

# Meteor 0123 (2020)

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## 1. Objective

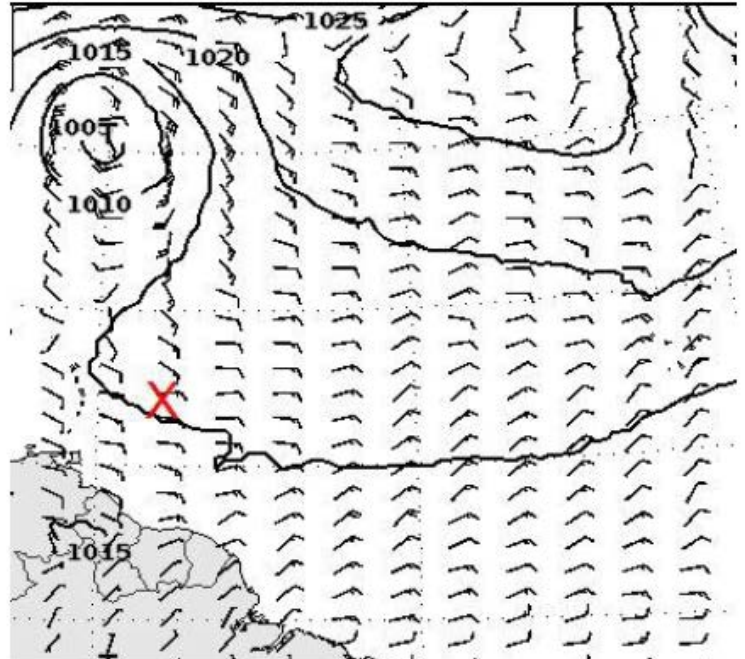
Glider deployments at 14.182N, 57.338W followed by CTDs around the 10x10km no-go glider area. Then preparation of the small cloudkite (e.g. Helium filling to full size) for first test flight scheduled for tomorrow. UAV quadcopters filmed the glider deployment and profiled temperature. 7 radiosondes were launched at 2.45, 6.45, 10.45, 14.45, 16.30 18.45 and 22.45 UTC.

During the night the METEOR had moved over to the central glider condition (as the glider area had been moved westward as not to interfere with the 57.245W METEOR operating longitude. After a CTD probe, the yellow and pink gliders of E.Anglia were deployed off a small speedboat in the morning. In the afternoon as the ship sampled CTD profiles at the corners of the (no-go) glider zone, the cloud-kite was prepared. By the evening the balloon was filled with helium, but it was then too late for a test flight. So we continued at a slow speed (not to damage the kite) in a southern direction along the METEOR latitude, with the first cloud-kite release scheduled for tomorrow.

## 2. Synoptic Situation



Satellitenbild GOES 23.01.2020 11:10 UTC



Vorhersage für Freitag 12 UTC

## Weather observations (every 3hr)

```
20 01 23001 99142 70572 11598 30809 10257 20198 40134 53013 70300 81106 22200 04273
2//// 3//// 4//// 5//// 6//// ICE ////
20 01 23031 99142 70572 46//// /0907 10257 20200 40144 51010 7//// 8//// 22200 04273
2//// 3//// 4//// 5//// 6//// ICE ////
```

```

20 01 23061 99142 70572 16//// /0907 10256 20203 40126 58018 7///// 8///// 22200 04272
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 23091 99142 70573 46//// /0909 10257 20202 40113 56013 7///// 8///// 22261 04272
2///// 3///// 4///// 5///// 6///// ICE /////
20 01 23121 99142 70573 11598 30906 10255 20196 40139 53026 70111 83201 22261 04272
20201 30609 40903 50802 6///// ICE /////
20 01 23151 99142 70573 41598 11006 10259 20195 40152 50013 70100 81202 22200 04273
20201 30609 40703 50502 6///// ICE /////
20 01 23181 99141 70574 11599 10906 10261 20208 40126 57026 70300 81800 22251 04275
20201 30609 40803 50602 6///// ICE /////
20 01 23211 99143 70574 41598 20807 10258 20205 40124 55002 70300 82840 22281 04274
20201 30609 40803 50602 6///// ICE /////

```

Once the morning cloud-streets has broken up and evaporated, we had predominantly blues skies with dew clouds during the day. Low cloud cover increased towards the evening, so that sun-photometer sampling became more difficult.

### 3. Cruise-day Elements

IWV (integrated water vapor): **29 kg /m2** +/- 2  
LWP (liquid water path): **9 g /m2** +/- 26

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC	16-18UTC	19-21UTC	22-24UTC
Height_m	827.29	737.85	693.13	782.57	827.29	693.13	715.49	737.85
max_hydro_frac_low	<b>0.15</b>	<b>0.04</b>	<b>0.03</b>	<b>0.36</b>	<b>0.12</b>	<b>0.02</b>	<b>0.10</b>	<b>0.10</b>
Height_m	1207.39	1207.39	1207.39	1207.39	1207.39	3510.38	1207.39	3705.20
max_hydro_frac_mid	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.08</b>	<b>0.09</b>	<b>0.00</b>	<b>0.00</b>	<b>0.49</b>
Height_m	10285.06	10434.12	6004.98	6004.98	14935.70	6004.98	6004.98	6004.98
max_hydro_frac_high	<b>0.39</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

#### 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
35.3227	19.66	25.77	27.28	82.75	68.62	8.38	8.04	394.78	-1	14.18	-57.25
35.3251	19.87	25.77	27.28	82.48	69.6	8.29	7.95	386.77	-1	14.18	-57.25
35.325	20.12	25.68	27.3	84.82	71	7.57	7.19	394.55	-1	14.18	-57.25
35.3248	19.84	25.68	27.29	85.77	69.83	7.06	6.74	383.45	-1	14.18	-57.25
35.3244	19.83	25.62	27.24	82.7	69.93	6.37	6.05	380.33	-1	14.18	-57.25
35.3234	19.81	25.56	27.27	90.33	70.12	7.32	7.04	377.37	-1	14.18	-57.25
35.3246	19.99	25.4	27.22	92.73	71.55	7.9	7.59	377.77	-1	14.18	-57.25
35.3252	19.72	25.32	27.26	85.85	70.75	8.47	8.17	372.72	-1	14.18	-57.25
35.3285	19.82	25.61	27.21	87.58	69.98	7.5	8.46	371.47	-1.22	14.18	-57.25
35.3825	20	26.15	27.21	91.85	68.73	6.83	8.18	383.6	-1.5	14.18	-57.33

35.3979	19.78	25.28	27.2	97.45	71.18	8.06	7.73	400.1	36.7	14.18	-57.34
35.4083	19.57	25.48	27.2	91.19	69.42	7.14	6.82	392.66	207.71	14.18	-57.34
35.4148	19.53	25.65	27.21	91.27	68.53	7.44	7.17	396.8	410.6	14.18	-57.34
35.4153	19.48	25.81	27.22	97.25	67.68	7.28	7	385.52	650.38	14.18	-57.34
35.4151	19.48	25.89	27.3	98.83	67.43	6.93	6.68	384.6	802.05	14.18	-57.34
35.4077	19.28	25.96	27.3	102.03	66.2	6.86	6.57	381.6	893.6	14.18	-57.34
35.4265	19.77	25.98	27.36	102.2	68.18	7.12	6.21	381.05	893.68	14.17	-57.34
35.6153	20.43	26.01	27.54	95.77	70.95	5.06	5.94	383.02	822.75	14.1	-57.41
35.6239	20.45	25.93	27.52	93.42	71.37	6.96	5.86	380.7	694.83	14.14	-57.43
35.5187	20.41	25.92	27.49	91.8	71.23	6.75	5.86	382.05	487.62	14.26	-57.43
35.4072	20.38	25.82	27.36	82.77	71.5	8.45	6.27	385.03	245.2	14.27	-57.4
35.3765	20.36	25.78	27.29	83.67	71.62	9.32	6.56	384.9	36.2	14.27	-57.31
35.3793	20.42	25.71	27.2	83.48	72.12	7.66	6.7	386.32	-1.22	14.27	-57.25
35.3356	20.6	25.79	27.21	87.58	72.64	8.54	7.81	417.49	-1	14.2	-57.24

inter-calibration: none  
CTD stations: 10  
radiosondes: 7  
overflights: none

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 24	23 jan 2020 / 00:00-00:36	CTD	CTD	14°10.919 N	57°14.703' W	800	Baranowski
M161 25	23 jan 2020 / 02:00-02:31	CTD	CTD	14°10.920 N	57°14.704' W	800	Baranowski
M161 26	23 jan 2020 / 04:01-04:38	CTD	CTD	14°10.921 N	57°14.704' W	800	Baranowski
M161 27	23 jan 2020 / 06:01-06:37	CTD	CTD	14°10.921 N	57°14.704' W	800	Baranowski
M161 28	23 jan 2020 / 07:59-08:36	CTD	CTD	14°10.919 N	57°14.703' W	800	Baranowski
M161 29	23 jan 2020 / 10:00-10:56	CTD	CTD	14°10.922 N	57°20.283' W	1000	Baranowski
M161 30	23 jan 2020 / 14:19	GLIDER	yellow	14°10.920 N	57°20.287' W	0	Rollo
M161 31	23 jan 2020 / 14:56	GLIDER	pink	14°10.922 N	57°20.285' W	0	Rollo
M161 32	23 jan 2020 / 15:11-15:34	CTD	CTD	14°10.921 N	57°20.285' W	500	Baranowski
M161 33	23 jan 2020 / 17:34-18:04	CTD	CTD	14°05.526 N	57°25.849' W	500	Baranowski
M161 34	23 jan 2020 / 19:37-20:04	CTD	CTD	14°16.355 N	57°25.906' W	500	Baranowski
M161 35	23 jan 2020 / 22:18-22:42	CTD	CTD	14°16.341 N	57°25.906' W	500	Baranowski

#### 4. Instrument Status

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

		status	operators
		<b>W</b>	Katharina, Imke, Yanmichel, Dorothea, Kevin
		<b>W</b>	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			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

## 5. Outlook

Tomorrow morning after the early MPI-MM CTD probes, the cloud-kite launch and retrieval operation will be tested (without instruments) to familiarize the crew. We will go from there. If everything goes smoothly, a launch with the (newly developed) instrument is planned. Otherwise, the METEOR proceeds southward from L1 on its latitude with regular CTD stops and radiosondes launches. No coordinated activities are expected.