

Wx-0206 (06 Feb 2020)

Allison Wing et al.

1. Three day outlook

Synopsis – Ridge dominant over the observation area. Shallow scattered clouds (gravel and sugar) with brisk showers. Very dry air from the northwest

Winds and waves - Breezy at 15 to 20 kts from the east and northeast over open water.

Forecast – Shallow clouds with few night time brisk showers.... Winds 10 to 15 kts overnight increasing to 15 to 20 kts daytime from the east northeast.

Seas moderate to rough - waves 2 to 2.5 metres, swells every 10 to 14 sec from the east-northeast.

3-day outlook – Ridge continue to dominate with some weakening into Friday Winds 15kts to 20 kts gusting to 25 kts. Seas moderate and occasionally rough seas with approaching Friday.

Air Mass Origin- According to the IFS forecast, the transport of tropical airmasses towards BB at low- to mid-levels continues for one more day, afterwards they're replaced by extratropical airmasses, descending from upper-levels on Fri 7.2. and from mid-levels on Sat 8.2. Upper-level airmasses (red and orange pts.) are continuously advected from the northwest within the next three days, following the upper level ridge centered in the northwest of BB.

2. Data for Flight Planning

Yesterday's conditions at various sites represented by daily mean and standard deviation:

FIELD	BCO	CE	NTAS	BT
LAT	13°09'46"	13°21'	14°49'	08°00'
LON	59°25'44"	57°17'	51°01'	55°00'
LCL	685 ± 91 m	754 m ± 85m **		707 ± 50 m
CBH-LCL	50 ± 55 m	40 m ****		
CTH	4 - 4.8 km	4 - 4.8 km	0 - 0.8 km	0.8 - 1.6 km
CIRRUS TOP	-	-	-	> 12 km
AOD		0.24 ***	0.15 ***	0.51 ± 0.06 *
PW (MM)	30.9 ± 3.6 MM	30.6 ± 2 mm**		32.9 ± 1.8 mm
SFC WIND		9.7 m/s, 76° **	8.5 m/s, 62°	11 m/s ; 60 °
3KM WIND	8.6 M/S, 161°	8.6 m/s, 92° **		11.8 m/s ; 81 °
6KM WIND	9.4 M/S, 78°	10.1 m/, 82° **		5.4 m/s ; 237 °
9KM WIND	17.8 M/S, 325°	20.5 m/s, 300° **		20.4 m/s ; 275 °
SST			26.2 ° C	27.5 ° C
INVERSION HEIGHT	2.2 ± 0.2 KM	2.3 ± 0.2 km **		1.9 ± 0.3 km
EIS	4.9 ± 1 K			2.7 ± 0.4 K
LTS	15.7 ± 0.6 K	4.1 ± 0.4 K		3.4 ± 0.2 K
CLOUD PATTERNS	FLOWERS- >GRAVEL	Flowers- >gravel	sugar	Sugar/flowers transition

*from Atalante soundings & microtops measurements

**from HALO dropsondes (sfc winds are 10m height)

***from MODIS on Terra

****ATR flight level

CE: circle east, BT: Boulevard des Tourbillons

3. Model forecast

Comparison of yesterday's conditions to one-day forecasts for 57° 30 'W and 13° 30 ' N:

FIELD	AROME	HARMONIE	UK MET	OBS CE
LCL	700m		575 m	754 m ± 85m **
INVERSION HEIGHT	2400m		2500 m	2.3 ± 0.2 km **
CIRRUS TOP	no cirrus		17km	
PW			34.4 mm	30.6 ± 2 mm
SFC WIND	9.8 m/s		84 degrees, 4 m/s	9.7 m/s, 76° **
CLOUD PATTERNS	gravel/flowers	flowers	gravel/flowers	Flowers->gravel?

4. Figures

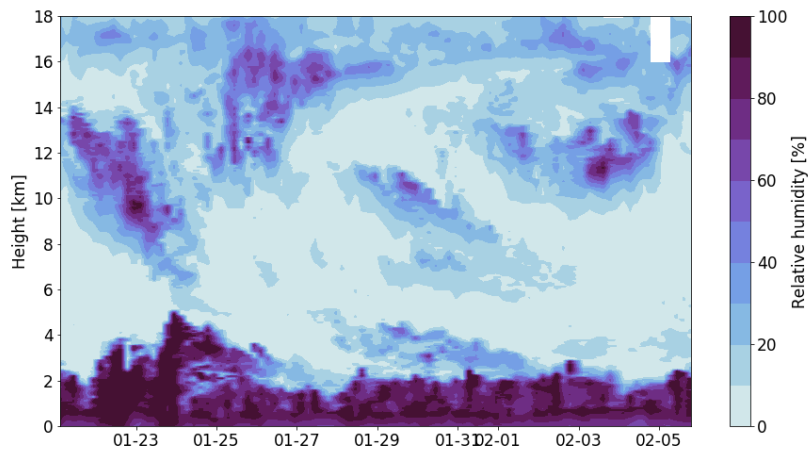


Figure 1: Soundings from BCO throughout EUREC⁴A.

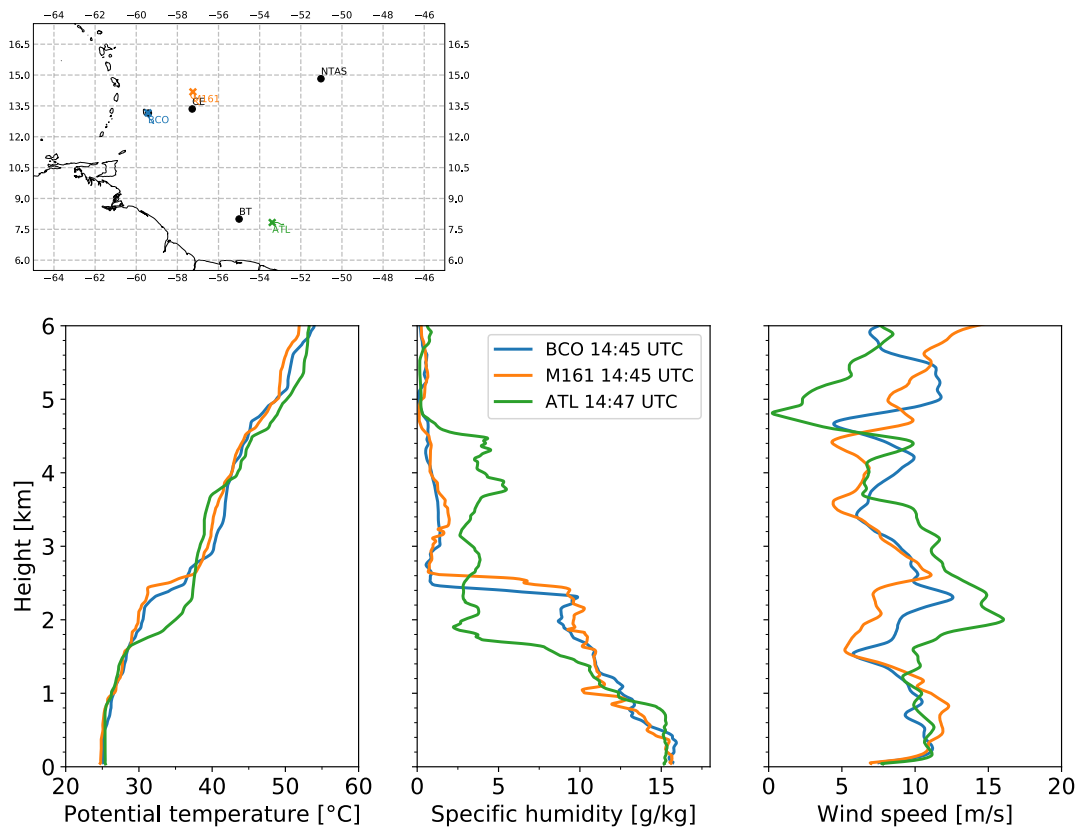


Figure 2: Soundings from four different stations.