

## **NAWDEX 2016 - Planning summary**

**Today, there are no research flights. Next flights are planned for tomorrow (4. October) with Halo, DLR Falcon and Safire, Wednesday (5. October) with Halo and Safire and on Thursday (6. October) with Halo and DLR Falcon.**

### **Today's schedule:**

- planning of the Tuesday flights with pilots at 12:00 UTC
- planning of the Wednesday flights with pilots at 13:00 UTC
- weather discussion at 16:00 UTC

### **Instruments report:**

- **HALO:** instruments are fine
- **DLR Falcon:** maintenance for the 2 Micron Lidar
- **Safire:** instruments are fine

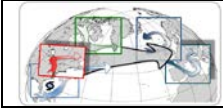
### **Weather evolution:**

- Tue 04 Oct: The frontal wave propagates rapidly as a diabatic Rossby wave; there is a last burst of WCB ascent associated with the "Saturday cyclone"; a new WCB and ridge building starting upstream due to the intensifying frontal wave.
- Wed 05 Oct: The frontal wave is located west of Iceland, again very strong surface winds and heavy rain is expected for Iceland. Two cutoffs are located over Europe, associated with heavy precipitation (forecast position still uncertain).
- Thu 06 Oct: The cyclone is still west of Iceland, with a strong poleward moisture flux towards Svalbard and beneath a very strong meridional jet to the Arctic.

### **IOP 8 on Tuesday 04. October 2016:**

#### **HALO:**

- sampling of cyclone south of Iceland evolved from a diabatic Rossby wave
- first fly at a lower FL to be able to drop sondes in the vicinity of the cyclone (**18**)
- cross the cyclone centre 2 times to sample the structure of the centre and the moisture structure in the region of maximum moisture transport east of the centre
- traverse northward along the WCB until 61N to climb from FL280 to FL410
- traverse again southward and
- capture the WCB outflow and the structure of the centre and tropopause region from above
- take off: 11:00 UTC
- **Safire:** there will be a coordinated flight leg at the end of the flight track to capture the WCB outflow region. It will be discussed if Safire will drop sondes during this coordinated leg.



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**Date: 3. October 2016**  
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**Falcon:**

- The jet stream will pass by Iceland very close
- Falcon will head north to cross the jet stream twice
- as it is expected to be clear to the surface over northern Iceland, Falcon will fly two short legs above Iceland for the calibration of the Lidar

**IOP 10 on Wednesday 05. October 2016:**

- HALO will enter the jet stream south of Iceland and fly along it in northward direction to measure clear air turbulence
- north of Iceland, Halo will exit the jet stream to orient along a Satellite overpass with Callypso
- possible coordinated flight leg with Safire during Satellite underpass. (under discussion)

**IOP 11 on Thursday 06. October 2016:**

- The first part of the mission will be coordinated with Safire and DLR Falcon. During these legs the tropopause fold will be crossed twice.
- HALO will then head towards Greenland to capture the moisture flux and tropopause structure
- possible Satellite overpasses will be explored
- Planned FL: 410

**Responsible Persons:**

- Scientific Manager: Jim Doyle
- Chief Forecaster: Andreas Schäfler
- Instrument Manager: Manuel Gutleben
- Coordinator Ground-Based Observations: Jacob Maddison
- Mission Scientists for Tue 04 Oct: Christian Keil (HALO), Maxi Böttcher (Ground Support); Jim Doyle & Pila Bossmann (Falcon)
- Mission Scientists for Wed 05 Oct: Martina Bramberger (HALO), Julian Quinting (Ground Support)

**Further announcements:**

- Down-day for Falcon has to be by Friday, 07. October
- Hangar doors cannot be opened at wind speeds above approximately 20 m/s (wind direction approximately SE)
- repairing of HALO should be finished; last test tomorrow (4. Oct) before takeoff (roll out 2 hours before take off).