

	NAWDEX 2016 Planning summary	Date: Sept. 22, 2016 Author: H. Wernli, M. Bramberger
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NAWDEX 2016 - Planning summary

Today there are no flights. The next mission (IOP3) is planned for tomorrow, Friday 23 September, with both HALO and Falcon, and with a coordinated flight with the UK FAAM aircraft.

The schedule for today is a **weather discussion** at 16 UTC and a first **quicklook meeting** at 1630 UTC.

The main topic of the General Meeting was the coordination of the HALO, Falcon and FAAM flights on Friday 23 September.

IOP2 on Wed 21 September

Research flights yesterday with HALO and Falcon were successful and no major incident on the instruments' side occurred. Only the shutter of the dropsonde system did not work very well and therefore it will be checked today on the ground and during the check flight performed today in the afternoon.

IOP3 on Fri 23 Sept

- A HALO flight is planned to explore the ascent region of the strong WCB and associated ridge building to the North-East of the British Isles. The earlier part of the flight will be at lower flight levels (FL280) to allow dropsondes beneath the NA-Tracks, then ascending to higher altitudes (FL430) for coordination with FAAM to the west of Scotland, and to sample the outflow region during the return to Keflavik. Coordination with FAAM will occur on the leg P4-P5 from 8W to 13W at 55.3N. The FAAM will fly at FL100 to FL230 and take microphysical measurements in the WCB ascent region.
- As discussed in the weather discussion meeting yesterday afternoon, we decided to also fly with Falcon, in order to capture the cyclonic shear side to the east of Iceland. The plan is to do one transect towards the SE coordinated with HALO to drop sondes. The detailed location and intensity of this jet (and the associated WCB outflow) is still somehow uncertain but it seems that a strong jet streak is close to Iceland in the morning. We therefore adjusted the HALO flight track such that the first leg after take off will go towards the SE together with the Falcon. Then HALO will go back to the originally planned leg towards the South.
- Frank Probst mentions that he is optimistic that we will get the NOTAM box as designed yesterday between about 9 and 11 UTC.
- In summary, the new flight plan includes coordinated legs in the morning with Falcon and in the afternoon with FAAM. The timing for the NOTAM box can remain unchanged (otherwise we risk to lose permission to release dropsondes). The scientific objectives of these flights are: jet stream, WCB ascent and outflow, cloud microphysics, and embedded convection in WCBs.

The responsible persons for this mission are

- Scientific Manager: Heini Wernli
- Chief Forecaster: Hanin Binder
- Instrument Manager: Manuel Gutleben
- Coordinator Ground-Based Observations: Ben Harvey
- Mission Scientists: Lotte Bierdel (HALO), Oliver Reitebuch (FALCON), Marlene Baumgart (Ground support)

Day Off on Saturday

A 2nd day off was announced for Sat 24 September.

Outlook for Monday and the days beyond

Early next week the key weather systems are (according to the latest forecast):

An extratropical cyclone generated over Newfoundland and developing towards the central North Atlantic; with a potentially strong WCB outflow towards Iceland

TC Karl, which will recurve and is likely to propagate rapidly towards Europe (as a diabatic Rossby wave?). TC Karl has been sampled with dropsondes from the US SHOUT experiment.

TC Lisa to the SE of TC Karl.

Forecasts show different evolutions of these weather systems, but very intense WCB activity over the North Atlantic is very likely. Plans should be developed for a potential flight on Monday (preliminary plans on Friday, detailed plan on Sunday).

The responsible persons for a potential mission on Monday are

- Scientific Manager: Jim Doyle
- Chief Forecaster: Julian Quinting
- Instrument Manager: N.N:
- Coordinator Ground-Based Observations: N.N.
- Mission Scientists: George Craig (HALO), Oliver Reitebuch (FALCON), Volkmar Wirth (Ground support)

Further points from the discussion:

- At the moment the weather forecast is very uncertain from Monday onward.
- Oliver Reitebuch makes us aware that next week a calibration flight with Falcon over cloud-free Greenland is necessary for the lidars. The Chief Forecasters will check cloud conditions over Greenland.