Maria S Merian 0127 (27 January 2020)

Johannes Karstensen (Chief Scientist)

0127,04:30 UTC

1. Objective

Launch of Cloudkite with advanced sensor package (MPCK+) successfully accomplished with sampling for 3-4 hours.Synergy between Liadra and Radar observations with in-situ Cloudkite defined. Continue upper ocean survey with uCTD/ADCP. Radiosounding every 12h (south of 9°N). Three biology casts at 3:30am. No Guyana EEZ permission given so far.

2. Synoptic Situation

No report

3. Cruise-day Elements

Approx. Time (local)	Operation	Latitude	Longitude	Comm
	uCTD to waypoint: 07°15.00'N / 50° 50.00'W			9kn
11:30	CTD# 36	07°15.00'N	50° 50.00'W	2000m
	MSS casts (3)	same		200m
13:00	Daily Meeting (**Conference room**)			Claudia
14:30	MSS casts (3)	07°27.84 'N	51° 08.81'W	200m
	Cloudkite launch sometime in the afternoon			
22:00	CTD# 37	07° 34.26'N	51° 18.22'W	
	MSS casts (3)	same pos.		200m

Inter-calibration: no
CTD Stations: see table
Overflights: no

4. Instrument Status

Operational:

> *Ocean – ADCP 38 & 75kHz; TSG; X-Band Radar; Underway O2, Chl-a (spectrometer); Incubation (PP; filtration); Nutrient/lab analysis; CTD/O2 +rosette; Moving vessel profiler; Microstructure sonde; Ferrybox pCO2; MIMS (O2/Ar, DSMS), underway CTD*

> *Glider ifm09; ifm 03; ifm12 (see https://gliderweb.geomar.de/ -> swarm 12;*

> *Atmosphere – Halo Wind Lidar; Disdrometer; W-Band Radar. MRR (rain), sun photometer, Cloudcamera; SMPS (Aerosol; ship based); radiosondes; DWD Metrology package (incl. radiation); ARTHUS Raman Lidar; Splash drone (atmospheric state parameters); – MPCK+ (atmospheric state parameters+cloud microphysics; Cloudkite); Mini MPCK (atmospheric state parameters and fluxes; Cloudkite); SMPS (Aerosol; Cloudkite*

No functioning: Ceilometer

5. Outlook

Will survey the pancake eddy and deep eddy again and meet with lATALANTE and holefiully the saildrones at the northern eddy boundary to do joint surveys. Guyana permit still not issued. Interesting hermohaline staircases pattern.
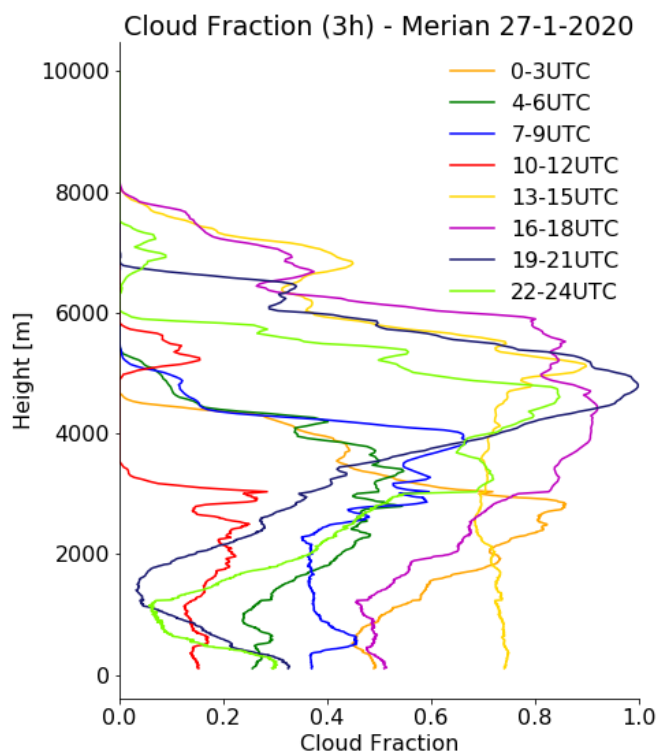
6. Figures

Figure cloud fraction form Radar

2020-01-27 - Liquid Water Path msm94, ocean (RPG processing)

2020-01-27 - Met.-station rain rate msm94, ocean

2020-01-27 - Met.-station temperature msm94, ocean

2020-01-27 - Met.-station relative humidity msm94, ocean

2020-01-27 - Met.-station wind speed msm94, ocean