

	NAWDEX 2016 Planning summary	Date: 2. October 2016 Author: Heini Wernli, Florian Baur
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NAWDEX 2016 - Planning summary

Today, the DLR FALCON and French SAFIRE are in the air to capture the tropopause fold near the Greenland east coast. Tomorrow, there will be no research flight due to high winds expected in the Keflavik region. Next missions are currently planned for Tuesday - Thursday (04-06 October 2016).

Today's schedule:

- There will be a weather discussion at 16:00 UTC today.

Coordinated flights of FALCON & SAFIRE today (IOP7 02 October 2016):

- the coordinated flight was successful so far
- there are little problems with a lidar on FALCON
- SAFIRE dropped 9 sondes (6 are already in the GTS)
- FALCON is closing the box off the coast of Greenland and SAFIRE is directly heading back to Keflavik

Weather evolution until Thursday 06 October

- Sun 02 Oct: The "Saturday cyclone" approaches Iceland, intensifies and merges with the Greenland cyclone. The downstream ridge intensifies and further downstream a PV cutoff forms over Benelux.
- Mon 03 Oct: The "Saturday cyclone" is located between Greenland and Iceland and strong surface winds prevail near Keflavik. A new frontal wave forms south of Newfoundland.
- 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 ridgebuilding start 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 (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.

Potential IOP 8 on Tuesday 04 October

Flights have been proposed for all three aircraft:

- **HALO:** On the way south towards about 35W/50N, the outflow region of the WCB will be crossed; the centre of the cyclone will be crossed in zonal direction and the poleward moisture transport will be measured east of the cyclone in the ascent region of the WCB; after crossing the centre of the surface low pressure system the track leads to 61N to be able to climb from FL280 to FL430; dropsondes are planned at the lower altitude (FL280) in the first part of the flight in the vicinity of the cyclone; the higher leg will again fly over the centre of the system.
- **SAFIRE:** The plan is to meet with HALO on the flight leg back to Keflavik to have a coordinated flight leg above the WCB outflow region during about 1 hour.
- **FALCON:** The plan is to fly a west-east flight leg north of Keflavik to measure the jet stream and tropopause fold; it will probably fly eastward at FL360 and back at FL370.

Responsible persons:

- Scientific Manager today: Heini Wernli
- Chief Forecaster today: Christian Grams
- Instrument Manager: Manuel Gutleben
- Coordinator Ground-Based Observations: Jacob Maddison
- Mission Scientists for Tue 04 Oct: Maxi Böttcher & Christian Keil (HALO); Jim Doyle & Pila Bussmann (FALCON)

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Further announcements:

- If the repairing of the HALO can be finished today, there will be a down day for HALO tomorrow (03 Oct 2016)
- Changes of the HALO flight plan on Tuesday have to be announced **at latest** 5 hours before take off (no changes during the flight possible)
- Frank Probst will be replaced by Stefan Hempe
- Andreas Minikin will be replaced by Katrin Witte