

Synoptic Analysis - (Thursday, 13/10/2016)

The upper level large scale pattern is characterized by a ridge over Scandinavia (named Thor/Peter) flanked by two troughs, one above Greenland and one over western Europe (ex cut-off Brigitte). At the surface, the Downstream cyclone is passing offshore of the western coast of Iceland, which will be for all the day on the edge of the cold front associated with such cyclone. The WCB outflow of the Downstream cyclone is contributing to the intensification of the ridge Thor/Peter, that will also expand to the west. Over the Mediterranean the cyclone Brigitte is bringing high amounts of precipitations over southern France.

Forecast Day 1 - (Friday, 14/10/2016)

In the upper levels the ridge Thor/Peter is predicted to move further to the North, evolving in a cut-off. The PV streamer formerly over Greenland is predicted to move towards the middle of the Atlantic, wrapping around and merging with the high PV over Europe in a single cut-off. The associated frontal wave in the lower levels will create a baroclinic region in the middle of the Atlantic that will lead to a new cyclogenesis west of Ireland (named "Frontal cyclone"). Over the western Mediterranean the cyclone Brigitte is moving slowly to the east, with severe precipitations reaching northern Italy, enhanced by the alpine and appenninic orography.

Forecast Day 2 - (Saturday, 15/10/2016)

The upper level pattern in the downstream region of the North Atlantic will maintain similar, with the low PV cut-off Thor/Peter stationary over Scandinavia and an high PV cut-off west of the British Isles. In the upstream region there is a ridge which is building over Greenland and a trough behind it, over northeastern Canada. This trough also shows a blob of very low temperature at the tropopause (Tropopause Polar Vortex), which is propagating following the trough towards Greenland. Despite the PV gradient remains quite weak in the upper levels (330 K) above the North Atlantic the predictability of the large scale flow has increased compared to the previous days, as the ensembles of 2PVU on isentropic surfaces show.

Forecast Outlook - (Sunday, 16/10/2016)

Over the downstream region no significant changes on the large scale flow are predicted. In the upstream region the ridge over Greenland will continue to build up and will move to the east, with the trough (associated with a PV streamer) formerly over Canada just behind it. The latter will develop a cyclogenesis in the lower levels, on the leeward side of Greenland. The tropical cyclone Nicole is also predicted to interact with the tail of this PV streamer, with the latest forecast showing its extratropical transition later on during next

week.

Key aspects of today's scientific discussion:

Tomorrow's flights aim will be related to a radiometer intercomparison with a coordinated flight of the UK FAAM, HALO and SAFIRE. Unfortunately the FALCON flights which were related to measuring wind in jet streak regions are cancelled due to a technical problem. Saturday HALO's flight objective will be to analyse the TPV predicted between Canada and Greenland.