

NAWDEX 2015 - Planning summary

The flight plans made yesterday were confirmed with small adjustments to the current weather situation. The center time for the mission was set to 15 UTC.

FALCON: The flight pattern has been slightly rotated to adjust to the location of the PV gradient in the updated forecast.

HALO: The flight track has been adjusted (moved further North) so that the core of the low pressure system will be overflown. Leg 1-2-3 will be synchronized with the overpass of GPM, leg 4-5-6 will be coordinated with FALCON.

The responsible persons for this mission are

- Scientific Manager: George Craig
- Chief Forecaster: Christian Grams
- Instrument Manager: Manuel Gutleben
- Coordinator Ground-Based Observations: Ben Harvey
- Mission Scientists: Florian Pantillon (HALO), Oliver Reitebuch (FALCON), Julian Quinting (Ground support)

The schedule for the current day is a flight planning meeting with mission scientists and pilots at 12 UTC and a weather discussion at 16 UTC.

The main topics of the General meeting were the coordinated FALCON/HALO flights planned for Wednesday, September 21st, the concept for a possible coordinated HALO/FAAM mission to take place on Friday September 23rd, as well as possible options for the upcoming week. The following points were raised in the discussion:

Wednesday mission:

- The instrument scientists onboard the FALCON and HALO will be:
FALCON: Oliver Reitebuch, Christian Lemmerz
HALO: Axel Amedieck, Friedhelm Jansen, Mario Mech, Florian Pantillon, Kevin Wolf, Hans Grob
- M. Mech suggested launching at least one dropsonde during the GPM overpass (waypoint 1, HALO)
- Whether or not dropsondes can be released during the mission tomorrow between waypoints 7 and 8 by HALO depends on the location of the NAT-tracks. So far NAT-track forecasts are available.
- Waypoint 7 of HALO might be shifted further East to capture more tropospheric air masses
- The following radiosondes have been requested for the mission:
Iceland: Keflavik (15, 18, 21 UTC), Egilsstadir (12 UTC)
Greenland East Coast: Ittoqqortoormiit (15,18,21 UTC)
- A. Minikin again clarified the procedure before take-off for FALCON and HALO. 30 mins. before

roll-out there will be a short briefing with all on-board scientists .

Friday mission:

- On Friday there will be the opportunity to perform a quasi-Lagrangian measurement of WCB ascent. HALO will fly south to the region of low-level WCB inflow, then proceed North towards Ireland, and finally return to Iceland. During the flight at the location of the mid-level ascent a zig-zag flight pattern is planned to capture the ascending air masses. The release of dropsondes is planned for the overflight of low-level WCB inflow as well as ascending air masses.
- FALCON will not participate in this mission (range of aircraft insufficient).
- There is an opportunity for the Friday mission to be coordinated with the UK FAAM BAE 145 aircraft. The FAAM aircraft will start from its base at East Midlands airport, and after a possible refuelling stop at Shannon Airport, cross the mid-level ascending air masses before returning to base. Communication with Geraint Vaughan is ongoing to clarify details. It has already been noted that the FAAM aircraft has limitations concerning the timing of the mission (latest back at East midlands by 19UTC).
- The transect through the ascending air performed by FAAM could be synchronized with HALO. It is intended that HALO flies above cloud top (lidar and radar measurements) and FAAM flies through low/mid-level clouds for microphysical measurements (release of dropsondes is also intended).
- The HALO flight will be in the NAT-track region where special flying requests are required. A detailed track has to be announced by tonight to F. Probst. It will then be clarified by tomorrow in what NOTAM region the release of dropsondes will be possible.
- In order to fly in the NAT-track region, HALO has to stay under flight level 280.
- There is the possibility to capture regions of intense clear-air turbulence. This is of special interest for M. Bramberger.

Saturday and next week:

- On Saturday the upper-level outflow of the WCB inflow captured on Friday will be located North of Iceland between Norway and Greenland. Capturing this outflow is of great interest since the associated low-level inflow has been measured on Friday. There is some uncertainty related to timing of the outflow and diffusion of air parcels. This flight will be coordinated between HALO and FALCON.
- F. Probst mentioned that the duty time of the pilots might become an issue. The mission planned for Friday involves a long flight and for operators, staff and pilots there are limitations concerning the duty time (14h duty time has to be followed by 14h off-time). This has to be taken into account for the planning for the mission on Saturday.

Next week:

- On Sunday there is the possibility of a day off.
- The next potential mission would be Monday, September 26. Ex-TC Karl and a

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downstream cyclone will consecutively propagate towards Iceland. The Jetstream is expected to be very strong.