

Svalbard Airport. Longyear

Longyearbyen, Norway

latitude: 78-15N, longitude: 015-28E,
elevation: 2 m

Current weather observation

The report was made **24** minutes ago, at **14:50**
UTC

Wind **5** kt from the **Southeast**, varying between
East and **South**

Temperature **5°C**

Humidity **65%**

Pressure **991** hPa

Visibility 10 km or more

Scattered clouds at a height of **3000** ft
Broken clouds at a height of **5000** ft

[Change units](#)

METAR: ENSB 291450Z 14005KT
090V180 9999 SCT030 BKN050 05/M01
Q0991 RMK WIND 1400FT 21015KT

Time: 17:14 (15:14 UTC)

Forecast

*Forecast valid from 29 at 12 UTC to 30 at 12
UTC*

Wind **8** kt from the **South/Southeast**

Visibility 10 km or more

Few clouds at a height of **1000** ft
Scattered clouds at a height of **2000** ft
Broken clouds at a height of **5000** ft

Probability 40% :

*Temporary
from 29 at 18 UTC to 30 at 06 UTC*

Visibility: **3000** m

at a height of **1400** ft

light rain showers, snow

*Temporary
from 30 at 00 UTC to 30 at 12 UTC*

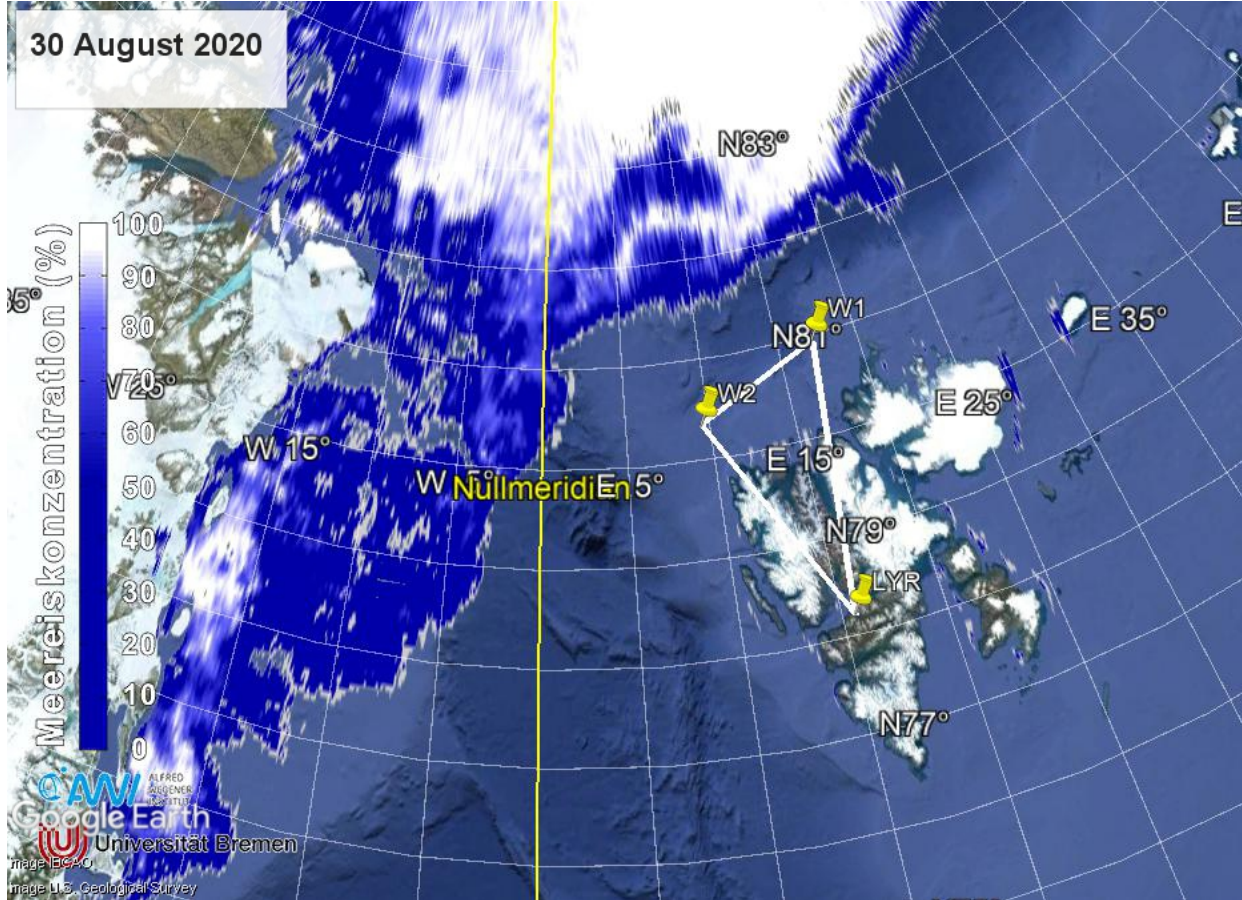
Wind **20** kt from the **Southeast** with gusts up to
30 kt

Purpose of Test-Flight:

- Wing by wing flight for UFA and SZ
- Five-hole nose boom calibration pattern
- Radar MW calibration, radiation pattern
- Test of microphysical probes

Three flight segments

30 August 2020



LYR → W1
W2
W1 → W2
W2 → LYR

Wing-by-wing flight for UFA and SZ
ive-hole nose boom calibration pattern
Radar/MW and Radiation calibration
Test of microphysical probes

	Location	Lat (+-90)	Lon (+-180)	Flightlevel	Pressure (hPa)	Leg dist. (km [nm])	Cum. dist. (km [nm])
0	LYR	78,22	15,65	0	1.013,25	0 [0]	0 [0]
1		80,95	17,17	100	696,82	305 [165]	305 [165]
2		80,35	9,5	100	696,82	154 [83]	459 [248]
3	LYR	78,22	15,65	0	1.013,25	269 [145]	728 [393]

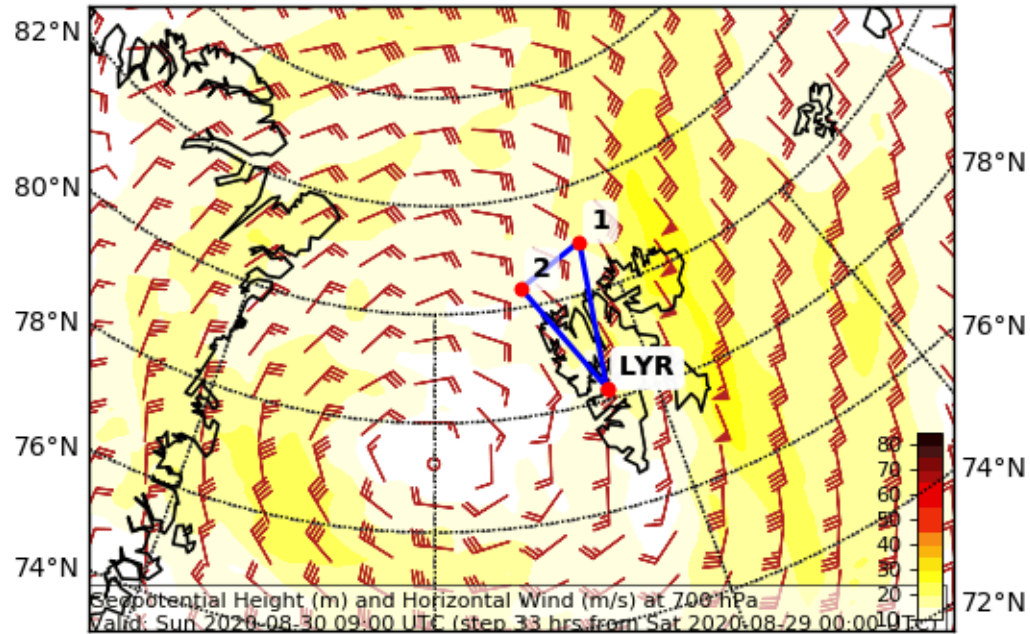
165 NM → 83 Min
83 NM → 42 Min
145 NM → 73 Min

Plus 45 Min Nose-Boom Calibration

198 Min

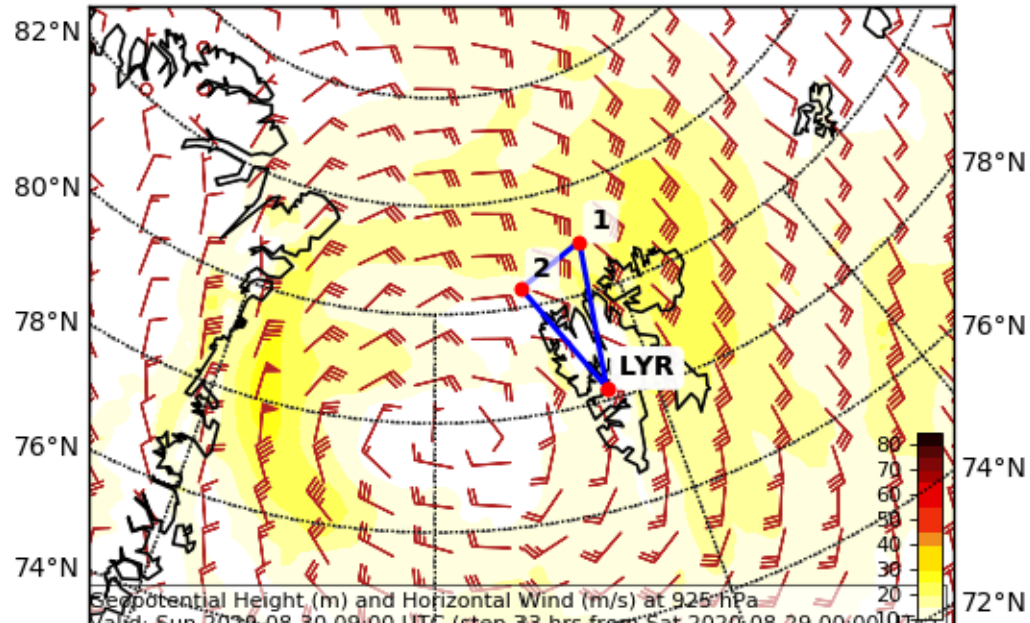
Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 700.
Valid: Sun 2020-08-30 09:00 UTC (step 33 hrs from Sat 2020-08-29 00:00 UTC)

700 hPa
09 UTC



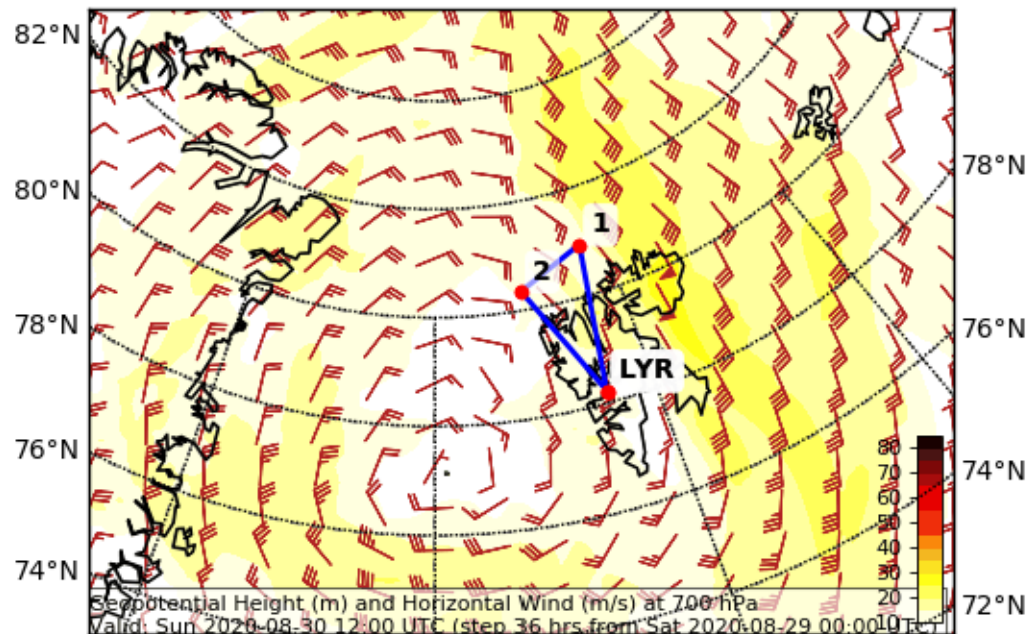
Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 925.
Valid: Sun 2020-08-30 09:00 UTC (step 33 hrs from Sat 2020-08-29 00:00 UTC)

925 hPa
09 UTC



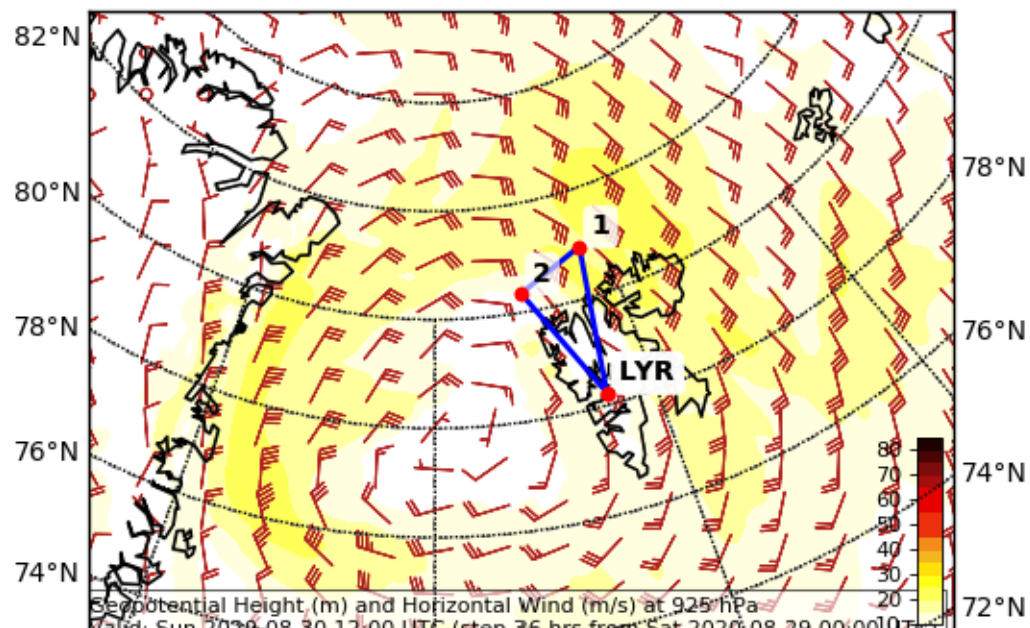
700 hPa
12 UTC

Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 700.
Valid: Sun 2020-08-30 12:00 UTC (step 36 hrs from Sat 2020-08-29 00:00 UTC)



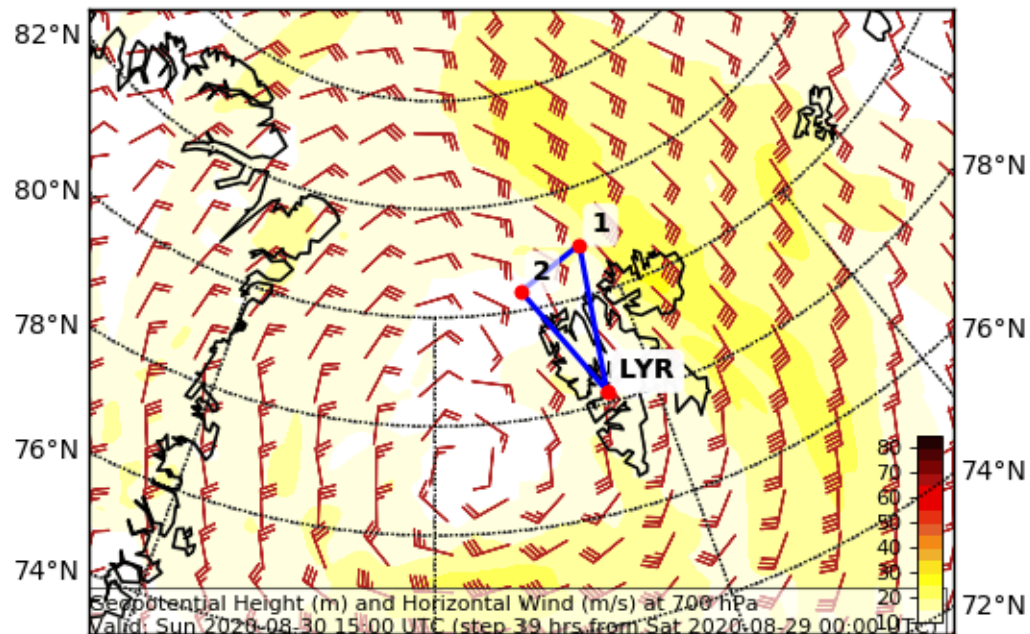
925 hPa
12 UTC

Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 925.
Valid: Sun 2020-08-30 12:00 UTC (step 36 hrs from Sat 2020-08-29 00:00 UTC)



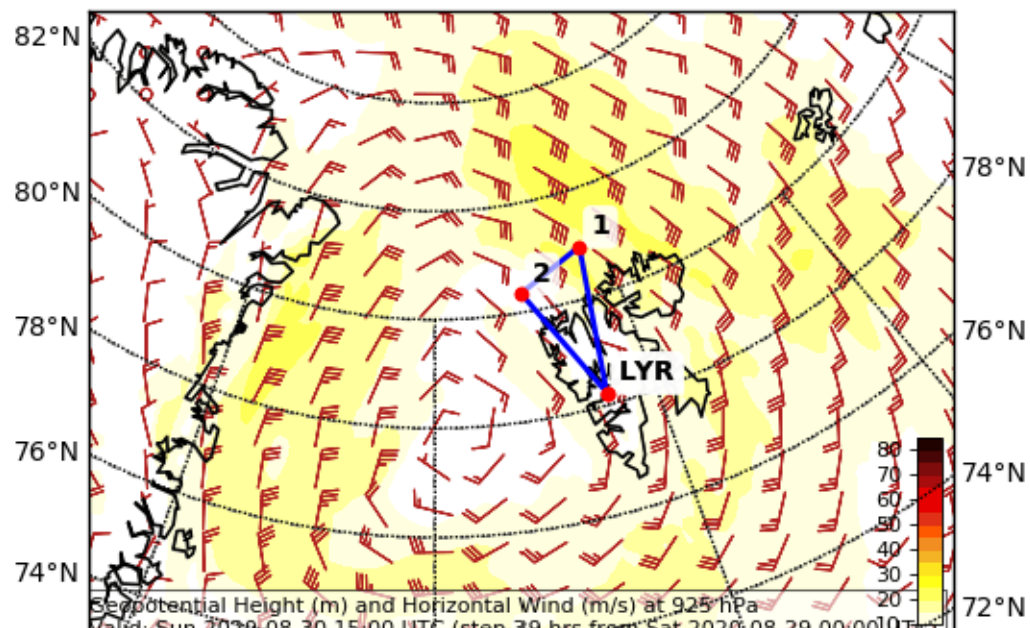
700 hPa
15 UTC

Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 700.
Valid: Sun 2020-08-30 15:00 UTC (step 39 hrs from Sat 2020-08-29 00:00 UTC)



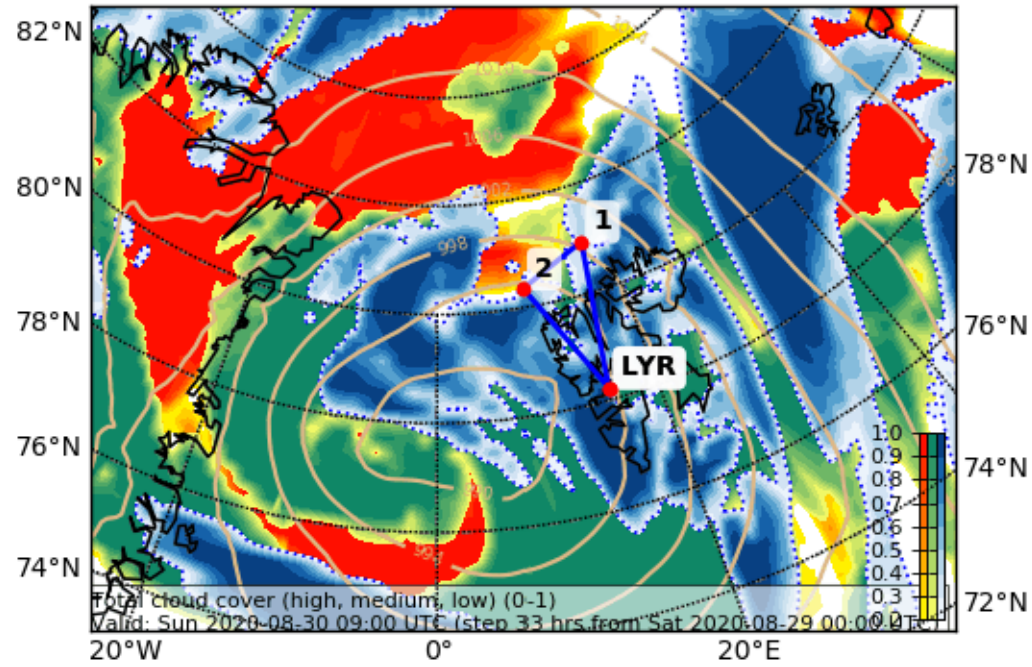
925 hPa
15 UTC

Geopotential Height (m) and Horizontal Wind (m/s) (Wind Speed 10-85 m/s) at 925.
Valid: Sun 2020-08-30 15:00 UTC (step 39 hrs from Sat 2020-08-29 00:00 UTC)

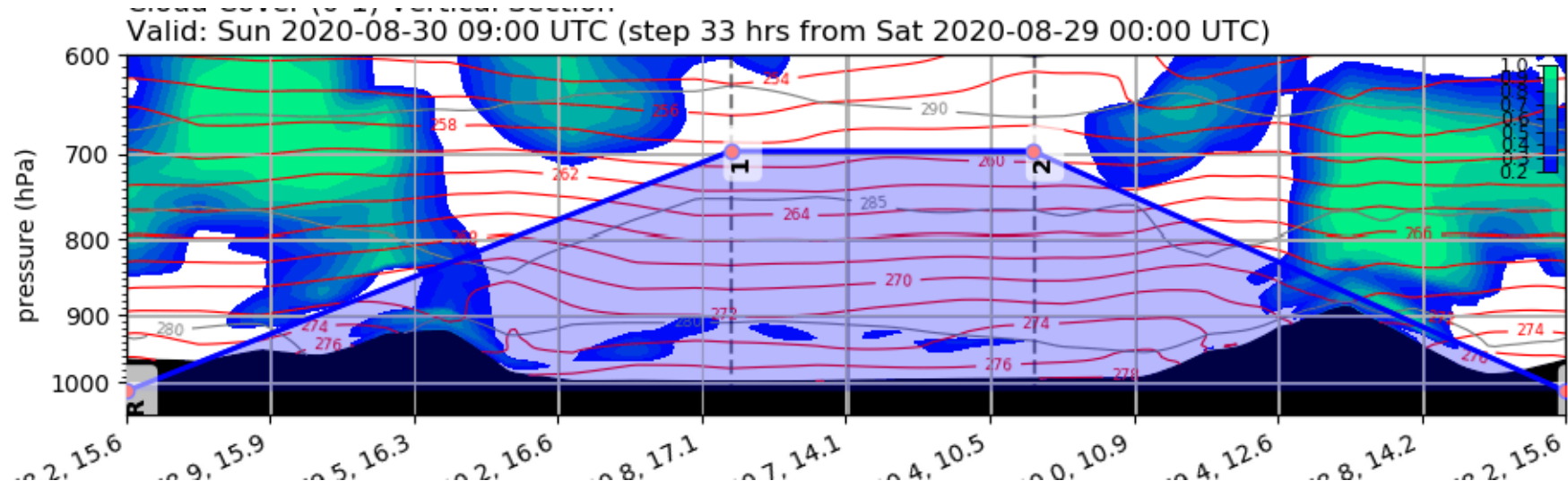


Clouds 09 UTC

Cloud Cover (0-1) (Total Cloud Cover)
Valid: Sun 2020-08-30 09:00 UTC (step 33 hrs from Sat 2020-08-29 00:00 UTC)

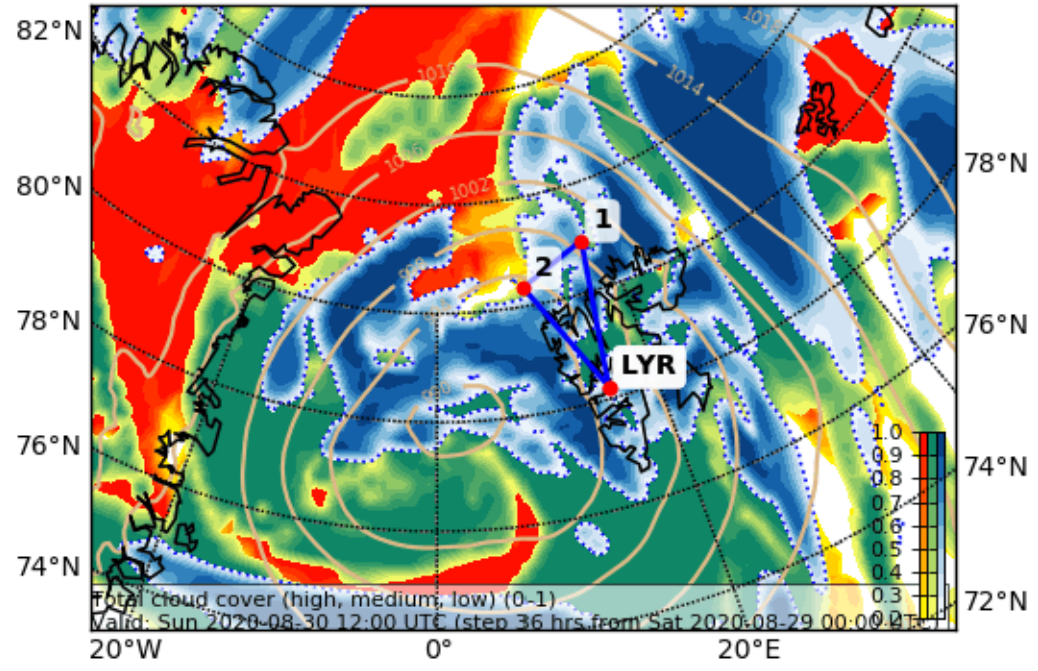


EPSG:77790000

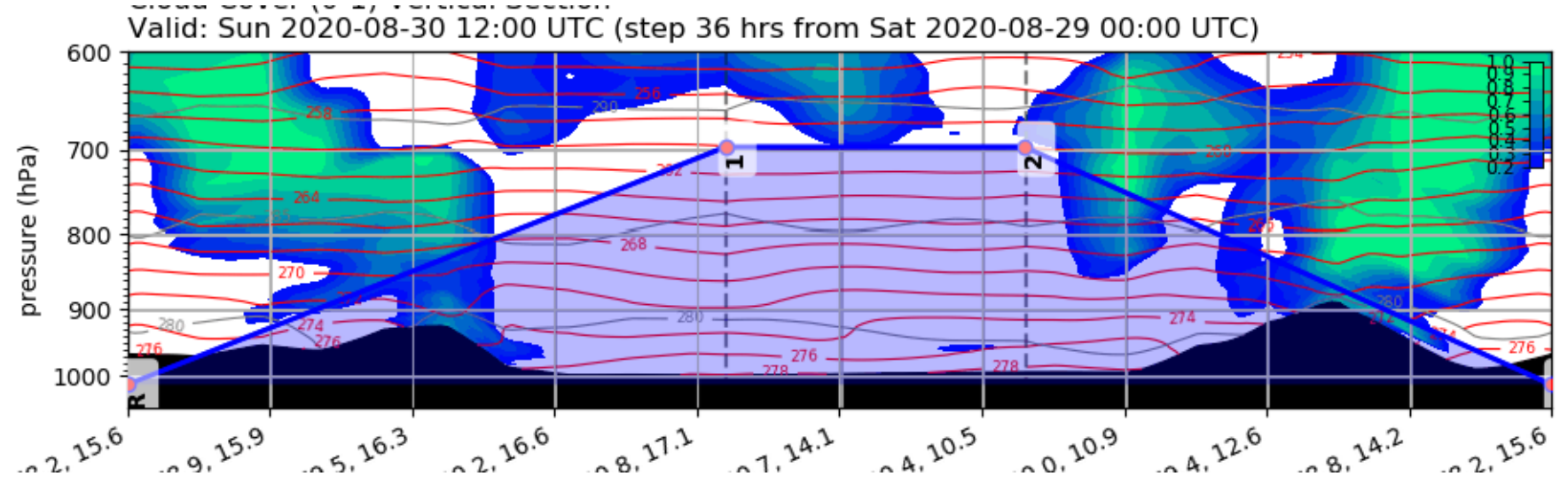


Clouds 12 UTC

Cloud Cover (0-1) (Total Cloud Cover)
Valid: Sun 2020-08-30 12:00 UTC (step 36 hrs from Sat 2020-08-29 00:00 UTC)

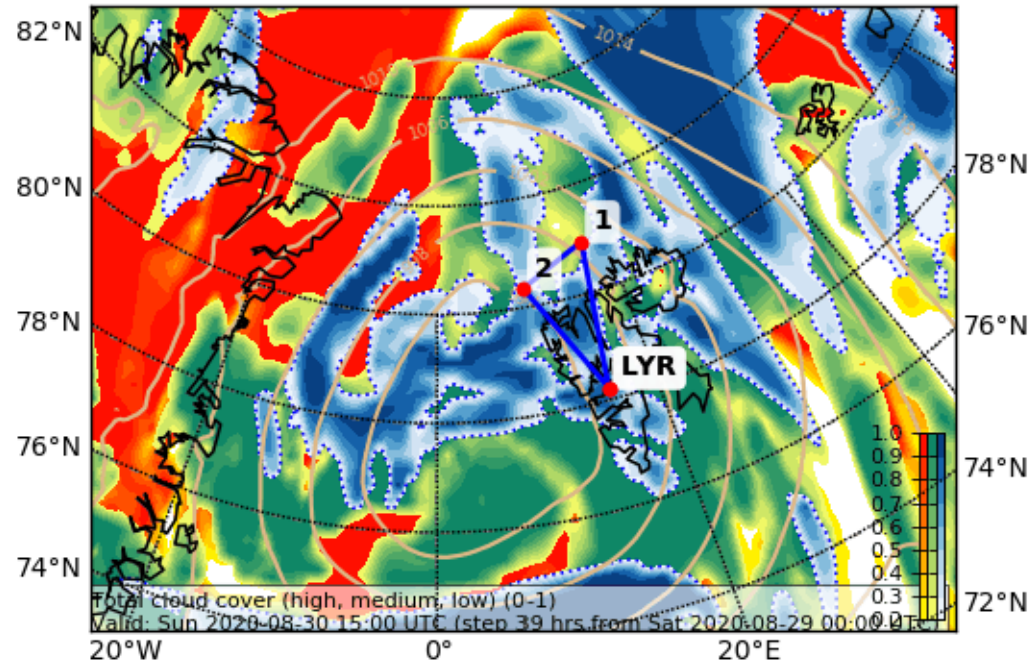


EPSG:77790000

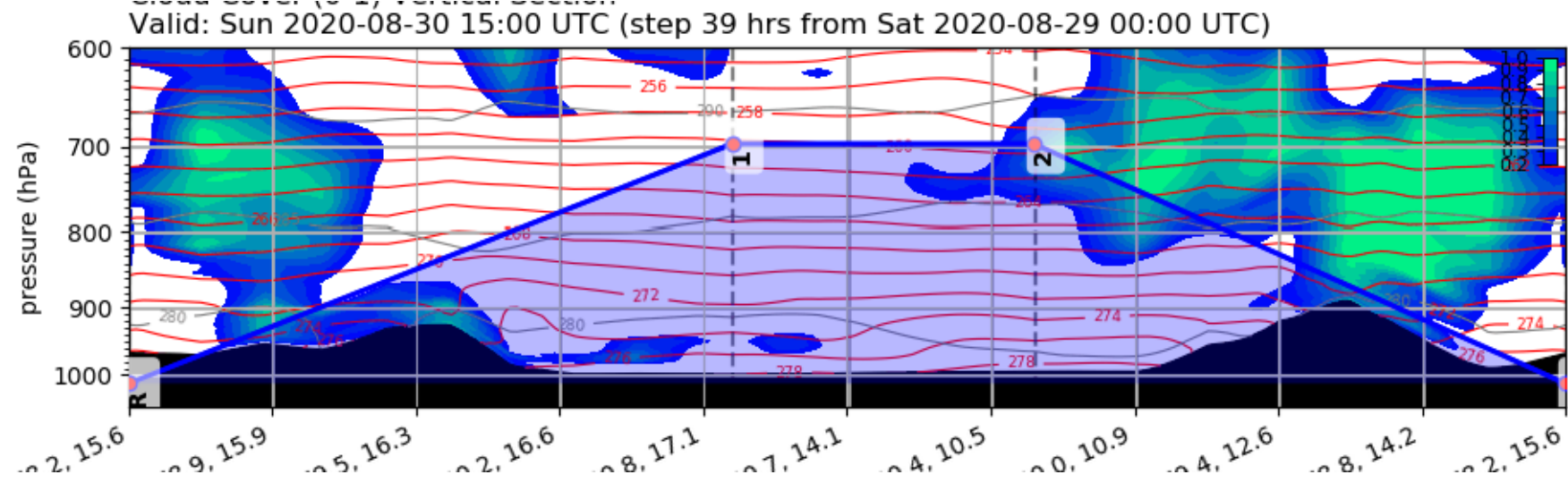


Clouds 15 UTC

Cloud Cover (0-1) (Total Cloud Cover)
Valid: Sun 2020-08-30 15:00 UTC (step 39 hrs from Sat 2020-08-29 00:00 UTC)



EPSG:77790000



POLAR 5
Remote Sensing

Flight Plan: MOSAiC ACA Flight 2019 03
30, Sunday

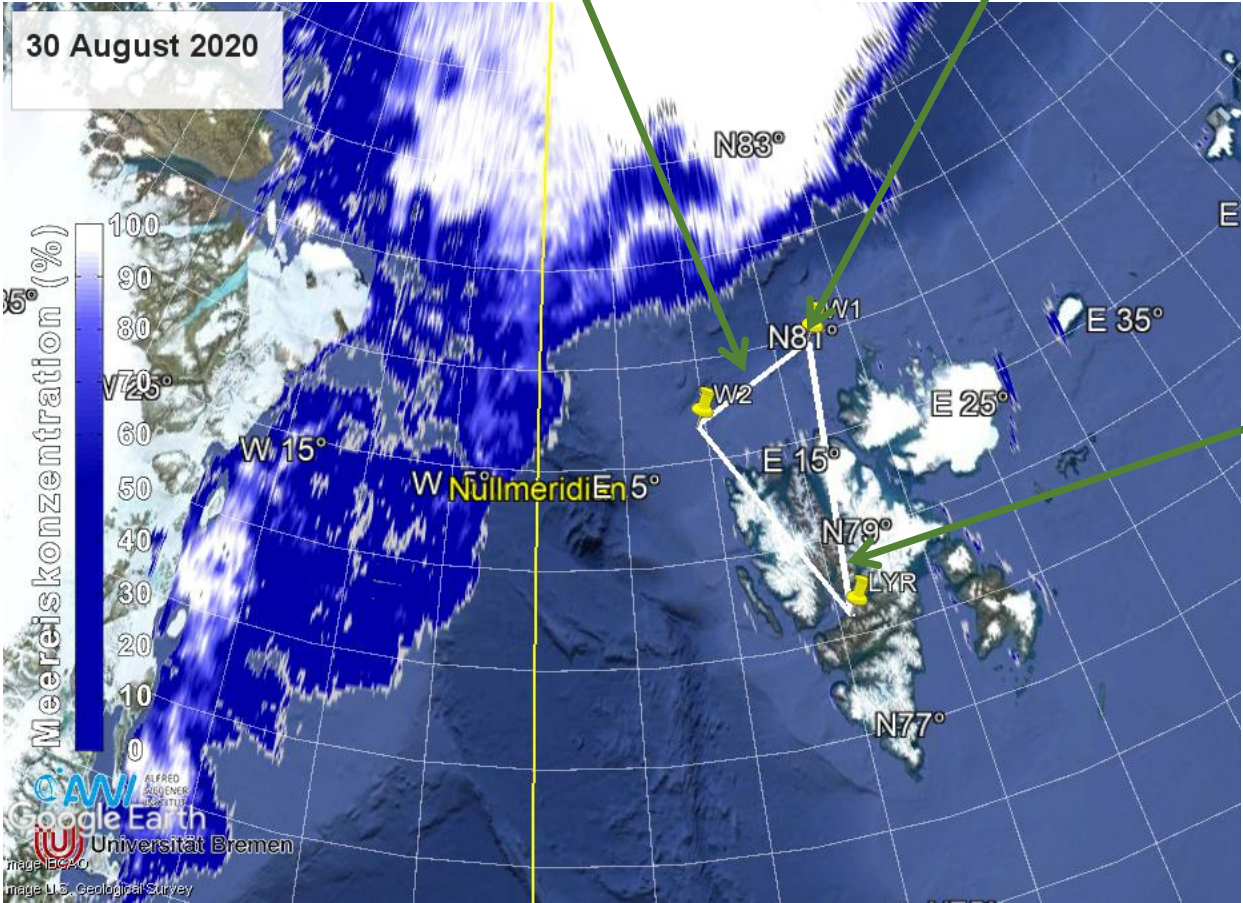
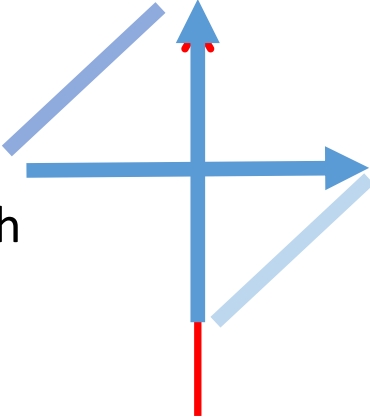
Est. Take Off: 09:00 LT

Crew:	Mission PI	Manfred Wendisch
	AWI	Martin Germann
	PMS	Manuel Moser
	Radiation	Michael Schäfer
	Radar/MW/Lidar	Mario Mech
	Extra Seat	Stephan Schön

	Location	Lat (+-90)	Lon (+-180)	Flightlevel	Pressure (hPa)	Leg dist. (km [nm])	Cum. dist. (km [nm])
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Drop sondes

Nose-boom + rad calibration
Legs of 20 miles length



After take-off climb to FL100
Coordinate with P6

Flight Plan P5

LYR → W1 climb and stay at 10,000 ft:
In coordination with P6

165 NM @ 120 kn

83 min

W1 – Nose-boom/rad calib

4 times 20 NM @ 120 kn

45 min

W1 – W2 Radar/MW calibration

83 NM @ 120 kn

73 min

W2 → LYR

145 NM @ 120 kn

73 min

In coordination with P5

Total: 473 NM 236 min

During each flight there should be one section where the same Leg of 5 min length is flown in opposite direction.

More such legs → better accuracy of our wind measurement

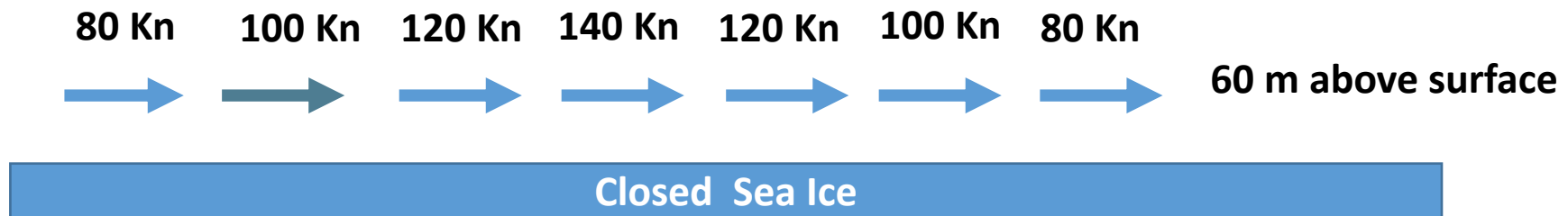


This can be flown below clouds, or in clouds

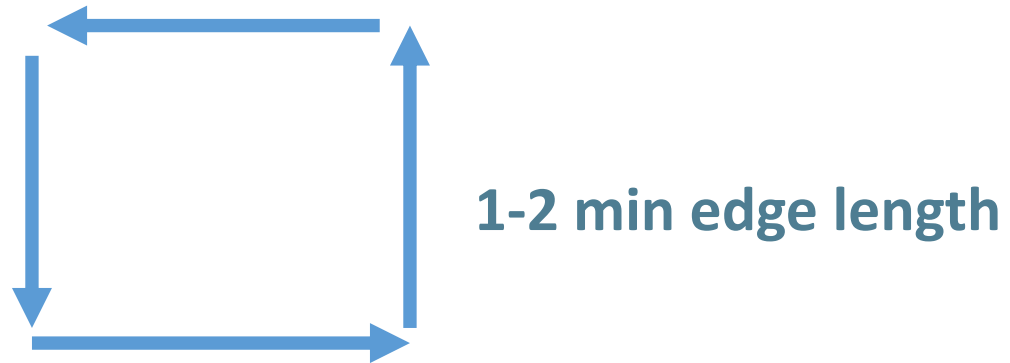
Also possible at high levels (e.g. 10.000 ft) on our way home

To be flown only one time during the campaign:

2 min-legs with different speed (TAS) (parallel to wind)



Radiation Square



First leg should be oriented towards the sun

**Temp (fast): ascend from the lowest level to e.g. 3000 ft
with 2000 ft/min or, vice versa, descend**

Temp (slow): ascend/descend rates of 100-200 ft/min

**A temp should always reach
the lowest possible height above the surface**

Short turn:



Long turn:

