

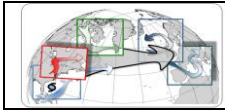
NAWDEX 2016 - Planning summary

- **Today:**
 - **SAFIRE:** take-off at 09:55 UTC to rendezvous with HALO for Calipso overpass ~10:30
 - **HALO:** take-off 10:05 UTC (note: typo on slide in forecast meeting [10:50] almost caused error) for long flight starting with satellite overpass in moist poleward moving air stream ahead of a very long PV streamer extending southwards from Iceland towards the Azores. Flight along PV streamer and then several sections across upper level vortex formed by streamer roll-up and baroclinic growth of surface cyclone below. Returning to moist air stream near Iceland for comparison leg with both SAFIRE and DLR-FALCON. Aiming for dropsondes on comparison leg (flying last in line) if possible with ATC.
 - **DLR-Falcon:** 15:20 UTC take-off flying eastwards (north of Iceland) across poleward moist air stream and then rendezvous at 1745 UTC (61N, 13W) at FL380.
 - **SAFIRE II:** second flight take-off 1630 UTC, going directly to the rendezvous, comparison leg and then turning to NNE across moist air stream before returning.
 - **Instrument status:** All instruments working on HALO and DLR-FALCON

- **Responsibilities:**
 - Scientific Manager: John Methven
 - Chief Forecaster: Julian Quinting
 - Instrument Manager: Florian Ewald
 - Coordinator Ground-Based Observations: Lucas Höppler

- **Schedule of the day:** Flight planning meeting with mission scientists and pilots at 12 UTC and a weather discussion at 16 UTC. Ground mission scientists for 3 aircraft (Tobi, Philippe & Matthias) to sit together in ops room for comparison leg.

- **Summary of the General Meeting:**
 - **Topics**
 - Weather discussion
 - Plan for HALO flight on Monday
 - Plan for radiometer comparison flight of FAAM, SAFIRE, HALO on Tuesday, 11/10.
 - Or plan B for coordinated flight of SAFIRE & DLR-FALCON on Tuesday, 11/10.
 - **Weather discussion**
 - Analysis: Deep trough to SW of Iceland has been deformed into long PV filament stretching southwards and predicted roll-up with 3 vortex centres: one to the north of Iceland, one at 45N and one nearer the Azores.
 - Forecast: In the following day the roll-up continues with the central vortex resulting in the baroclinic development of surface cyclone "Sanchez".
 - Tuesday – northwards oriented portion of the jet stream between Greenland



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Date: 09.10.2016
Author: J. Methven

- and Iceland with strong ascending moist air stream.
- Wednesday – similar situation and Sanchez reaching Spain
- Thursday – high impact weather (winds and precip) ahead of Sanchez across the western Mediterranean.
- Tropical cyclone Matthew strained out near Newfoundland and Nicole stays out of reach.
- **Monday, 10.10.**
 - **HALO:** take-off 12:00 UTC for flight southwards at FL430 along PV filament to a point to the SW of Sanchez. Then cross-section with radar/lidar across upper level PV cut-off to Irish air space, enabling a descent to FL280 for return along almost same path with dropsondes. 15 dropsondes on section to SW corner and then 5 northwards from there – the last one in clear air for calibration.
 - **DLR-Falcon & SAFIRE:** no plans
 - Monday 09:00 UTC teleconference for intercomparison
- **Tuesday, 11.10.2016**
 - **Plan A – FAAM, SAFIRE, HALO:** radiometer comparison in the afternoon along 61.5N if it is possible to reach 15W. Region west of Ireland is too far for SAFIRE. Key issue is altitude of cirrus (up to FL390) and little cloud below.
 - **Plan B – SAFIRE & DLR-Falcon:** take-off proposed 10:15 flying together from Keflavik (DLR-Falcon ahead) to (62N, 38W) then (61N, 34W) and back focusing on crossing northwards jet stream and associated moisture flux.
- **Wednesday, 12.10.2016**
 - Similar situation forecast to Tuesday with strong northwards flow between Iceland and Greenland. Flights to WSW of Iceland would be interesting. Risk of strong winds at Keflavik (especially in morning).
- **Outlook for Tuesday/Wednesday**
 - Potential Radiometer Intercomparison with FAAM: Weds, clouds are too far west and again high. Thurs – perhaps possible but very uncertain forecast.
- **Radiosonde requests**
 - Sunday: Two ships mid Atlantic anticipated to be near PV streamer + Tasiilaq and Keflavik for northwards moist atmospheric river
 - Monday: Azores and ship mid-Atlantic plus Aberystwyth and Brest to capture WCB outflow from Sunday HALO flight. Also Keflavik and Jan Mayen for atmospheric river.
 - Tuesday: Aberystwyth, Brest & Paris for WCB outflow. Azores and ship for Sanchez cyclone. Lisbon for Sanchez approach.
 - Tuesday & Wednesday: Keflavik & Tasiilaq for atmospheric river.
 - Wednesday & Thursday: Paris, Bordeaux, Lisbon, Sardinia & Rome for HIW ahead of Sanchez system.