

# OPS-0127 (27 January 2020)

Lutz Hirsch

(compiled 01.27. 12:00 LT)

## 1. Facility updates

- **Local logistics:** Working on a printer for OPS center.
- **ATR-42:** First 2 scientific flights yesterday. First take-off after Twin Otter around 07:55, flying for 4h. Second flight after refueling, flying 4.5 h. Starting at 2.5 km height and then flew at different levels (800m, 600m, 400m) and a surface lags at 60m. Weak cloudiness made flight track planning difficult, but good ground support helped a lot. Instruments worked well, only radar antennas back and down-wards didn't work.
- **RAAVEN, BOREAL and Skywalkers:** All three UAS teams have conducted successful flights over the past days. This includes the NOAA/CU RAAVEN team and the CNRM BOREAL and X6 Skywalker teams. Over the next few days will look to ramp up the frequency of flights as all of the teams continue to work together and with ATC to get as much flight time as possible..
- **HALO:** Take-off yesterday 08:00 LT for coordinated flight with TwinOtter and ATR. All system up finally, initially no 183 GHZ radiometer. Starting with super curtain, followed by 3.5 dropsonde circles. After that coordinated action with METEOR along same track, followed by again 3.5 dropsonde circles. 75 dropsondes dropped ( 2 failed and 2 had issues). Day-off today. Next coordinated flight planned for Tuesday.
- **Twin Otter:** Two coordinated flights with HALO and ATR yesterday. First take-off yesterday at 07:50. Refueling around noon. Morning flight in the subcloud layer. Second flight in the clouds with several lags inside clouds. Most instruments worked well (some had smaller problems) and coordination was perceived good and helpful.
- **WP-3D:** P3 is in Floria for maintenance. Planned to be back on Tuesday. Next scientific flights on Thursday and Friday. 4 day flights (take-off 09:30 LT), followed by 3 night flight (take-off 20:00 LT) remain. Thursdays flight will focus on cloud micro physic, with higher dropsonde circles around Ron Brown. Coordinated flights also with inner HALO circle are possible for later flights. Plans to have PLANET available for the WP-3D.
- **BCO:** All systems are up and running. Construction work for PoldiRad continues. Barn raising great success yesterday. Measurements at Ragged point are all running as well.
- **L'Atalante:** Yesterday went southwest, near the continental slope of Guyana to be able to sample a filament of fresh and (relatively) cold water ejected from the coast by the NB Ring 2, and this with a particular emphasis on the atmosphere. Crossed this front a second time, at low speed to launch 13 radiosondes and acquire information on the 2D structure of the atmosphere above the front. By the way, CLS satellite SST match extraordinarily well with surface temperatures measured by the underway system of the ship (see figure below), especially at night.  
All instruments seem to work well. Fixed the problem of the Vaisala radiosonde system by using a new GPS antenna provided by the board. Plans to sail eastward, till 9° 24'N 56°55'W to cross (and sample) Ring2. Will be in its center today in evening
- **Maria S. Merian:** Continued eddy survey – crossing southwest to northeast through the determined centre. Radiosounding every 4h. Launch of Cloudkite with advanced sensor package (MPCK+). Deployment of SVP drifter in Vmax region. Three biology casts at 3:30am. Going southeast as Guyana clearance did not appear. All want to see the cloudkite operating and plans were to make this happen yesterday afternoon. Continue to compare records of rain from different devices (Radar; Lidar, cloudkite).
- **Meteor:** Coordinated vertical curtain comparison between METEOR and HALO on the same trajectory. First cloud-kite long-term instrument ride. Deployment of one Argo float. Returned to Meteor position with regular CTD every 2 hours. Launched 6 radiosondes. After a morning CTD and the instrument attachment to the balloon (without the particle probe) we left the L2 point at 12 UTC at 10.5kn in HALO flight direction of 110 deg towards the boundary of the Barbados EEZ (at 12.202N / 56.191W). Started the track in advance (130 min) for first HALO overpass and ended track after (90min) after the last (and fourth) HALO overpass. Lighter cloud-kite instrument held up well. Learned that instrument package will only stay up with the extra lift by strong wind, which reduces the wanted capability for extended air-time possibly not before the transit to the Azores. The far-east end of the curtain offered an opportunity to deploy an ARGO float before the METEOR headed back with regular CTD stops to their baseline longitude near 57W. Today, will be on the Meteor longitude (57.235W) heading north from L2 to L1 with regular CTD stop and a small diversion to permit ca 2 hours of cloud-kite operations into the wind.

- **Ron Brown:** In Bridgetown port. Leaving Bridgetown at 16:00 local on Tuesday, Jan. 28. Plans are to position themselves in the alley between the HALO circle and the NTAS buoy. Isotopes instruments are up now as well as the W-band radar.
- **Autonaut:** AutoNaut Caravela was launched Wednesday and was heading east, south of the island. PLANET shows position East of Barbados.
- **CloudKite:** see METEOR and Maria S.Merian reports

## 2. Plans

The outreach activities for presentations at schools in week 3 and 4 on Mondays, Tuesdays and Thursdays continue. Input suitable for age group 10-12 and 13-15 is still needed.

Next seminar Wednesday at 15:00 LT in the CIMH rooms with 4 speaker.

Next weekend a symposium is planned with the title:

„From BOMEX to EUREC4A“ from Friday afternoon to Saturday in a tent at CIMH.

**(Attention location changed!)**

An additional outreach activity with site visits is planned for Sunday 14-18 LT.

**(Site crews, please make sure the site can be visited or please report if not possible!)**

Plans for Movie Night for February 4th, location tbd.

Barbecue for this Thursday confirmed afternoon at Miami Beach.

## 3. Issues

no issues

## 4. Flight Alert

### Tuesday 28 January 2020

- coordinated flights with ATR-42, Twin Otter and HALO are planned.
- P3 will not fly. Planes will be in the Alley between 09:30LT-21:00LT;
- Contact points are: Raphaela Vogel (ATR) <raphaela.vogel@mpimet.mpg.de> and Marcus Klingebiel(HALO) <marcus.klingebiel@mpimet.mpg.de>. They can also contact the Twin Otter.

### Wednesday 29 January 2020

- no flights are planned.