

Maria S Merian 0130 (30 January 2020)

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1. Objective

Ocean: Frontal survey CTD/MSS and MVP; atmosphere: LIDAR, Radar. Switched Radiosondes back to every 4h. Start frontal survey with IATALANTE. Launch cloud kite to test a new mounting of the sensor packages (test with Zarges box). Continue MSS indicating intense vertical mixing at the boundary between two eddies and close to the surface. Suspect air/sea response. The cloudkite was flying much more stable with the new mounting.

2. Synoptic Situation

No report

3. Cruise-day Elements

Approx. Time (local)	Operation	Latitude	Longitude	Comm
02:00	CTD# 45	08° 12.78'N	52° 14.71'W	Full depth
	MSS casts (3)	same pos.		250m
06:00	CTD# 46	08° 19.20'N	52° 24.12'W	Deep eddy centre; Full depth
	MSS casts (3)	same pos.		250m
08:00	<i>Cloudkite test launch (new science package loading)</i>			
13:00	Daily Meeting (Conference room)			
13:30	CTD#47	08° 12.00'N	53° 12.00'W	2000m; Meeting IAtalante
	MSS casts (3)	same pos.		250m
15:30	Merian/IAtalante dynamical front survey of pancake & deep eddy Ocean/atmosphere exchange	same pos. (08° 12.00'N/53° 12.00'W) Waypoints: 08°12'N/54°00'W (50nm) 07°45'N/52°20'W (120nm)		4kn Parallel course with IAtalante, Distance tbd
	<i>Cloudkite science launch (tdc)</i>			

Inter-calibration: nwith IAtalante

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

Continue survey with LATALANTE. Launch Cloudkite with sensor package

6. Figures





