



Daily cruise report (29 January 2020)

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1. Objective

Today we headed in Suriname waters to sample a cyclone lying in Suriname waters. Preliminary results that also this structure has a very thin shape. As this is already the fourth eddy that we (Maria S Merian and Atalante teams all together) meet, we can conclude that we are in a corner where the ocean internal dynamics produce intensively “pizza-eddies”!

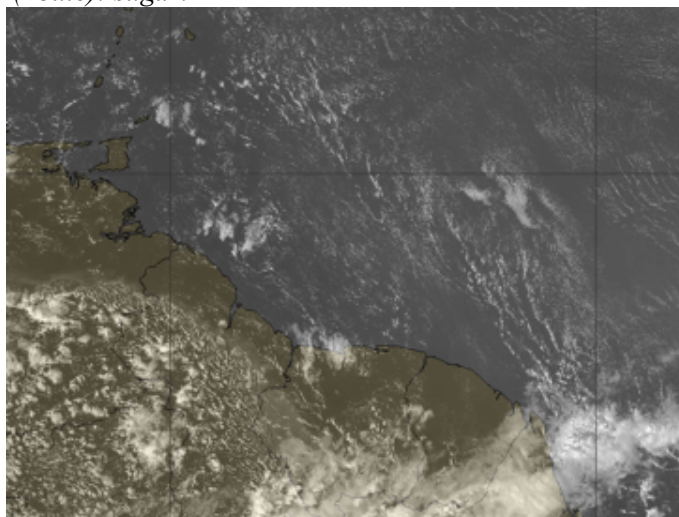
However, while we are hunting “groundhog” eddies that really stay hidden in the deep blue, our atmospheric scientists have started to look at the ocean too. And here it is, our Thibault started to analyze high-resolution Sea Surface Temperature images from JPL-MUR and CLS together with the clouds patterns captured by GOES ... and it really seems that fishes, sugars, flowers, and gravel feel the ocean very much! So the Figures today are in honor to Thibault who started to play seriously with the ocean without leaving behind the air (see below, and this time the report will be slightly longer).

2. Synoptic Situation

Moderate trade winds. Mostly sunny with isolated clouds.

Easterly wind 15-20kt. The waves are about 5 feet.

Mesoscale cloud patterns (18utc): sugar.



Cloud observations : 01/27/20

Time (local)	Coverage	Types	remarks
0800	0/8 High	-	
	0/8 Mid	-	
	2/8 Low	Cu	
1200	0/8 High	-	
	0/8 Mid	-	
	2/8 Low	Cu	Misty atmosphere
1600	0/8 High	-	
	0/8 Mid	-	
	2/8 Low	Cu	Misty atmosphere

Inter-calibration: No intercalibration today.

Stations:

Date	Approx Local Time	Operation	Lat	Lon
28/01– 29/01	From 23:00 28/01 to approx. 08:30 29/01	From 9°24'N 55°30'W go southwestward to waypoint 8°30'N 54°45'W : <i>speed 8 kts during transit, 6 kts during uCTD</i>	8°30'N	54°45'W
Visiting Suriname cyclone:				
29/01	15:00	1 CTD	8°15'N	54°38'W
29/01	16:30	1 VMP	8°15'N	54°38'W
29/01	From 17:00 to approx. 20:00	From 8°15'N 54°38'W go southwestward to waypoint WP1: 8°00'N 54°20'W : <i>speed 8 kts during transit, 6 kts during uCTD</i>	8°00'N	54°20'W
29/01	20:00	1 CTD	8°00'N	54°20'W
29/01	21:30	1 VMP	8°00'N	54°20'W
29/01	From 22:00 to approx. 01:00	From 8°00'N 54°20'W go southwestward to waypoint WP2: 7°45'N 54°7'W : <i>speed 8 kts during transit, 6 kts during uCTD</i>	7°45'N	54°7'W
29/01	23:00	1 CTD	7°45'N	54°7'W
30/01	From 0:00 to approx. 04:30	From 7°45'N 54°07'W go northward to waypoint WP3: 8°15'N 54°7'W <i>speed 8 kts during transit, 6 kts during uCTD</i>	8°15'N	54°7'W

Autonomous systems deployed: None

Overflights: No overflights. We are too far south.

4. Instrument Status

All instruments seem to work well. Today Vaisala radiosounding reception was more stable.

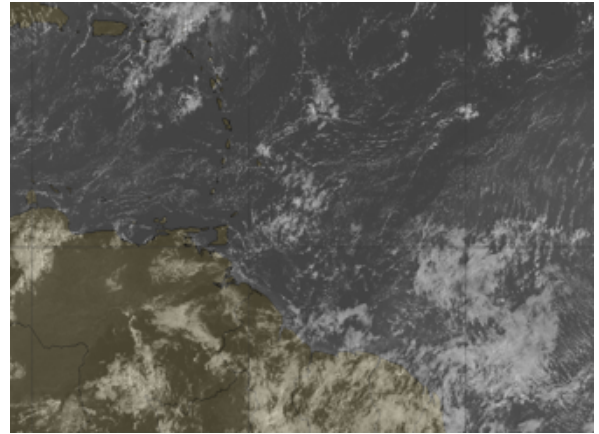
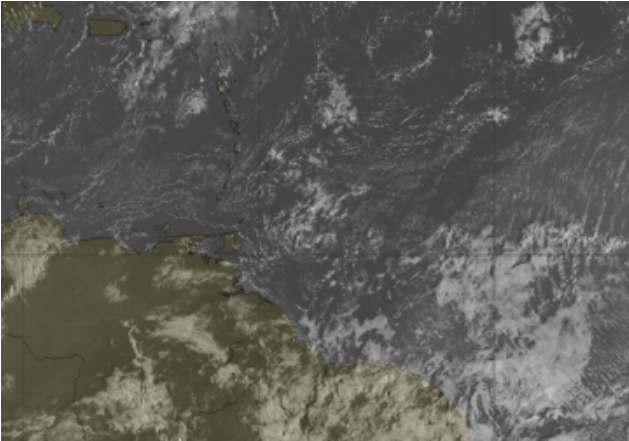
5. Outlook

Tonight we will complete to sample the pizza-cyclone and then sail to meet the Maria S Merian between the warm and the cold pizza ... eddies.

6. Figures

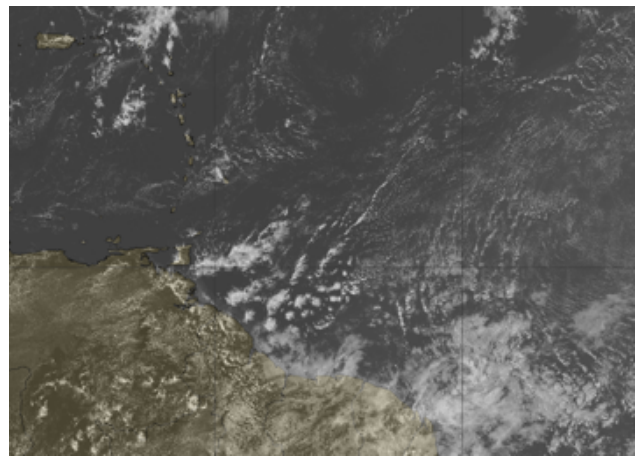
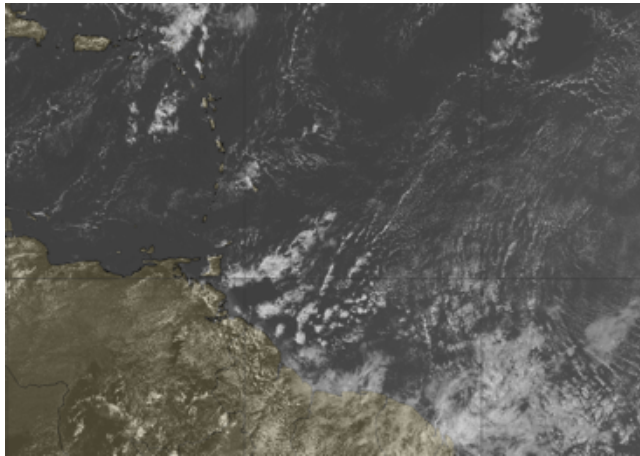
at 1130 1200 UTC = 0730 0800 LT

in *gravel*. *Fish* further north-west.



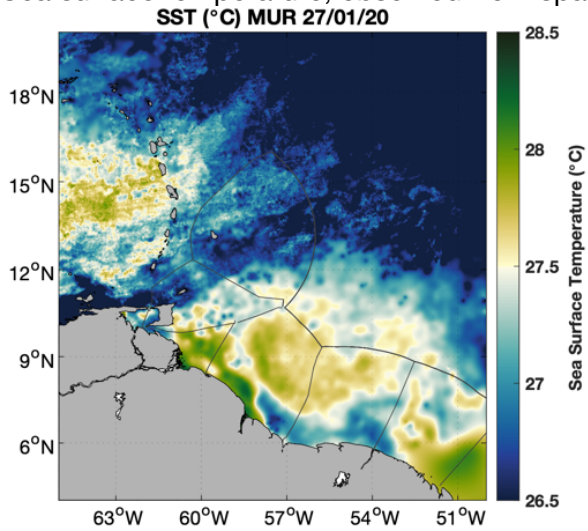
at 1730 1800 UTC = 1330 1400 LT

in *fish*. *Flowers* further south, *sugar* further east.



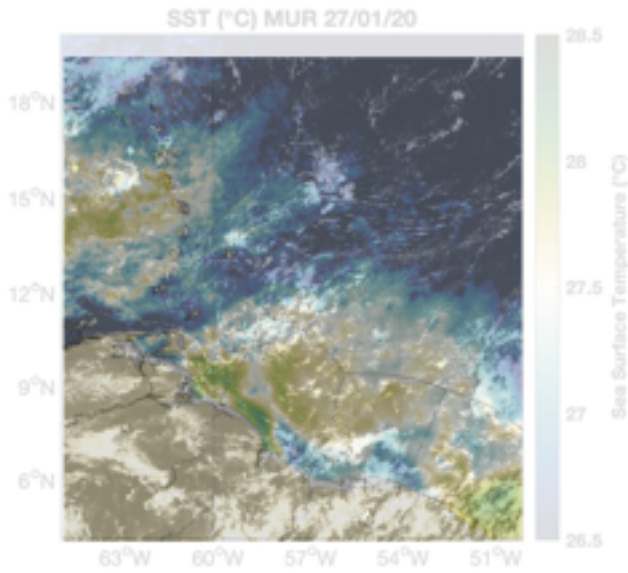
How much do the sea surface heterogeneities contribute to shape the clouds?

Sea surface temperature, observed from space:



The cold SST band from north Trinidad to east Barbados corresponds to a clear sky area. Fish develops at the south-east edge of the band, above the SST gradient. Flowers develop over the warmer ocean, further south.

Overlay MUR SST with GOES visible image at 1200 UTC



Overlay MUR SST with GOES visible image at 1730 UTC

