Maria S Merian 0205 (05 February 2020)

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1. Objective

The cloud kite was launched in the morning with a free hanging instrument and recovered in the afternoon; Very nice data set has been collected. We steamed northward and moved our track to the projected path of the GMP satellite for its 18:55 LT overpass; The atmospheric program was executed in a concerted manner utilizing the Cloudkite/LIDAR ARTHUS/radar real-time observations; The radiosondes were launched in a 6h cycle.

2. Synoptic Situation

Not many clouds around

3. Cruise-day Elements

Approx. Time (local)	Operation	Latitude	Longitude	Comm
08:30	Cloudkite launch			
13:00	Arrive at WP 11°39.70'N/56°44.70'W			7kn, uCTD 30'
16:00	Cloudkite recovery			
20:00	Arrive at WP			8kn, MVP
Thursday 6th				
9:00	Arrive at WP 12°10.00'N/58°05.00'W			kn, MVP

Inter-calibration: no
CTD Stations: no
Overflights: no

4. Instrument Status

Operational:

Ocean – ADCP 38 & 75kHz; TSG; X-Band Radar; Underway O2, Chl-a (spectrometer); Incubation (PP; filtration); Nutrient/lab analysis; CTD/O2 +rosette; Moving vessel profiler; Microstructure sonde; Ferrybox pCO2; MIMS (O2/Ar, DSMS), underway CTD

Glider ifm09; ifm 03; ifm12 (see https://gliderweb.geomar.de/ -> swarm 12;

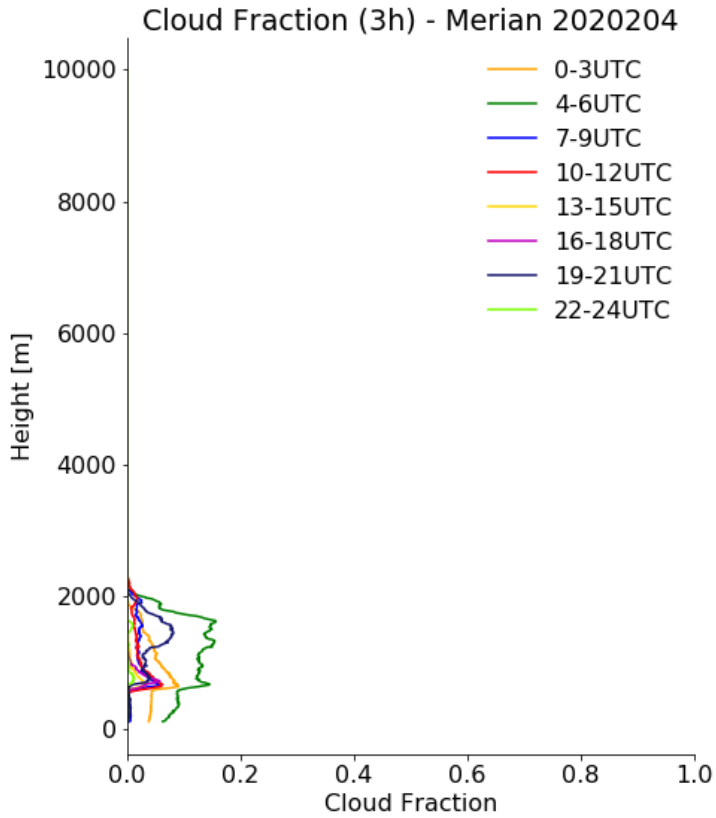
Atmosphere – Halo Wind Lidar; Disdrometer; W-Band Radar. MRR (rain), sun photometer, Cloudcamera; SMPS (Aerosol; ship based); radiosondes; DWD Metrology package (incl. radiation); ARTHUS Raman Lidar; Splash drone (atmospheric state parameters); – MPCK+ (atmospheric state parameters+cloud microphysics; Cloudkite); Mini MPCK (atmospheric state parameters and fluxes; Cloudkite); SMPS (Aerosol; Cloudkite

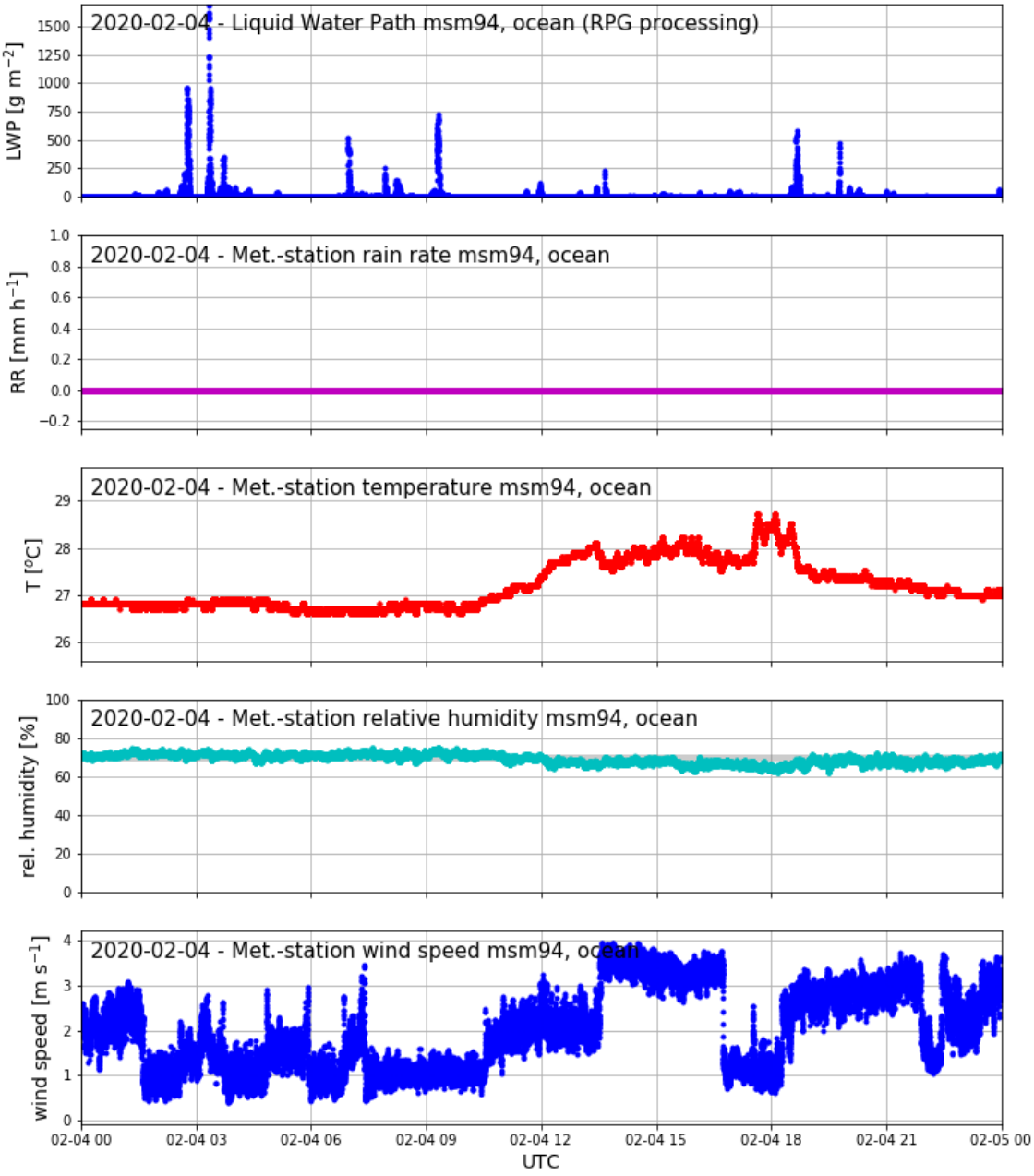
No functioning: MVP cable broken; Ceilometer

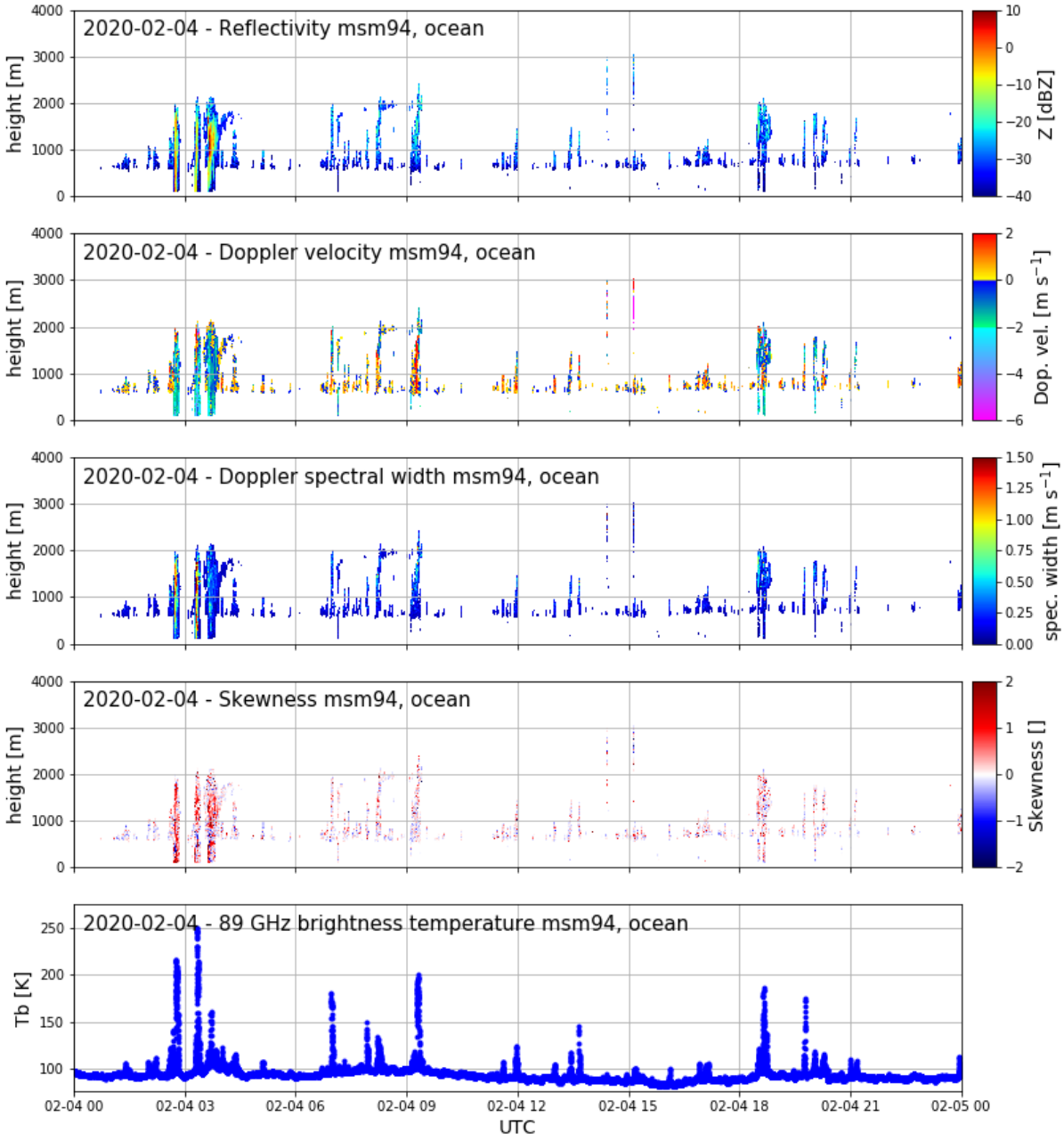
5. Outlook

We aim for an early cloud kite launch and let it out for 24h. Then preparing ot move to the Halo circle/Meteor race track.

6. Figures




2020-02-04 - Liquid Water Path msm94, ocean (RPG processing)
LWP [g m^{-2}]
2020-02-04 - Met.-station rain rate msm94, ocean
RR [mm h^{-1}]
2020-02-04 - Met.-station temperature msm94, ocean
T [°C]
2020-02-04 - Met.-station relative humidity msm94, ocean
rel. humidity [%]
2020-02-04 - Met.-station wind speed msm94, ocean
wind speed [m s^{-1}]
02-04 00
02-04 03
02-04 06
02-04 09
02-04 12
02-04 15
02-04 18
02-04 21
02-05 00
UTC


2020-02-04 - Reflectivity msm94, ocean
height [m]
Z [dBZ]
2020-02-04 - Doppler velocity msm94, ocean
Dop. vel. [m s^{-1}]
2020-02-04 - Doppler spectral width msm94, ocean
spec. width [m s^{-1}]
2020-02-04 - Skewness msm94, ocean
Skewness []
2020-02-04 - 89 GHz brightness temperature msm94, ocean
Tb [K]
02-04 00
02-04 03
02-04 06
02-04 09
02-04 12
02-04 15
02-04 18
02-04 21
02-05 00
UTC