Meteor 013 (2020)

Stefan Kinne (14 feb 2am)

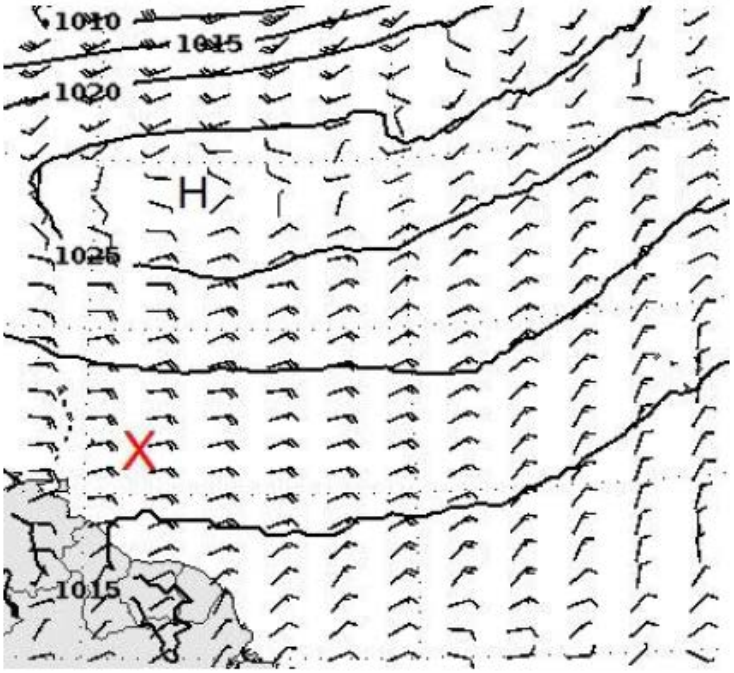
1. Objective

Finishing the larger area region around the southern L2 and head north towards L1 on the METEOR track - with regular CTD casts every 3 hours and regular radiosondes launches (at 2.45, 6.45, 10.45, 14.45, 16.33 (DWD), 18.45, 22.45UTC).

After another Microbiology sampling (every 3rd day) we reached at sunrise (behind clouds) the Meteor track north of L2 and headed towards L1. The wind was rather stiff (ca 13m/s) and by going north we escaped the mostly overcast conditions towards bluer skies.

2. Synoptic Situation

Satellitenbild GOES16 **13.02.2020** 12:50 UTC



Vorhersage für Freitag 12 UTC

Weather observations (every 3hr)

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20 02 13001 99121 70572 11498 20711 10263 20209 40157 53009 70311 82200 22252 04274
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 13031 99123 70573 46/// /0713 10263 20200 40164 50007 7//// 8//// 22271 04274
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 13061 99124 70574 16/// /0810 10258 20207 40150 58014 7//// 8//// 22271 04275
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 13091 99126 70573 46/// /0612 10260 20203 40139 56011 7//// 8//// 22211 04274
2//// 3//// 4//// 5//// 6//// ICE /////
 20 02 13121 99129 70572 11597 70612 10262 20204 40156 53017 70281 872// 22282 04273
20302 306// 40805 5//// 6//// ICE /////
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 20 02 13151 99132 70572 41598 70613 10263 20201 40165 50009 72582 878// 22282 04271
20402 306// 40805 5//// 6//// ICE /////
 20 02 13181 99136 70572 11598 10611 10262 20195 40149 58016 70181 81230 22282 04271
20302 305// 40904 5//// 6//// ICE /////
 20 02 13211 99139 70572 41598 10712 10260 20195 40152 53003 70300 81205 22202 04270
20302 305// 40904 5//// 6//// ICE /////
```

longer periods of complete cloud cover in the morning but with our movement to the north we ran into more blue skies. t
no Cirrus, no rain, AOD is back to background (at high windspeeds)

3. Cruise-day Elements

IWV (integrated water vapor): 35 kg /m2 +/- 3
LWP (liquid water path): 38 g /m2 +/- 134

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC	19-21UTC
Height_m	737.85	827.29	782.57	1185.03	1185.03	827.29	916.72
max_hydro_frac_low	0.11	0.19	0.26	0.37	0.56	0.12	0.08
Height_m	1699.29	1744.01	1744.01	1632.21	1587.49	1207.39	1207.39
max_hydro_frac_mid	0.18	0.23	0.45	0.56	0.68	0.01	0.01
Height_m	12878.56	12878.56	6062.73	12836.47	5987.42	12836.47	12878.56
max_hydro_frac_high	0.00	0.00	0.00	0.00	0.00	0.00	0.00

low=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
35.7876	20.84	26.34	27.41	64.18	71.45	10.43	11.15	398.28	-1	12.13	-57.24
35.7918	20.47	26.35	27.43	69.3	69.75	11.73	11.43	406.9	-1	12.14	-57.25
35.8835	20.45	26.28	27.43	71.62	69.9	13.03	12.86	402	-1	12.23	-57.31
35.927	19.93	26.21	27.43	70.3	68.02	12.96	12.46	387.6	-1	12.33	-57.36
35.8922	20.13	26.13	27.5	62.72	69.25	11.63	11.25	398.22	-1	12.41	-57.41
35.8936	20.36	26	27.51	63.8	70.75	10.9	10.55	416.43	-0.75	12.42	-57.42
35.8976	20.38	25.77	27.52	63.05	71.73	10.35	9.98	424.67	-0.83	12.42	-57.42
35.8498	20.55	25.85	27.42	59.17	72.15	13.63	11.16	425.25	-0.98	12.44	-57.4
35.6988	19.97	25.97	27.41	58.55	69.18	16.63	12.27	389.5	-1	12.56	-57.33
35.5513	19.99	25.9	27.4	53.2	69.52	14.76	11.62	385.5	-1	12.68	-57.26
35.5097	20.2	25.98	27.42	58.25	70.03	13.46	11.93	411.43	20.5	12.72	-57.24
35.4639	19.95	26.1	27.36	61.93	68.5	15.68	12.57	429.28	90.77	12.85	-57.24
35.4385	19.44	26.26	27.32	59	65.73	14.52	12.88	433.17	242.13	12.98	-57.25
35.4286	19.73	26.28	27.31	56.87	66.83	14.4	12.64	437.4	286.4	13.01	-57.24
35.3924	20.24	26.37	27.2	58.43	68.65	15.75	12.39	425.13	697.35	13.15	-57.24
35.436	20.25	26.21	27.24	58.45	69.3	13.96	12.32	399.83	925.88	13.29	-57.25

35.4539	20.3	26.18	27.24	60.47	69.68	13.95	11.75	394.82	966.17	13.33	-57.24
35.4804	19.82	26.26	27.13	62.18	67.32	14.85	11.39	395.3	856.3	13.49	-57.24
35.5188	19.63	26.03	27.1	57.67	67.47	11.97	11.21	391.35	702.22	13.59	-57.25
35.5263	19.57	26.17	27.1	64.1	66.61	14.24	11.54	387.8	492.25	13.66	-57.24
35.5267	19.02	26.12	27.1	70.8	64.58	13.8	11.56	378.97	284.45	13.8	-57.25
35.5035	19.56	26.05	27.1	70.75	66.97	12.21	11.42	389.37	54.8	13.89	-57.25
35.4887	19.36	26.11	27.06	77.8	66.03	13.98	12.29	385.46	-0.9	13.95	-57.24
35.4929	19.45	26.1	27.05	77.88	66.41	14.6	12.72	391.29	-1	14.09	-57.25

inter-calibration: **none**
CTD stations: **8**
radiosondes: **7**
overflights: **none**

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 185	13 feb 2020 / 00:33-01:14	CTD	CTD	12°07.521 N	57°14.706' W	800	Baranowski
M161 186	13 feb 2020 / 04:28-05:27	CTD	CTD	12°25.132 N	57°24.915' W	800	Baranowski
M161 187	13 feb 2020 / 06:45-07:12	CTD	samples	12°25.132 N	57°24.915' W	250	Mohr
M161 188	13 feb 2020 / 09:49-10:23	CTD	CTD	12°42.724 N	57°14.755' W	800	Baranowski
M161 189	13 feb 2020 / 12:35-13:14	CTD	CTD	13°00.040 N	57°14.755' W	800	Baranowski
M161 190	13 feb 2020 / 15:35-16:14	CTD	CTD	13°18.003 N	57°14.701' W	800	Baranowski
M161 191	13 feb 2020 / 18:20-18:57	CTD	CTD	13°35.636 N	57°14.714' W	800	Baranowski
M161 192	13 feb 2020 / 21:16-21:50	CTD	CTD	13°53.290 N	57°14.756' W	800	Baranowski

4. Instrument Status

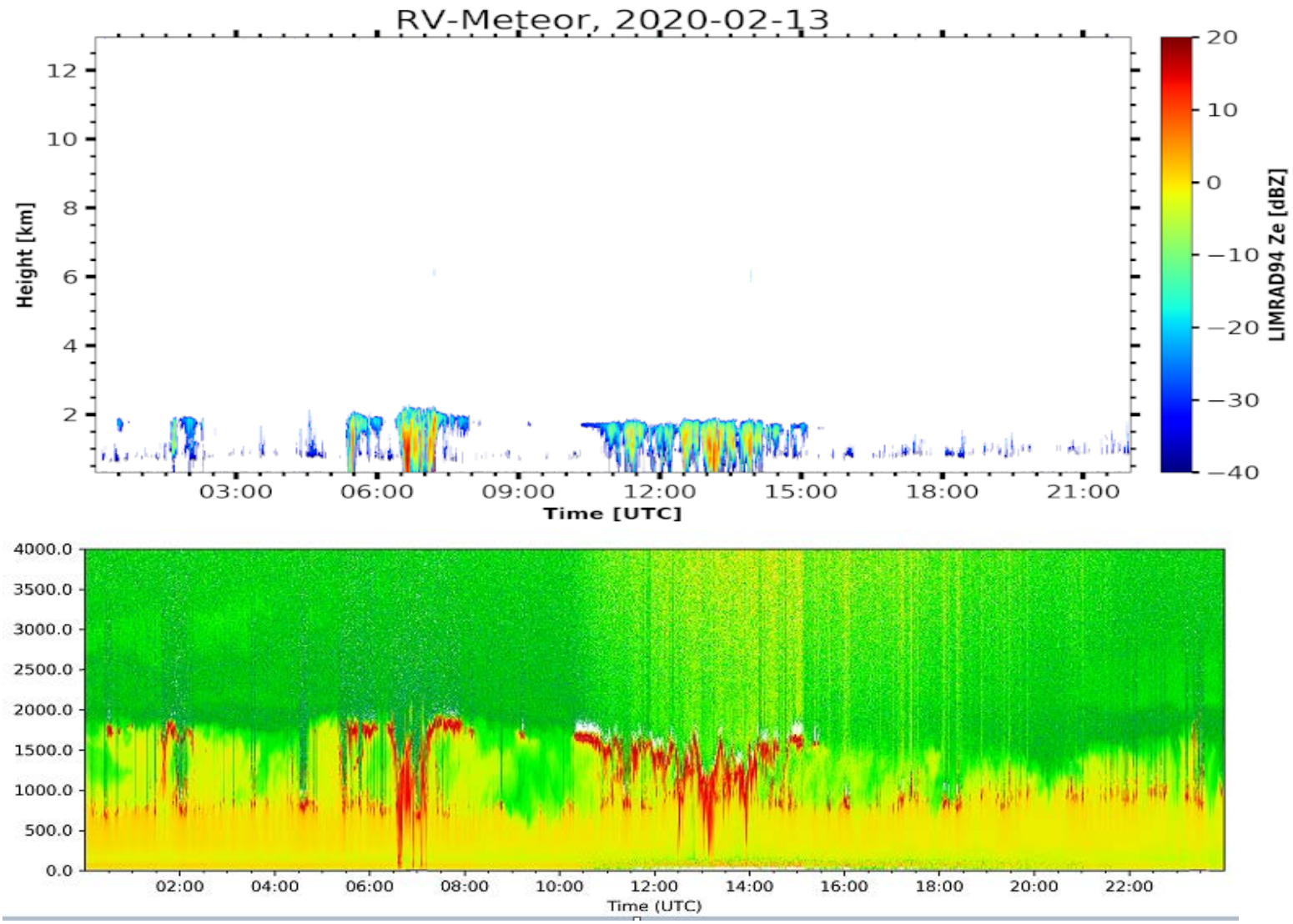
Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested, **R**-ready, **L**-lost)

			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			L	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro			W	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 will reach L1 tomorrow with regular CTD stops.



METEOR cloud radar and ceilometer data for Feb12