Meteor 0205 (2020)

Stefan Kinne (6 feb 2am)

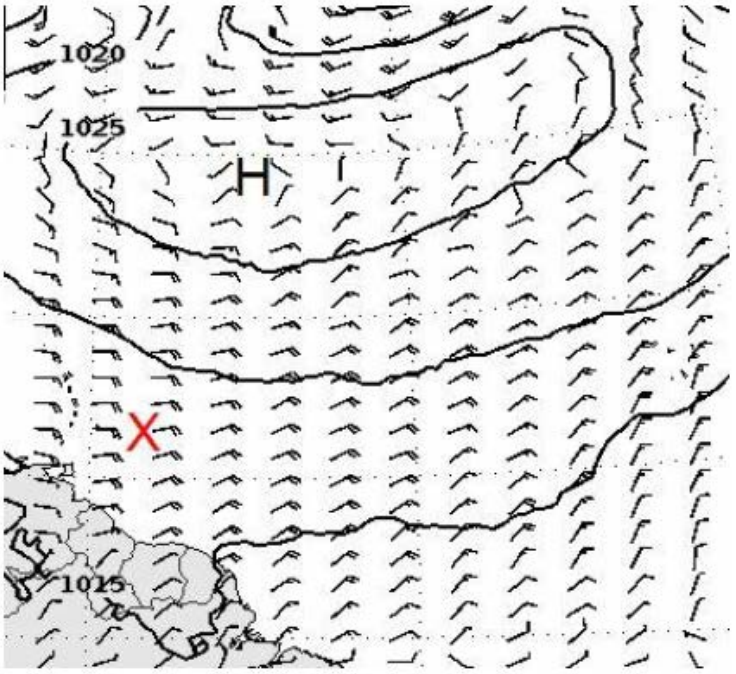
1. Objective

Continue sampling on the METEOR track until the morning hours. Retrieve the pink UEA glider and check on the UEA autonaut (carvella). Remain stationary on the Meteor track just south of L1 with the cloud-kite in the air (as winds are strong enough today) and conduct CTDs every 2 hours for daily cycles and launch radiosondes at (almost) regular times (at 2.45, 6.45, 10.45, 14.45, 16.33 (DWD), 19.15 and 22.45 UTC).

After reaching northern point of the track just before sunrise we returned to L1. Even though the wind was relatively strong at 10m/s and relatively rough waters the by-boat was set out to retrieve the pink glider for servicing, which also allowed to check on the carvella which was parked. It looked OK, as fears of sargassm contamination due to its unexpected slow speed were unfounded. After lunch, we started the cloud kite, now from an electric ship-winch. Since the wind offered sufficient kite lift, the ship was parked onto the Meteor track facing the easterly winds, with plans to stay there to sample a complete daily cycle in water (CTD) and air (radiosondes, remote sensing). Today we lost our first radiosonde after a collision with the cloud-kite line, which delayed the 18.45UTC launch with a spare to 19.15UTC.

2. Synoptic Situation

Satellitenbild GOES16 **05.02.2020** 12:50 UTC



Vorhersage für Donnerstag 12 UTC

Weather observations (every 3hr)

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20 02 05001 99135 70572 11598 10609 10261 20207 40179 53017 70200 81200 22202 04273
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 05031 99138 70572 46/// /0610 10262 20208 40184 51005 7//// 8//// 22201 04274
2//// 3//// 4//// 5//// 6//// ICE /////
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 20 02 05061 99140 70572 16/// /0710 10259 20205 40172 58012 7//// 8//// 22201 04273
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 05091 99143 70572 46/// /0711 10259 20205 40169 55003 7//// 8//// 22281 04270
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 05121 99144 70572 11597 40710 10259 20208 40187 51018 70181 84800 22201 04271
20301 307// 40604 5//// 6//// ICE /////
 20 02 05151 99142 70573 41597 60710 10302 20219 40195 50008 70311 86800 22241 04271
20301 306// 40604 5//// 6//// ICE /////
 20 02 05181 99141 70574 11598 10709 10263 20212 40172 58023 70111 81200 22251 04274
20201 307// 40704 5//// 6//// ICE /////
 20 02 05211 99141 70572 41598 20809 10264 20211 40167 55005 70200 82200 22221 04274
20201 307// 40704 5//// 6//// ICE /////
```

More clouds in the morning more blue skies in the afternoon, no cirrus and strong winds from the east.

3. Cruise-day Elements

IWV (integrated water vapor): 29 kg /m2 +/- 2
LWP (liquid water path): 37 g /m2 +/- 132

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC
Height_m	760.21	715.49	715.49	715.49	693.13	737.85
max_hydro_frac_low	0.09	0.03	0.15	0.12	0.04	0.07
Height_m	1341.54	1319.19	2191.19	2079.39	2325.34	1296.83
max_hydro_frac_mid	0.06	0.02	0.16	0.23	0.47	0.00
Height_m	12878.56	12878.56	12836.47	5987.42	10016.66	12836.47
max_hydro_frac_high	0.00	0.00	0.00	0.00	0.03	0.00

L ow=up to 1200m, mid=up to 6000m, high=up to 15000m

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/m²	sw Rad W/m²	lat °N	lon °E
35.2923	20.39	26.1	27.32	59.43	70.43	11.07	8.88	386.73	-1	13.56	-57.25
35.2883	20.26	26.04	27.31	56.3	70.1	8.63	7.89	380.77	-1.25	13.6	-57.25
35.3298	20.71	26.02	27.34	57.97	72.08	11.72	8.9	394.15	-1	13.69	-57.25
35.3614	20.48	25.95	27.4	63.8	71.48	12.73	10.32	388.93	-1	13.82	-57.25
35.3768	20.41	25.83	27.4	59.58	71.58	9.72	9.23	388.3	-1	13.89	-57.24
35.4183	20.53	25.87	27.35	67.93	71.97	12.02	9.83	392.25	-1	13.96	-57.24
35.4845	20.4	25.8	27.24	70.62	71.67	11.73	9.67	384	-1	14.09	-57.24
35.4279	20.62	25.68	27	67.38	73.22	9.38	8.85	396.97	-1.08	14.18	-57.25
35.4055	20.72	25.72	27	73.23	73.6	12.31	10.43	410.97	-0.9	14.24	-57.25
35.3839	20.41	25.8	27.07	70.69	71.73	13.39	11.27	412.64	-1.03	14.36	-57.25
35.3665	20.38	25.73	27.05	67.33	71.97	11.42	10.44	394.37	17	14.47	-57.25
35.3686	20.44	25.86	27.1	66.93	71.62	9.76	9.96	390.53	177.33	14.44	-57.24

35.3944	21.17	25.6	27.08	68.33	76.08	9.91	10.26	417.47	337.55	14.31	-57.24
35.423	21.26	25.45	27.04	65.97	77.22	9.8	9.9	411.47	588.67	14.19	-57.25
35.4276	21.56	26.21	27.07	72.6	75.35	8.97	9.14	422.33	693.85	14.18	-57.24
35.4963	21.29	29.63	27.3	76.25	61.03	5.9	10.15	403.28	864.25	14.14	-57.33
35.4893	20.87	26.37	27.39	74.1	71.48	10.49	9.8	394.32	887.02	14.13	-57.39
35.4789	20.57	26.32	27.4	74.1	70.23	10.4	9.67	389.32	850.22	14.11	-57.39
35.4809	20.8	26.34	27.41	75	71.25	12.04	9.3	392.67	705.98	14.09	-57.35
35.487	20.9	26.32	27.39	74.07	71.68	10.69	9.28	391.38	476.73	14.08	-57.25
35.4839	21.04	26.31	27.4	76.02	72.38	9.13	8.81	389.72	233.12	14.08	-57.25
35.4839	20.95	26.27	27.4	73.12	72.1	9.18	8.87	388.73	47.52	14.08	-57.25
35.4877	20.95	26.21	27.34	68.4	72.38	9.05	8.73	386.93	-1.17	14.08	-57.25
35.4854	21.26	26.19	27.32	63.95	73.95	10.58	10.25	397.51	-1	14.08	-57.25

inter-calibration: **none**
CTD stations: **7**
radiosondes: **7**
overflights: **none**

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 120	5 feb 2020 / 00:55-01:35	CTD	CTD	13°35.644 N	57°14.723' W	800	Baranowski
M161 121	5 feb 2020 / 04:10-04:47	CTD	CTD	13°53.306 N	57°14.698' W	800	Baranowski
M161 122	5 feb 2020 / 07:21-07:58	CTD	CTD	14°10.908 N	57°14.726' W	800	Baranowski
M161 123	5 feb 2020 / 10:31-11:06	CTD	CTD	14°28.553 N	57°14.751' W	800	Baranowski
M161 124	5 feb 2020 / 13:46-14:24	CTD	CTD	14°10.898 N	57°14.731' W	800	Baranowski
M161 125	5 feb 2020 / 17:08	glider	on deck	14°07.769 N	57°23.673' W	800	Baranowski
M161 126	5 feb 2020 / 19:36-20:13	CTD	CTD	14°04.928 N	57°14.744' W	800	Baranowski
M161 127	5 feb 2020 / 22:29-23:05	CTD	CTD	14°04.928 N	57°14.744' W	800	Baranowski

4. Instrument Status

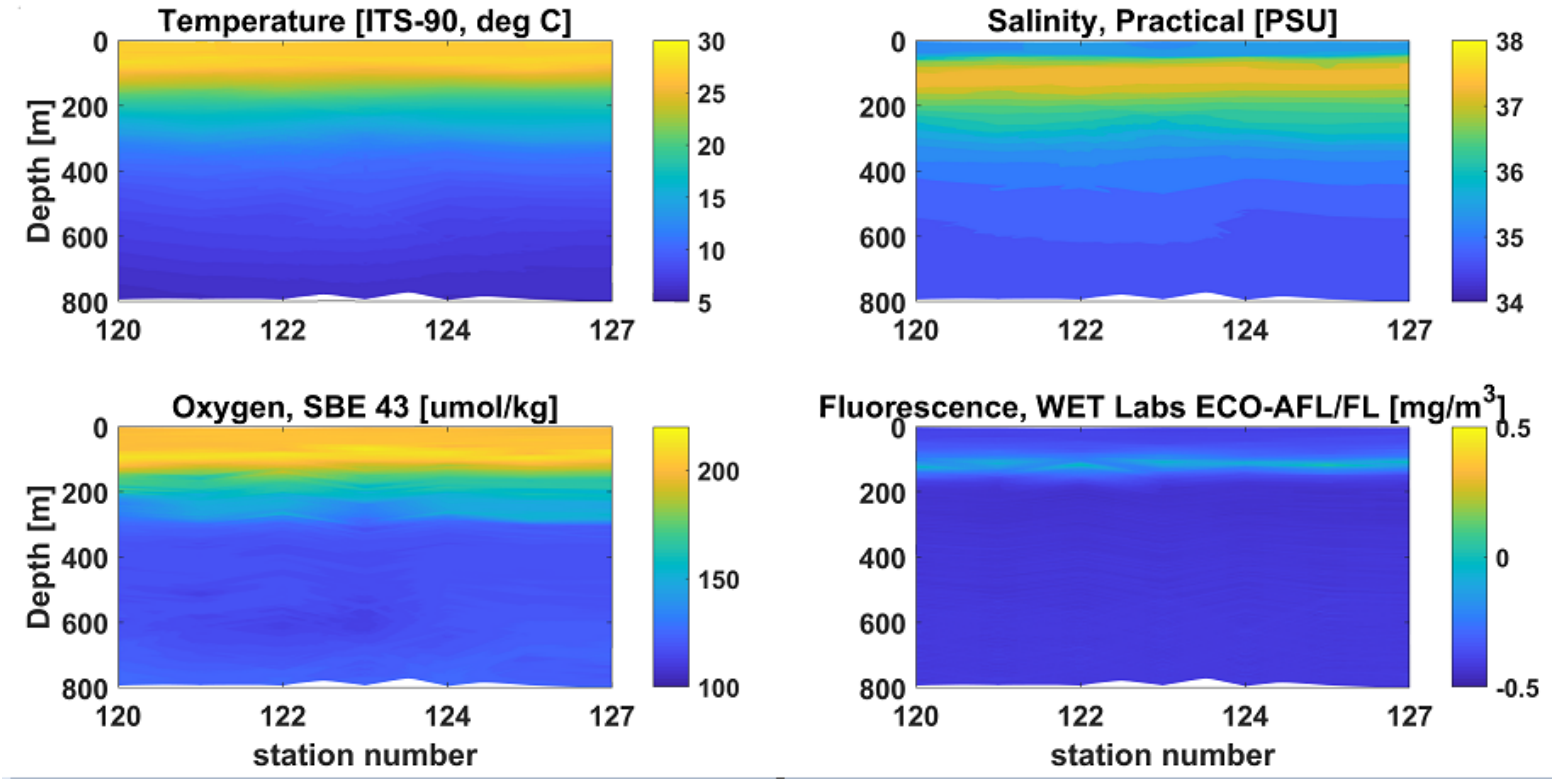
Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested, **R**-ready)

			status	operators
radiosondes			**W**	Katharina, Imke, Yanmichel, Almuth, Kevin, Sebastian, Geiske
cloud-radar			**W**	Heike, Johannes
micro-radiometer			**W**	Heike, Johannes
spect-radiometer			**W**	Heike, Johannes
Raman-lidar			**W**	Ludwig
cloud-kite			**W**	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro			**P**	Sebastian

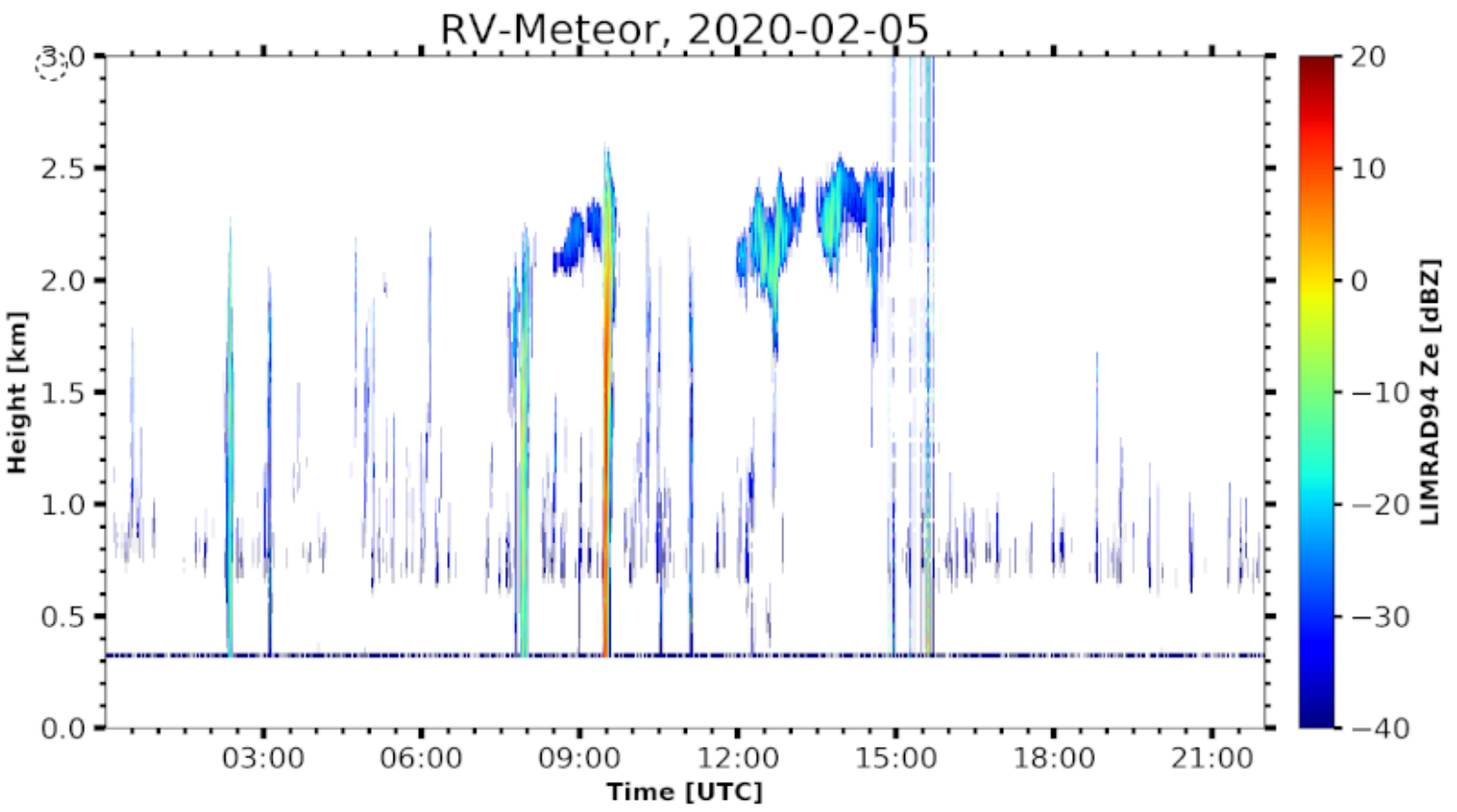
micro-biology			W	Wiebke, Jan, Abiel
ADPC ocean curr.			W	Callum, Beth
thermosalinograph			W	Callum, Beth
glider			W	Callum, Beth
UAV			W	Darek, Jakub, Michal, Wojciech
eddy-flux-data			W	Katharina, Imke, Heike
wind-lidar (DTU)			W	Geiske, Kevin
wind-lidar (Bre)			P	Geiske, Kevin
MAX-DOAS			W	Alma
ceilometer			W	Stefan
cloud camera			W	Stefan
sunphotometer			W	Stefan, Przemek, Andreas, John, Sanola
aero scat/abs			W	Przemek (Mr P)
WRAS (aero size)			W	Alma
CTD			W	Darek, Przemek, Beth, Callum, Alma, Sanola, Kevin, Robert, Wojtek, Almuth
Rodney			W	Darek, Jakub, Przemek

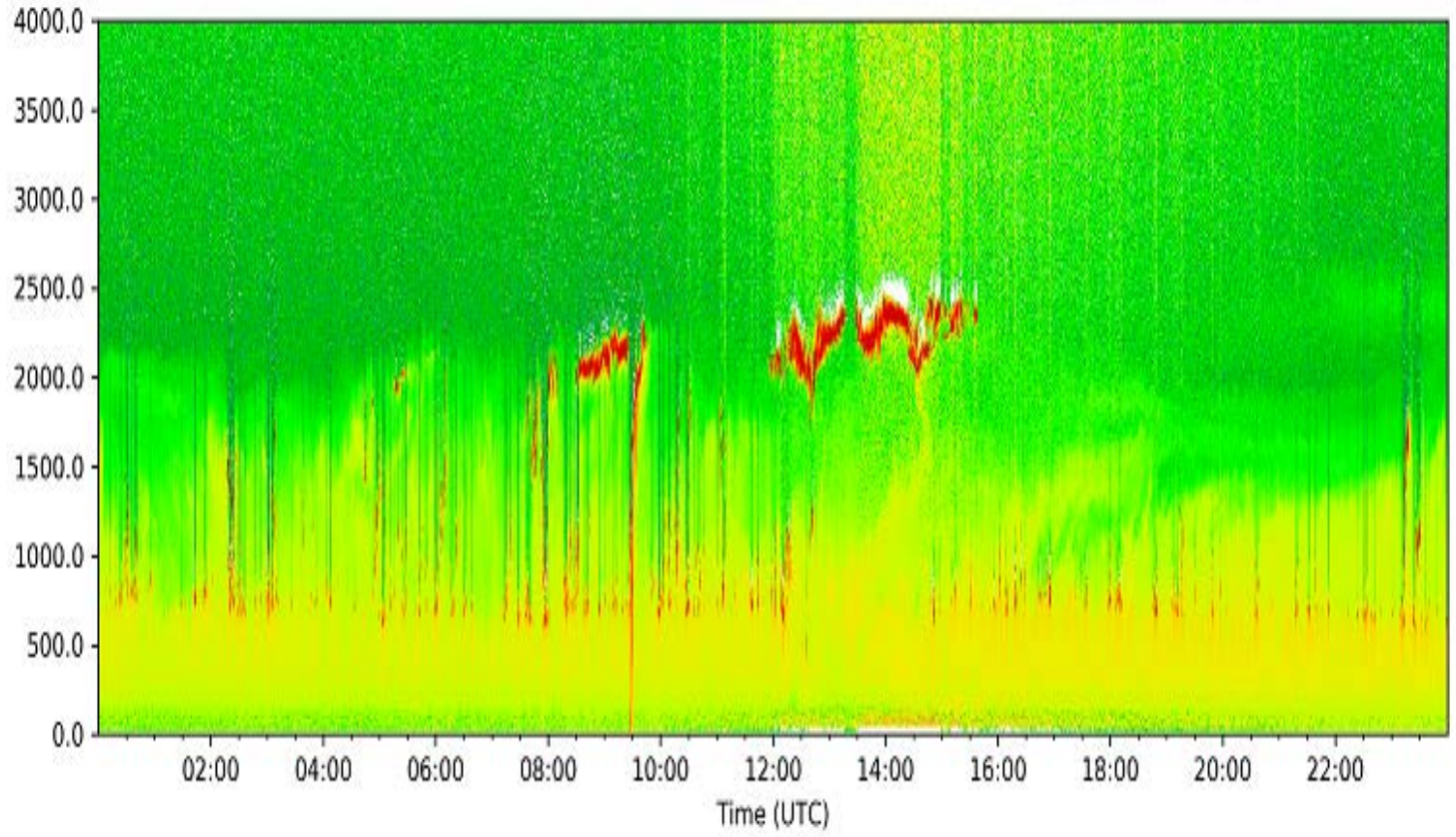
5. Outlook

We plan to stay in our current position until tomorrow afternoon with continued cloud-kite sampling, before heading south to meet the Merian the following morning near L2.



Jan 5 CTD data (near L1)





METEOR radar (top) and ceilometer (bottom) images for