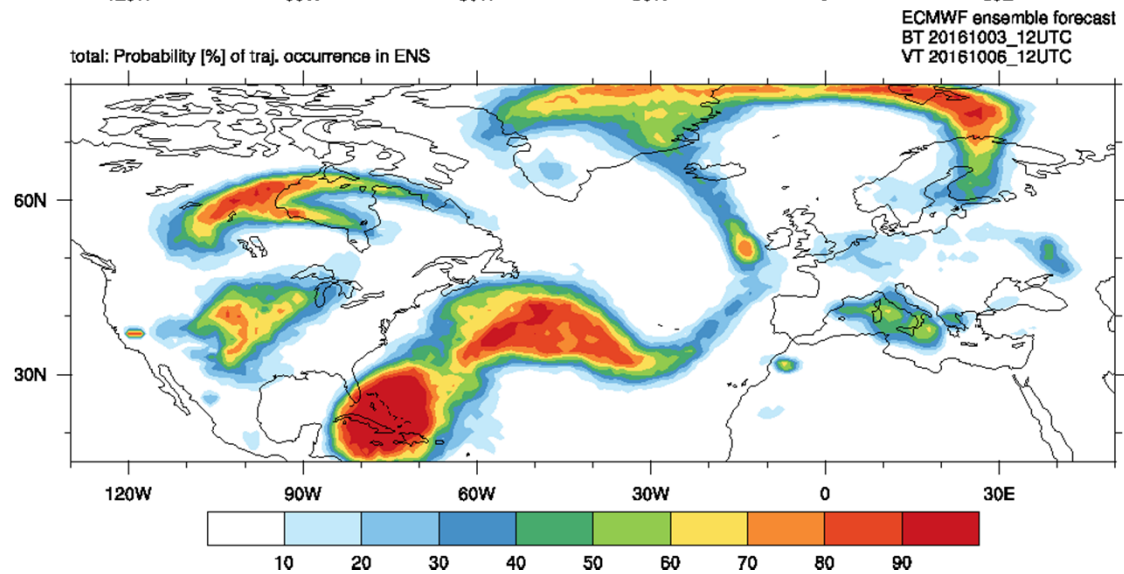


Forecast variability

Forecast today, 00
UTC



Forecast yesterday, 12
UTC

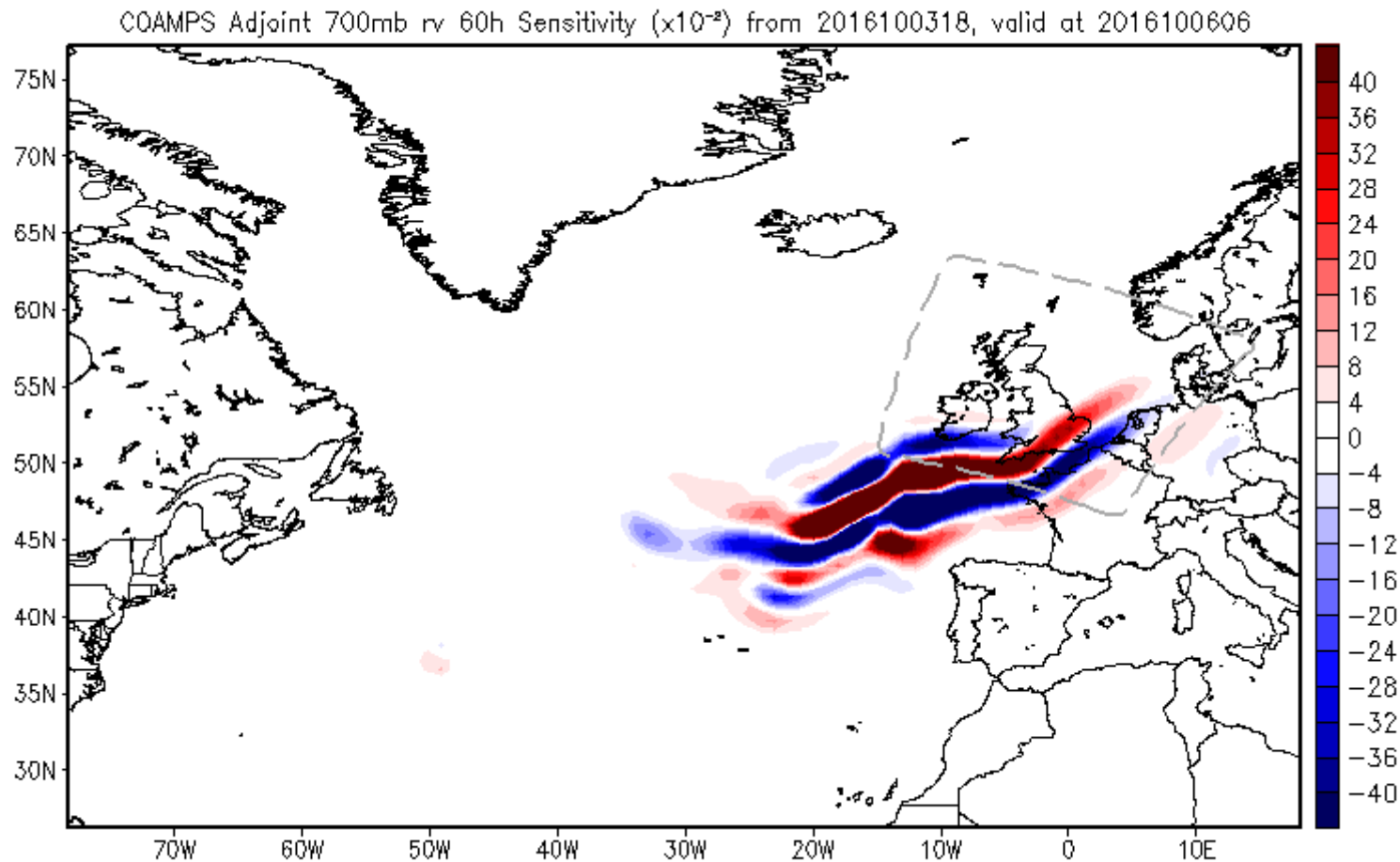


COAMPS Sensitivity (24h) Valid 06Z 6 Oct (Radiosondes)

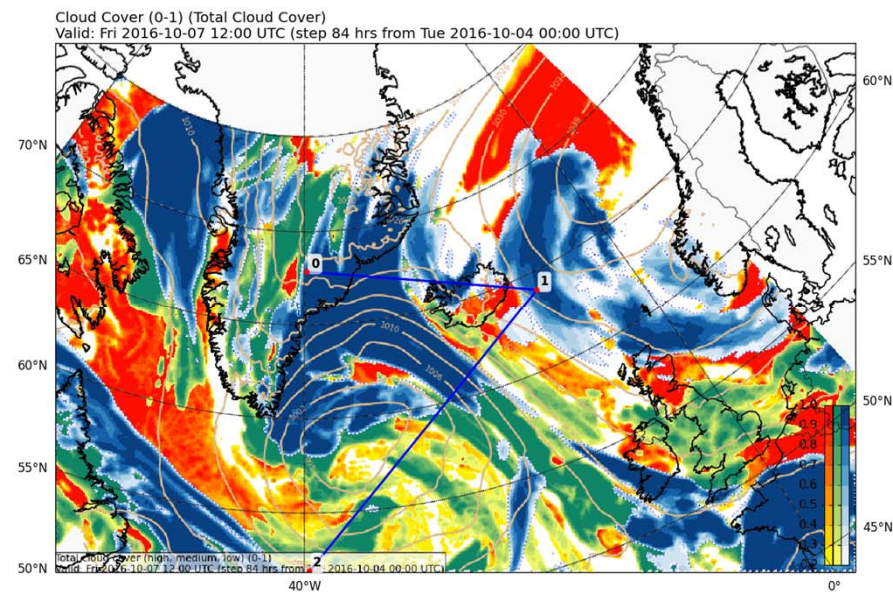
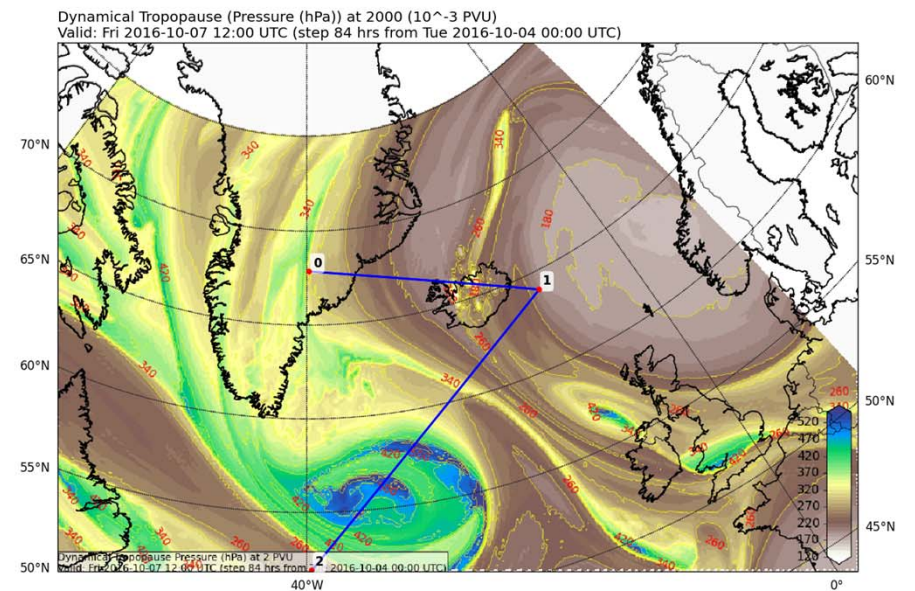
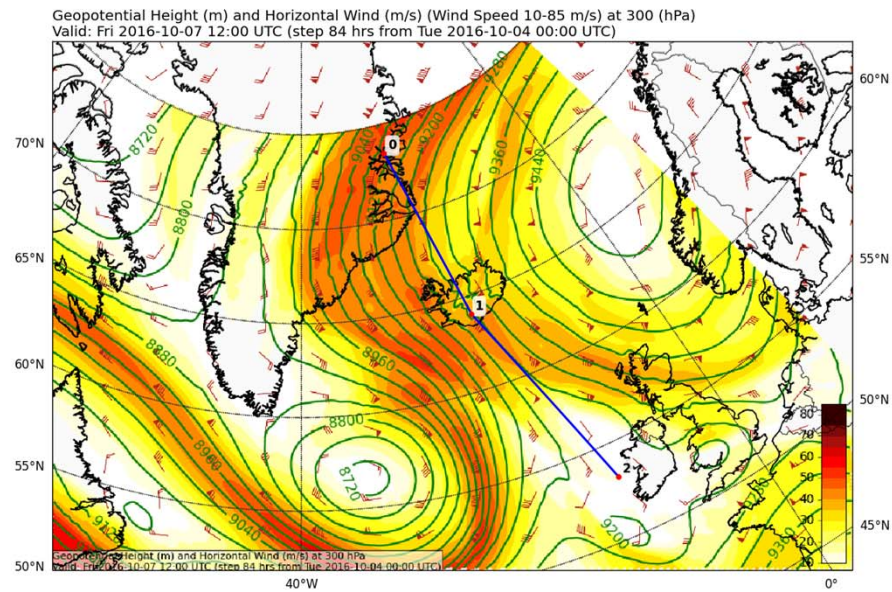
Box centered on UK (rainfall)

**Vorticity Sensitivity at 700 hPa
valid 06Z 6 OCT**

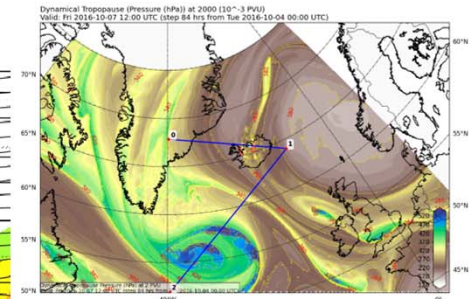
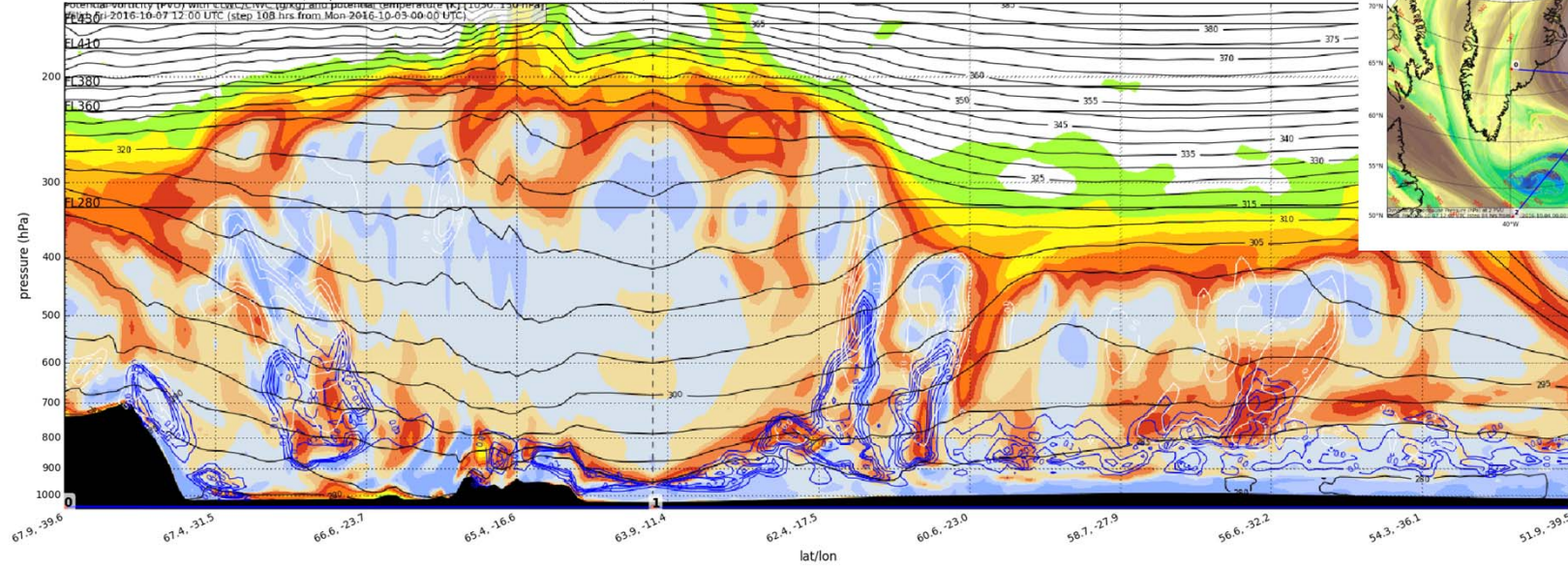
Extra radiosondes from Azores



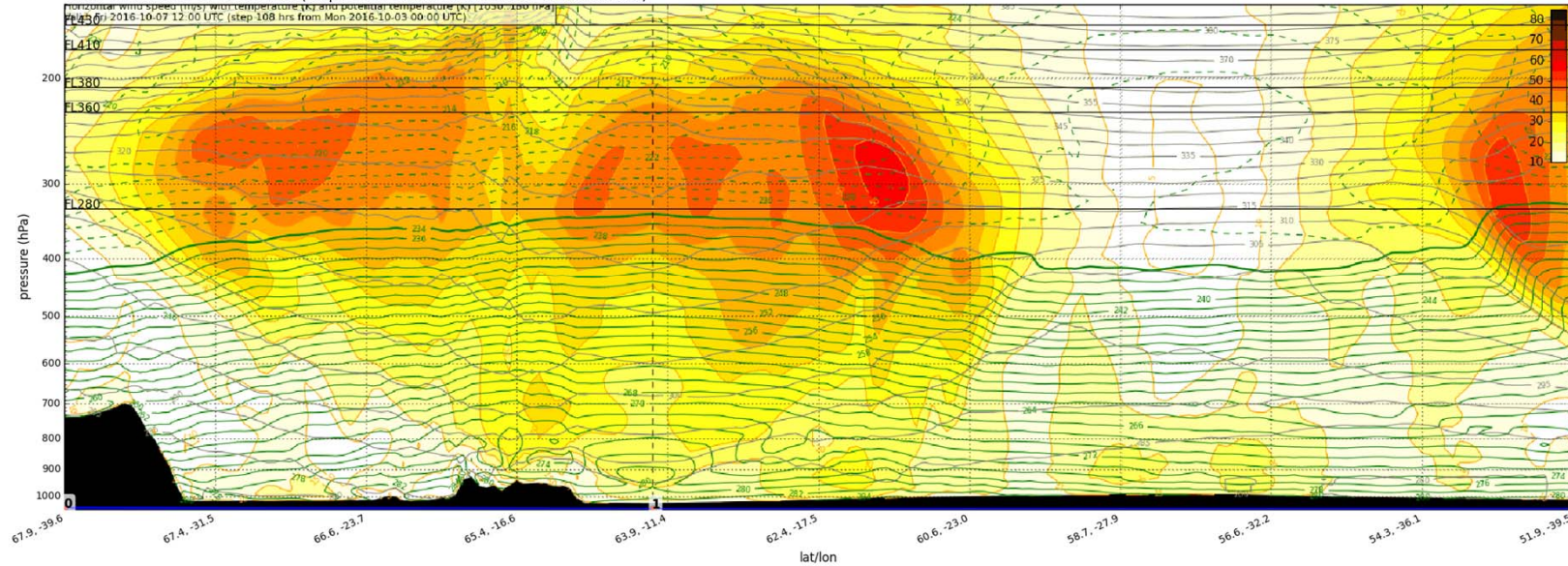
FRIDAY



Potential Vorticity (PVU) Vertical Section (Northern Hemisphere)
Valid: Fri 2016-10-07 12:00 UTC (step 108 hrs from Mon 2016-10-03 00:00 UTC)



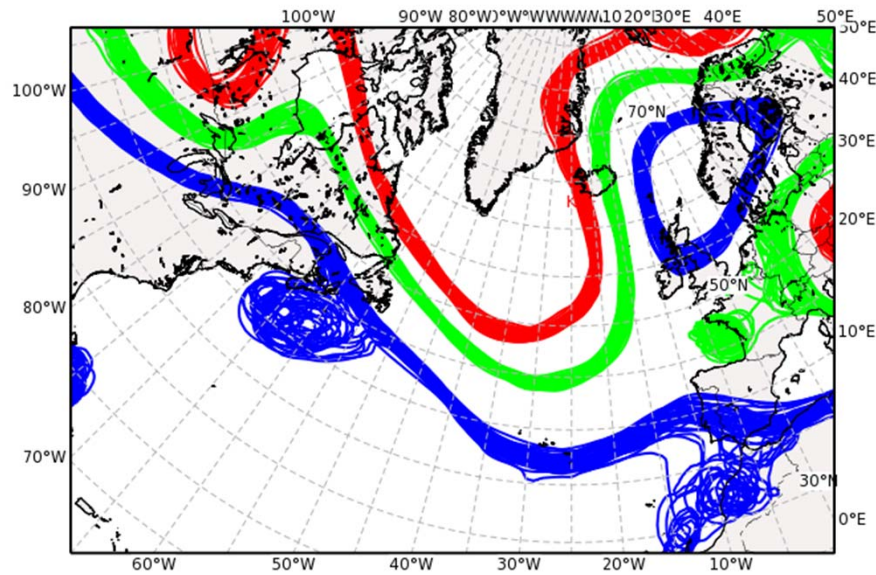
Horizontal Wind (m/s) Vertical Section
Valid: Fri 2016-10-07 12:00 UTC (step 108 hrs from Mon 2016-10-03 00:00 UTC)



OUTLOOK

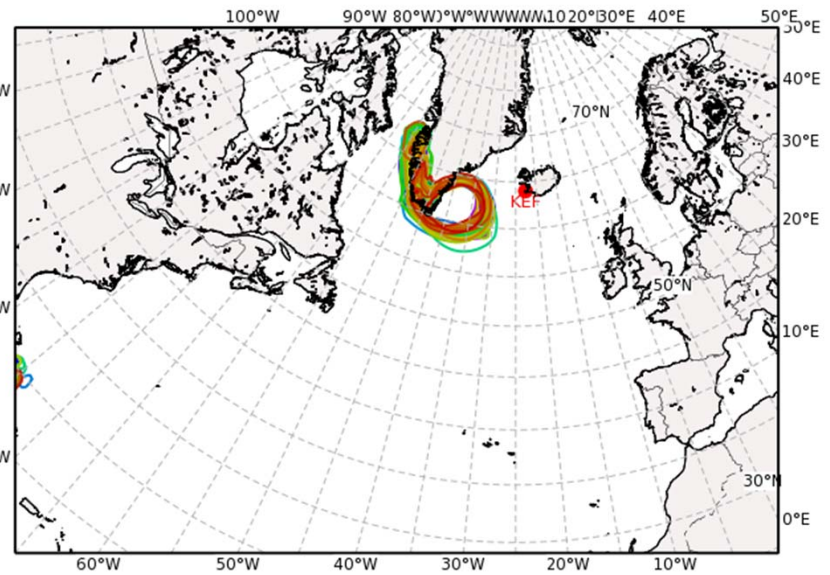
ECMWF ENS Z300 (red: 5500m, green: 5650m, blue: 5800m)

Valid: Thu, 06 Oct 2016, 00 UTC (step 048 h from Tue, 04 Oct 2016, 00 UTC)

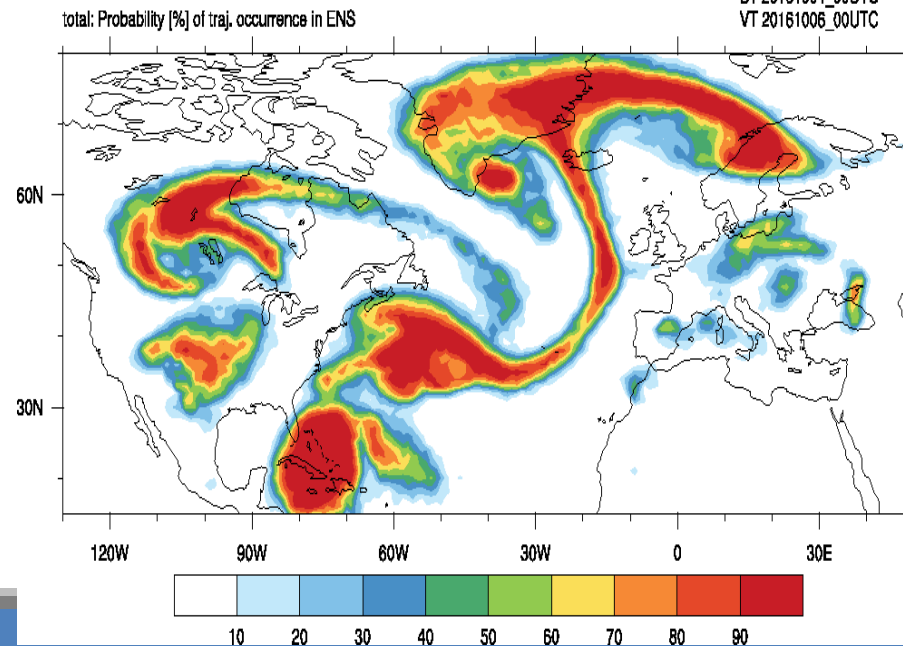


ECMWF ENS MSLP (990hPa-isoline)

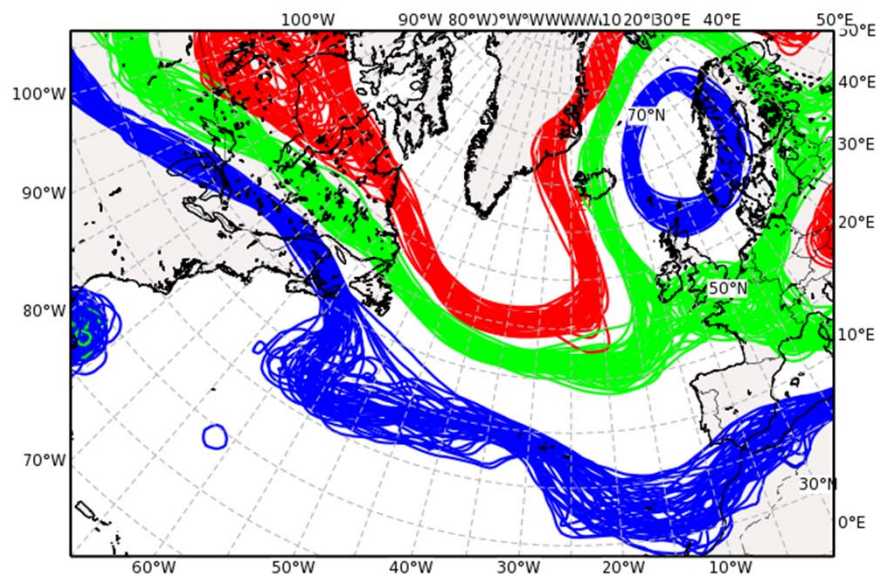
Valid: Thu, 06 Oct 2016, 00 UTC (step 048 h from Tue, 04 Oct 2016, 00 UTC)



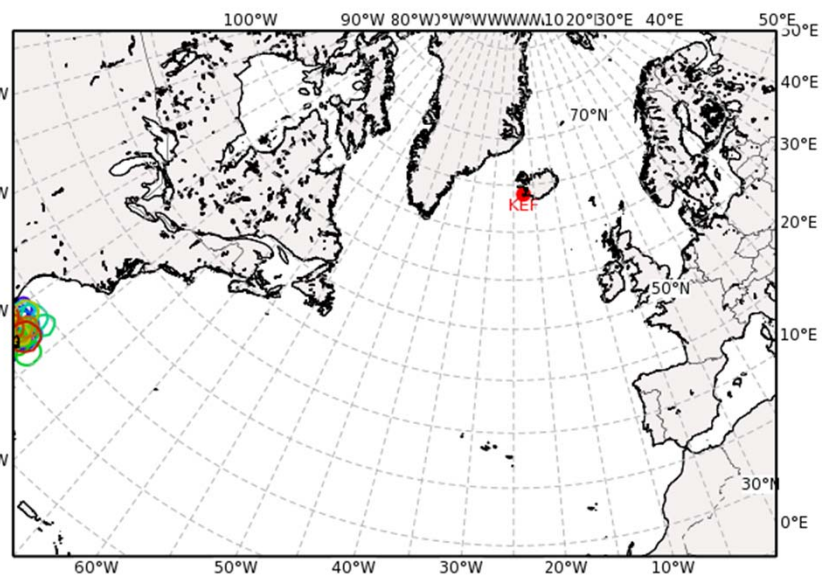
ECMWF ensemble forecast
BT 20161004_00UTC
VT 20161006_00UTC



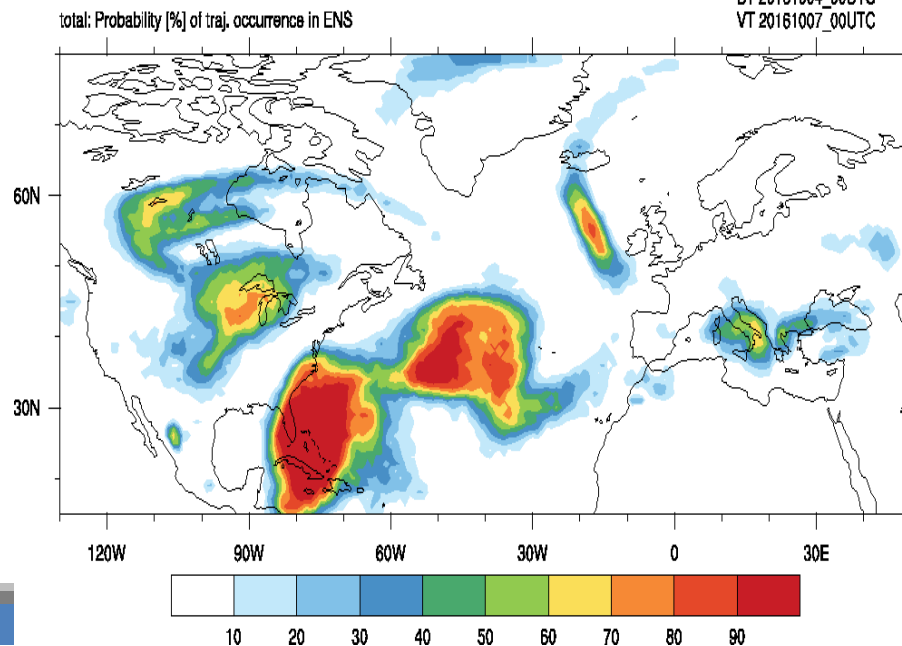
ECMWF ENS Z300 (red: 5500m, green: 5650m, blue: 5800m)
Valid: Fri, 07 Oct 2016, 00 UTC (step 072 h from Tue, 04 Oct 2016, 00 UTC)



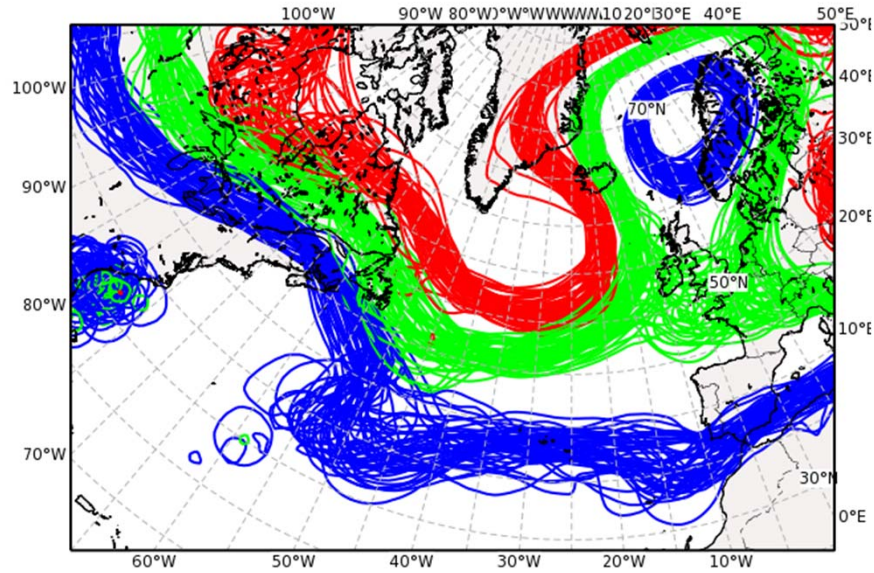
ECMWF ENS MSLP (990hPa-isoline)
Valid: Fri, 07 Oct 2016, 00 UTC (step 072 h from Tue, 04 Oct 2016, 00 UTC)



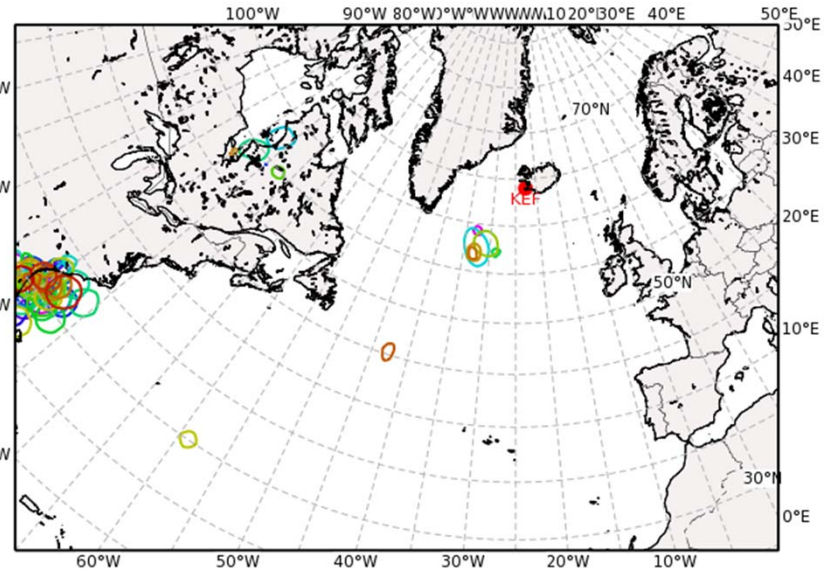
ECMWF ensemble forecast
BT 20161004_00UTC
VT 20161007_00UTC



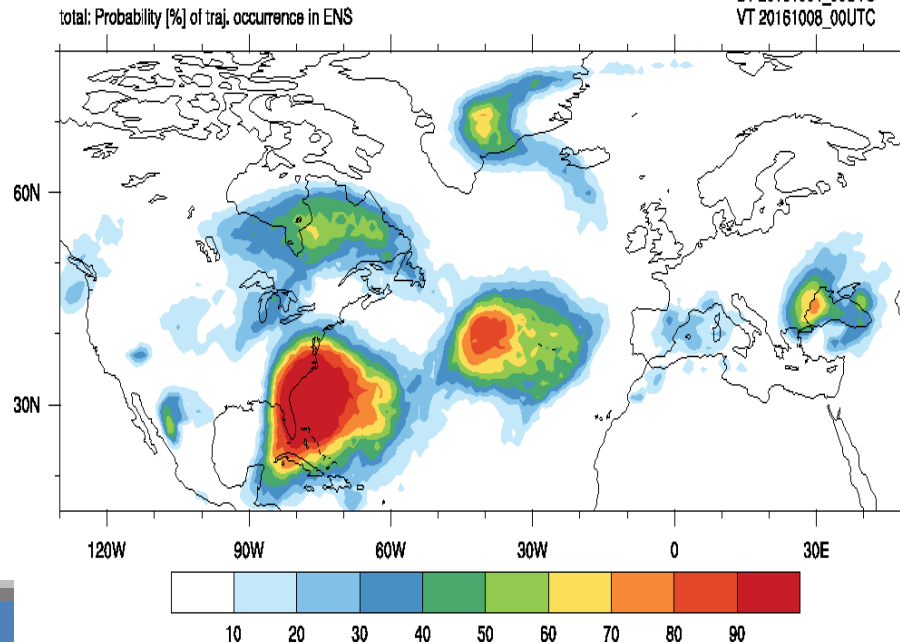
ECMWF ENS Z300 (red: 5500m, green: 5650m, blue: 5800m)
Valid: Sat, 08 Oct 2016, 00 UTC (step 096 h from Tue, 04 Oct 2016, 00 UTC)



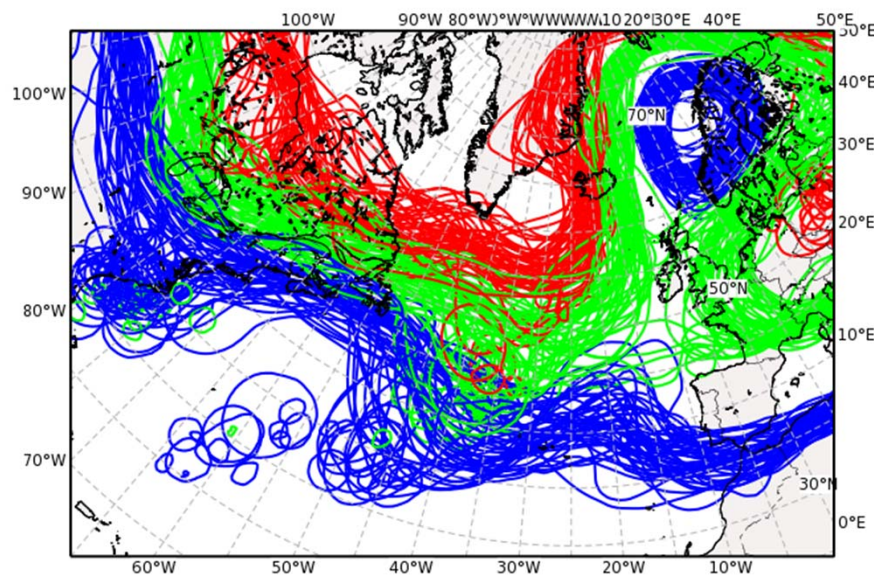
ECMWF ENS MSLP (990hPa-isoline)
Valid: Sat, 08 Oct 2016, 00 UTC (step 096 h from Tue, 04 Oct 2016, 00 UTC)



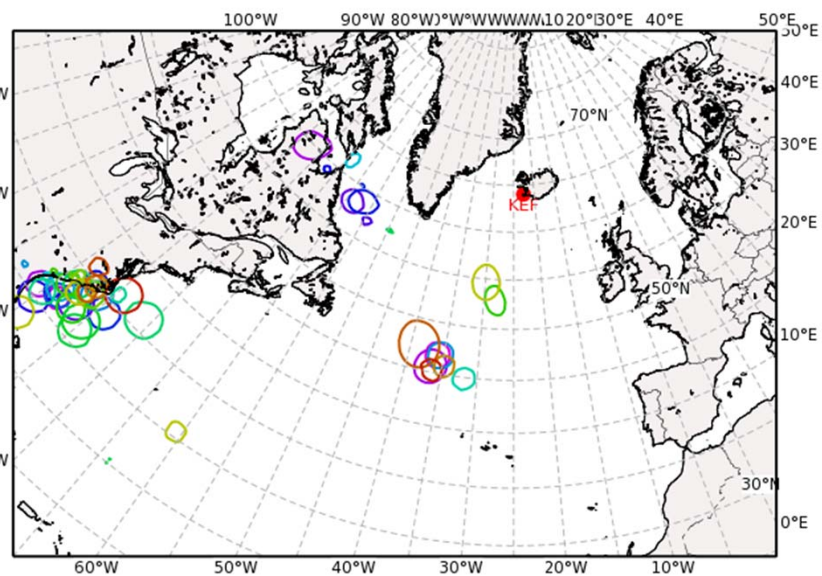
ECMWF ensemble forecast
BT 20161004_00UTC
VT 20161008_00UTC



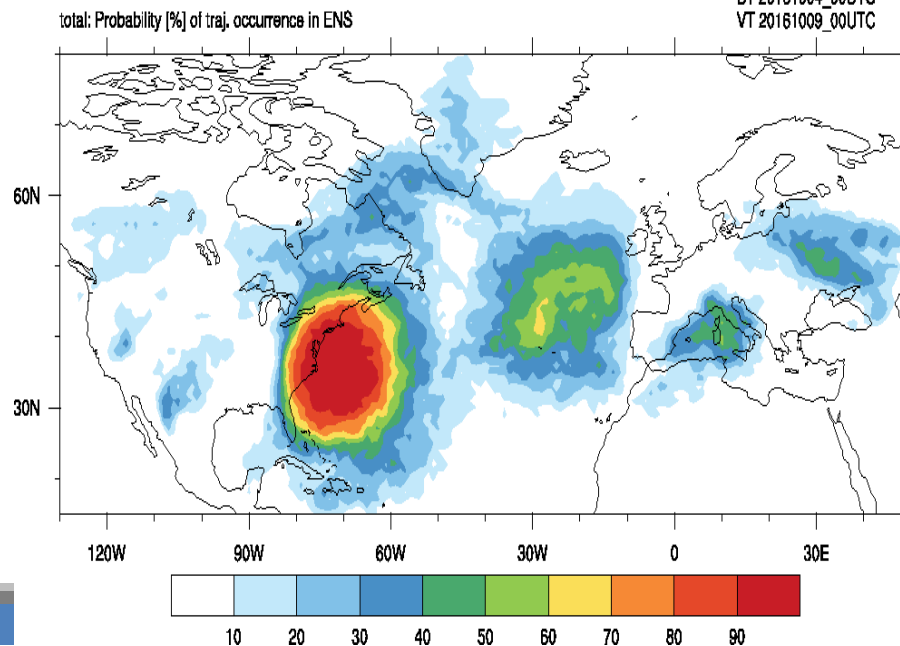
ECMWF ENS Z300 (red: 5500m, green: 5650m, blue: 5800m)
Valid: Sun, 09 Oct 2016, 00 UTC (step 120 h from Tue, 04 Oct 2016, 00 UTC)



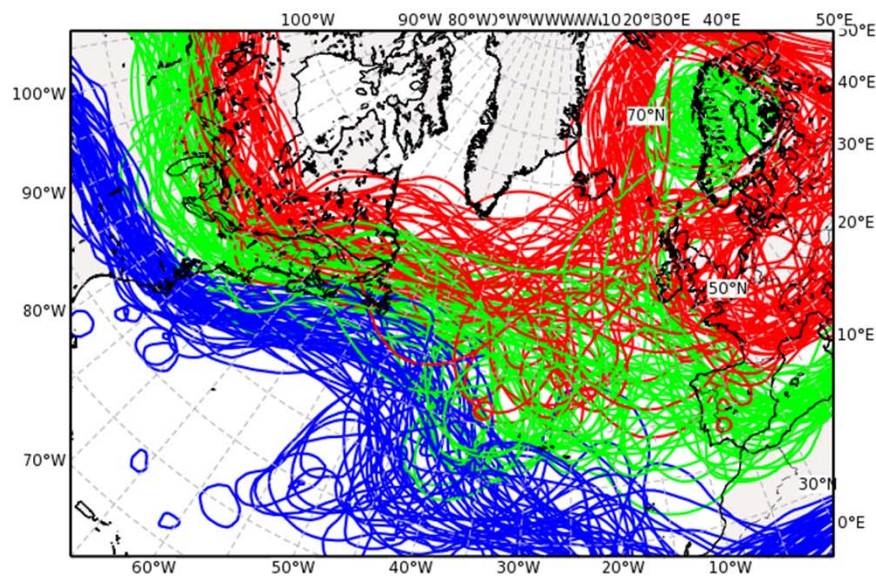
ECMWF ENS MSLP (990hPa-isoline)
Valid: Sun, 09 Oct 2016, 00 UTC (step 120 h from Tue, 04 Oct 2016, 00 UTC)



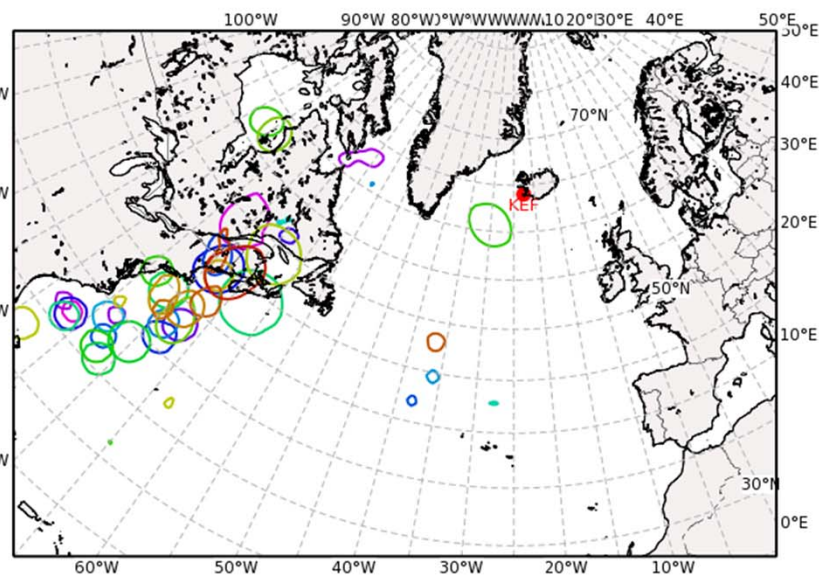
ECMWF ensemble forecast
BT 20161004_00UTC
VT 20161009_00UTC



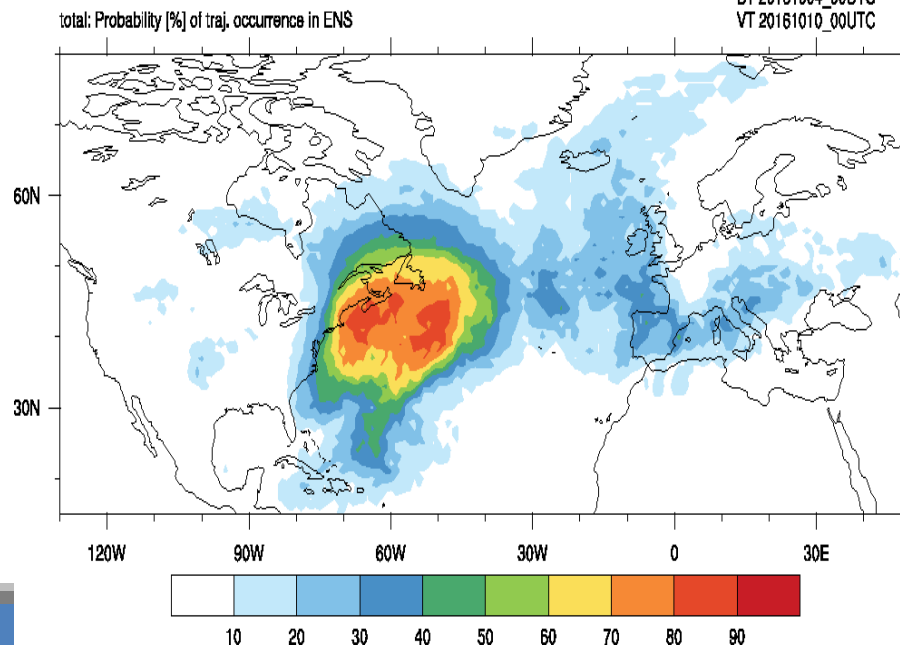
ECMWF ENS Z300 (red: 9200m, green: 9400m, blue: 9600m)
Valid: Mon, 10 Oct 2016, 00 UTC (step 144 h from Tue, 04 Oct 2016, 00 UTC)



ECMWF ENS MSLP (990hPa-isoline)
Valid: Mon, 10 Oct 2016, 00 UTC (step 144 h from Tue, 04 Oct 2016, 00 UTC)



ECMWF ensemble forecast
BT 20161004_00UTC
VT 20161010_00UTC



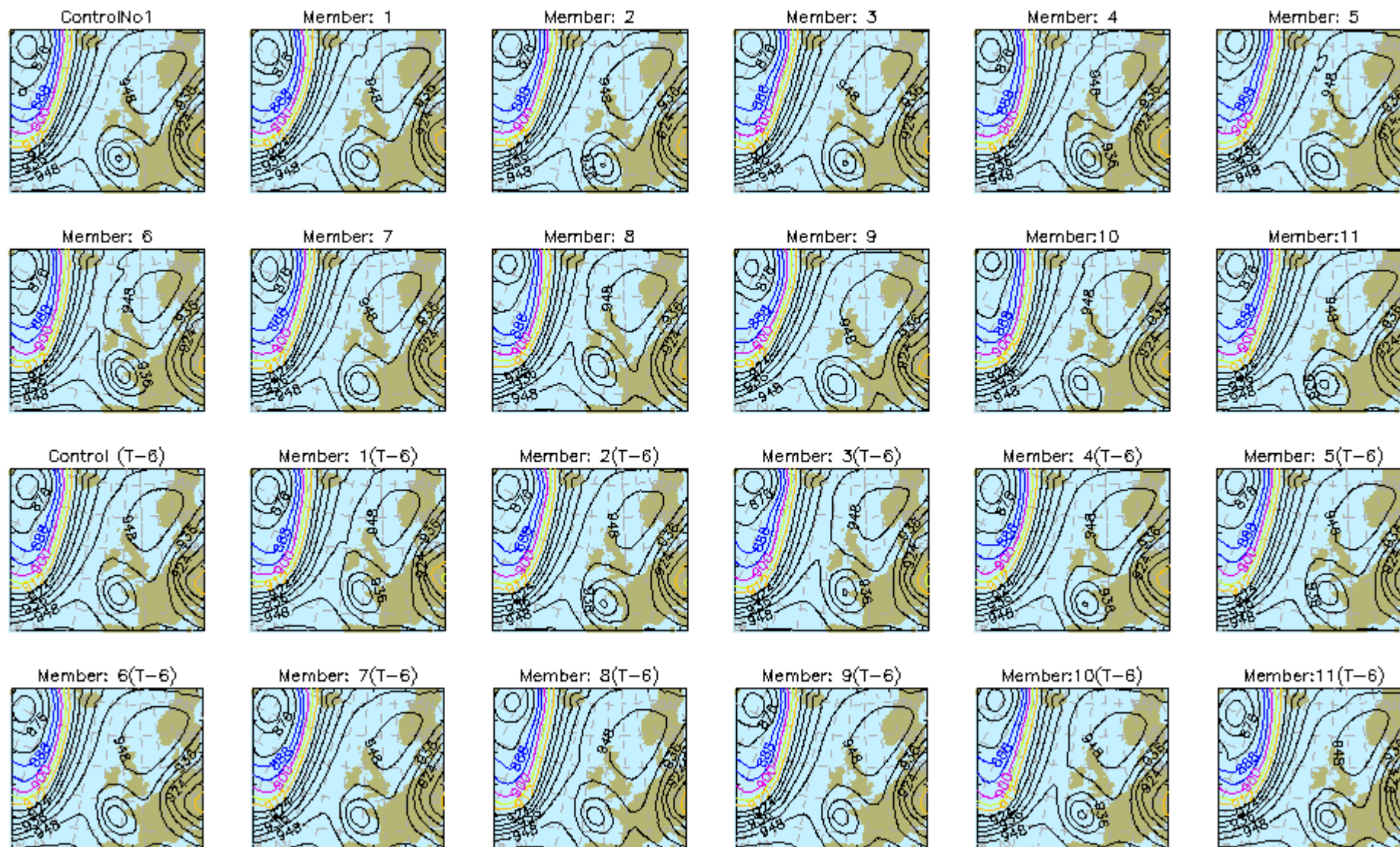
Met Office

Wed 12 UT 05/10/16

MOGREPS CT 00Z on Tue 04/10/2016 300hPaHeight (dam)

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)

T+ 36h VT 12Z on Wed 05/10/2016



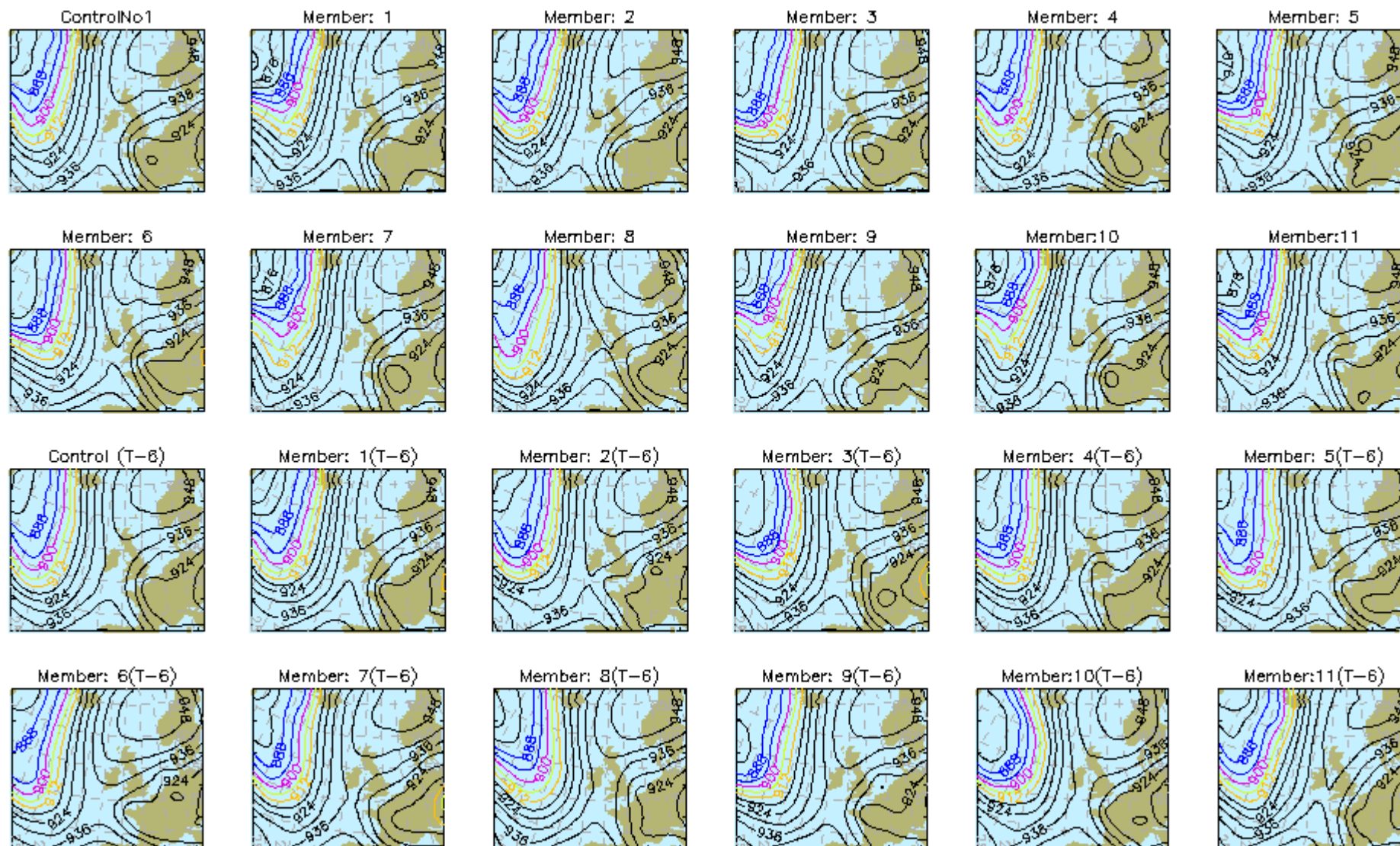
Met Office

Thu 12 UT 06/10/16

MOGREPS CT 00Z on Tue 04/10/2016 300hPaHeight (dam)

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)

T+ 60h VT 12Z on Thu 06/10/2016



Met Office

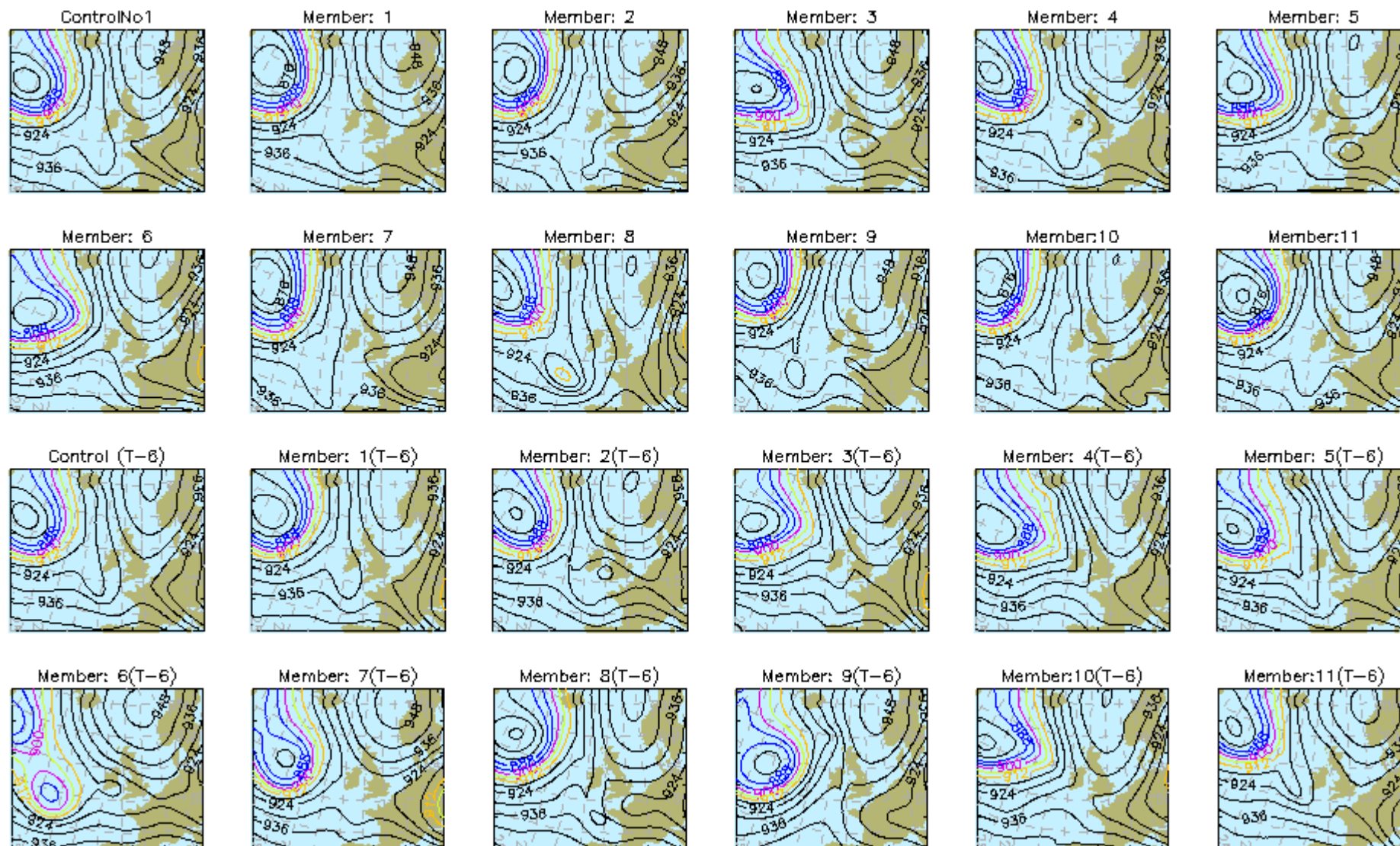
Fri 12 UT 07/10/16

MOGREPS CT 00Z on Tue 04/10/2016 300hPaHeight (dam)

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)

T+ 84h

VT 12Z on Fri 07/10/2016



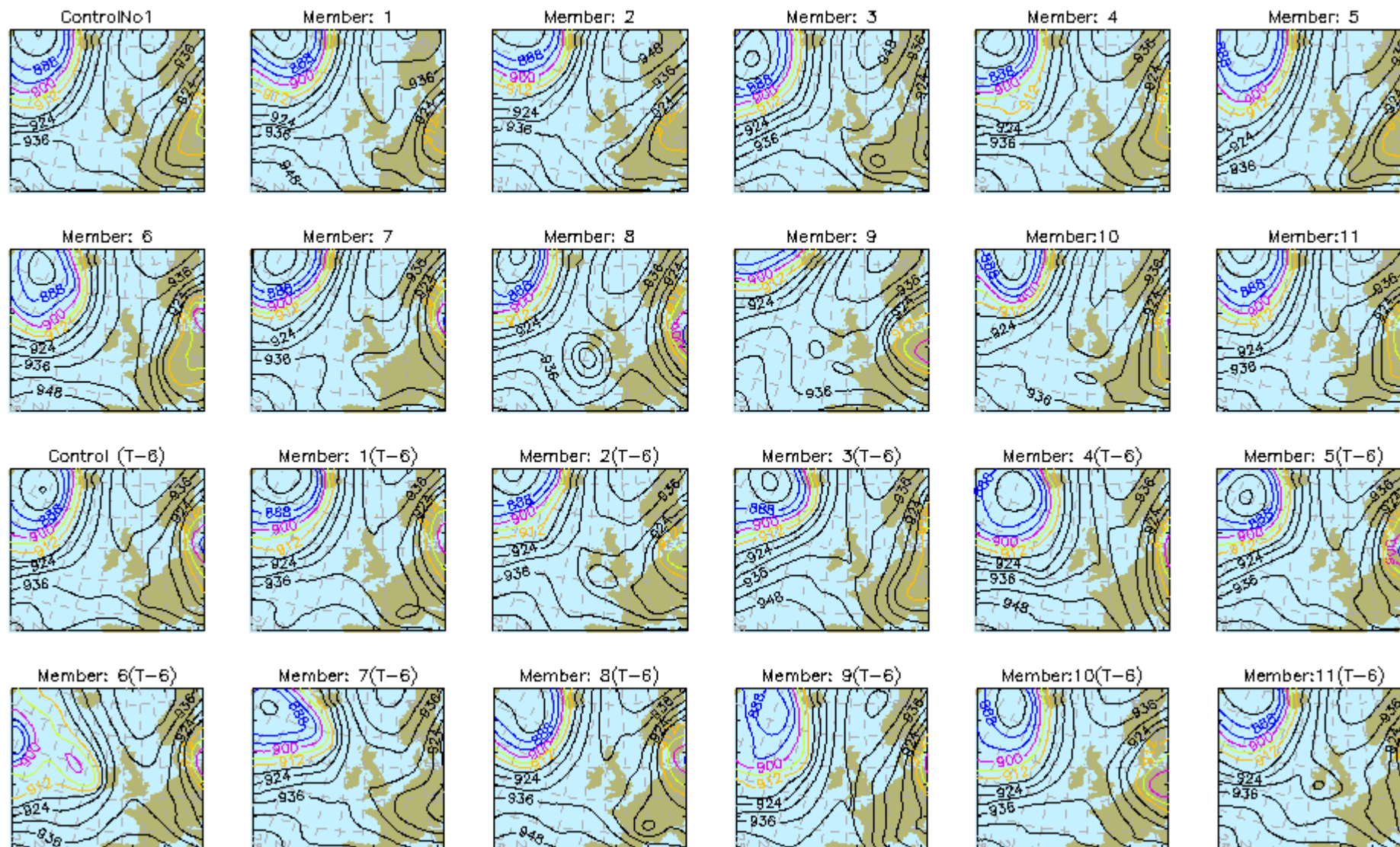
Met Office

Sat 12 UT 08/10/16

MOGREPS CT 00Z on Tue 04/10/2016 300hPaHeight (dam)

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)

T+ 108h VT 12Z on Sat 08/10/2016



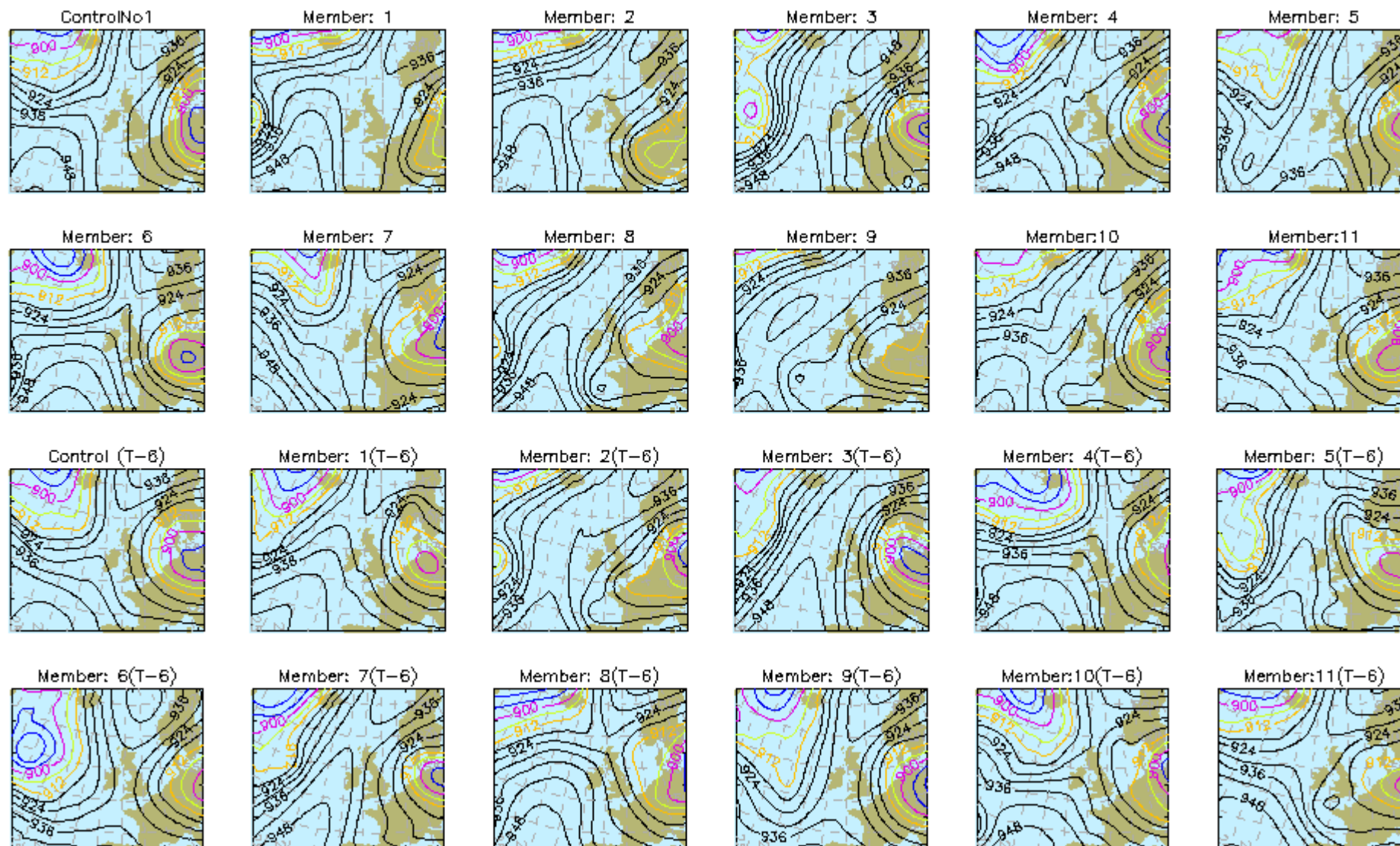
Met Office

Sun 12 UT 09/10/16

MOGREPS CT 00Z on Tue 04/10/2016 300hPaHeight (dam)

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)

T+ 132h VT 12Z on Sun 09/10/2016

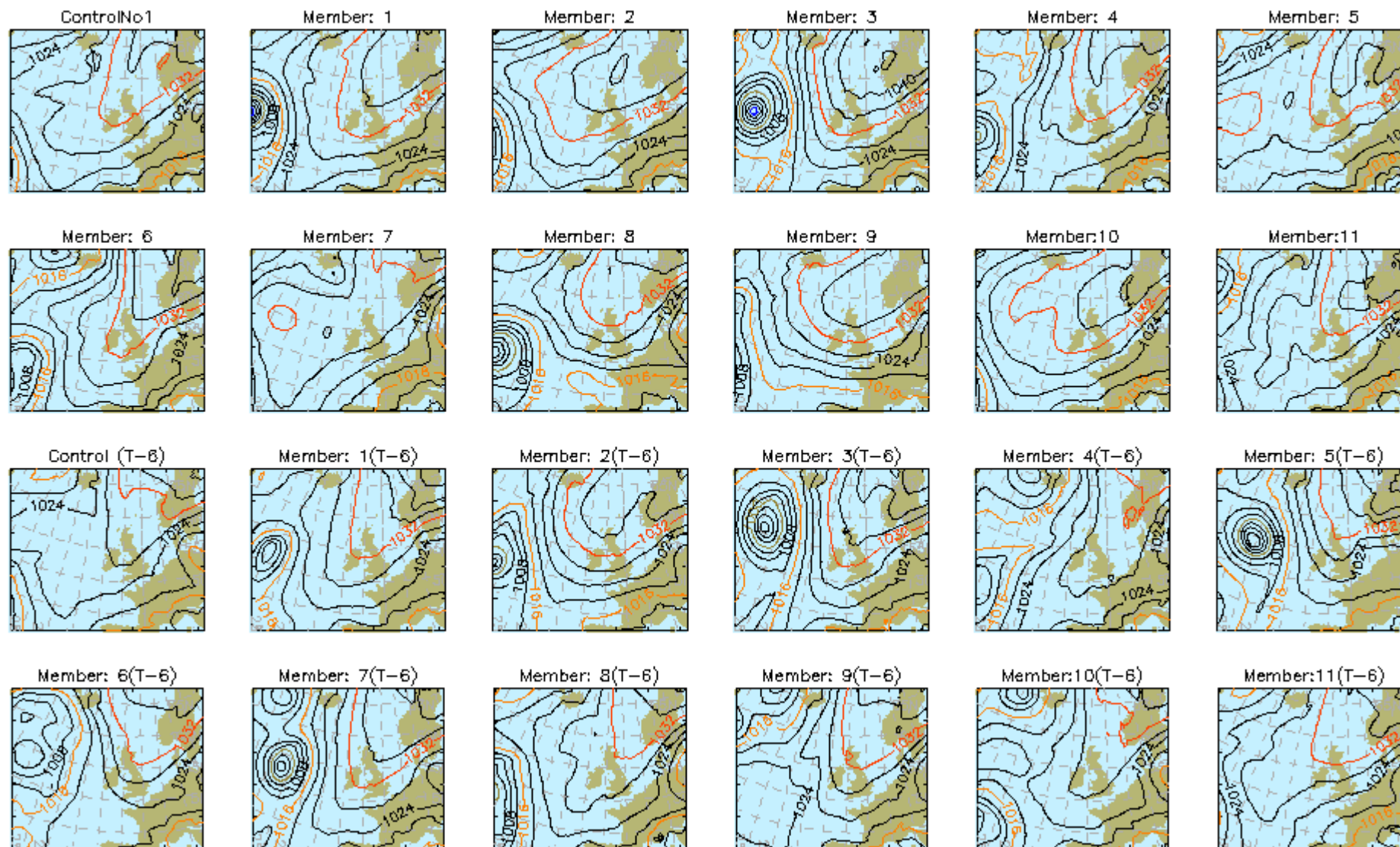


Met Office

MOGREPS CT 00Z on Tue 04/10/2016 PMSL (hPa)

Sun 12 UT 09/10/16

(DTs 00Z on Tue 04/10/2016 & 18Z on Mon 03/10/2016)
T+ 132h VT 12Z on Sun 09/10/2016



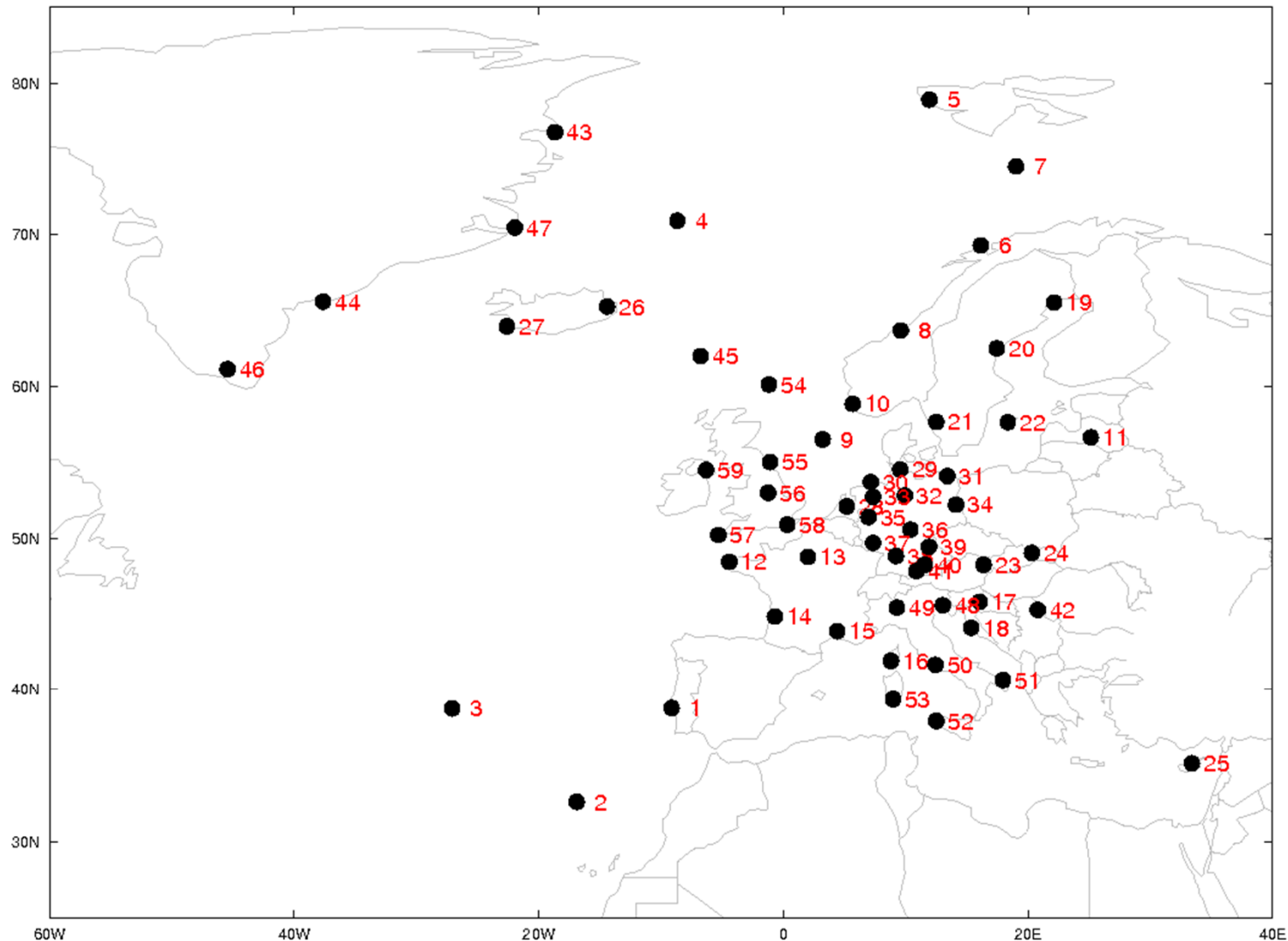
RADIOSONDE

Radiosonde launch summary

EUMETNET – 75 confirmed launches up to 29/9/16
- 59 launches requested 30/9/16-6/10/16
- **134 total**

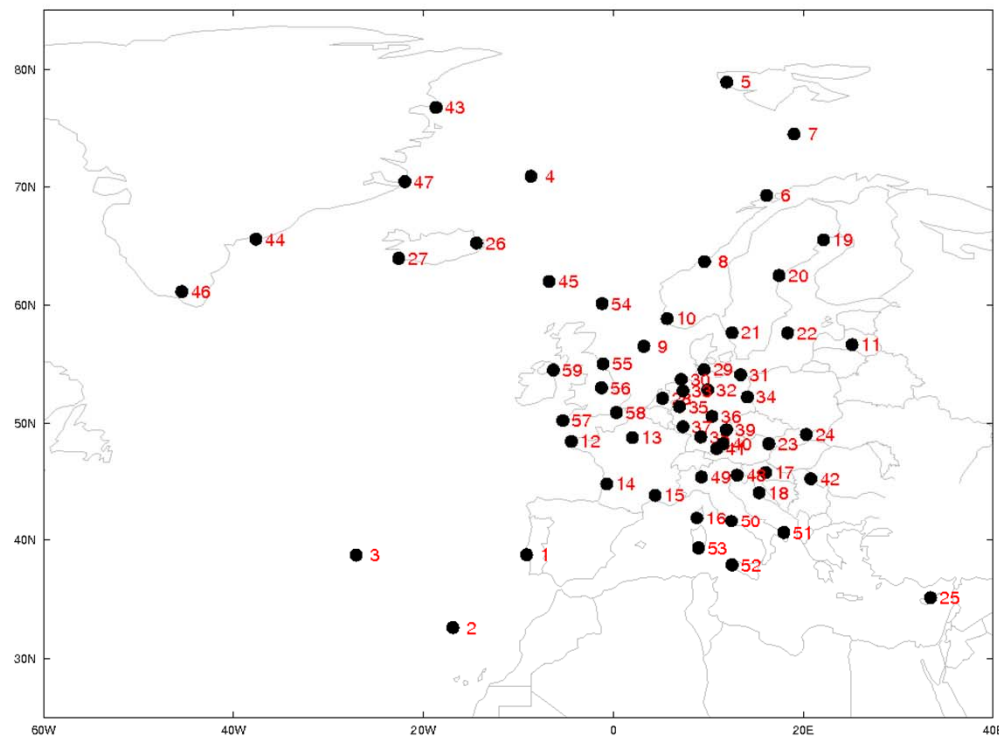
	confirmed to 29/9	requested 30/9-6/10
Icelandic Met Office	5	7
DLR Keflavik	6	3
Met Norway	?	?
Met Office (UK)	14	0
NCAS (Aberystwyth)	?	0
France (SIRTA)	?	?

FI IMETNET conda citas



- 1 08579 Lisbon
- 2 08522 Madeira
- 3 08508 Azores
- 4 01001 JAN MAYEN
- 5 01004 NY-ALESUND
- 6 01010 ANDOYA
- 7 01028 BJORNOYA
- 8 01241 ORLAND
- 9 01400 EKOFISK
- 10 01415 STAVANGER
- 11 26435 Sriveri each
- 12 07110 BREST
- 13 07145 TRAPPES
- 14 07510 BORDEAUX
- 15 07645 Nimes
- 16 07761 AJACCIO
- 17 14240 Zagreb
- 18 14430 Zadar
- 19 02185 Lulea
- 20 02365 Sundsvall
- 21 02527 Goteborg
- 22 02591 Visby
- 23 11035 Wien
- 24 11952 POPRAD-GA
- 25 17607 ATHALASSA
- 26 04089 Egilsstadir
- 27 04018 KEFLAVIK
- 28 06260 DE BILT AW
- 29 10035 SCHLESWIC
- 30 10113 Norderney

EUMETNET sonde sites



1 08579 Lisbon
2 08522 Madeira
3 08508 Azores
4 01001 JAN MAYEN
5 01004 NY-ALESUND
6 01010 ANDOYA
7 01028 BJORNOYA
8 01241 ORLAND
9 01400 EKOFISK
10 01415 STAVANGER/SOLA
11 26435 Sriveri each second day
12 07110 BREST
13 07145 TRAPPES
14 07510 BORDEAUX
15 07645 Nimes
16 07761 AJACCIO
17 14240 Zagreb
18 14430 Zadar
19 02185 Lulea
20 02365 Sundsvall
21 02527 Goteborg
22 02591 Visby
23 11035 Wien
24 11952 POPRAD-GANOVCE
25 17607 ATHALASSA
26 04089 Egilsstadir
27 04018 KEFLAVIK
28 06260 DE BILT AWS
29 10035 SCHLESWIG
30 10113 Norderney

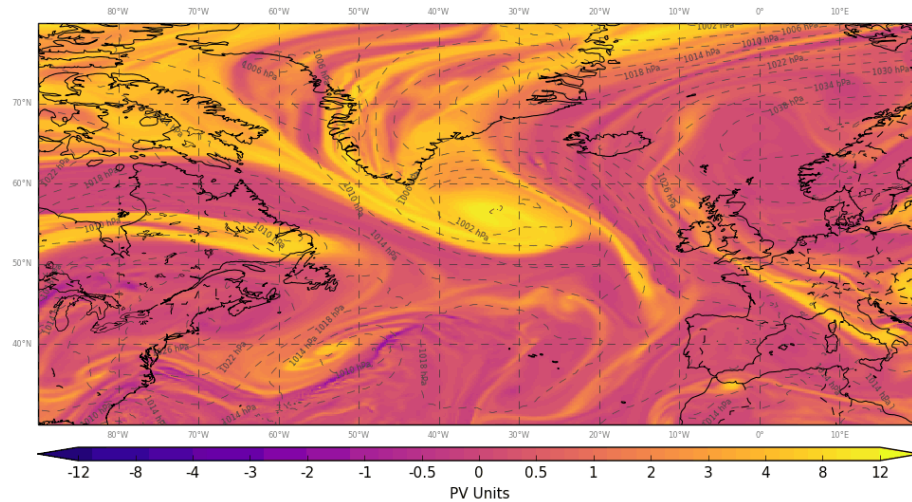
31 10184 Greifswald
32 10238 Bergen
33 10304 Meppen
34 10393 Lindenberg
35 10410 Essen
36 10548 Meiningen
37 10618 Idar-Oberstein
38 10739 Stuttgart
39 10771 K mmersbruck
40 10868 Muenchen
41 10954 Altenstadt
42 13275 BEOGRAD /KOSUTNJAK
43 04320 DANMARKSHAVN
44 04360 TASIILAQ (AMMASSALIK)
45 06011 TORSHAVN
46 04270 Narsarsuaq
47 04339 Itoqqortoormiit (Scorebysund)
48 16045 Udine/Rivolto
49 16080 Milano/Linate
50 16245 Pratica di Mare
51 16320 Brindisi
52 16429 Trapani/Birgi
53 16546 Decimomannu
54 03005 Lerwick
55 03238 Albemarle
56 03354 Nottingham/Watnall
57 03838 Cambourne
58 03882 Herstmonceaux
59 03918 Castor Bay

Charts etc

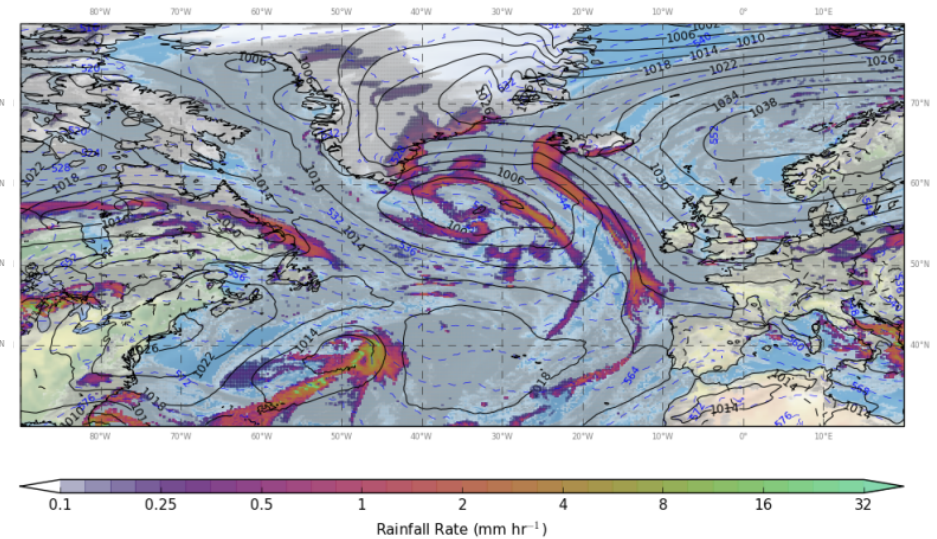
06 UT 07/10/16



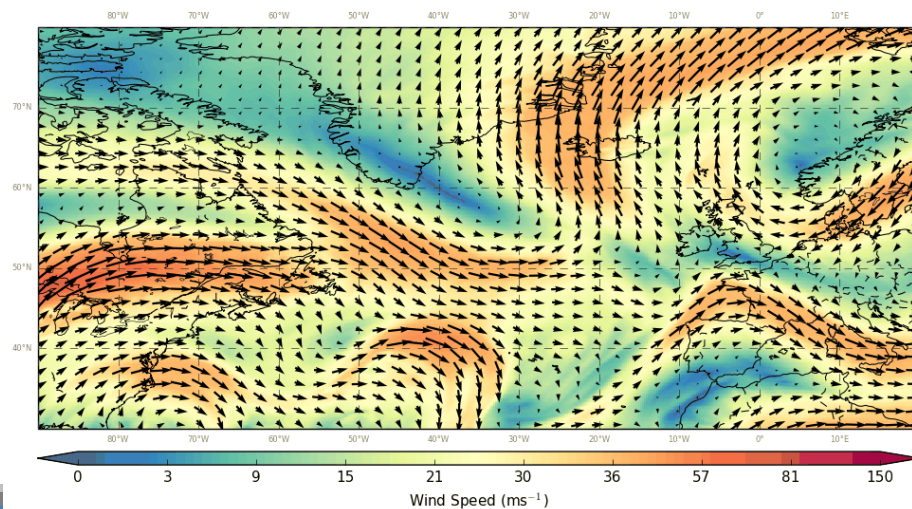
Met Office Oper. Global: Potential Vorticity ($10^6 \text{ m}^2 \text{ kg}^{-1} \text{ K s}^{-1}$) at 300 hPa
2016/10/07 06Z T+78 from 2016/10/04 00Z



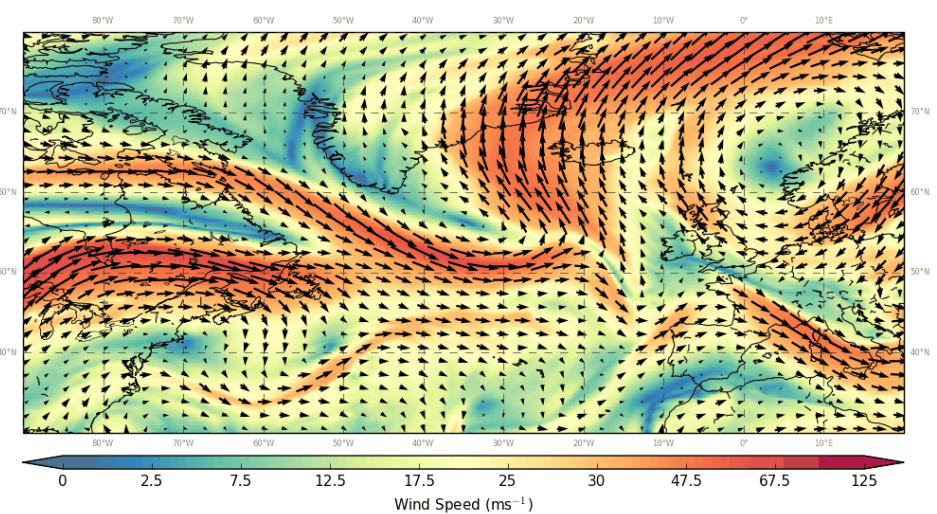
Met Office Oper. Global: P_{mix} , 500hPa Thickness, Precip Rates, Cloud
2016/10/07 06Z T+78 from 2016/10/04 00Z



Met Office Oper. Global: Wind speed and direction (ms^{-1}) at 200 hPa
2016/10/07 06Z T+78 from 2016/10/04 00Z



Met Office Oper. Global: Wind speed and direction (ms^{-1}) at 300 hPa
2016/10/07 06Z T+78 from 2016/10/04 00Z

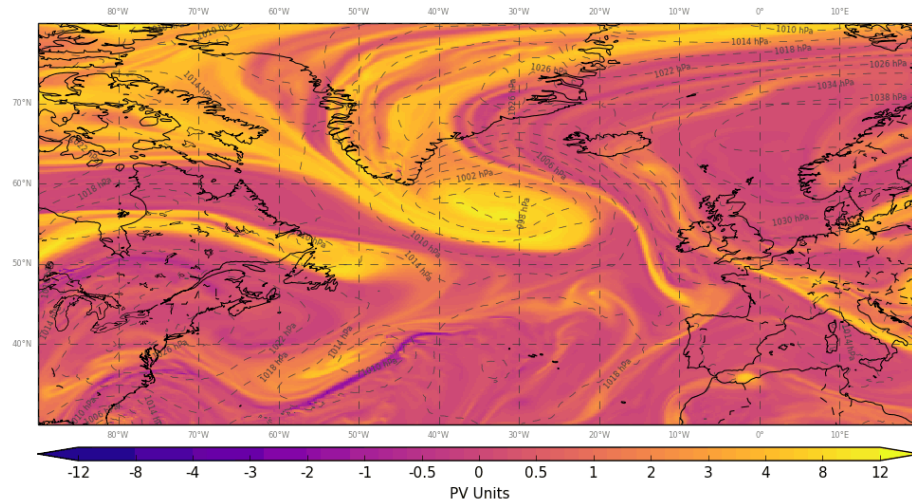


Charts etc

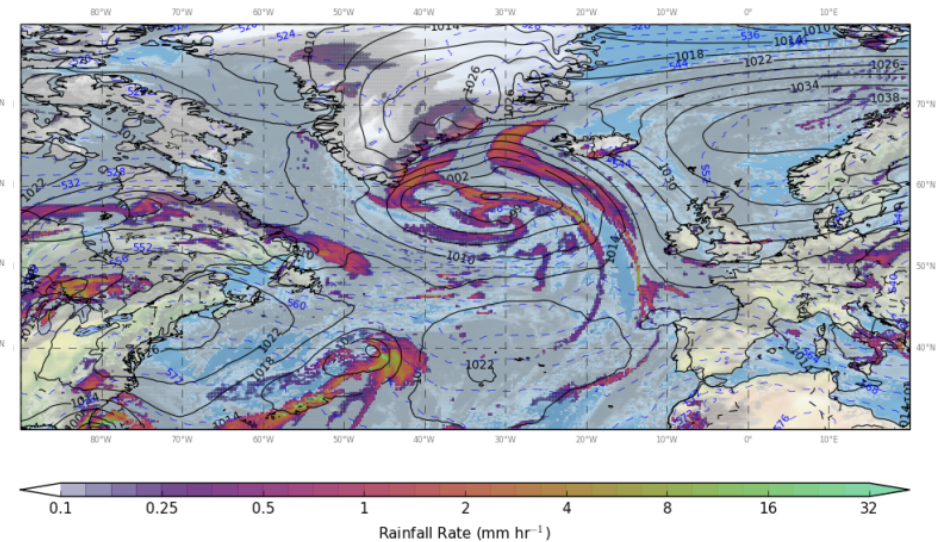
12 UT 07/10/16



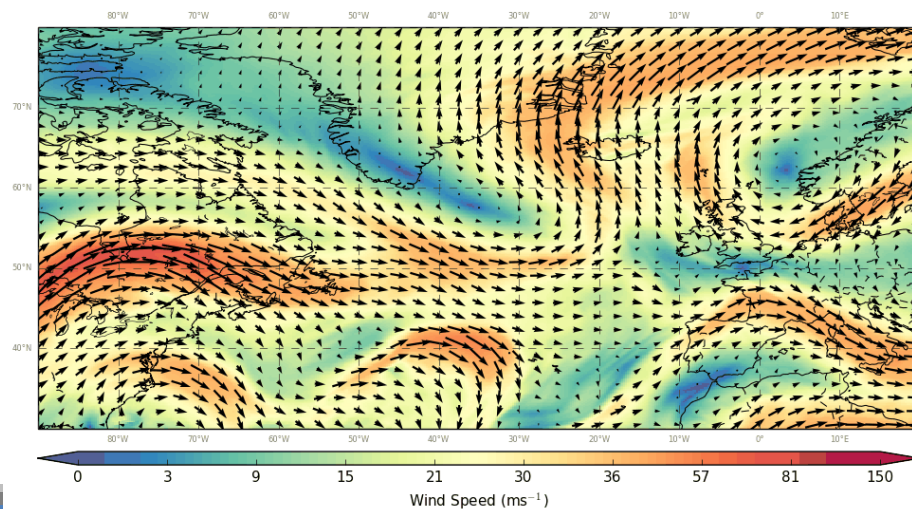
Met Office Oper. Global: Potential Vorticity ($10^6 \text{ m}^2 \text{ kg}^{-1} \text{ K s}^{-1}$) at 300 hPa
2016/10/07 12Z T+84 from 2016/10/04 00Z



Met Office Oper. Global: P_{msl} , 500hPa Thickness, Precip Rates, Cloud
2016/10/07 12Z T+84 from 2016/10/04 00Z



Met Office Oper. Global: Wind speed and direction (ms^{-1}) at 200 hPa
2016/10/07 12Z T+84 from 2016/10/04 00Z



Met Office Oper. Global: Wind speed and direction (ms^{-1}) at 300 hPa
2016/10/07 12Z T+84 from 2016/10/04 00Z

