

# Brown-0121 (21 January 2020)

Trish Quinn (Chief Scientist)

## 1. Objective

Spent the day at 14°21'44" N and 53°W. Continuous atmospheric sampling with bow into the wind. Radiosondes every 4 hours. Conducted hand held CTDs every six hours to 100 m. One rosette with CTD cast at 12:00 local for comparison to the hand held CTD.

## 2. Synoptic Situation

Winds decreased over the course of the day from 24 to 16 kts. Partly cloudy. Swell from the NE has died down a bit. White caps with a sea state of 5 to 7. Sargassum observed.

Field	Quantity	Notes
RH	77, 1.2	18 m asl
Tair	25.7, 0.18	18 m asl
Wind	9.1, 1.7 m/s	18 m asl
SST	26.8, 0.05	5 m bsl
Salinity	35.3, 0.03	5 m bsl
Precipitable water		
CN	174, 75	18 m asl Decrease at 00:00Z corresponding to a decrease in atmospheric temperature and wind shift. Looks like entrainment from aloft.
CCN	90, 20 @ 0.3%	
Dust	No indicator	
Trade Inversion		

### Cloud Observations: 01/21/20

Local Time (UTC -4)	Ship's Position	Coverage	Types	Codes	Remarks
0800	14°22'N 053°02'W	0/8 High	n/a		
		1/8 Mid	Ac	C <sub>v</sub> 2	
		2/8 Low	Cu, Sc	C <sub>i</sub> 7	
1200	14°21'N 053°01'W	0/8 High	n/a		
		0/8 Mid	n/a		
		3/8 Low	Cu, Sc	C <sub>i</sub> 1, C <sub>i</sub> 2	
1600	14°21'N 053°02'W	0/8 High	n/a		
		2/8 Mid	As	C <sub>v</sub> 6	
		3/8 Low	Cu, St	C <sub>i</sub> 1, C <sub>i</sub> 2	

### 3. Cruise-day Elements

Element	Position [°N, °W]	Time [UTC]	Notes
<b>CTD Casts</b>	14° 21' 44', 53°	Every six hours	Handheld to 100 m
<b>Rosette CTD</b>	14° 21' 44', 53°	16:00	

### 4. Instrument Status

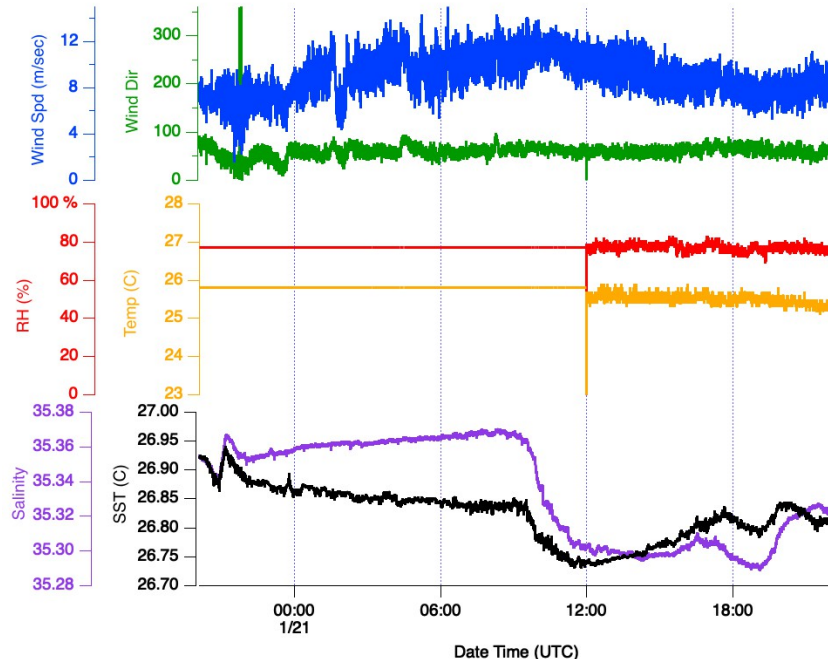
Cloud radar, microwave radiometer, and Picarro isotope instrument are not operational.

### 5. Outlook

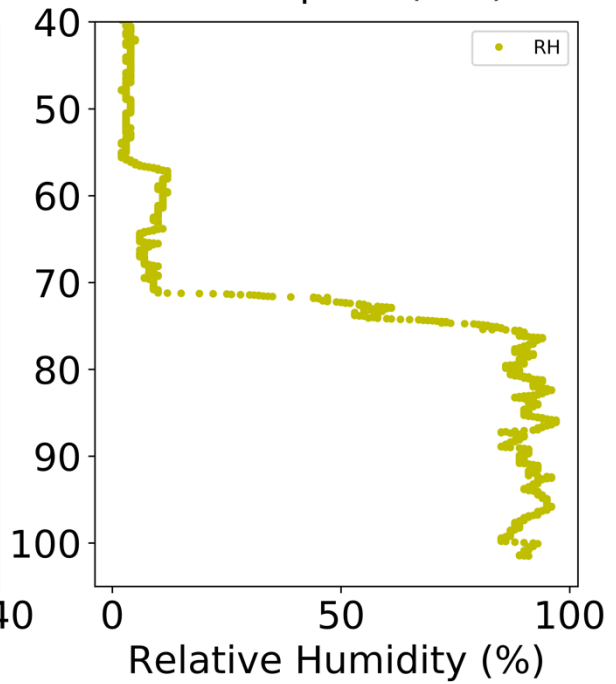
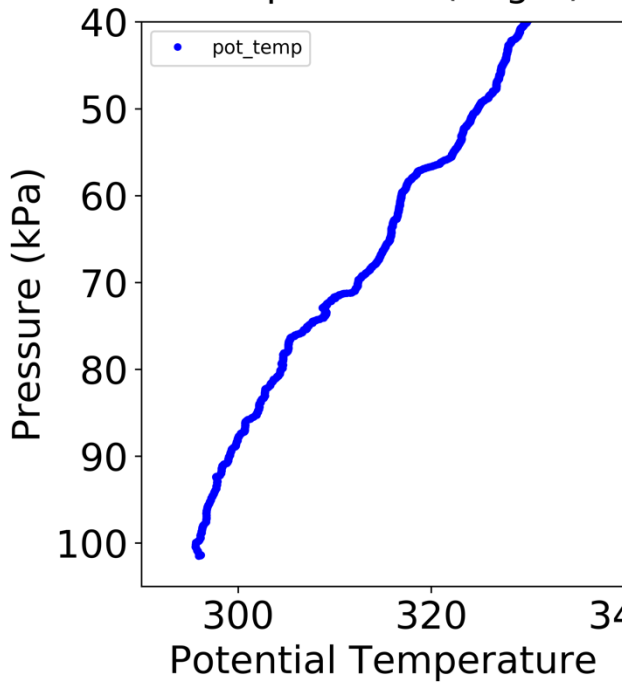
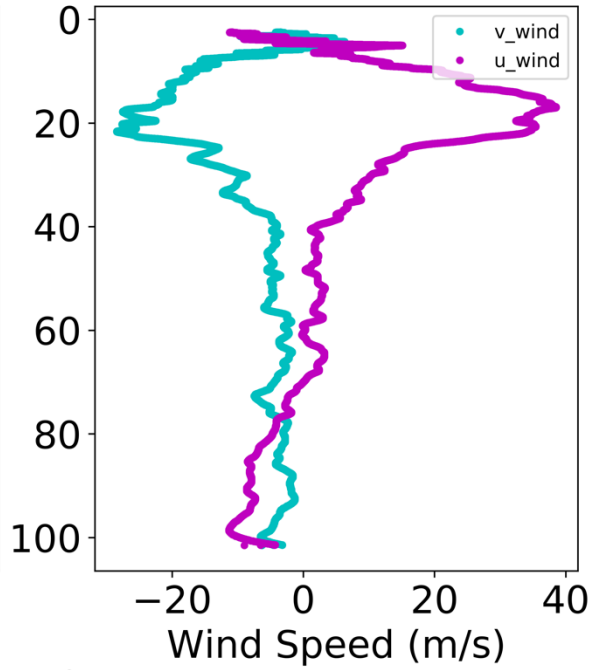
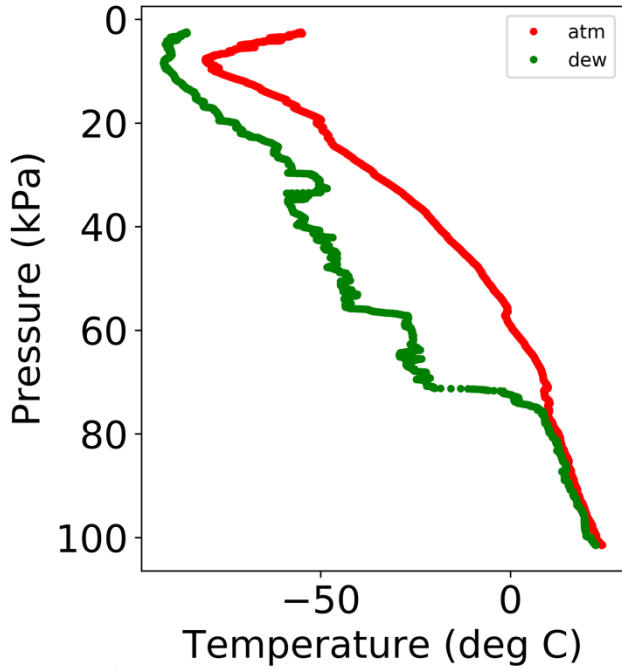
Leaving this station (14°21'44"N and 53°W) at 03:30 tomorrow morning to pick up six SWIFTS. After recovering the SWIFTS we will head WSW to BCO. Approximate position for Thursday local noon is 14.383N,55W. By Friday at local noon we plan to be 20 nm upwind of BCO for an intercomparison.

### 6. Figures

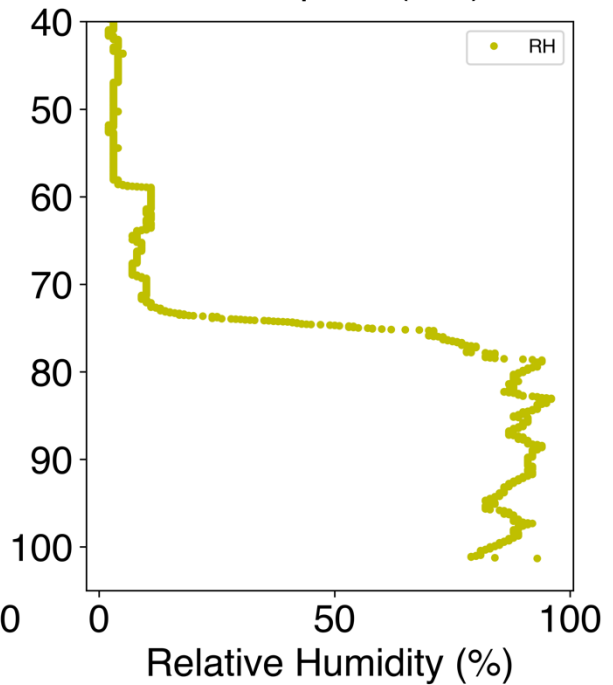
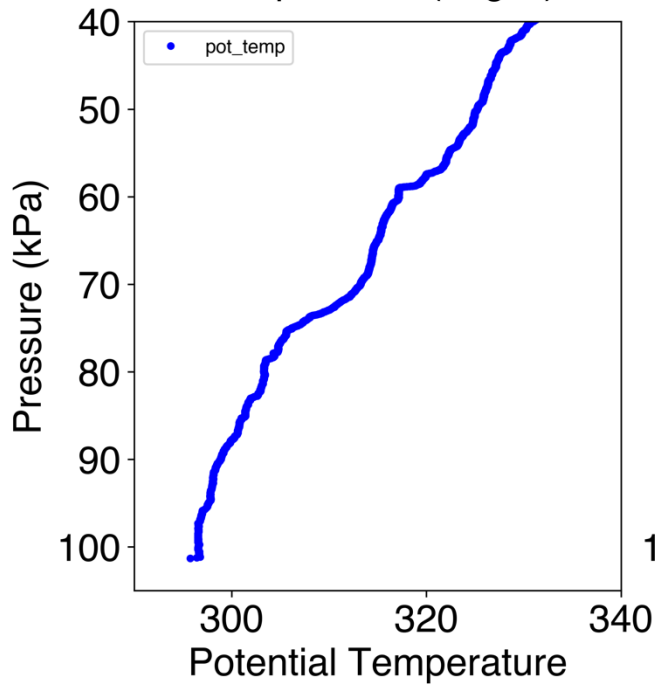
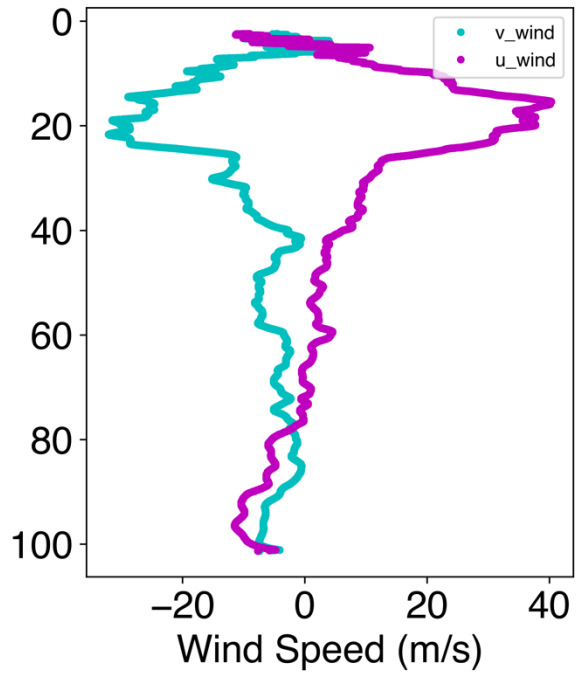
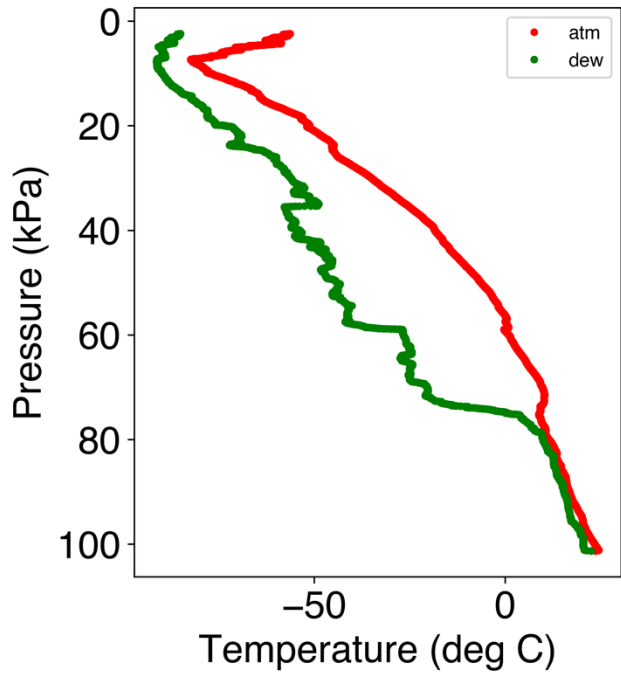
Today's track: Stationary at 14°21'44"N and 53°W.



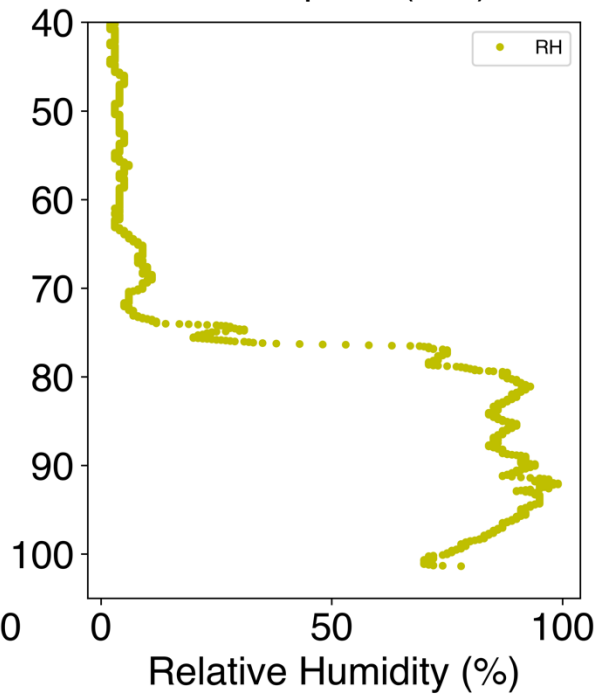
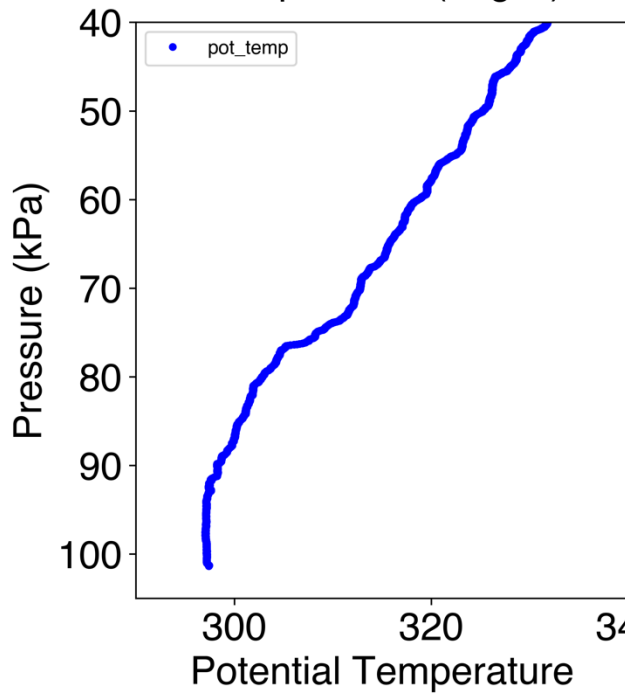
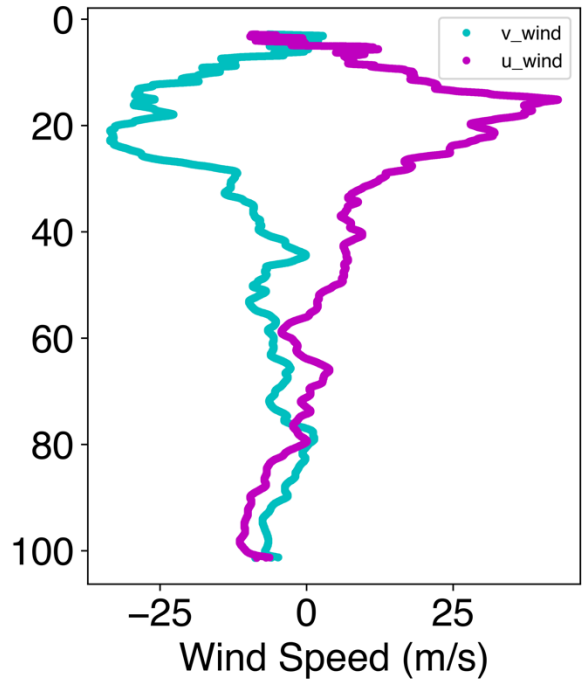
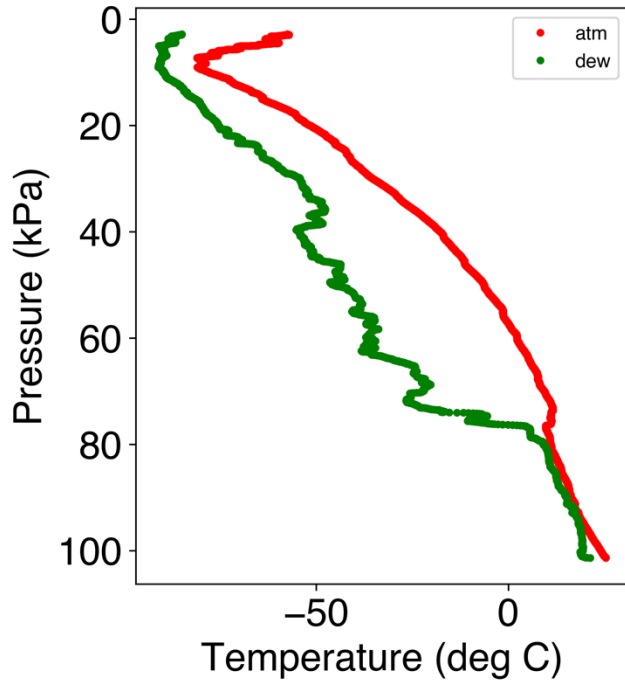
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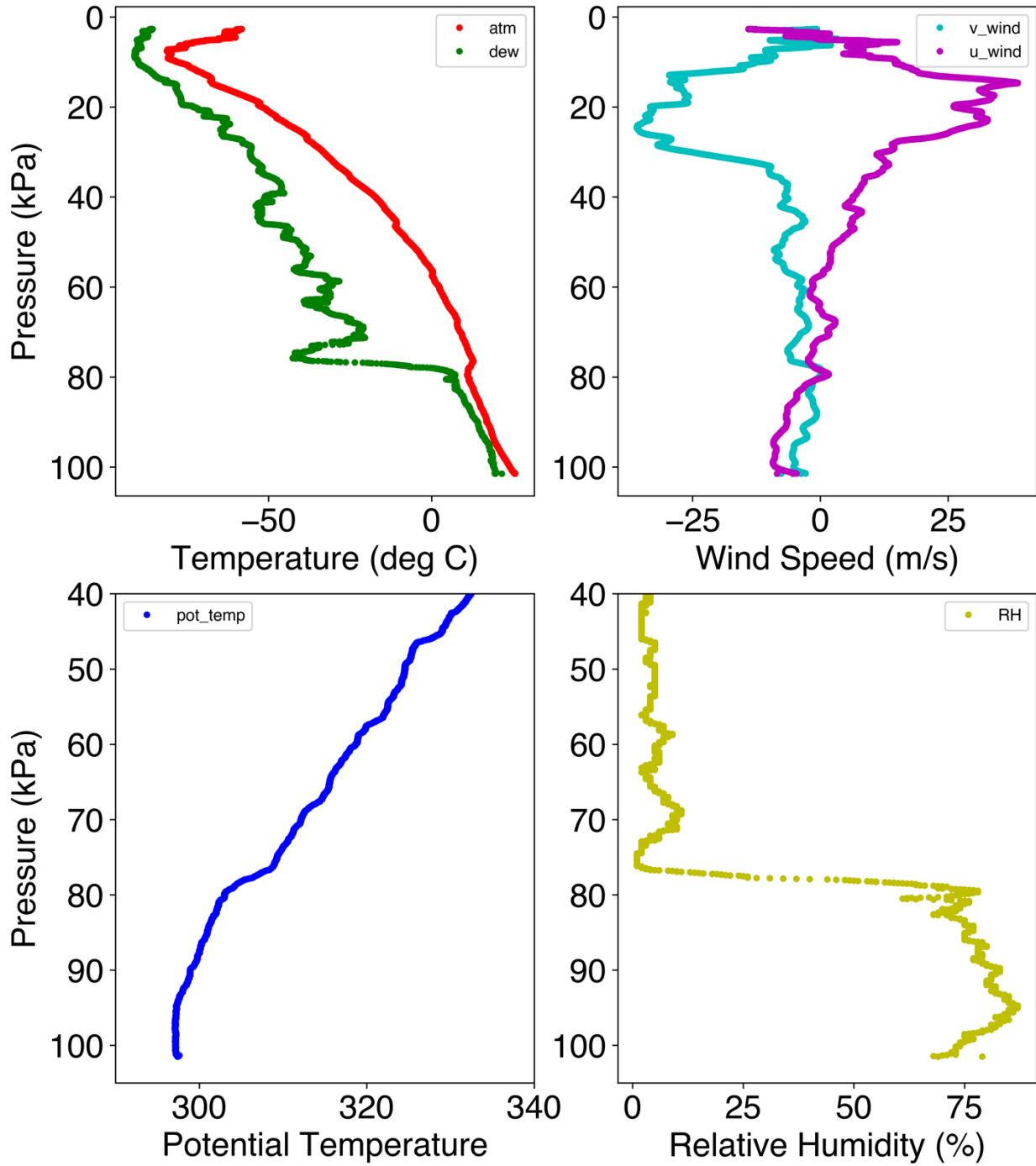
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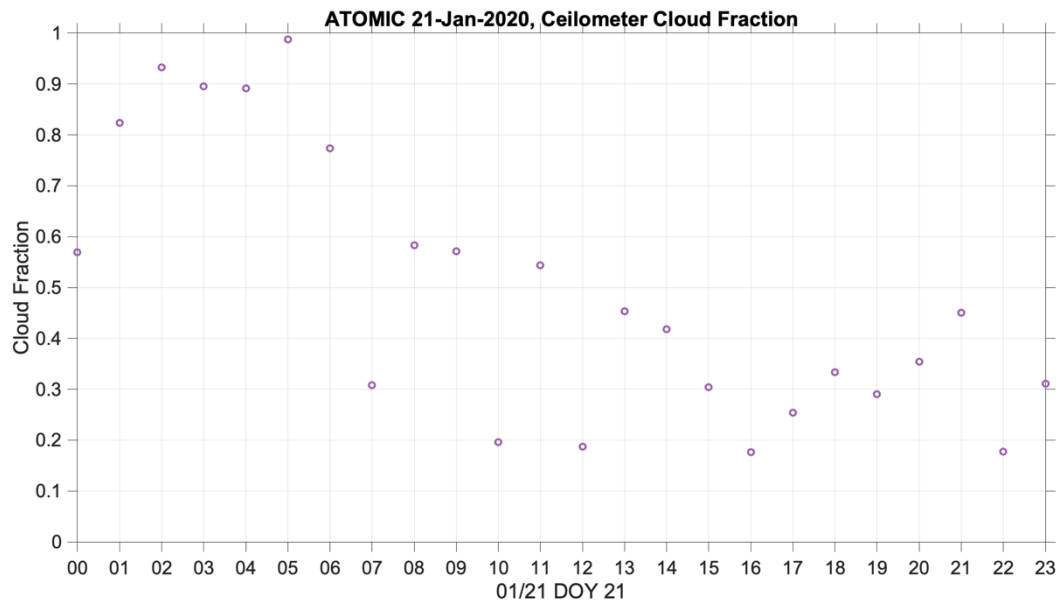
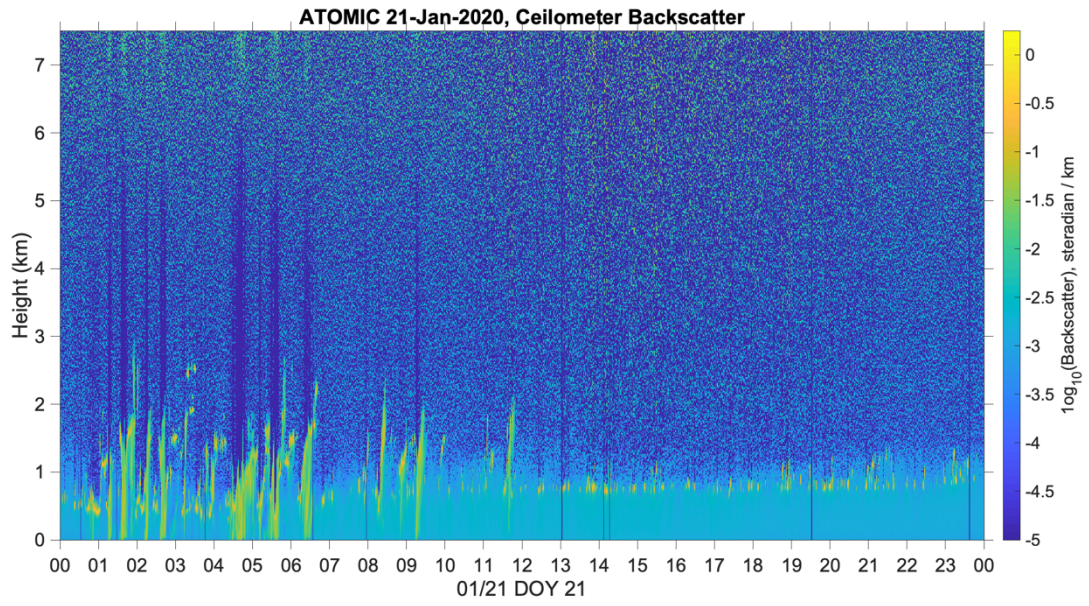


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2020-01-21 1440UTC





ATOMIC 21-Jan-2020, Cloudbase Ht, Median  $\pm$  84/16th percentiles

