

Meteor 0119 (2020)

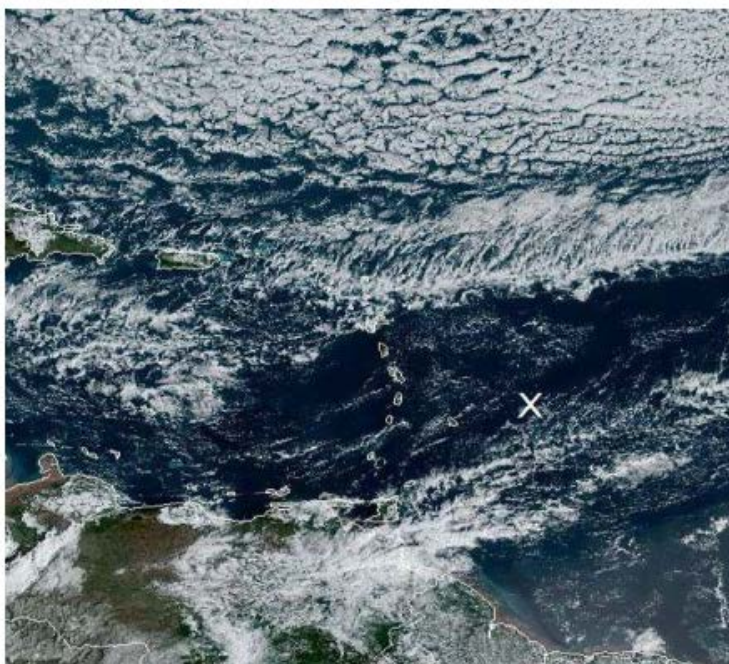
Stefan Kinne

1. Objective

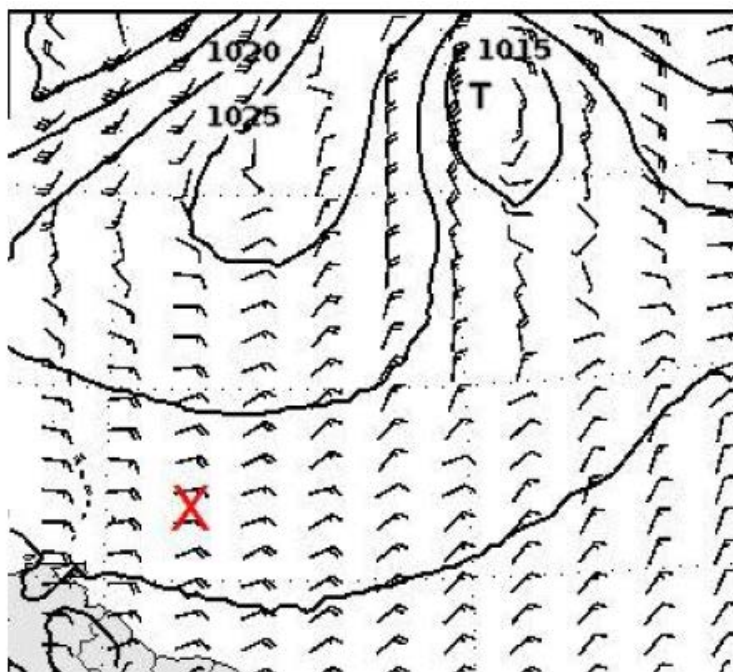
CTD for biology analysis at the designated HALO / METEOR track overlap (before the glider deployment)
Coordinated sampling by MERIAN and METEOR and by HALO, MERIAN and METEOR via vertical slice
atmospheric probing on a pre-defined path at temporal offsets within 15nm (2 hours at 7.5nm)
6 radiosondes were released at 2.45, 6.45, 10.45, 14.45, 16.30 and 22.45 UTC.

The METEOR started with a CTD very early in the morning at the glider location, where profiling after the glider deployment would not be possible anymore. CTD profiling was done in parallel by the MERIAN. Then both ships departed to the track on which the HALO aircraft would approach Barbados. The METEOR was positioned 15nm behind the MERIAN (at 6nm). The HALO overflight occurred at 17.15 UTC, as was even visually observed. As also the P3 aircraft was expected on the track both ships continued at 15nm distance along the track. By the time it was found out that the P3 would not come. The METEOR caught up with the MERIAN to witness the first cloud-kite test and finally to return to the glider deployment location.

2. Synoptic Situation



Satellitenbild GOES 19.01.2020 13:00 UTC



Vorhersage für Montag 12 UTC

Weather observations (every 3hr)

```
20 01 19001 99138 70580 11598 10511 10260 20198 40173 53011 70200 81100 22212 04275
2//// 3//// 4//// 5//// 6//// ICE ////
 20 01 19031 99138 70577 46//// /0512 10260 20188 40170 57003 7//// 8//// 22222 04276
2//// 3//// 4//// 5//// 6//// ICE ////
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20 01 19061 99138 70574 16/// /0513 10256 20178 40156 58014 7///// 8///// 22222 04274
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 19091 99138 70573 46/// /0512 10258 20178 40157 53001 7///// 8///// 22221 04276
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 19121 99138 70573 11598 10512 10258 20192 40174 53017 70200 81800 22200 04276
20302 306/// 40704 5///// 6///// ICE /////
20 01 19151 99135 70573 41598 20611 10261 20201 40177 50003 70300 82200 22242 04278
20302 307/// 40704 5///// 6///// ICE /////
20 01 19181 99134 70572 11598 20611 10260 20205 40149 56028 70200 82100 22221 04276
20302 307/// 40705 5///// 6///// ICE /////
20 01 19211 99135 70569 41598 40611 10261 20208 40146 55003 70300 84200 22222 04275
20302 307/// 40805 5///// 6///// ICE /////

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3. Cruise-day Elements

IWV (integrated water vapor): 26 kg /m2 +/-2
LWP (liquid water path): 8 g /m2 +/-30

hourly means of ship data (1st line 0-1 UTC, 2nd line 1-2 UTC ... last line 23-24 UTC)

salinity PSU	Tdew °C	Tair °C	Twater °C	TrueDir deg	RH %	rel.Wind m/s	trueWind m/s	lw Rad W/m ²	sw Rad W/m ²	lat °N	lon °E
35.8651	19.2	26.09	27.5	49.03	65.42	14	11.02	375.5	-1.02	13.83	-57.96
36.0143	18.75	26.07	27.63	50.37	63.68	14.3	11.84	370.08	-1.03	13.84	-57.86
36.0047	18.96	25.95	27.64	49.95	64.93	14.54	12.01	374.05	-1.03	13.83	-57.76
35.6622	18.64	25.87	27.49	53.63	63.95	14.13	11.65	369.7	-1	13.82	-57.66
35.4582	18.6	25.74	27.42	56.35	64.3	14.33	11.71	371.18	-1	13.81	-57.56
35.4092	18.54	25.69	27.43	53.55	64.22	14.95	12.38	370.45	-1	13.8	-57.45
35.4083	18.56	25.69	27.45	51.08	64.37	15.19	12.75	375.9	-1	13.79	-57.35
35.5922	18.47	25.7	27.57	51.34	64.02	13.82	12.46	369.41	-1.02	13.79	-57.27
35.5789	18.1	25.73	27.6	53.22	62.45	11.9	11.64	366.07	-1	13.79	-57.25
35.5693	18.12	25.81	27.53	56.7	62.2	11.93	11.67	368.73	-1	13.79	-57.25
35.5833	18.54	25.81	27.53	56.48	63.85	12.04	11.77	371.65	34.1	13.79	-57.25
35.5992	19.2	25.71	27.6	58.72	66.85	12	11.74	375.67	225.42	13.79	-57.25
35.6249	18.98	25.95	27.63	56.93	65.07	11.04	11.47	378.98	440.18	13.78	-57.25
35.7553	19.9	26.06	27.77	61.07	68.52	8.93	11.15	402.72	556.22	13.68	-57.28
35.8186	20.11	26.16	27.8	63.58	68.87	9.33	11.22	394.02	714.88	13.55	-57.32
35.8388	20.36	26.18	27.74	61.88	69.9	11.31	11.54	398.4	783.53	13.43	-57.35
35.7542	20.12	26.16	27.68	62.55	68.97	13.78	11.49	392.2	889.8	13.41	-57.3
35.665	20.39	26.06	27.64	63.34	70.57	14.02	10.99	388.48	825.41	13.43	-57.2
35.4169	20.35	26.04	27.59	67.12	70.52	13.68	10.64	387.32	651.02	13.45	-57.1
35.3181	20.5	26.06	27.52	64.33	71.1	13.32	10.35	390.05	447.6	13.48	-57
35.3123	20.8	26.12	27.5	62.37	72.17	14.97	10.95	389.76	224.67	13.5	-56.88
35.2436	21	26.06	27.39	58.77	73.23	15.65	10.92	407.89	20.74	13.53	-56.73
35.2311	21	26	27.38	56.22	73.6	13.26	10.44	403.88	-1	13.59	-56.59
35.253	21.02	26.01	27.4	57.86	73.58	8.37	11.17	392.42	-1	13.63	-56.66

inter-calibration: Meteor and Merian (side by side the entire day)
CTD stations: 2
radiosondes: 6
overflights: 1

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 02	19 jan 2020 / 07:47-08:37	CTD	CTD / MPI	13°47.103 N	57°15.136' W	500	Baranowski
M161 03	19 jan 2020 / 11:30-11:58	CTD	CTD / MPI	13°47.104 N	57°15.136' W	200	Baranowski

4. Instrument Status

Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested)

	today	operators
radiosondes	W	Katharina, Imke, Yanmichel
cloud-radar	W	Heike, Johannes
micro-radiometer	W	Heike, Johannes
spect-radiometer	W	Heike, Johannes
Raman-lidar	W	Ludwig
cloud-kite	U	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro	W	Sebastian
micro-biology	U	Wiebke, Jan, Abiel, John
ADPC ocean curr.	W	Callum, Beth
thermosalinograph	W	Callum, Beth
glider	U	Callum, Beth
UAV	U	Darek, Jakub, Michal, Wojciech
eddy-flux-data	W	Katharina, Imke, Heike
wind-lidar (DTU)	W	Geiske, Kevin
wind-lidar (Bre)	F	Geiske, Kevin
MAX-DOAS	W	Alma
ceilometer	W	Stefan
cloud camera	W	Stefan
sunphotometer	W	Stefan, Przemek, Andreas, John
aero scat/abs	W	Przemek
WRAS (aero size)	W	Alma

5. Outlook

Tomorrow we will start and end at the glider site traveling along 57.245 W with regular stops to train CTD operations for upcoming shifts.