

# Meteor 0124 (2020)

Stefan Kinne ( 25 jan 2am)

## 1. Objective

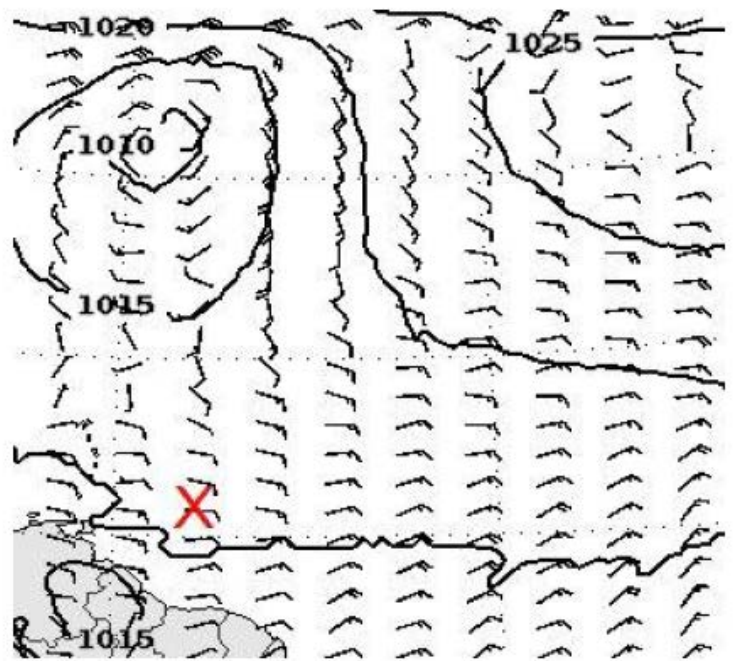
First cloud-kite launch first without and then with instruments. P3 ground support/reference. 7 radiosondes were launched at 2.45, 6.45, 10.45, 14.45, 16.30 18.45 and 22.45 UTC.

Late in the evening the day before we (only then) found out about flight-plans of HALO and P3 circular flight. Since a support for the P3 seemed more feasible, we moved on a P3 track position only to learn that the P3 folks were alarmed and rather see us move away. So we moved 5km away to minimize radar interference. During the morning the small cloud-kite was launched. During the days the cloud-kite instrument assembly was finished and in the evening attached to the cloud-kite. Sea and winds were relatively calm for a relatively for extra lift by the kite. Once the instrument was attached to the kite the instrument was hanging but the lift was very minimal. Thus the instrument was taken down to check the instrument status (most of the instrument worked on its first try !) and to reduce weight for a relaunch in two days, by removing some instruments tomorrow. The balloon-kite stayed up for now (e.g. also during the night).

## 2. Synoptic Situation



Satellitenbild GOES 24.01.2020 12:50 UTC



Vorhersage für Samstag 12 UTC

## Weather observations (every 3hr)

```
20 01 24001 99142 70572 16/// /0808 10259 20205 40137 53013 7///// 8///// 22231 04271
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 24031 99139 70572 46/// /1307 10252 20214 40140 50003 7///// 8///// 22241 04273
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 24061 99137 70572 16/// /1004 10253 20214 40121 58019 7///// 8///// 22241 04273
2///// 3///// 4///// 5///// 6///// ICE /////
```

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20 01 24091 99138 70572 46/// /1106 10253 20212 40119 55002 7///// 8///// 22201 04273
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 24121 99140 70572 11498 20907 10251 20217 40148 53029 70111 82840 22201 04273
20201 30609 40702 50703 6///// ICE /////
20 01 24151 99140 70572 41498 50705 10255 20209 40158 50010 71511 82852 22221 04274
20200 30609 40703 50602 6///// ICE /////
20 01 24181 99139 70572 11598 70905 10255 20215 40138 57020 71511 83374 22241 04275
20200 310// 40703 5///// 6///// ICE /////
20 01 24211 99137 70572 41498 41205 10257 20218 40132 55006 71511 82341 22241 04276
20201 309// 40703 5///// 6///// ICE /////

```

Blue skies mainly in the morning and the evening. Significant thin cloud cover (low and mid) during the center of the day and no precipitations.

### 3. Cruise-day Elements

IWV (integrated water vapor): 35 kg /m2 +/- 2  
LWP (liquid water path): 33 g /m2 +/- 58

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC	19-21UTC	22-24UTC
Height_m	715.49	514.26	469.54	536.62	581.34	939.08	514.26	402.46
max_hydro_frac_low	0.13	0.04	0.09	0.16	0.02	0.17	0.10	0.06
Height_m	3063.19	2839.60	1207.39	2414.78	2481.86	2392.42	2347.70	2392.42
max_hydro_frac_mid	0.96	0.26	0.00	0.09	0.24	0.20	0.53	0.30
Height_m	6004.98	6004.98	6004.98	6004.98	6004.98	6004.98	6004.98	6004.98
max_hydro_frac_high	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

salinity	Tdew	Tair	Twater	TrueDir	RH	rel.Wind	trueWind	lw Rad	sw Rad	lat	lon
PSU	°C	°C	°C	deg	%	m/s	m/s	W/m <sup>2</sup>	W/m <sup>2</sup>	°N	°E
35.3027	20.89	25.88	27.19	88.48	73.62	8.2	7.58	425.95	-1	14.11	-57.25
35.3527	20.89	25.93	27.21	96.11	73.28	9	7.83	419	-1	14.07	-57.24
35.4378	21.86	25.52	27.29	119.23	79.88	9.69	7.33	428.85	-1	13.96	-57.24
35.4032	21.46	25.12	27.3	138.17	79.7	6.83	6.34	398.03	-1	13.89	-57.25
35.3957	21.52	25.1	27.28	119.98	80.1	7.44	5.36	397.37	-1	13.84	-57.24
35.4026	21.27	25.17	27.34	104.07	78.55	5	4.18	399.32	-1	13.76	-57.25
35.4035	21.64	25.18	27.38	99.02	80.25	4.16	3.89	396.02	-0.93	13.75	-57.25
35.4084	20.84	25.28	27.4	99.23	75.97	4.48	4.2	387	-1	13.75	-57.25
35.4111	20.92	25.37	27.39	102.05	75.88	5.01	4.79	384.33	-1	13.75	-57.25
35.3961	21.34	25.31	27.35	104.13	78.28	5.83	5.41	389.67	-1	13.84	-57.25
35.4407	21.92	25.12	27.3	80.32	82.03	6.18	4.91	410.48	31.33	13.94	-57.25
35.4553	21.84	25.31	27.3	93.57	80.67	6.74	6.51	389.93	190.83	13.97	-57.25
35.4549	22.21	24.99	27.31	90.27	84.2	7.18	6.95	384.05	344.08	13.97	-57.25

35.4452	21.57	25.1	27.31	85.75	80.33	9.41	7.26	385.53	652.5	13.97	-57.22
35.4298	21.4	25.21	27.4	78.28	79.07	5.83	5.02	405.83	767.65	13.97	-57.18
35.4408	21.54	25.47	27.48	86.13	78.45	6.28	6.11	391.33	881.77	13.97	-57.19
35.4388	21.64	25.38	27.5	91.53	79.4	6.31	6.1	398.17	886.23	13.97	-57.19
35.4183	21.33	25.45	27.52	90.67	77.52	5.84	5.18	410.15	787.38	13.96	-57.19
35.3547	21.43	25.71	27.56	76.68	76.83	5.36	5.14	410.12	557.07	13.86	-57.2
35.3551	21.43	25.72	27.6	93.85	76.88	5.69	4.86	408.7	476.43	13.83	-57.21
35.4045	21.87	25.69	27.64	119.53	79.08	6.7	4.47	397.45	231.65	13.74	-57.22
35.3479	21.87	25.51	27.57	112.54	79.92	5.65	4.95	407.52	49.07	13.68	-57.22
35.3234	22.03	25.31	27.47	120.35	81.63	5.67	4.5	407.5	-1	13.67	-57.19
35.304	22.13	25.35	27.5	108.53	81.92	5.55	4.93	399	-1	13.61	-57.23

inter-calibration: none

CTD stations: 7

radiosondes: 7

overflights: several P3 circle pass-by (5km), several HALO circle pass-by (15km)

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 36	24 jan 2020 / 00:44-01:10	CTD	CTD	14°05.516 N	57°14.719' W	500	Baranowski
M161 37	24 jan 2020 / 03:15-03:52	CTD	CTD	13°53.350 N	57°14.707' W	800	Baranowski
M161 38	24 jan 2020 / 05:36-06:34	CTD	CTD	13°44.772 N	57°14.753' W	800	Baranowski
M161 39	24 jan 2020 / 08:03-08:28	CTD	CTD / MPI	13°44.772 N	57°14.753' W	250	Baranowski
M161 40	24 jan 2020 / 12:02-12:38	CTD	CTD	13°58.185 N	57°14.704' W	800	Baranowski
M161 41	24 jan 2020 / 14:15	KITE	IN AIR	13°58.200 N	57°10.702' W	0	Schlenzcek
M161 42	24 jan 2020 / 16:31-17:09	CTD	CTD	13°58.201 N	57°11.571' W	800	Baranowski
M161 43	24 jan 2020 / 18:52-19:33	CTD	CTD	13°50.171 N	57°12.436' W	800	Baranowski
M161 44	24 jan 2020 / 23:43-00:33	CTD	CTD	13°35.700 N	57°14.711' W	800	Baranowski

#### 4. Instrument Status

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

	status	operators
radiosondes	<b>W</b>	Katharina, Imke, Yanmichel, Almuth, Kevin
cloud-radar	<b>W</b>	Heike, Johannes
micro-radiometer	<b>W</b>	Heike, Johannes
spect-radiometer	<b>W</b>	Heike, Johannes
Raman-lidar	<b>W</b>	Ludwig
cloud-kite	<b>P</b>	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro	<b>W</b>	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)			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
CTD			W	Darek and friends (almost all)

### 5. Outlook

Tomorrow we will head to the southern position of the Meteor track and turn around to go back to Halo track crossing at P2. We will coordinate Jan 25 common sampling activities for HALO overflights on Jan 26. The cloud kite instrument-box will be reduced on Jan 25 in weight (some instruments will be taken off) for planned extended measurements during Jan 26.

