

NAWDEX 2015 - Planning summary

The next mission is planned for Wednesday, September 21st. There will be coordinated flights of HALO and FALCON to measure the diabatic outflow of a WCB directly over and South of Iceland.

FALCON: Box pattern with flights parallel to Jetstream (current position: slightly North/ North-West of Iceland), three parallel legs capturing stratospheric and tropospheric air as well as the jet stream. Due to forecast uncertainty an adaption to the weather situation will be needed for the determination of the exact location of the tracks.

HALO: Measurement of WCB ascent region South of Iceland, one leg will be coordinated with FALCON, a triangle South of Iceland will be flown where 13 dropsondes will be released.

An early estimate for the take-off time is mid-afternoon.

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 weather discussion will continue to be held at 16 UTC in future.

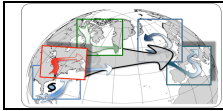
The main topic of the General meeting were the coordinated FALCON/HALO flights planned for Wednesday, September 21st as well as an outlook to a possible mission on Friday/Saturday September 23rd and 24th. The main discussion was about the following points:

Feedback from transfer flight:

- A radar calibration circle should be included in a future mission (not successful during transfer flight)
- The 2-micron lidar didn't work as expected during the transfer flight. Future planning should take into account that the lidar only works stably after about 1 hour of the flight.
- Flight planning should consider satellite tracks for possible underflights. M. Mech will provide the GPM tracks to the forecasting team.
- During the transfer flight a dropsonde did not work as expected and a new one had to be launched. Upcoming flights should be equipped with spare dropsondes.

Wednesday mission:

- M. Bramberger requested for the HALO flight that the flight level be lowered in order to capture more turbulent activity. This might conflict with the minimum height HALO can fly on while staying over the cloud top. Vertical cloud cross-sections for the planned flight track will be provided in the upcoming Planning meeting.



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- The initially planned descent and ascent of the FALCON (capture of vertical temperature profile) is not possible due to operational constraints. Flights can be performed on different levels which will be discussed in the 12 UTC meeting with the pilots.
- The exact flight planning can potentially be synchronized with Satellite overpasses: A-Train (around 14:30 UTC) and GPM (14:40 UTC and 16 UTC)
- specMACS requires daylight at take-off for calibration purposes. The timing of the mission should account for this limitation.

Friday/Saturday mission:

- On Friday/Saturday (September 24th/25th) there is the chance for another flight. The WCB inflow will be far enough North that it can be captured which might be a unique opportunity during the campaign given the range of the aircraft.
- On Friday HALO is planned to fly South (less than 61 degree North) to capture the WCB ascent regions on low levels. To that end, HALO will fly below the NAT tracks (flight level 260-280) and the associated planning procedure requires an announcement of the flight track on Wednesday, September 21st.
- This flight might be coordinated with FAAM.
- The mission PI of the mission on Friday will be L. Bierdel.
- For Saturday, a coordinated flight of HALO and FALCON is planned to capture the WCB outflow which will be located between Iceland and Norway.
- The basic concept of the plans for Friday/Saturday was found to be reasonable by flight facility (F. Probst) and should be refined by Wednesday.