

# Wx-0128 (28 Jan 2020)

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## 1. Three day outlook

Synopsis –Ridge dominates into operational area. Area mostly clear with fair weather cumulus. Very weak pressure gradient. Winds Southeast 5 to 10 kts calm overnight.

Forecast – Few scattered shallow clouds today, clear and calm tonight. Some moisture expected to move from the southeast, but dry air aloft will keep clouds shallow. Seas moderate – northeast to east waves 1.0 to 1.5 metres, NE swells every 12 to 14 sec from the north and northeast.

3-day outlook –Ridge to remain dominant with some influx of moisture south of 11 N. Thus mostly clear to scattered clouds and occasional cirrus streaks. Seas projected to be moderate with 2.0 to 2.5 m into Wednesday with swell becoming more easterly.

Air mass origin — According to the IFS forecast, we expect a zonally oriented jet stream during the next three days (PV and wind at 340K: [link](#)), which will advect air masses arriving in BB at 300-500 hPa (red pts.) from the west. Air masses arriving at 500-700 hPa (orange pts.) are also advected from the west, but are already much closer to BB 4 days before their arrival. After a short detour they reach BB from the south. The origin of the air masses arriving at 700-800 hPa (yellow pts.) changes from east of BB to west of BB within the next three days (see [link](#) vs.[link](#)). Finally, air masses arriving at 800-1000 hPa (green and blue pts.) are advected from the southeast throughout the next three days.

## 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	640 +/- 100 m	620 +/- 50 m		510 +/- 140 m
CBH		600 +/- 100 m		
CTH	1.8 km	3.5 - 4.5 km	3.5 - 4.5 km	
Cirrus Top	-	-	-	> 12 km
AOD	-	0.1	-	-
PW	31.4 +/- 8.4 mm	26.3 +/- 2.1 mm		47.4 +/- 1.6 mm
Sfc Wind	2.7 m/s, 120°	4 m/s, 60°	3.6 m/s, 124°	
3km Wind	4.3 m/s, 200°	7.0 m/s, 235°		6.7 m/s, 311°
6km Wind	6.7 m/s, 359°	5.0 m/s, 285°		4.0 m/s, 218°
9km Wind	24.8 m/s, 320°	16.3 m/s, 304°		15.6 m/s, 302°
SST	-	27.4 °C	26.5 °C	
Inversion	1.5 +/- 0.3 km	1.8 +/- 0.2 km		4.3 +/- 0.5 km
EIS	3.6 +/- 1.4 K	3.4 +/- 0.6 K		1.3 +/- 0.7 K
LTS	14.4 +/- 1.1 K	14.4 +/- 0.7 K		12.5 +/- 0.3 K
Cloud Patterns	light sugar	mixed	mixed	n/a

CE: circle east, BT: Boulevard des Tourbillons

### 3. Model forecast

Comparison of yesterday's observed conditions to the forecast for 57°30' and 13°30' (EUREC<sup>4</sup>A position):

Field	UK MET	BCO CE
LCL	450 - 500 m	620 +/- 50 m
CTH	2000 m	
Cirrus Top	Yes	
PW		26.3 +/- 2.1 mm
Sfc wind	ESE	4 m/s, 60°
SST		27.4 °C
Cloud pattern	gravel	mixed

### 4. Figures

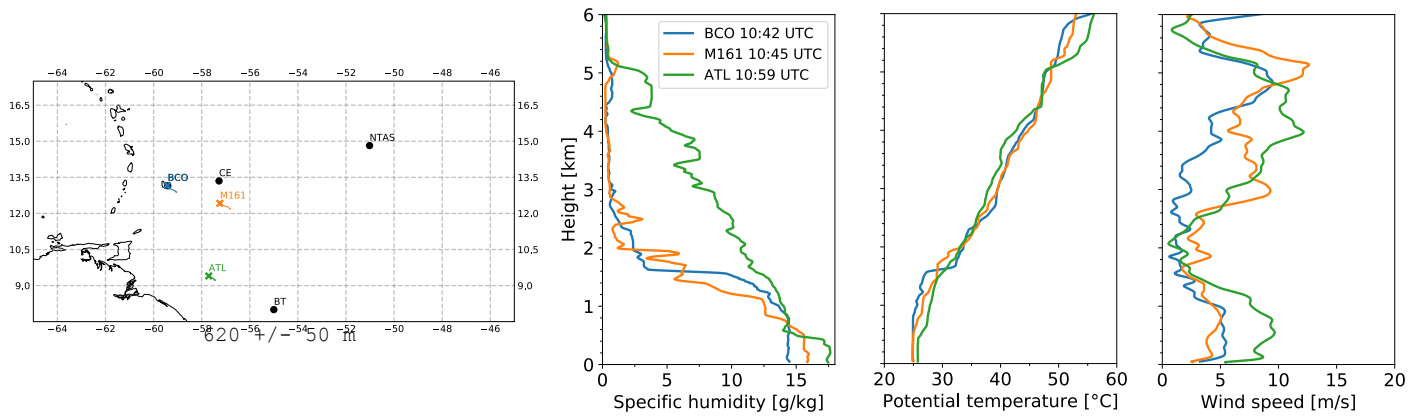


Figure 1: Soundings from three different stations.

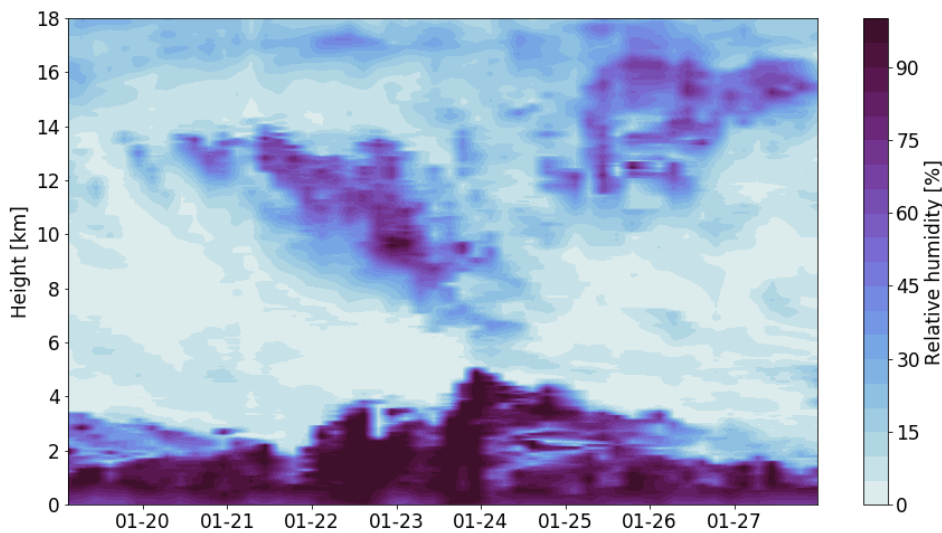


Figure 2: Soundings from BCO throughout EUREC<sup>4</sup>A.