

# Meteor 0202 (2020)

Stefan Kinne (3 feb 2am)

## 1. Objective

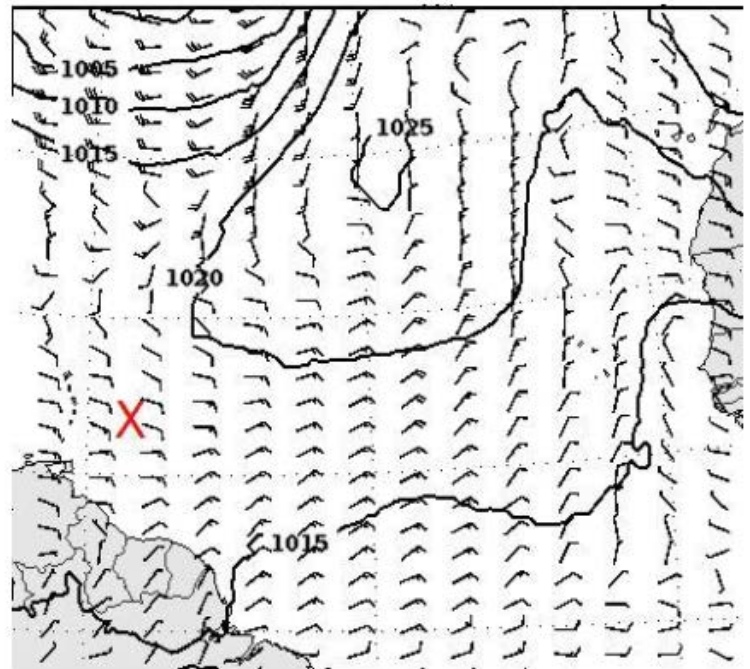
Collecting statistics along the Meteor 57.245W longitude. In the southern (more convective region). CTD casts every 3 hours and 7 radiosondes launches at 2.45, 6.45, 10.45, 14.45, 16.33 (DWD), 18.45 and 22.45 UTC.

After the cloud-kite night session we headed (westward) back to the main longitude for a CTD at dusk (with local precipitation from a convective cell). We headed south and reached the southern turning point at about noon. The afternoon we were heading back towards the north.

## 2. Synoptic Situation



Satellitenbild GOES16 02.02.2020 13:30 UTC



Vorhersage für Montag 12 UTC

## Weather observations (every 3hr)

```
20 02 02001 99128 70574 11598 10808 10265 20209 40164 53009 70100 81200 22252 04276
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 02031 99127 70572 46//// /0710 10264 20213 40162 58002 7//// 8//// 22221 04274
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 02061 99127 70569 16//// /0810 10261 20198 40147 56015 7//// 8//// 22222 04275
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 02091 99127 70571 46//// /0707 10259 20207 40145 55002 7//// 8//// 22261 04275
2//// 3//// 4//// 5//// 6//// ICE ////
20 02 02121 99126 70572 11598 71303 10243 20218 40166 53021 72581 873// 22251 04274
20100 310// 40603 5//// 6//// ICE ////
```

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20 02 02151 99124 70572 41598 21008 10268 20204 40175 50009 70181 82200 22241 04276
20201 310// 40603 5///// 6///// ICE /////
20 02 02181 99122 70572 11598 11007 10268 20206 40160 56015 70381 81800 22241 04278
20201 310// 40603 5///// 6///// ICE /////
20 02 02211 99124 70572 41598 10807 10265 20212 40160 55000 70100 81800 22281 04278
20201 310// 40603 5///// 6///// ICE /////

```

In the morning we had some 'flower cell' precipitation next to us. Then it took some time until the low to mid level cloud cover disappeared and we had from then on mostly a sunny and (again - against some model predictions) a dusty day. No rain, no cirrus, just a few low altitude cumulus patches. Total and dust AOD were as high as yesterday (at 0.3 and 0.2), however, AOD values slowly decreased during the afternoon.

### 3. Cruise-day Elements

IWV (integrated water vapor):        29 kg /m2     +/- 2  
LWP (liquid water path):            58 g /m2       +/- 306

Time	0-3UTC	4-6UTC	7-9UTC	10-12UTC	13-15UTC		
Height_m	693.13	760.21	1028.52	1073.24	894.36		
max_hydro_frac_low	0.04	0.15	0.07	0.54	0.04		
Height_m	1207.39	1453.34	1252.11	1207.39	1676.93		
max_hydro_frac_mid	0.00	0.10	0.06	0.48	0.06		
Height_m	12878.56	12920.65	12920.65	6138.04	5987.42		
max_hydro_frac_high	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 (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
35.3733	20.85	26.49	27.55	74.85	70.75	8.21	8.39	393.32	-1	12.72	-57.41
35.3618	21.03	26.45	27.48	71.73	71.75	10.78	9.3	398.35	-1	12.71	-57.41
35.3339	20.8	26.41	27.41	69.08	70.8	13.96	10.06	393.78	-1	12.71	-57.3
35.3486	20.98	26.27	27.42	66.6	72.23	13.99	10.16	395.85	-1	12.71	-57.16
35.3524	20.83	26.25	27.49	71.5	71.7	13.86	10.01	411.85	-1.05	12.71	-57.03
35.3292	20.3	26.12	27.48	79.65	69.88	12.08	10.49	394.27	-1	12.71	-56.92
35.3289	19.91	26.02	27.5	78.18	68.62	10.18	9.93	388.37	-1	12.71	-56.91
35.3359	19.94	25.9	27.5	79.65	69.33	4.95	8.12	379.87	-1.45	12.71	-56.96
35.3629	20.21	26.12	27.5	75.58	69.65	6.14	7.07	391.45	-1.05	12.71	-57.06
35.3608	20.6	25.84	27.5	64.25	72.43	4.49	7.63	412.82	-1	12.71	-57.13
35.3384	20.56	25.83	27.5	67.58	72.32	6.2	7.17	409.93	10.63	12.71	-57.24
35.3354	21.41	24.61	27.42	117.67	82.07	8.21	5.95	424.37	124.67	12.68	-57.25
35.3318	21.07	25.46	27.48	101.95	76.77	7.37	4.94	425.47	213.68	12.55	-57.25

35.4513	20.02	26.58	27.58	97.92	66.87	8.56	7.43	406.92	518.3	12.44	-57.25
35.4818	20.23	26.71	27.6	100.28	67.2	8.73	7.63	399.07	706.4	12.4	-57.25
35.5627	20.64	26.73	27.61	97.18	68.9	8.8	7.12	394.52	846.82	12.28	-57.24
35.5783	20.74	26.76	27.68	87.23	69.21	8.47	7.55	392.17	845.98	12.16	-57.25
35.5928	20.54	26.75	27.79	87.69	68.36	7.33	6.66	389.61	801.78	12.13	-57.24
35.5622	20.42	26.8	27.8	97.52	67.6	8.03	7.11	391.07	675.43	12.25	-57.24
35.5107	20.79	26.75	27.79	101.68	69.57	7.76	7.17	407.45	410.88	12.38	-57.25
35.5098	20.97	26.66	27.83	89.28	70.62	6.57	6	394.95	202.4	12.42	-57.25
35.3545	20.73	26.63	27.67	87.47	69.65	8.87	7.04	391.68	44.25	12.52	-57.25
35.3497	20.44	26.58	27.65	91.35	68.67	8.51	7.33	386.37	-0.9	12.66	-57.25
35.3449	20.24	26.56	27.62	82.76	67.9	6.15	6.72	387.07	-1.12	12.71	-57.25

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

station no.	UTC	device	action	latitude	longitude	depth	contact person
M161 105	2 feb 2020 / 00:22-00:55	CTD	CTD	12°42.751 N	57°25.016' W	800	Baranowski
M161 106	2 feb 2020 / 06:20-06:56	CTD	CTD	12°42.751 N	56°54.856' W	800	Baranowski
M161 107	2 feb 2020 / 08:22-08:57	CTD	CTD	12°42.756 N	57°04.062' W	800	Baranowski
M161 108	2 feb 2020 / 10:24-11:00	CTD	CTD	12°42.748 N	57°14.742' W	800	Baranowski
M161 109	2 feb 2020 / 13:40-14:14	CTD	CTD	12°25.133 N	57°14.706' W	800	Baranowski
M161 110	2 feb 2020 / 16:50-17:29	CTD	CTD	12°07.515 N	57°14.738' W	800	Baranowski
M161 111	2 feb 2020 / 19:48-20:23	CTD	CTD	12°25.136 N	57°14.750' W	800	Baranowski
M161 112	2 feb 2020 / 22:58-23:32	CTD	CTD	12°42.765 N	57°14.712' W	800	Baranowski

#### 4. Instrument Status

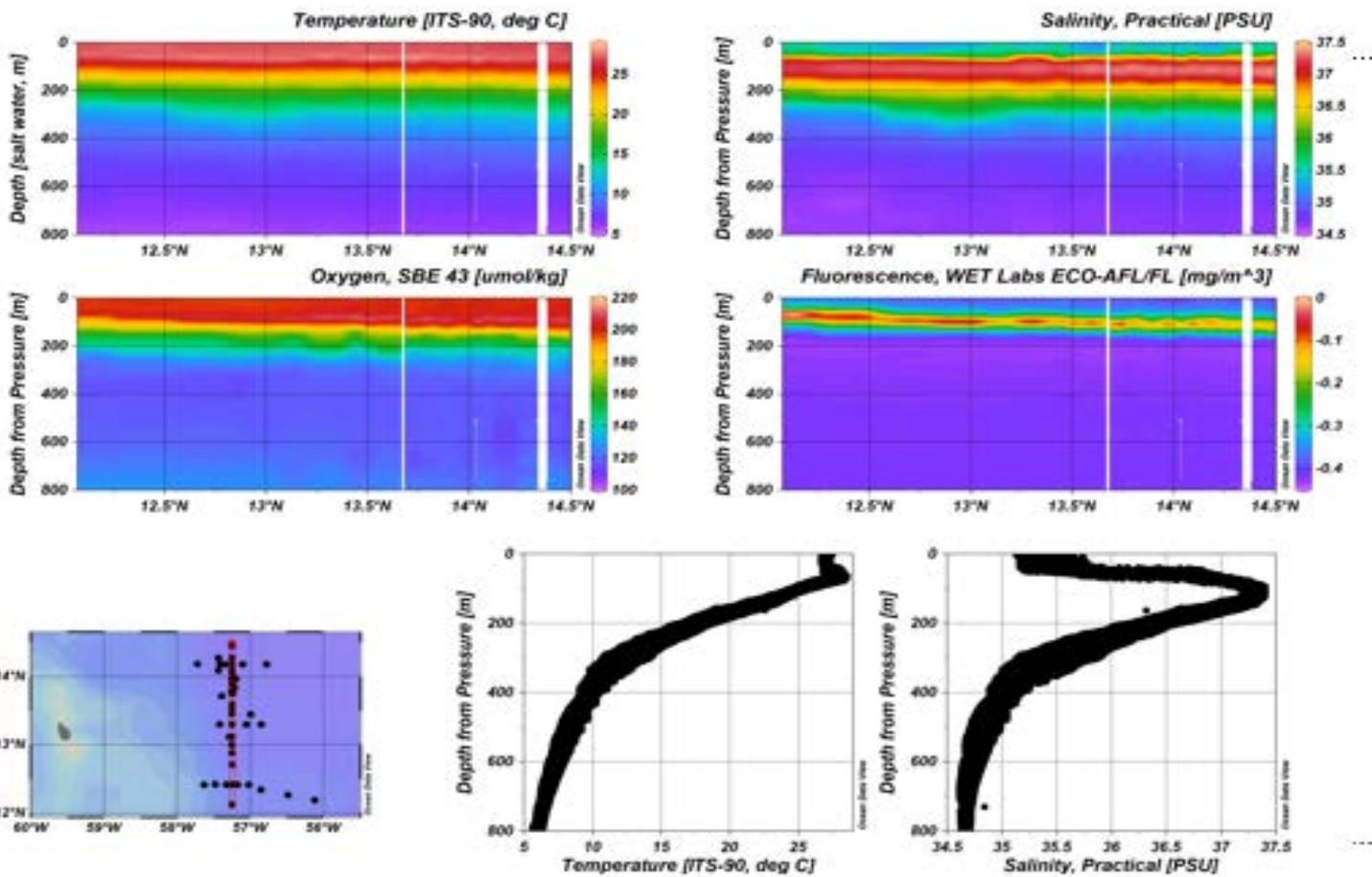
Instrument-Status (**W**-working, **P**-partially-working, **F**-failure, **U**-untested, **R**-ready)

	status	operators
radiosondes	<b>W</b>	Katharina, Imke, Yanmichel, Almuth, Kevin, Sebastian, Geiske
cloud-radar	<b>P</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>W</b>	Oliver, Marcel, Marcel, Antonio, Robert, Sanola
Picarro	<b>W</b>	Sebastian
micro-biology	<b>W</b>	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

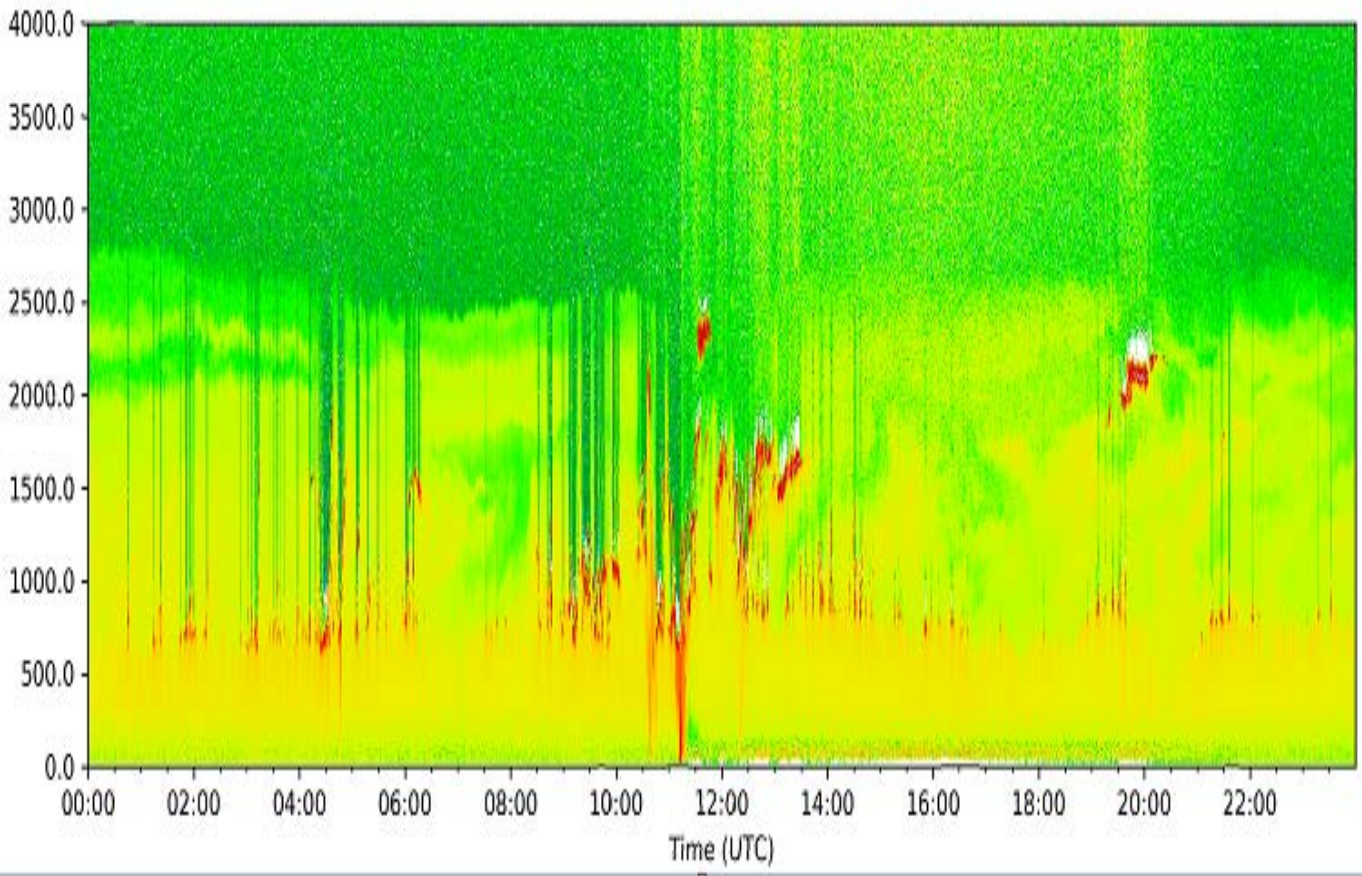
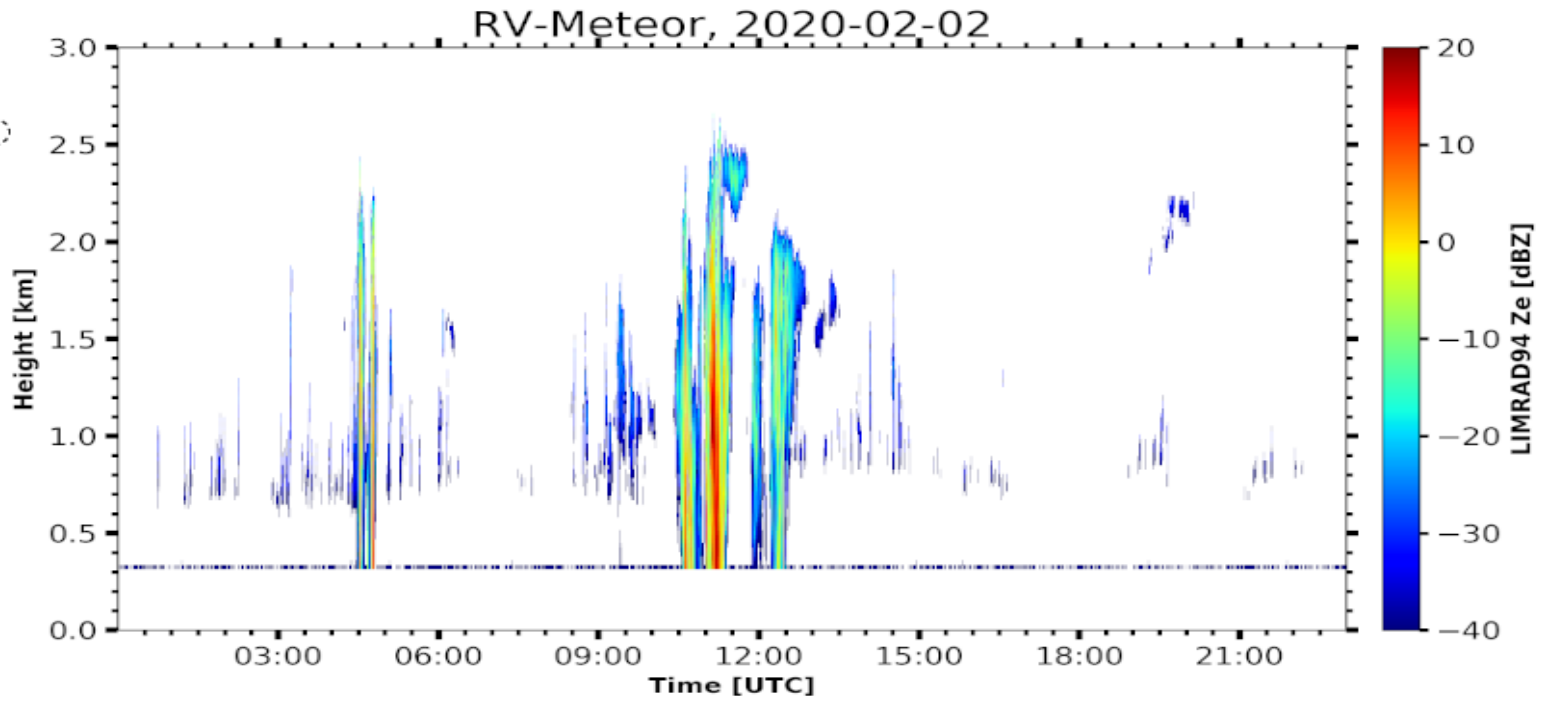
### 5. Outlook

We were heading northward along the track until we received an emergency call from the MERIAN to retrieve one of their damaged gliders. After the glider rescue we will continue on the track in a northerly direction..

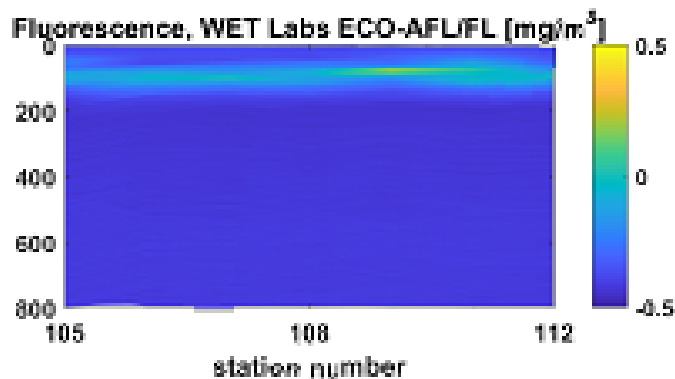
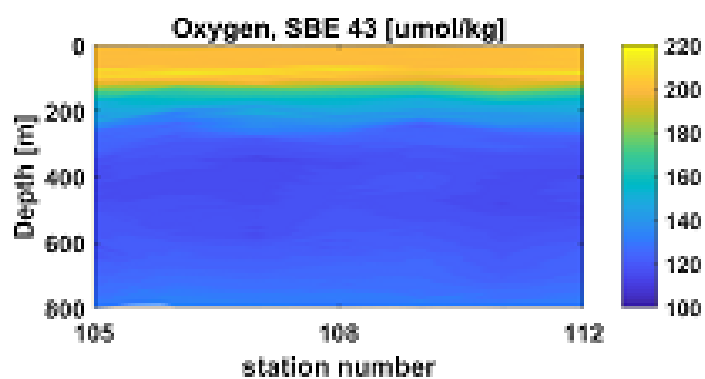
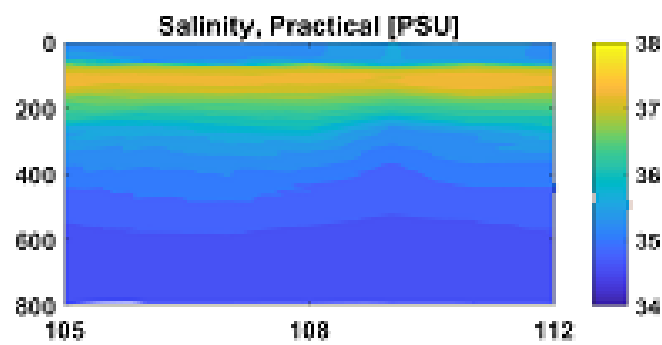
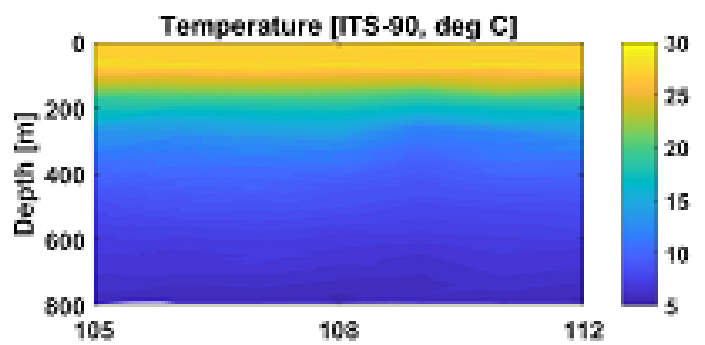


Mean state of ocean compiled from ca 100 METEOR CTD profiles by Darek Baranowski





Corresponding METEOR radar (top) and ceilometer images (bottom) for Feb 2



Data from recent CTD profiles near L2 on Feb 2 by Przemek Makuch