

Wx-0205 (05 Feb 2020)

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1. Three day outlook

Synopsis – Weak shearline with associated shallow clouds moving through area from north with associated northeast winds ahead of cold front near 20 N-25 N. Very dry air from the northwest and shallow haze persists.

Winds and waves. Becoming breezy over open water 10 to 15 kts from NE.

Forecast – Slightly hazy with shallow clouds10 to 15 kts Winds ...north easterly 12 to 15 kts occasionally 20 kts.

Seas moderate - waves 1.5 to 2.5 metres, swells every 10 to 14 sec from the northeast.

3-day outlook – Dramatic increase in pressure gradient as ridge builds behind dissipating front. Winds in increase to 12 to 15kts gusting to 25 kts. Seas into Wednesday increasing to moderate and occasionally rough seas with approaching.

Air Mass Origin- According to the IFS forecast, the advection of airmasses at low- to mid-levels change from tropical origin with partly South American continental airmasses until Thursday 6.2. to extratropical influence on Friday 7.2. The upper-level anticyclonic wave breaking occurring between Tuesday 4.2. and Sunday 9.2. contributes to enabling extratropical airmasses to penetrate into the tropics towards BB. Airmasses arriving in the subcloud layer at 18 UTC on Friday will have descended from the extratropical jet stream region by 700 hPa in 7 days. Upper-level airmasses (arriving at p<500 hPa) on Friday 7.2. nicely follow the footprint of the jet stream in the last 3 days before arrival.

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	860 ± 150 m	815 ± 70 m		530 ± 30 m
CBH-LCL	15 ± 80 m	45 ± 140 m		
CTH	1 - 2 km	800 - 1600 m	3100 - 4000 m	800 - 1600 m
CIRRUS TOP				
AOD				
PW (MM)	24.5 ± 1.7 mm			37.3 ± 1.2 mm
SFC WIND	6 m/s, 80°		8.2 m/s, 75°	9 m/s ; 50°
3KM WIND	5.5 m/s, 75°			9.2 m/s ; 96°
6KM WIND	8.3 m/s, 329°			7.2 m/s ; 115°
9KM WIND	18.7 m/s, 310°			15.0 m/s ± 308°
SST			26.1°C	26.8°C
INVERSION HEIGHT	1.7 ± 0.2 km			1819 ± 49 m
EIS	6.3 ± 1.1 K			1.49 ± 0.70 K
LTS	16.6 ± 0.4 K			12.9 ± 0.7 K
CLOUD PATTERNS	Sugar	sugar	Sugar/cle ar to SW	sugar

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	1000 m		740 m	815 ± 70 m
INVERSION HEIGHT	2.02 km		2 km	800 - 1600 m
CIRRUS TOP	12.2 km		14.5 km	
PW	<30 mm		23.8 mm	
SFC WIND	10.2 m/s		7 m/s, 57°	
CLOUD PATTERNS		flowers	Sugar, flowers to SE	sugar

4. Figures

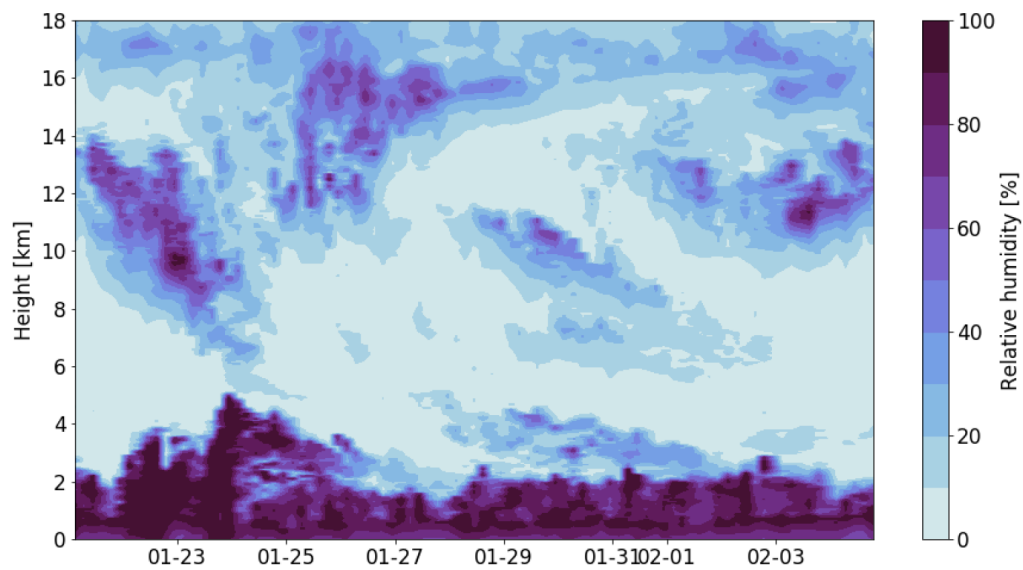


Figure 1: Soundings from BCO throughout EUREC⁴A.

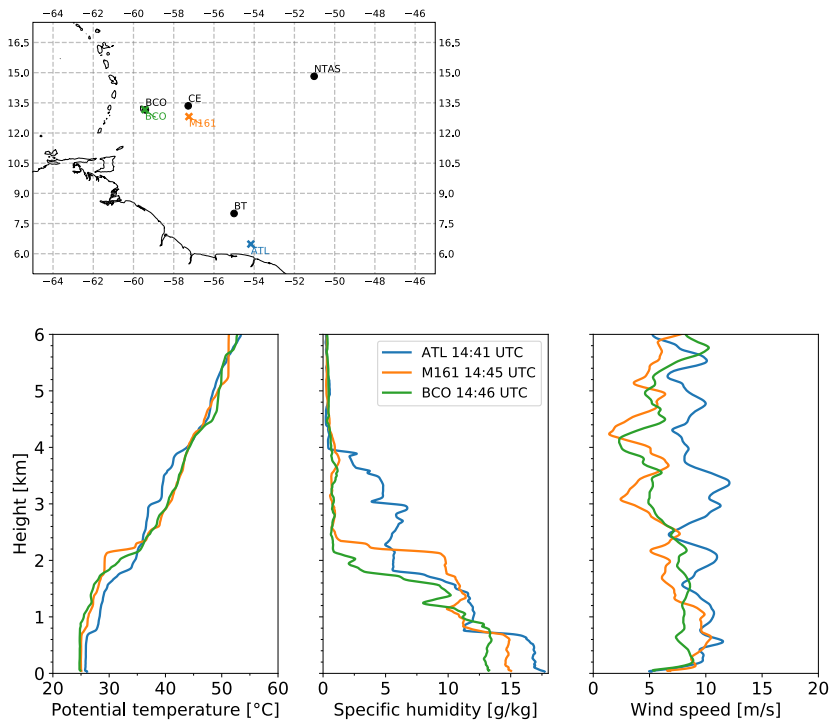


Figure 2: Soundings from four different stations.