

# Wx-0123 (23 Jan 2020)

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## 1. Three day outlook

Synopsis – Stationary Front extends further south of Barbados along with a shearline extending from the east into Barbados. Shallow inversion at 850 hPa. Overcast conditions with precipitation, stratified clouds and shallow convective clouds persist. Winds easterly at 12 to 20 knots. Seas are moderate with swells between 6-8 ft. A high surf advisory and small craft warning remains in effect for above normal northerly sea-swells until 4pm. — (status of 22. Jan 2020 12:30 LT)

3-day Outlook – Light showers throughout the day improving gradually by evening. Similar to heavier showers expected tomorrow. Seas moderate to rough in open water with swells from 2.0 m to 3.5 m. Shearline to move south but return north by late Friday into Saturday. — (status of 22. Jan 2020 12:30 LT)

Air mass origin — On 22.1. around 6 UTC (2LT) the cold front, that we nicely saw in yesterday's MODIS TERRA image, hit BB. The airmass in the layer 1000-800 hPa descended from the mid to upper troposphere and destabilised the low-level vertical thermodynamic structure around BB leading to frequent short rainfall events (link). During the next three days the airmasses arriving in the layer 1000-900 hPa continue to be advected from the extratropics behind the cold front (link). The airmasses at all levels descend in the context of an upper tropospheric cyclonic wave breaking and are channelled steadily towards BB. This channelling happens due to the presence of a quasi-stationary upper-level cut off low at 20-40°W & 20-30°N (link) and a ridge building up west of it with a meridionally elongated surface anticyclone centered at 50°W and 35°N at 00 UTC on 20.1. (link). The building ridge and cut off low induce the westward recurvature and descent of the dry intrusion airmasses.

## 2. Data for Flight Planning

Yesterday's conditions at various sites representative for local noontime:

Field	BCO	CC	CW	NTAS	BT
Lat	13°09'46"	13°17'	13°21'	14°49'	08°00'
Lon	59°25'44"	57°54'	57°17'	51°01'	55°00'
CBH	550 m		840 m		
CTH	4 km	4 km	4 km	n/a	1-2 km
Cirrus Top	13 km	13 km	13 km	n/a	13 km
LCL	120 m (380 m)*	750 (±250m)†		760 m**	
PW	47.5 mm (37.2 mm)*			27.2 mm**	
Sfc Wind	5 m/s			6.7 m/s**	
3km Wind	8.4 m/s (6.1 m/s)*			7.5 m/s**	
6km Wind	2.2 m/s (4.1 m/s)*			7.7 m/s**	
9km Wind	13.3 m/s (11.1 m/s)*			18.9 m/s**	
SST	-			26.3 C	
Inversion height	3500 m (2400 m)*			1900 m**	
EIS	3.4 K (5.0 K)*			6.4 K**	
LTS	16.5 K (17.0)*			17.4 K**	
Cloud Patterns	fish	fish	departing fish	sugar	sugar

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

\* sounding from 14:45 UTC ; sounding from 18:55 UTC in brackets

\*\* sounding from 10:45 UTC

† values from first HALO circle