

HALO-0119 (19 January 2020)

Responsible Reporting Person: S. Groß

1. Objective

Transfer/measurement flight Barbados. LEST-GAIA

2. Crew

S. Groß (WALES/Mission-PI), G. George (Dropsonde), F. Ewald (HAMP), T. Kölling, S. Shohan (SpecMAC \& SMART), M. Wirth (WALES), M. Puskeiler & R. Walser (Pilots), T. Leder (Engineer)

3. Synoptic Situation

Good weather (clear sky) during take-off in Santiago de Compostela.

13:25 beginning rain at ground

13:33 passage of the cold front

During the circle: different cloud situation in north-western and south-eastern part (less and small clouds in the North).

4. Flight Elements

Transfer to Barbados; overflight of super-curtain (buoy, ships, CC), measurement circle with 12 sondes east of Barbados, overflight BCO (if possible)

Element	(°N, °W)	Flight Level (FL)	Time (UTC)	Notes
Takeoff-Ferry	LEST		9:33	
WP2	(17.95, 45.37)	Descend to FL300	15:59:59	
Buoy-WP3	(14.63, 50.93)	FL300	16:13	Dropsonde 1
Super Curtain WP4	(13.86, 55.24)	FL300	16:54	Dropsonde 2
CC	(13.28, 57.89)	FL300	17:21	Dropsonde 3
		Ascend to FL320	17:24	
Circle 1		FL320	17:32 18:22	Dropsondes 4-15
Approach		Descend to FL120	18:27	
Landing	GAIA		18:48	

17:07 signature in airplane radar – might be the ship(s)

5. Instrument Status

Radar: 09:46 Radiation switched on
16:08 Radar calibration pattern starts
16:11 Radar calibration pattern done
18:36 Radar switched off

Radiometer: 8:45 switched on – KV PC not starting

9:20 KV PC started
18:36 Radiometers switched off

Sondes: Dropsonde system has problems: Electronic shutter does not open automatically, manual assistance needed.

16:15 Drop at NTAS
16:55 Drop at Center Super Curtain (13.86N /55.24W)
17:21 Drop at Circle Center (13.28N/57.89W)
17:33 Circle1 (13.73N /58.68W)
17:37 Circle2 (14.04N/58.28W)
17:41 Circle3 (14.10N/57.76W)
17:45 Circle4 (13.89N/57.31W)
17:49 Circle5 (13.50N/57.06W)
17:53 Circle6 (13.07N/57.07W)
17:57 Circle7 (12.73N/57.27W)
18:01 Circle8 (12.51N/57.57W)
18:05 Circle9 (12.45N/57.91W)
18:09 Circle10 (12.52N/58.25W)
18:13 Circle11 (12.73N/58.53W)
18:19 Circle12 (13.21N/58.75W)

At one of Circle 5-7 sondes the temperature and humidity sensor failed. – check!

WALEs: 10:38 data acquisition on. Lasers not warm enough for water vapor measurements.
11:45 WALEs in normal/good measurement mode
16:50 cooling system at its limit
17:21 cooling system at limit – Laser shutdown
17:28 cooling started again due to lower temperature outside
18:33 WALEs switched off

specMACS: short measurement interruption (~50 km)

SMART/VELOX: running without problems