

# Wx-0122 (22. Jan 2020)

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## 1. Three day outlook

from 21.1.:

Synopsis — Stationary front extends along 20N. Pre-frontal shearline extends from the east into Barbados. Shallow inversion at 850 hPa. Winds easterly at 12 to 20 kts, subtropical Jet aloft 60 to 90 kts.

Forecast — Increased possibly of shallow convection and showers as front propagates south. Winds will increase. Seas moderate to rough- wave 4 to 4.5 metres, swells every 14 to 15 sec from the north.

3-day outlook — Increase instability day one as front move over area. Front may ‘wag’ (oscillate north south) over period. Seas remain rough..

During the next three days the airmasses arriving in the layer 1000-900 hPa continue to be advected from the extratropics in the cold sector of a dissipating extratropical cyclone. On Thur 23.1 an unusual configuration of 4 extratropical cyclones is expected over the North Atlantic ([https://data.iac.ethz.ch/eurec4a/20200121\\_12/wind\\_slp\\_20200123\\_18.png](https://data.iac.ethz.ch/eurec4a/20200121_12/wind_slp_20200123_18.png)). In the layer 1000-700 hPa the airmasses pass west of the NTAS buoy (54°W) on 22-23.01 and over the NTAS buoy 36 h before arrival at BCO on 24.01. These low-level airmasses will pass in the southern part of the HALO circle before recurving towards BCO with southeasterly winds ([https://data.iac.ethz.ch/eurec4a/20200121\\_00/ens\\_traj\\_prob\\_LAY1\\_20200124\\_00.gif](https://data.iac.ethz.ch/eurec4a/20200121_00/ens_traj_prob_LAY1_20200124_00.gif)). The northwesterlies in the layer 800-500 hPa originate from 30°N from the 22.-24.01. On the 24.01 the flow above 600 hPa (up to 300 hPa) brings subtropical (22.01.) and tropical airmasses (23-24.01) to Barbados.

## 2. Data for Flight Planning

Yesterday's conditions at various sites representative for noontime:

Field	BCO	CC	CW	NTAS	BT
Lat	13°09'46"	13°18'	13°31'	14°49'	08°00'
Lon	59°25'44"	57°43'	56°44'	51°01'	55°00'
CBH	700 m				
CTH					
Cirrus Top	13 km	13 km		n/a	13 km
AOD					
LCL	800 m		930 (±50) m		
PW	26.3 mm			27.5 mm	
Sfc Wind	7 m/s		9 m/s	9.1 m/s	
3km Wind					
6km Wind					
9km Wind					
SST	-		27.4 C	26.8 C	
Inversion height	2000 m			2200 m	
EIS	4.5 K			3.9 K	
LTS	15.5 K			14.8 K	
Cloud Patterns	sugar	appr. fish	fish	depar. fish	sugar

CC: circle center, CW: circle west, BT: Boulevard des Tourbillons