



Daily cruise report (24 January 2020)

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1. Objective

Today we crossed the junction between the rings R1 and R2, and the subsurface cyclonic eddy completing the observations of the Maria S Merian. We crossed Trinidad and Tobago waters sampling only with XBTs and SADCs as we do not have obtained yet the EEZ permission from this country. We continued in Guyana waters and started a section crossing the eddy junction perpendicularly with a southeast direction.

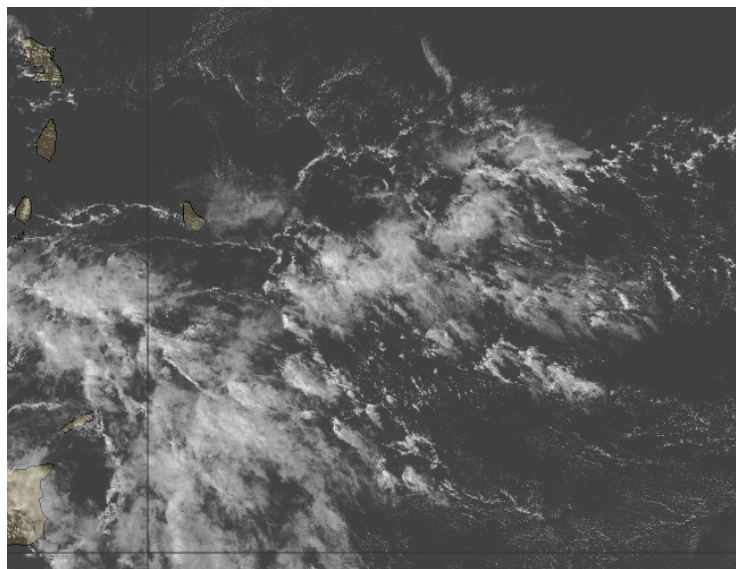
On the continental side of the eddies, we crossed surface thermohaline fronts and very intense jets layered at different depth.

We continued the regular radiosounding every four hours, however we had to change the reception frequency as the one previously used (401MHZ) seemed to be used by someone else (not identified). At Midnight local time, our position is 17°23.03'N 58° 24.69' not too far from the RV Maria S Merian.

2. Synoptic Situation

Perturbated area with wet air and moderate trade winds moving westward.

Very cloudy on the night and the morning with some showers. Then becoming drier and less cloudy on the afternoon. Easterly wind 15kt. The waves are about 3-5 feet. Mesoscale cloud patterns (18utc): « gravel ». No sargassums.



Cloud observations : 01/24/20

| Time (local) | Coverage | Types | remarks |
|--------------|----------|-------------|-------------|
| 0800 | -/8 High | N/a | |
| | 4/8 Mid | Ac | |
| | 7/8 Low | Cu, Sc, TCU | Little rain |
| 1200 | 5/8 High | Ci | |
| | 3/8 Mid | Ac | |
| | 4/8 Low | Cu, Cb | |
| 1600 | 0/8 High | N/a | |
| | 0/8 Mid | N/a | |
| | 3/8 Low | Cu | |

3. Cruise-day Elements

Inter-calibration: No intercalibration today.

Stations:

| Date | Approx Local Time | Operation | Latitude | Longitude | Comm |
|-------|-------------------|----------------------------|-------------|-------------|--------|
| 23/01 | 20:00 | TRUSTED Drifter deployment | 11° 30' | | |
| 23/01 | 21:00 | CTD #4 cast | 11° 23.03'N | 58° 24.65'W | 2000 m |
| 23/01 | 22:45 | Radiosounding | | | |
| 23/01 | 23:00 | NOAA Drifter deployment | 11° 23.03'N | 58° 24.65'W | |
| 24/01 | 00:30 | XBT (SIPPICAN) | | | |
| 23/01 | 01:30 | CTD #5 cast | | | 2000 m |
| 24/01 | 02:45 | Radiosounding | | | |
| 24/01 | 03:30 | NOAA Drifter deployment | | | |
| 24/01 | 05:30 | XBT (SIPPICAN) | | | |
| 24/01 | 06:30 | XBT (SIPPICAN) | | | |
| 24/01 | 07:30 | XBT (SIPPICAN) | | | |
| 24/01 | 06:45 | Radiosounding | | | |
| 24/01 | 08:30 | XBT (SIPPICAN) | | | |
| 24/01 | 10:00 | CTD #6 cast | 10°36'N | 57°18'W | 1500 m |
| 24/01 | 10:45 | Radiosounding | | | |
| 24/01 | 12:10 | XBT (SIPPICAN) | | | |
| 24/01 | 12:50 | uCTD | | | |
| 24/01 | 14:00 | CTD #7 cast | 10°30'N | 57°36.96'W | 2000 m |
| 24/01 | 14:45 | Radiosounding | | | |
| 24/01 | 16:15 | TRUSTED Drifter deployment | | | |
| 24/01 | 17:15 | uCTD | | | |
| 24/01 | 18:00 | XBT (SIPPICAN) | | | |
| 24/01 | 18:45 | Radiosounding | | | |
| 24/01 | 19:00 | CTD #8 cast | 10°21.6'N | 57°52.8'W | 1500m |
| 25/01 | 21:30 | uCTD | | | |
| 25/01 | 22:30 | XBT (SIPPICAN) | | | |
| 24/01 | 22:45 | Radiosounding | | | |
| 24/01 | 23:30 | uCTD | | | |

Autonomous systems deployed: We have deployed two drifters, one TRUSTED French and one NOAA.

Overflights: No overflights. We are too far south.

4. Instrument Status

Everything works well.

5. Outlook

Tomorrow we will sail back to R2 northern edge and deploy the air-sea buoys OCARINA & PICCOLO and the Kraken (SeaExplorer) glider. Then we will see what are the possibilities to meet with the Maria S Merian (hoping they get permission to enter Guyana waters).

We will undertake very high-resolution sampling in the area near the two air-sea special buoys (vertical mixing and thermohaline structure) if they are deployed or across the eddy border.

6. Figures

