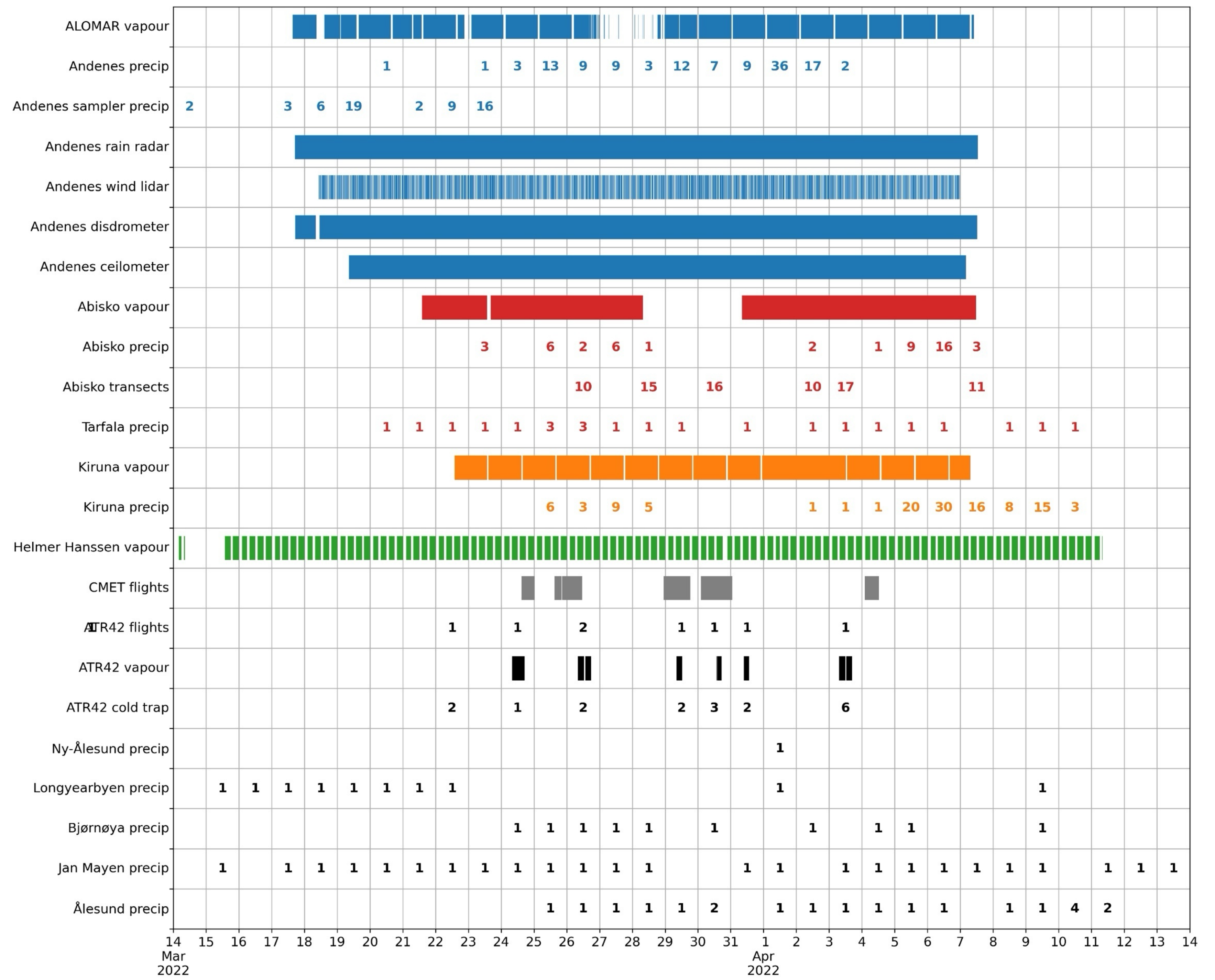
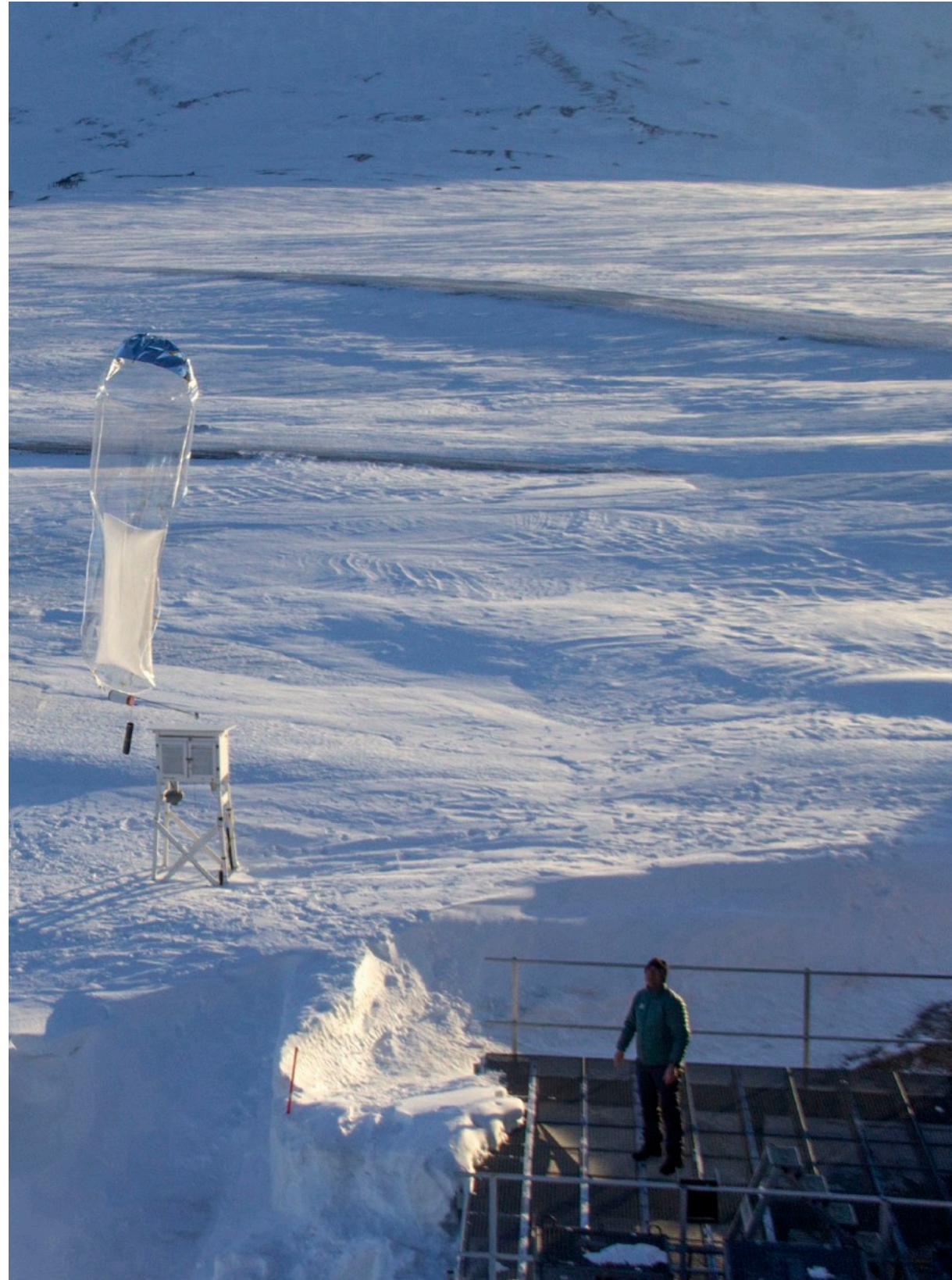


ISLAS2022 data availability

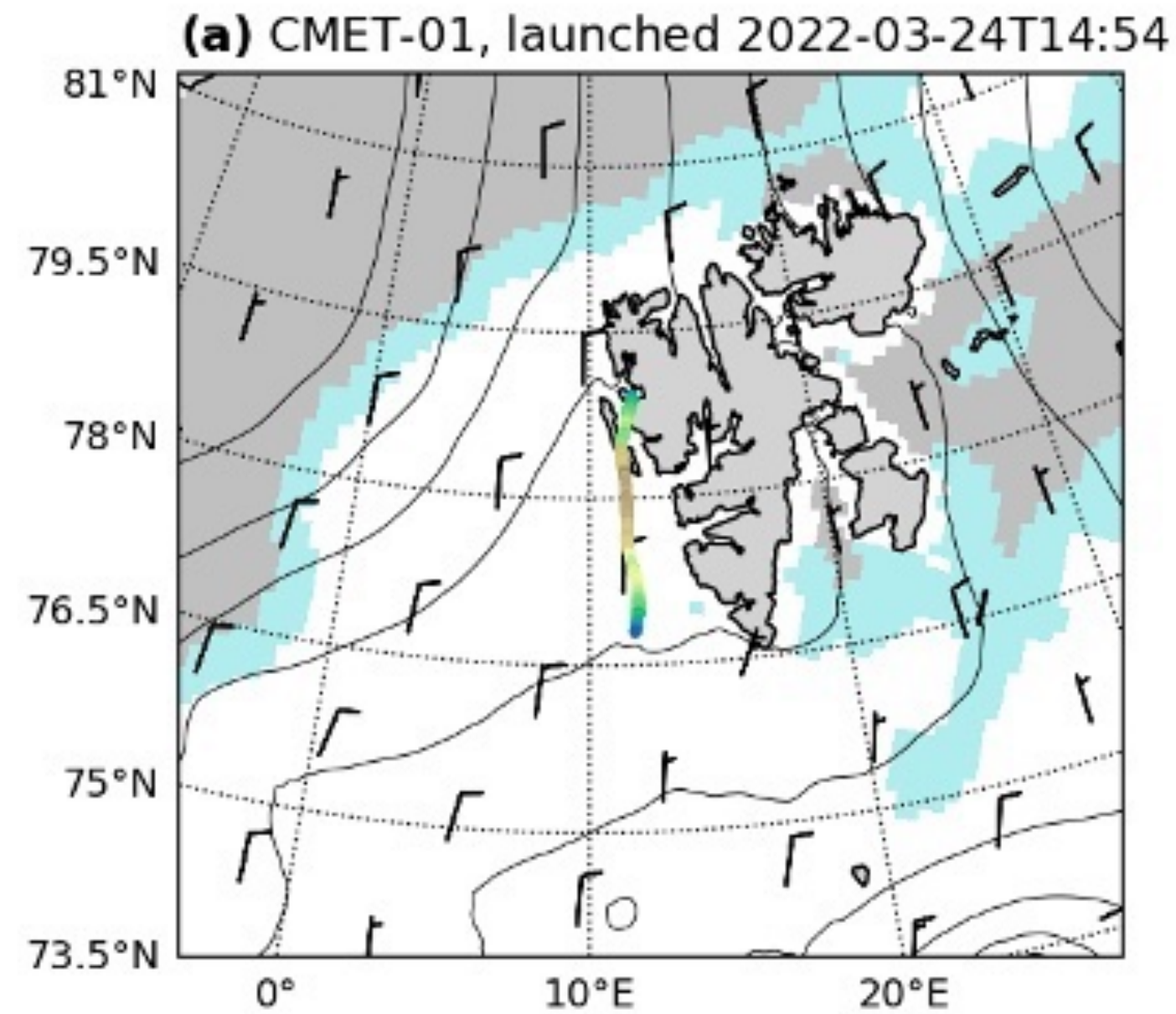


CMET flights Launched at Ny-Ålesund

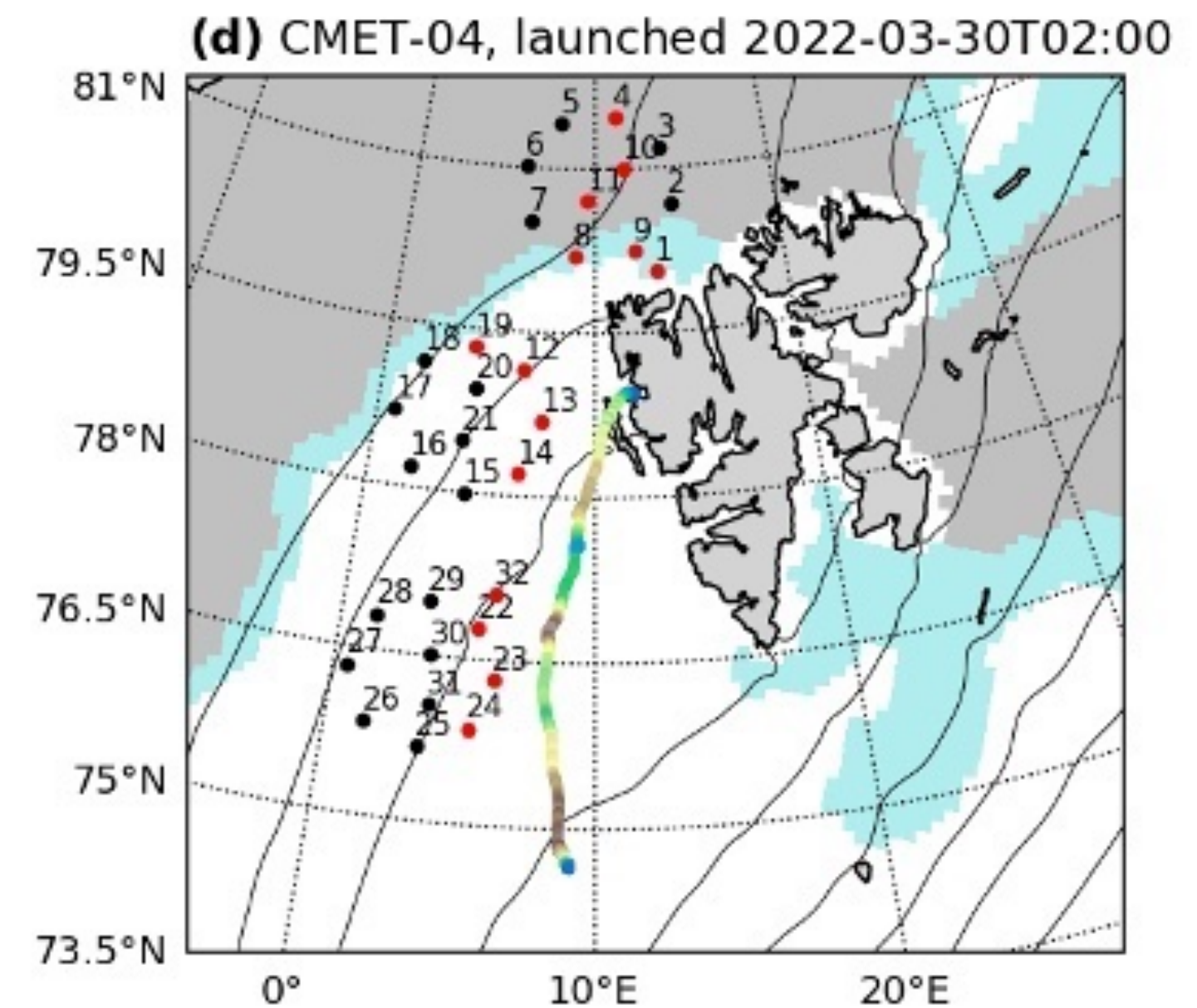
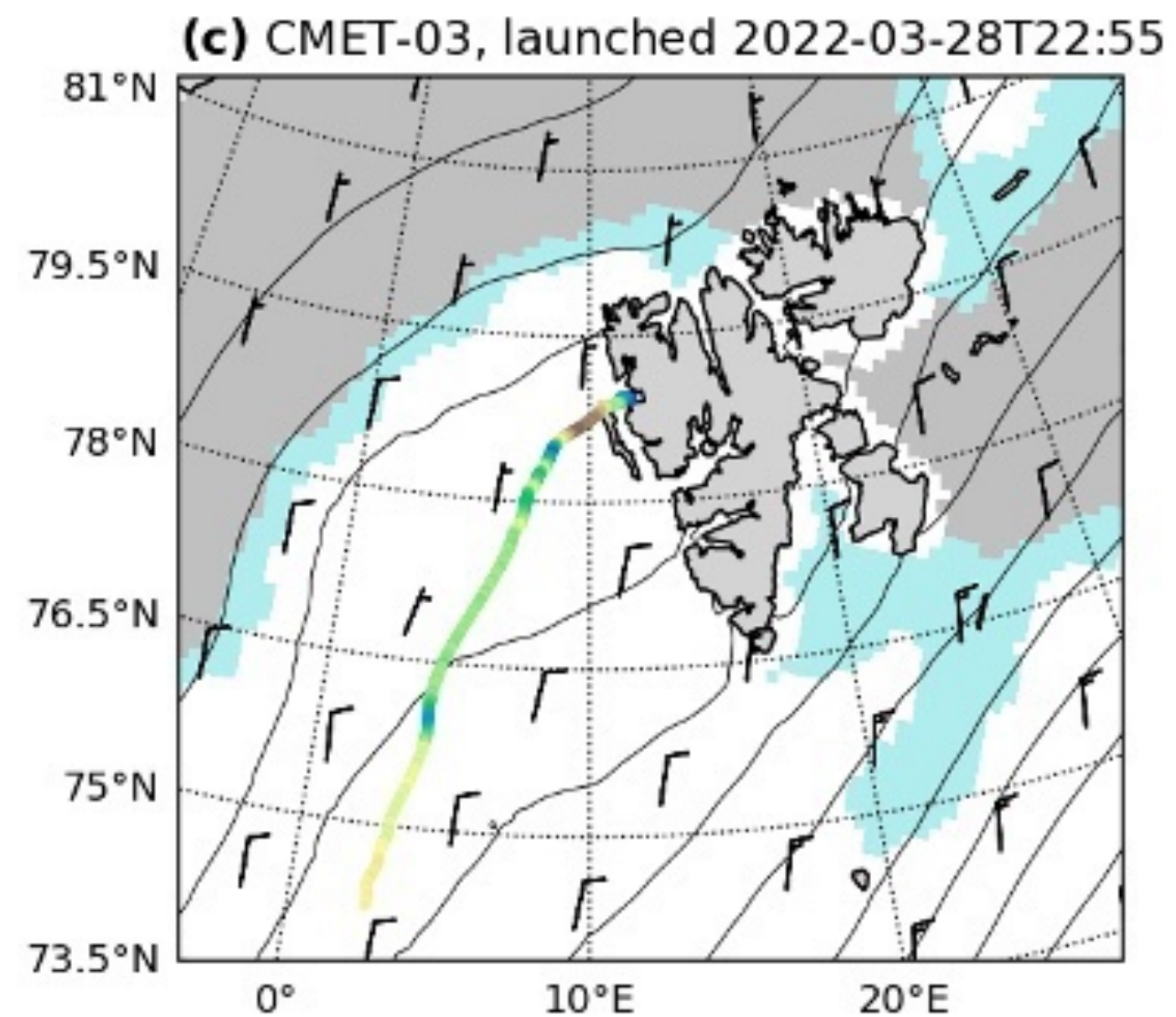
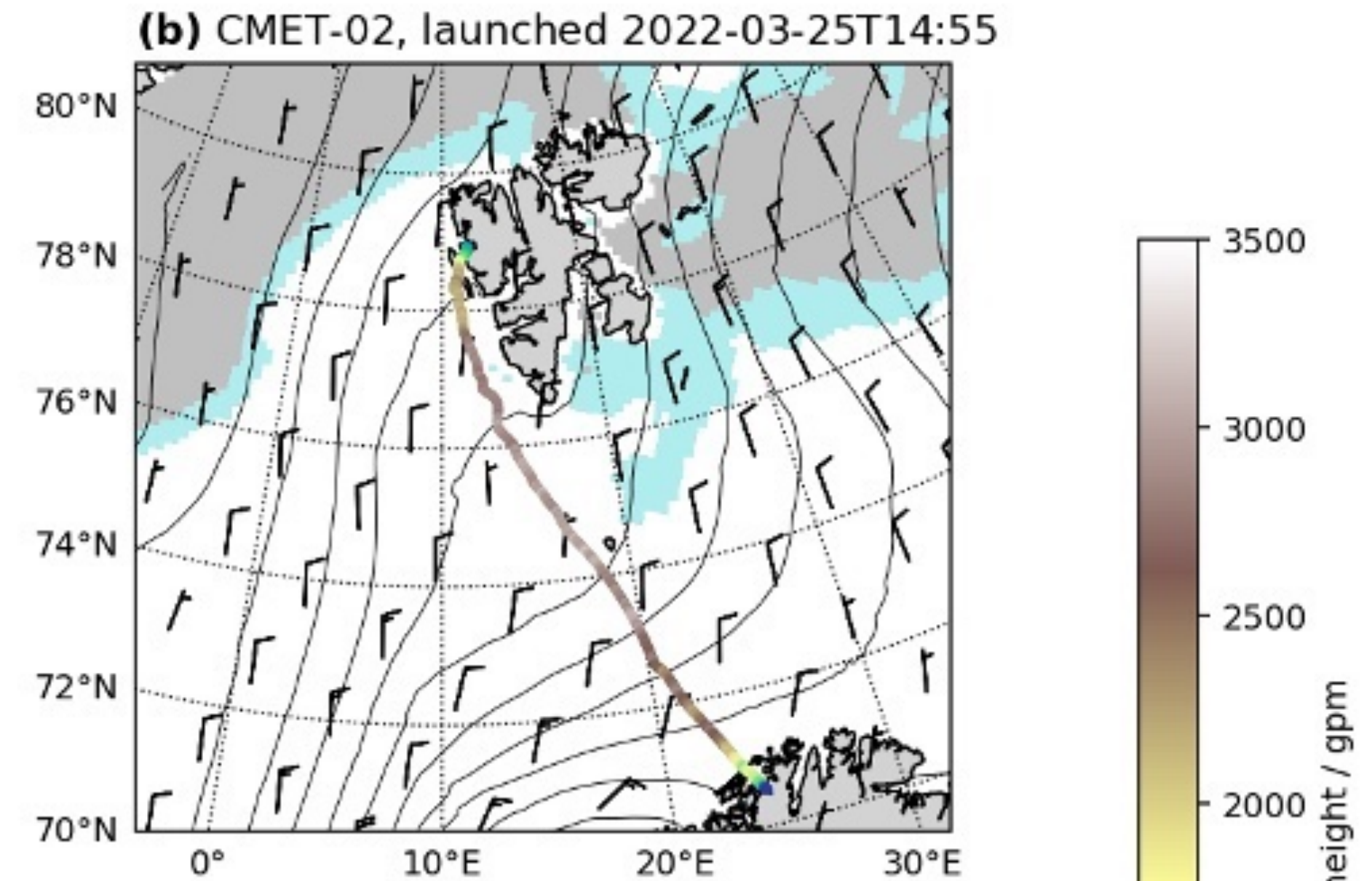


Løklingholm et al., submitted

24 Mar 2022



25 Mar 2022



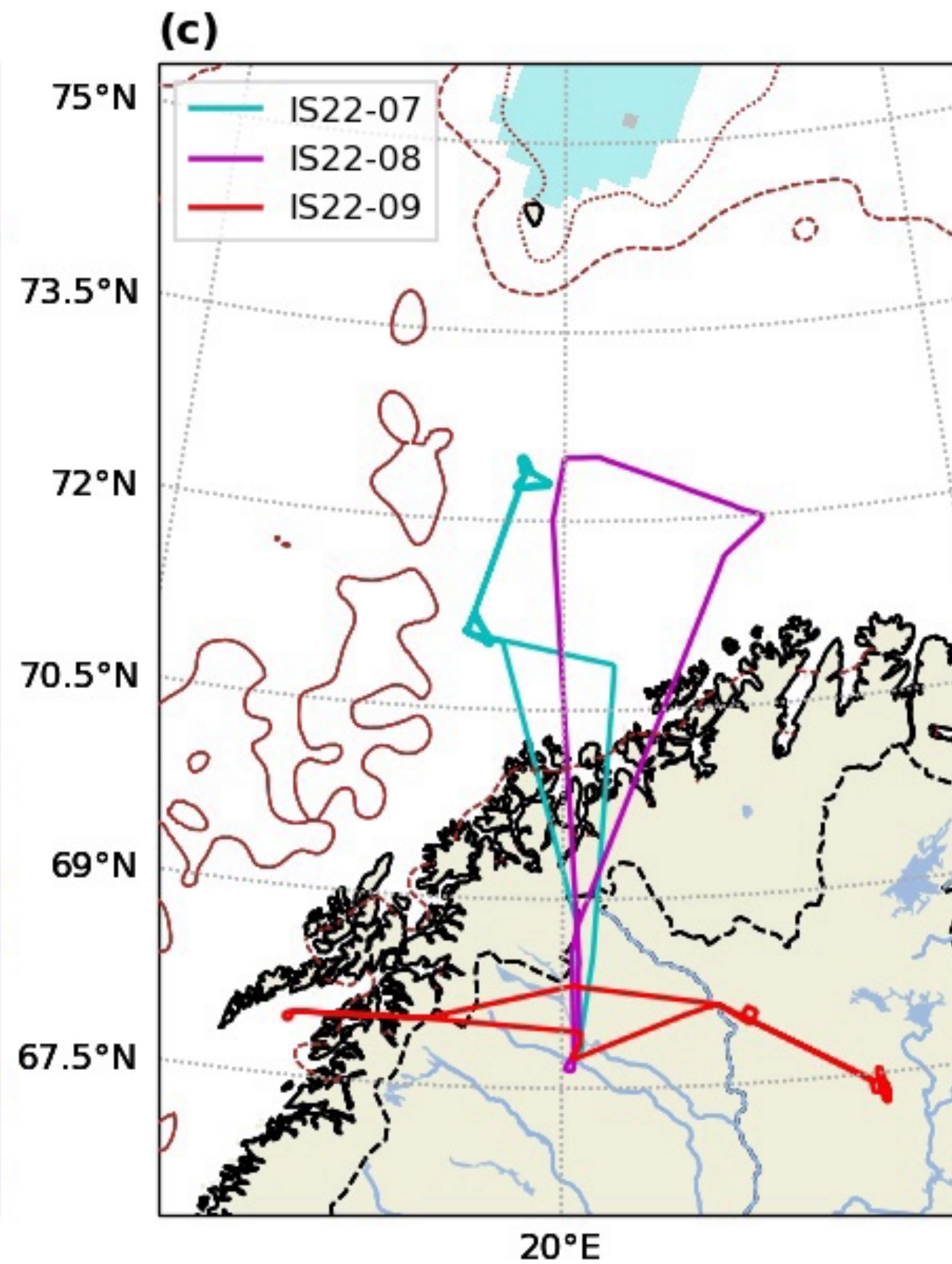
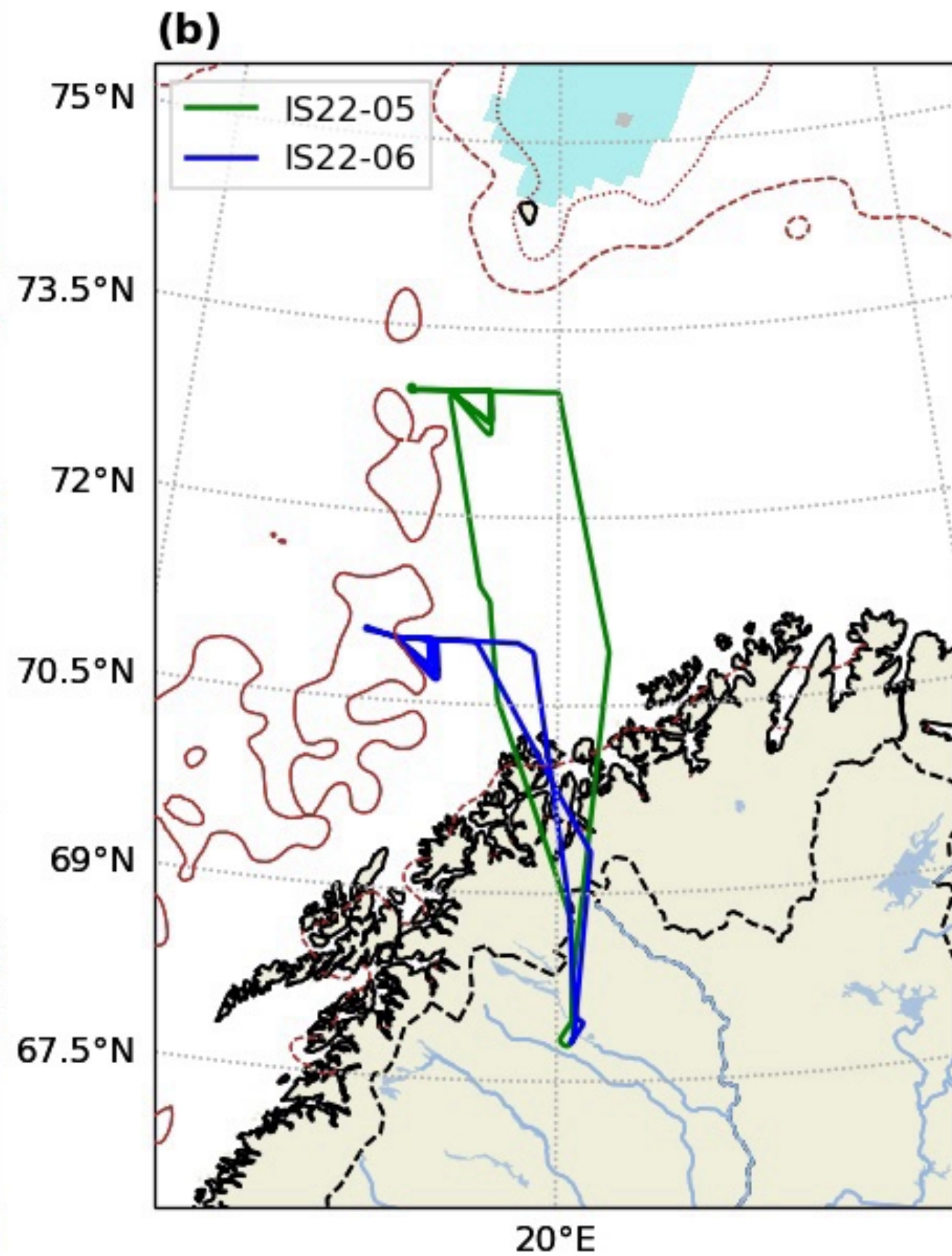
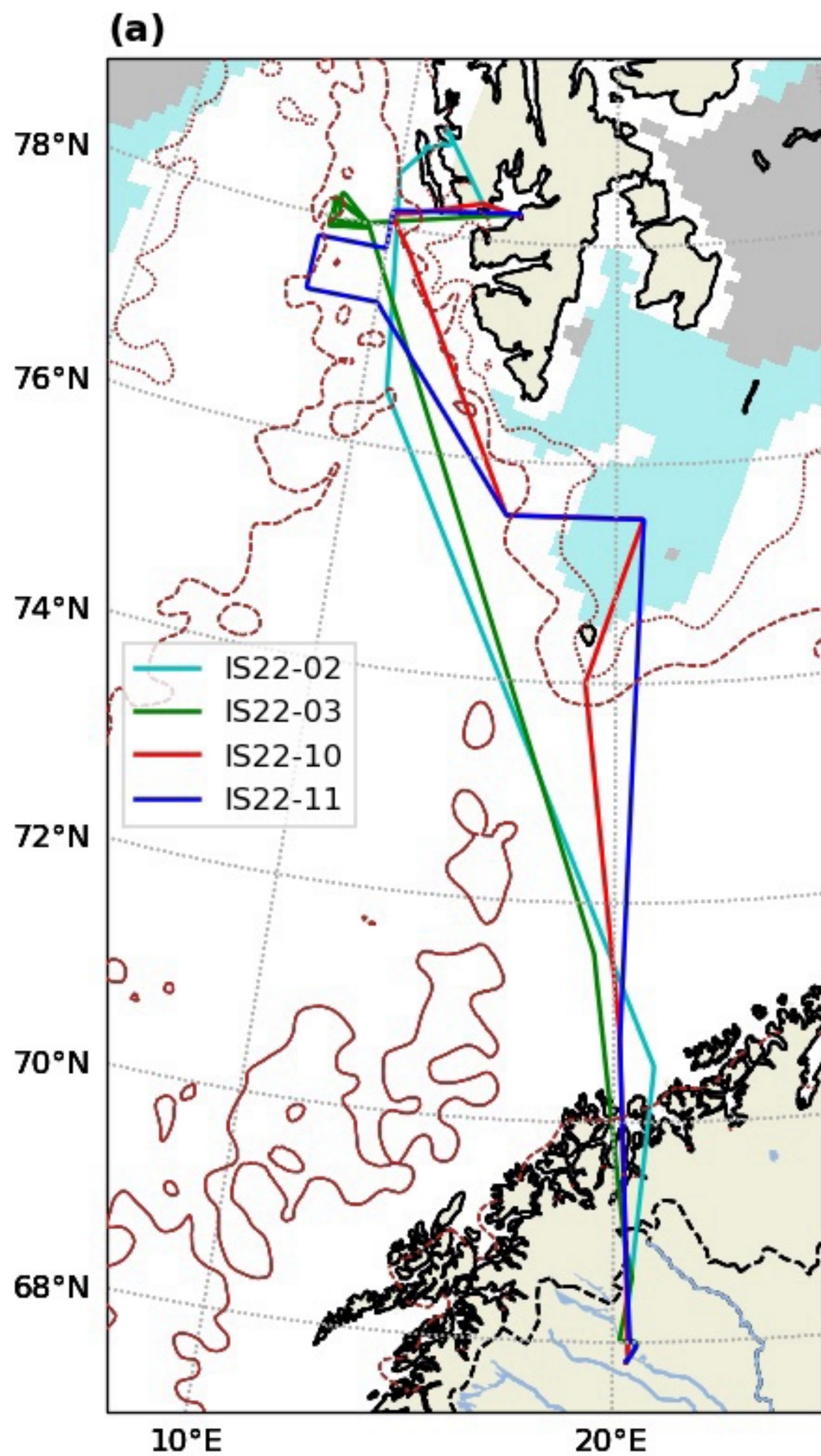
28 Mar 2022

30 Mar 2022

ATR42 instrumentation during ISLAS2022

Parameter	Provider	Instrument
$\delta^{18}\text{O}$ in water vapour (permil)	UiB	Picarro L2130-i
δD in water vapour (permil)	UiB	Picarro L2130-i
$\delta^{17}\text{O}$ in water vapour (permil)	UiB	Liquid water sampling
Aerosol backscatter and depolarisation	P. Chazette	ULICE and ALiAS Lidar
Reflectivity of cloud water and cloud ice	J. Delanoë	BASTA Radar
hydrometeor size distribution : 12.5 - 1550 μm and LWC and air speed (10-300 m s^{-1})	SAFIRE	DMT (CIP)
Precipitation	LAMP	PIP
Surface temperature	SAFIRE	IR thermometer
LWC : 0 - 10 g m^{-3}	SAFIRE	GERBER PMV100
LWC : 0 - 3 g m^{-3}	SAFIRE	DMT (LWC 300)
aerosol size distribution : 0,06 - 1 μm	SAFIRE	DMT(UHSAS)
aerosol size distribution: 0.12 - 3.12 μm	SAFIRE	PMS (PCASP 100)
droplet size distribution : 2-50 μm	SAFIRE	CDP (cloud droplet probe), DMT
TWC (total water content, liquid + solid)	SAFIRE	Sky Tech : Nevzorov (automatic)
Atmospheric pressure	SAFIRE	barometers Goodrich et Thales
Air temperature	SAFIRE	thermometers Goodrich
Fast-response temperature	SAFIRE	thin wire
Dew point temperature	SAFIRE	Buckresearch 1011C
Fast-response relative humidity	SAFIRE	Campbell KH20 (O absorption)
Relative humidity, temperature (40-50kHz)	SAFIRE	UCAP, enviscope, capacity
CO_2 , H_2O	SAFIRE	Licor 7500
CH_4 , CO_2 , CO , H_2O	SAFIRE	PICARRO

Overview of ISLAS2022 flights



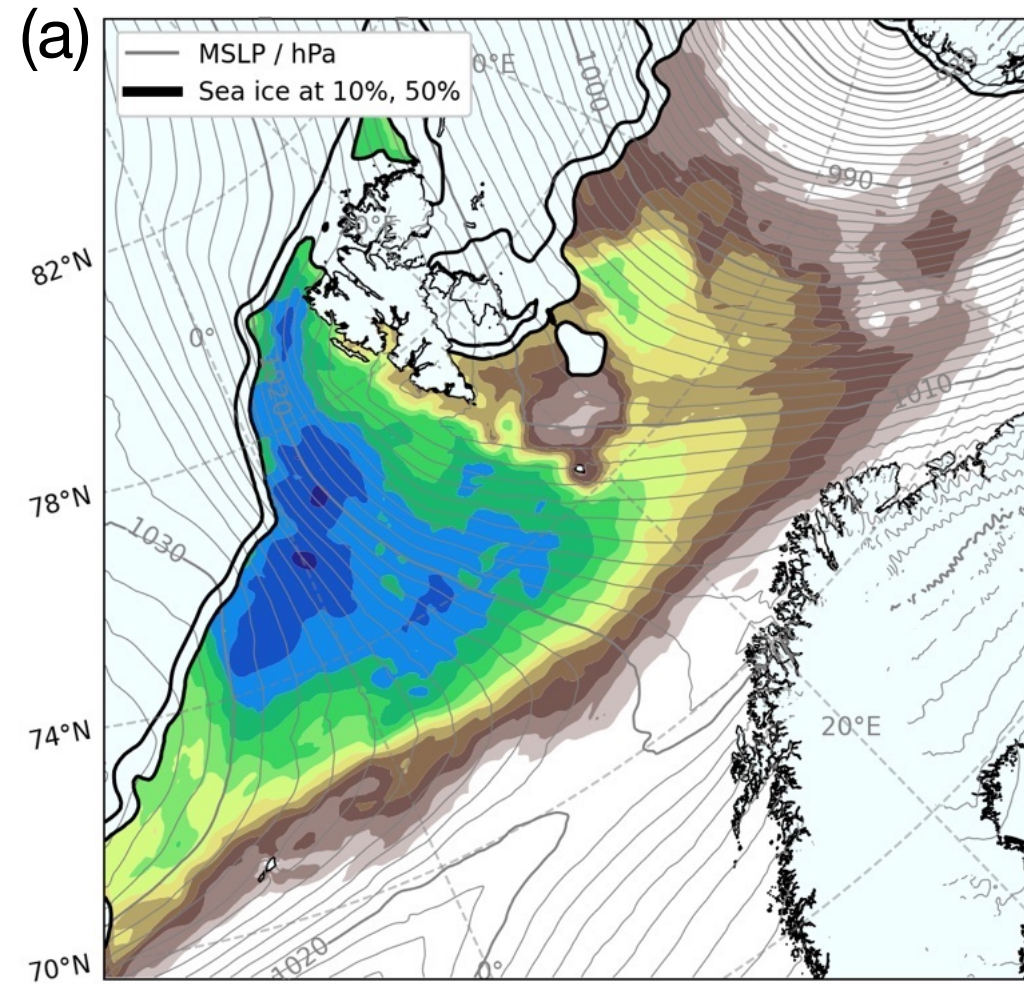
44 effective flight hours
10 science flights
4 coordinated flights

Overview of ISLAS2022 flights

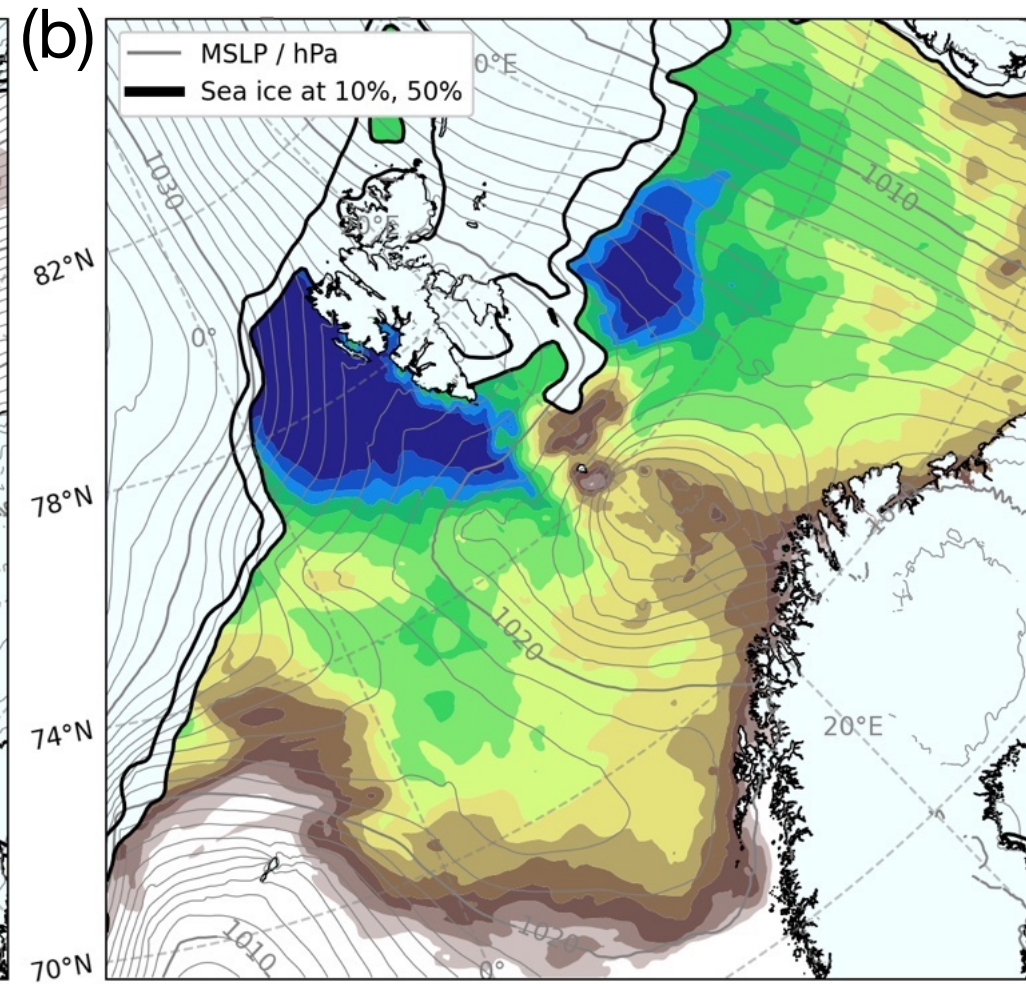
ISLAS flight	SAFIRE ID	Route	Date	Takeoff	Landing	Duration	Objective
IS22-01	as220006	TLS-TLS	11-03-2022	09:00	11:07	02:00	Test flight
IS22-02	as220007	KIR-KIR	22-03-2022	10:42	15:02	04:00	Air mass contrasts, no isotope data
IS22-03	as220008	KIR-LYR	24-03-2022	08:00	12:30	04:30	Survey, sea ice
IS22-04	as220008	LYR-KIR	24-03-2022	13:09	17:05	04:00	Survey, roll clouds
IS22-05	as220009	KIR-KIR	26-03-2022	07:57	12:33	04:30	Convection, Lagrangian flight
IS22-06	as220010	KIR-KIR	26-03-2022	13:00	17:42	04:30	Covection, Resampling
IS22-07	as220011	KIR-KIR	29-03-2022	08:00	12:15	04:00	Clouds, FAAM/HALO coord.
IS22-08	as220012	KIR-KIR	30-03-2022	13:29	17:07	03:30	Convection, Lagrangian flight, HALO
IS22-09	as220013	KIR-KIR	31-03-2022	09:30	13:20	04:00	Resampling, Sodankylä
IS22-10	as220014	KIR-LYR	03-04-2022	07:00	11:07	04:00	Survey, sea ice
IS22-11	as220015	LYR-KIR	03-04-2022	11:55	16:30	04:30	Survey, roll clouds, sea ice

	March 2022															April 2022																	
Date	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14
CAO index	-10	-6	-6	-8	-3	-3	0	3	-8	5	7	6	8	9	7	6	6	5	6	5	5	7	4	3	4	4	1	0	-3	-2	3	2	2
IWV	8	9	12	9	8	6	7	6	12	6	5	4	4	3	4	4	4	5	5	6	5	4	5	5	5	6	6	12	8	5	6	6	
T_{2m} Abisko									4	5	5	0	0	-1	-2	-2	-1	0	-2	-1	1	-2	-2	-1	2	6	12						
T_{2m} ALOMAR					2	1	2	5	2	2	2	-3	-3	-5	-6	-5	-4	-4	-5	-4	-3	-5	-5	-5	-2	8							
T_{2m} Kiruna									10	4	-1	-4	-7	-9	-10	-6	-5	-7	-6	-4	-7	-8	-7	-4	-4								
	Airborne measurements period																																

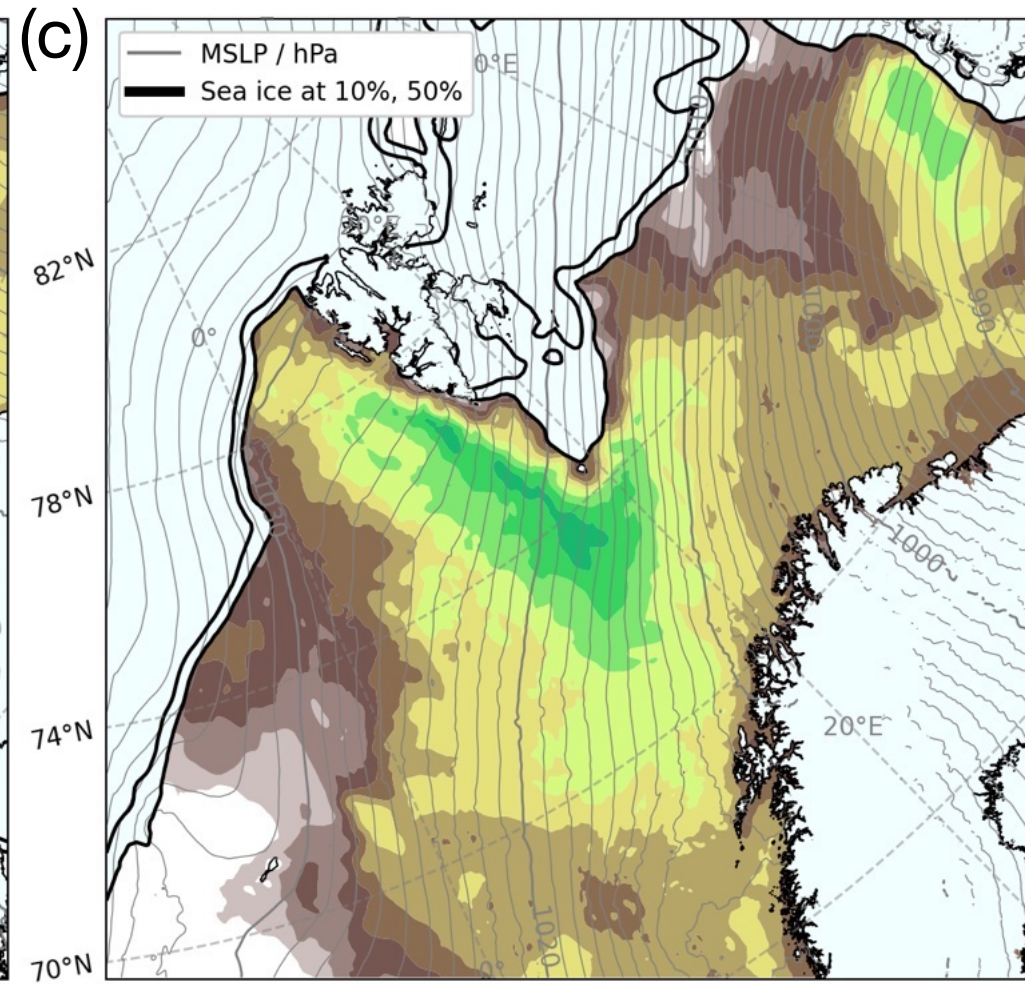
21 Mar 2022



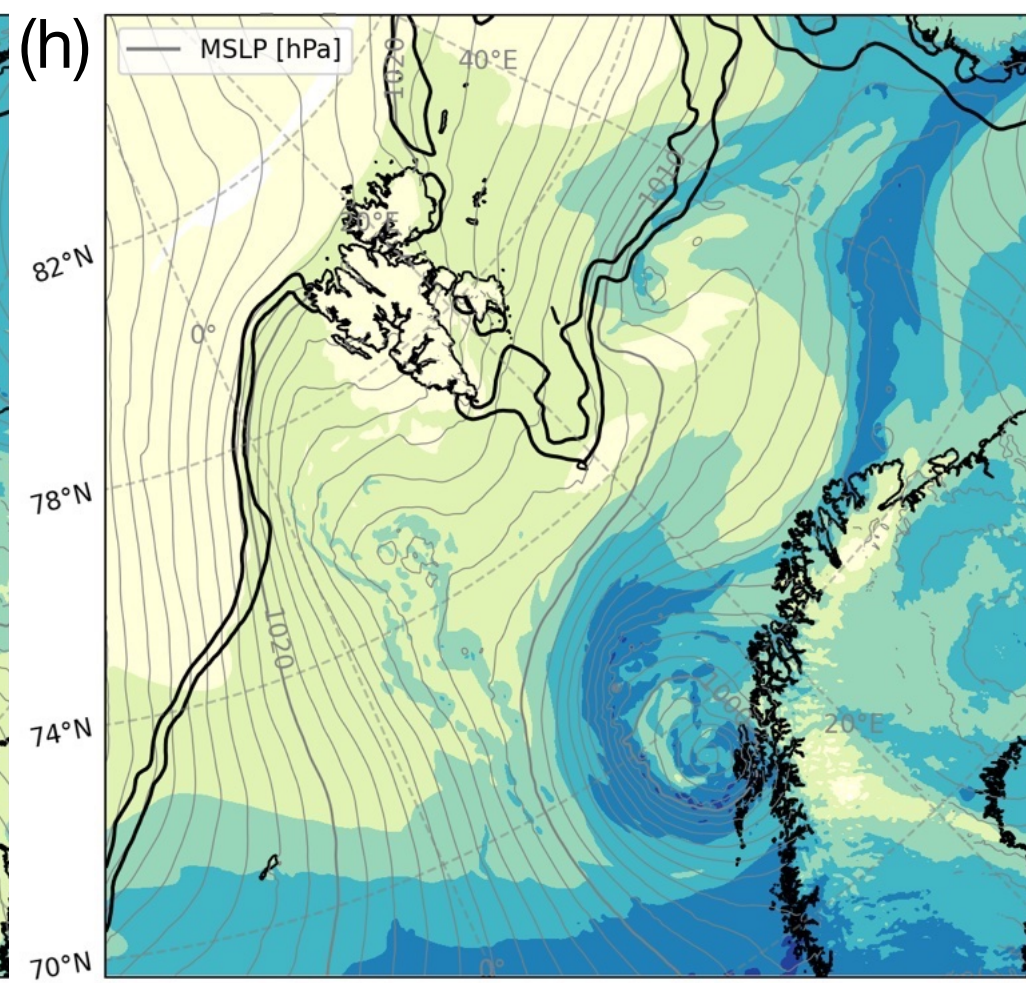
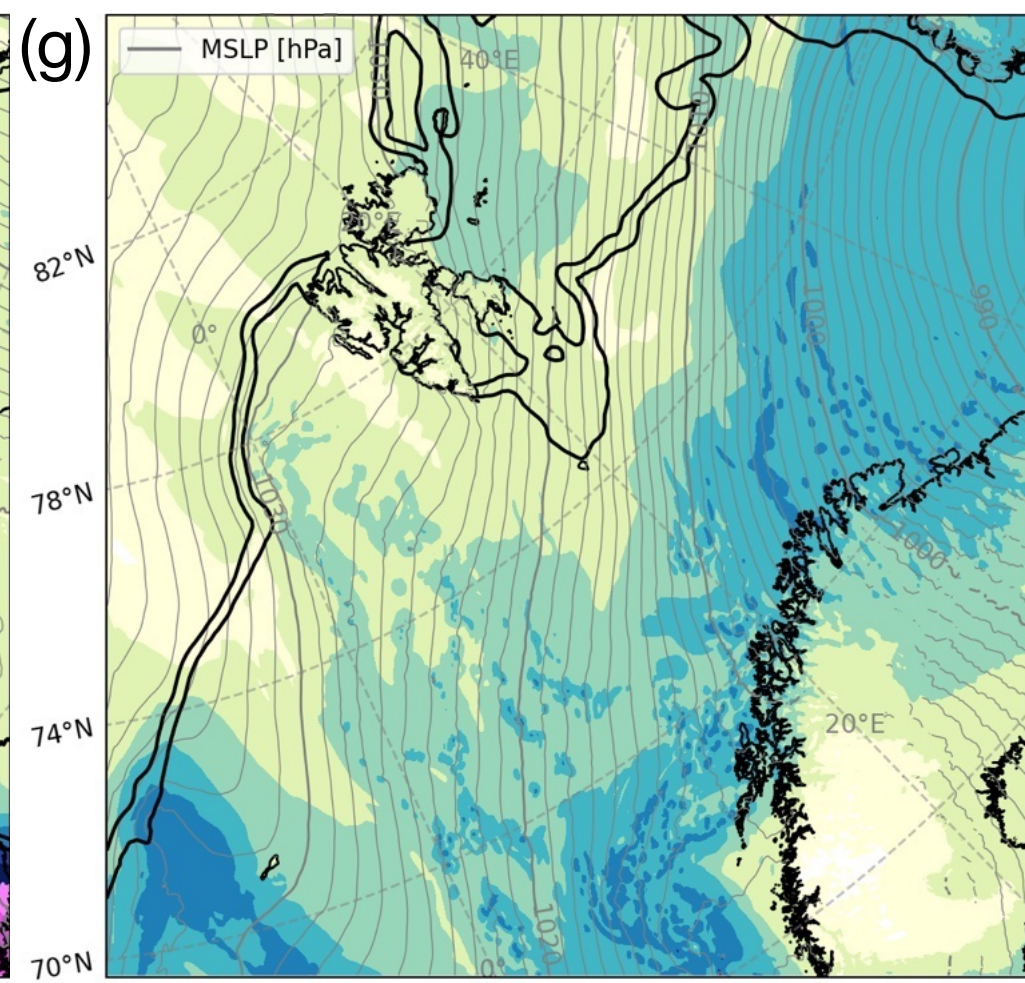
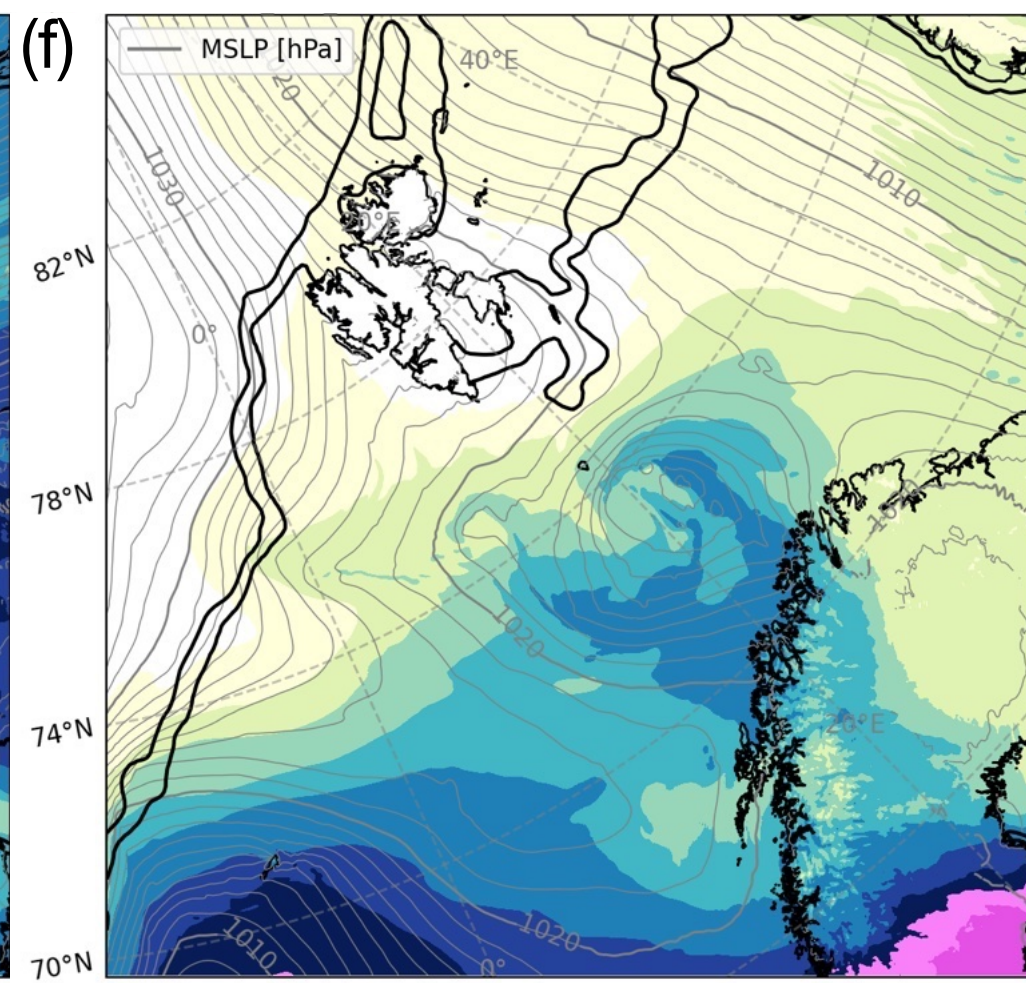
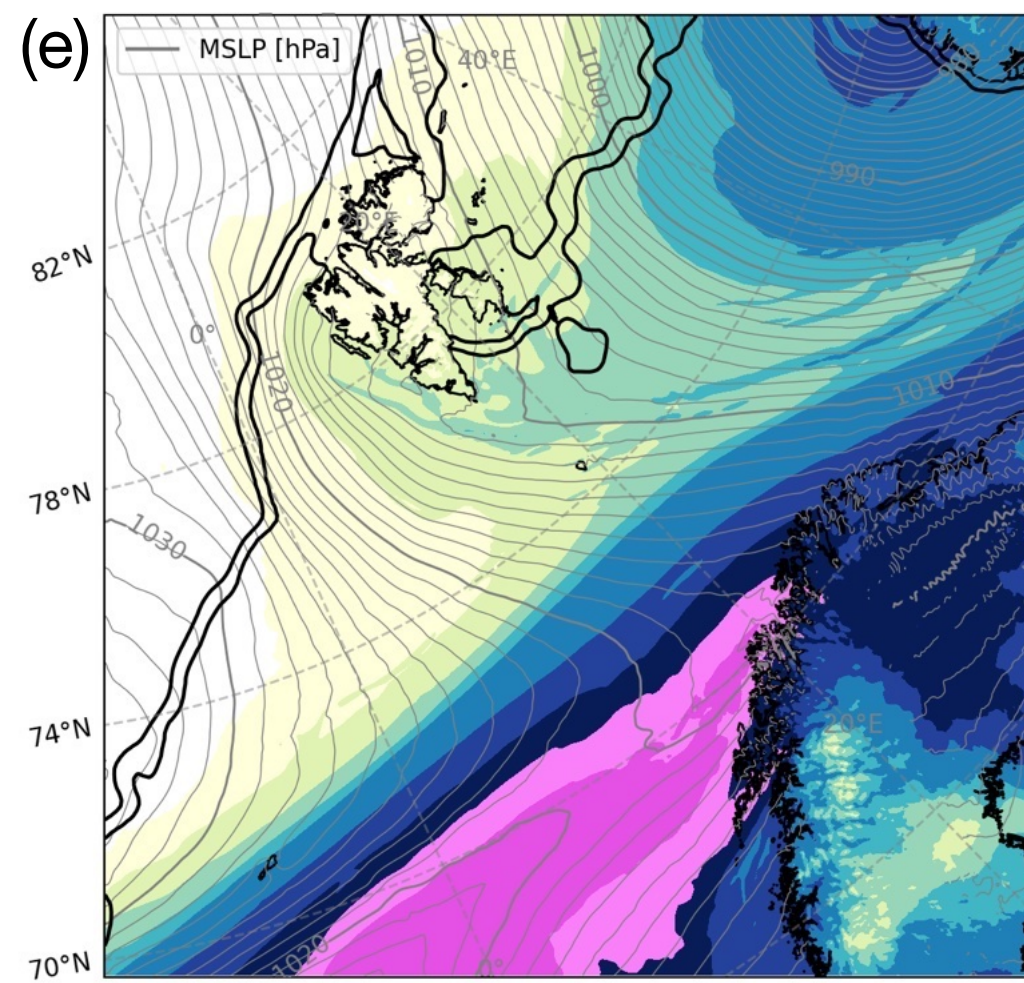
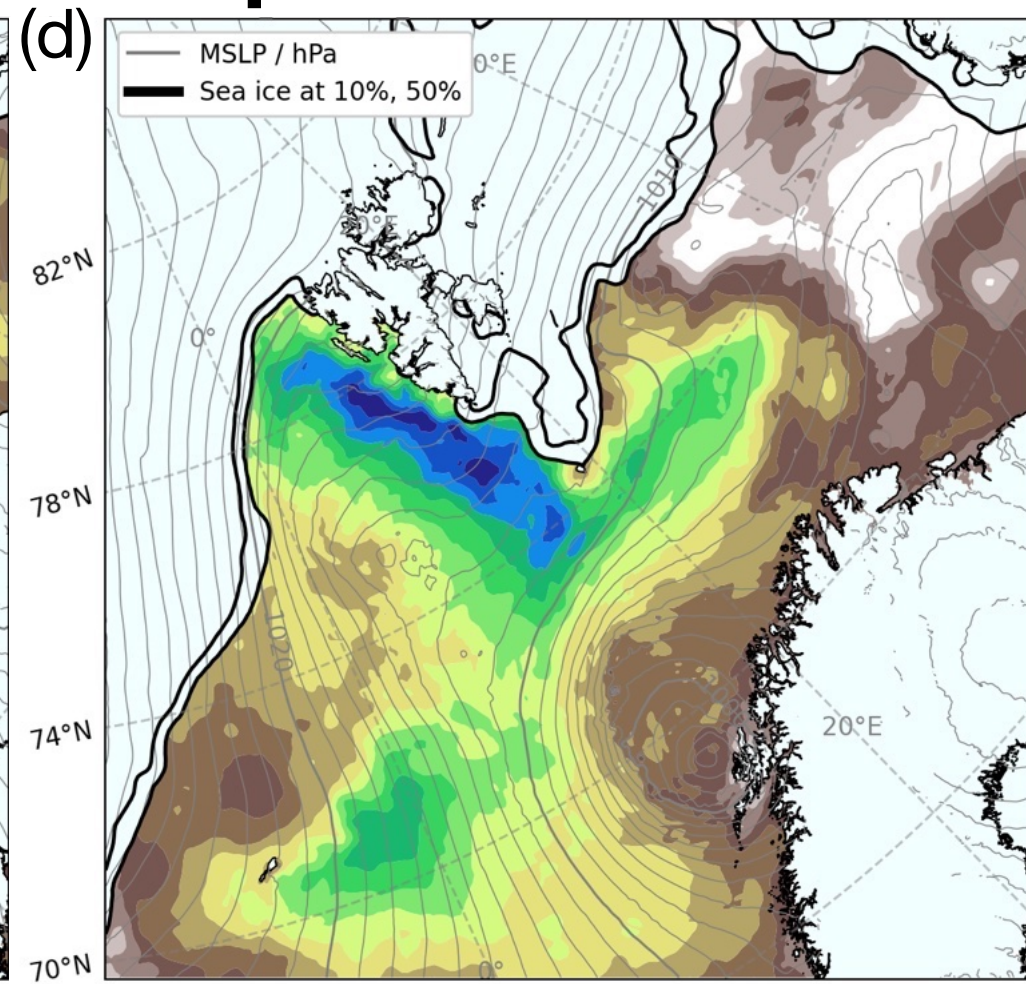
24 Mar 2022



29 Mar 2022



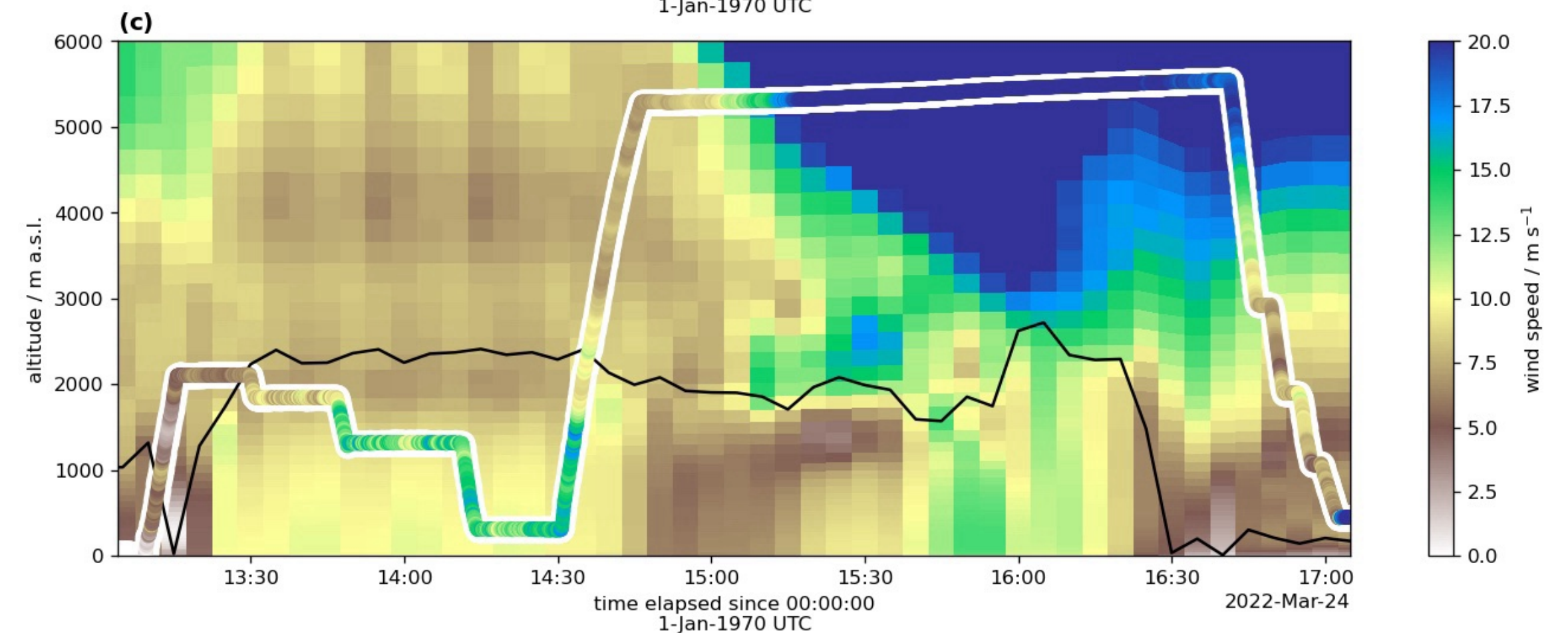
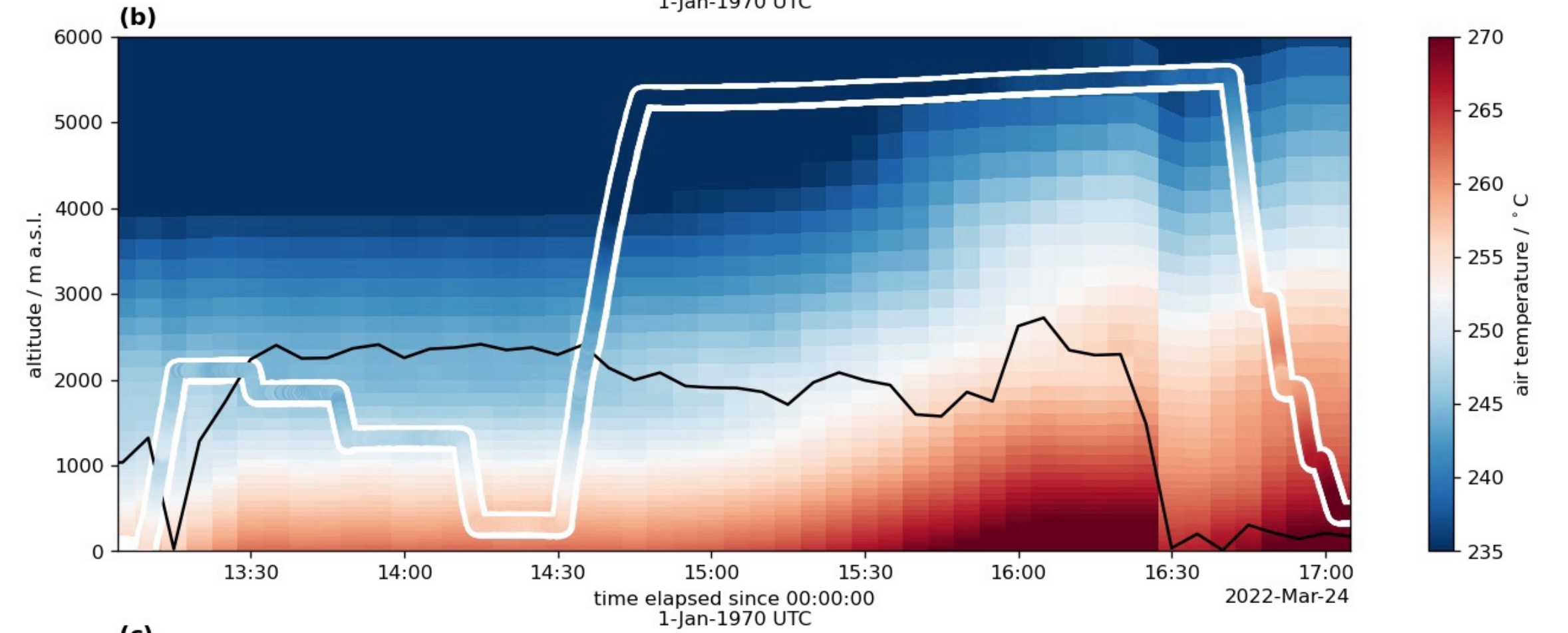
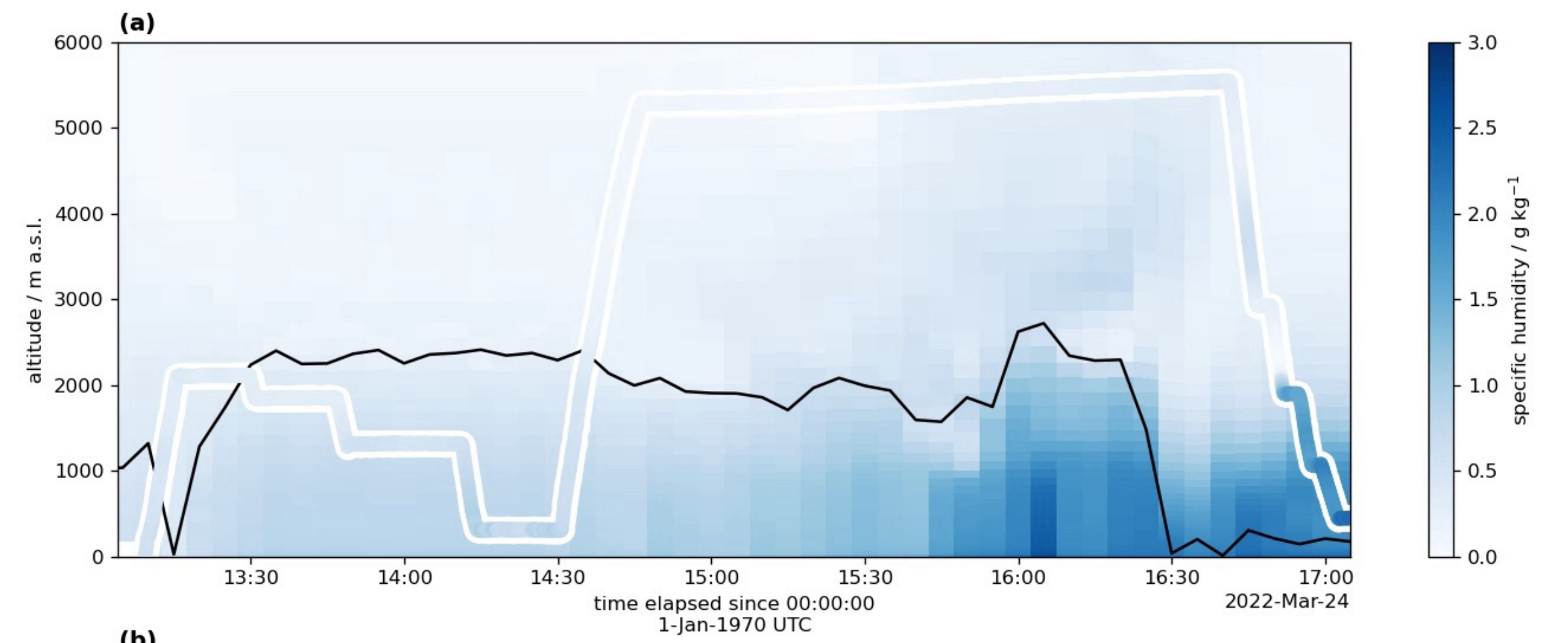
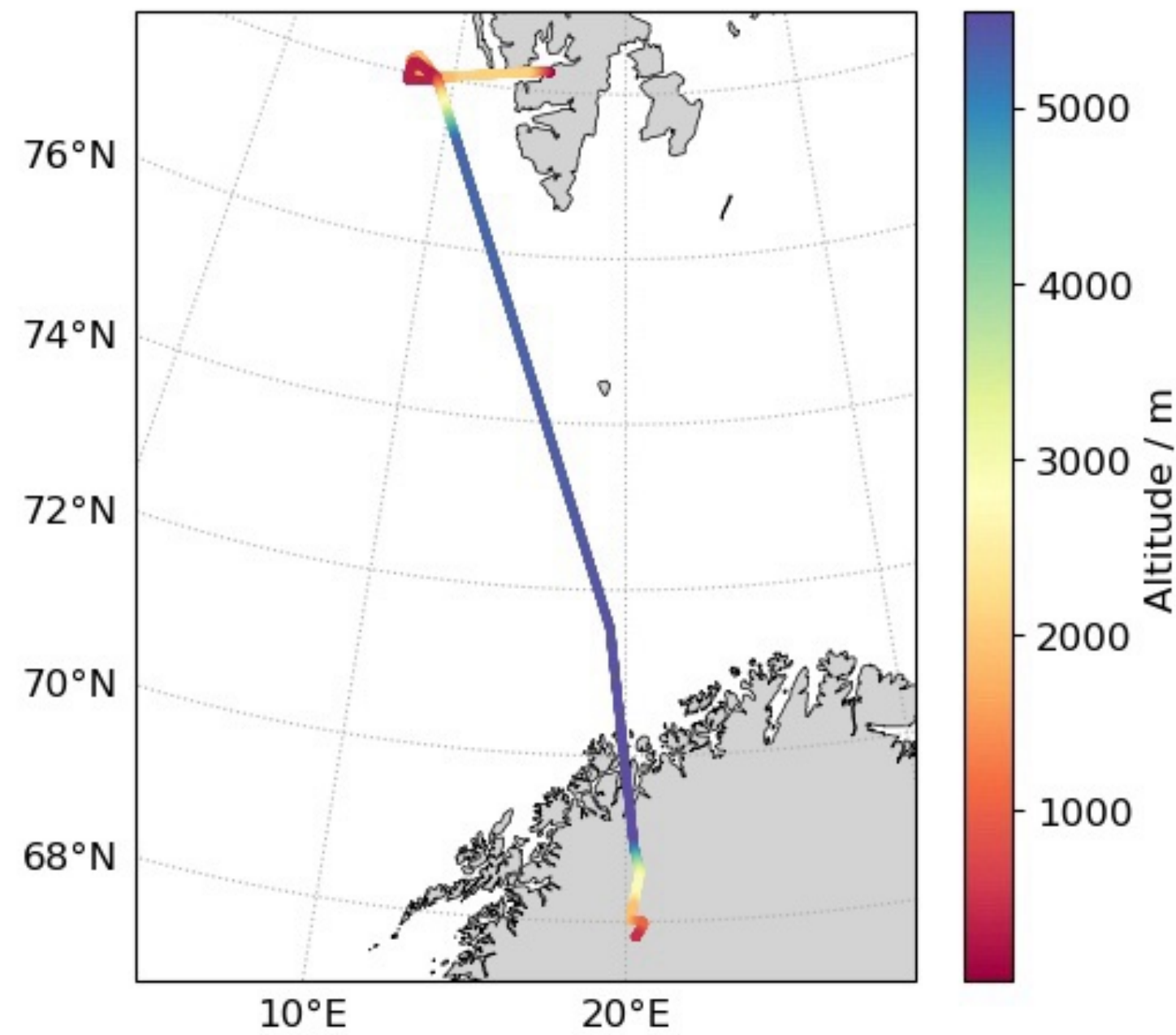
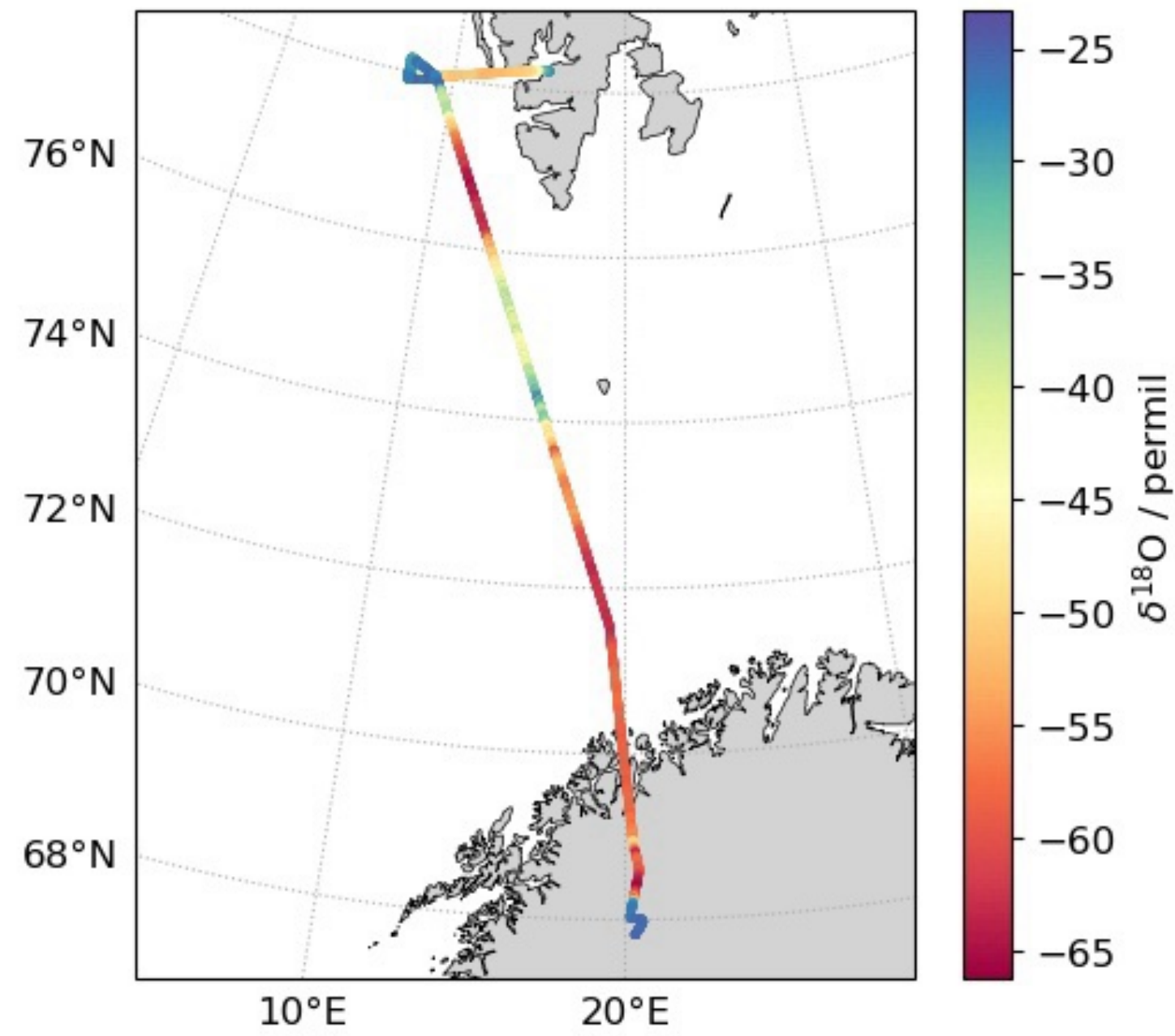
1 Apr 2022



IS22-04
24 Mar 2022

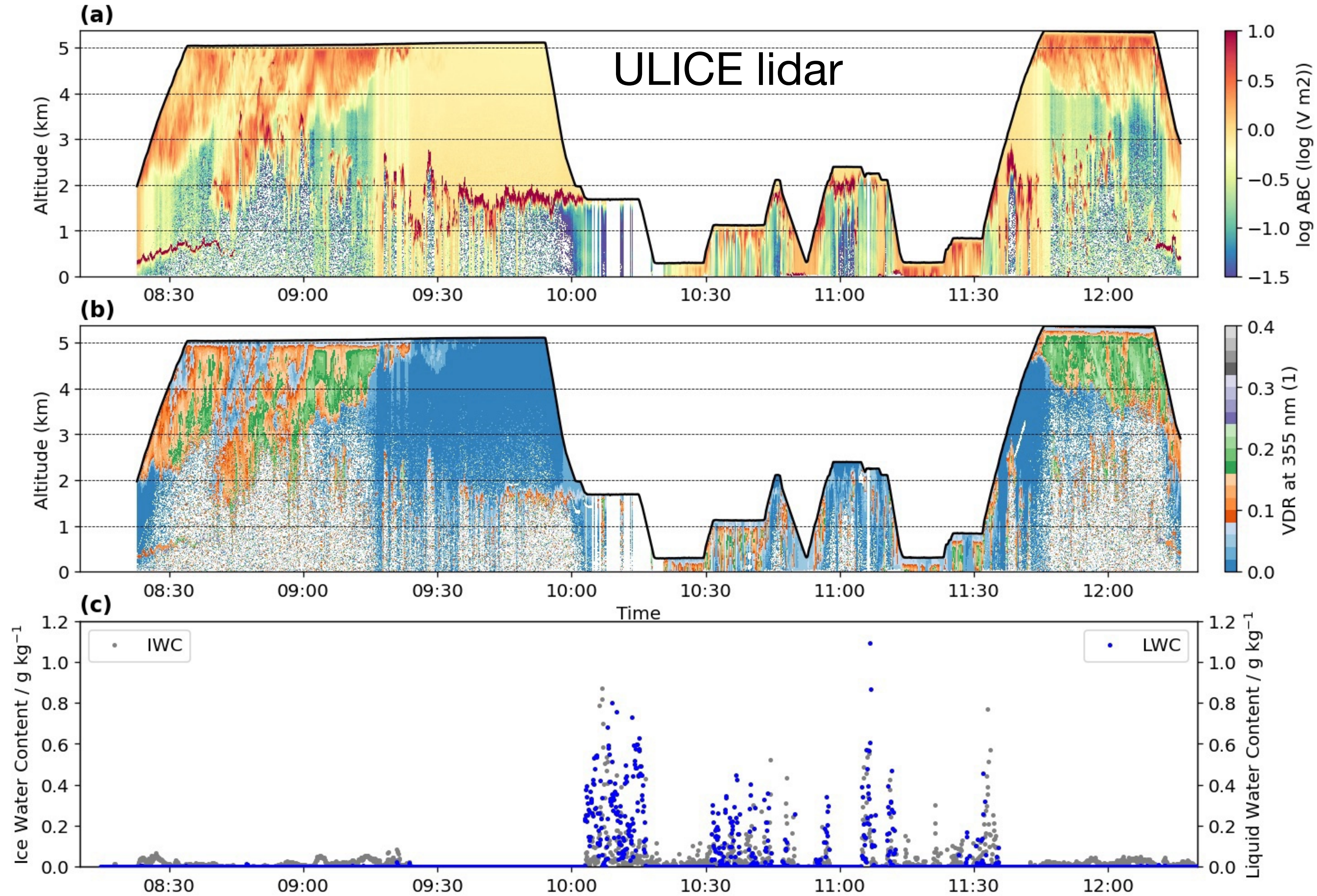
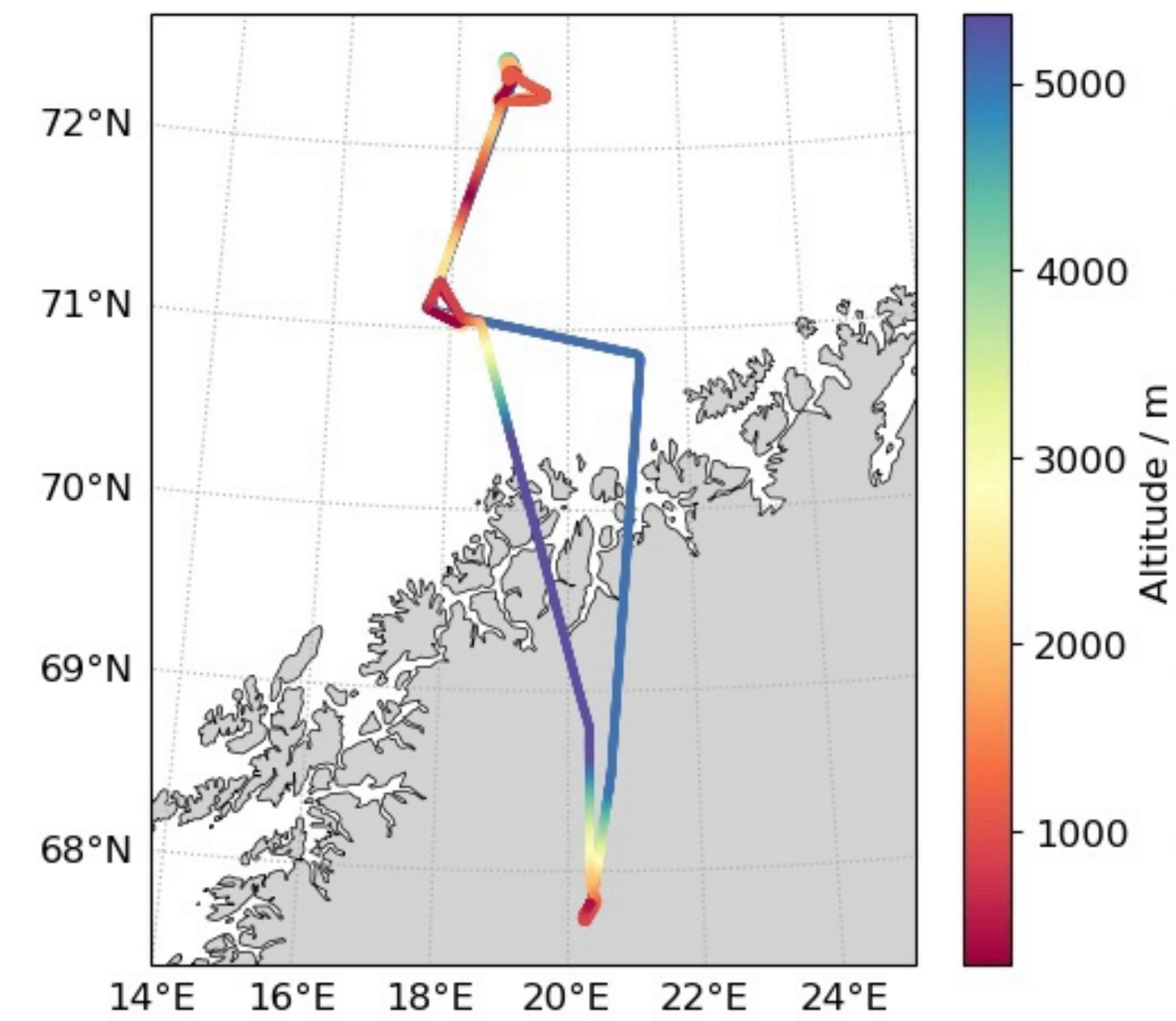
Survey flight

Low-level
High-level
-> CAESAR



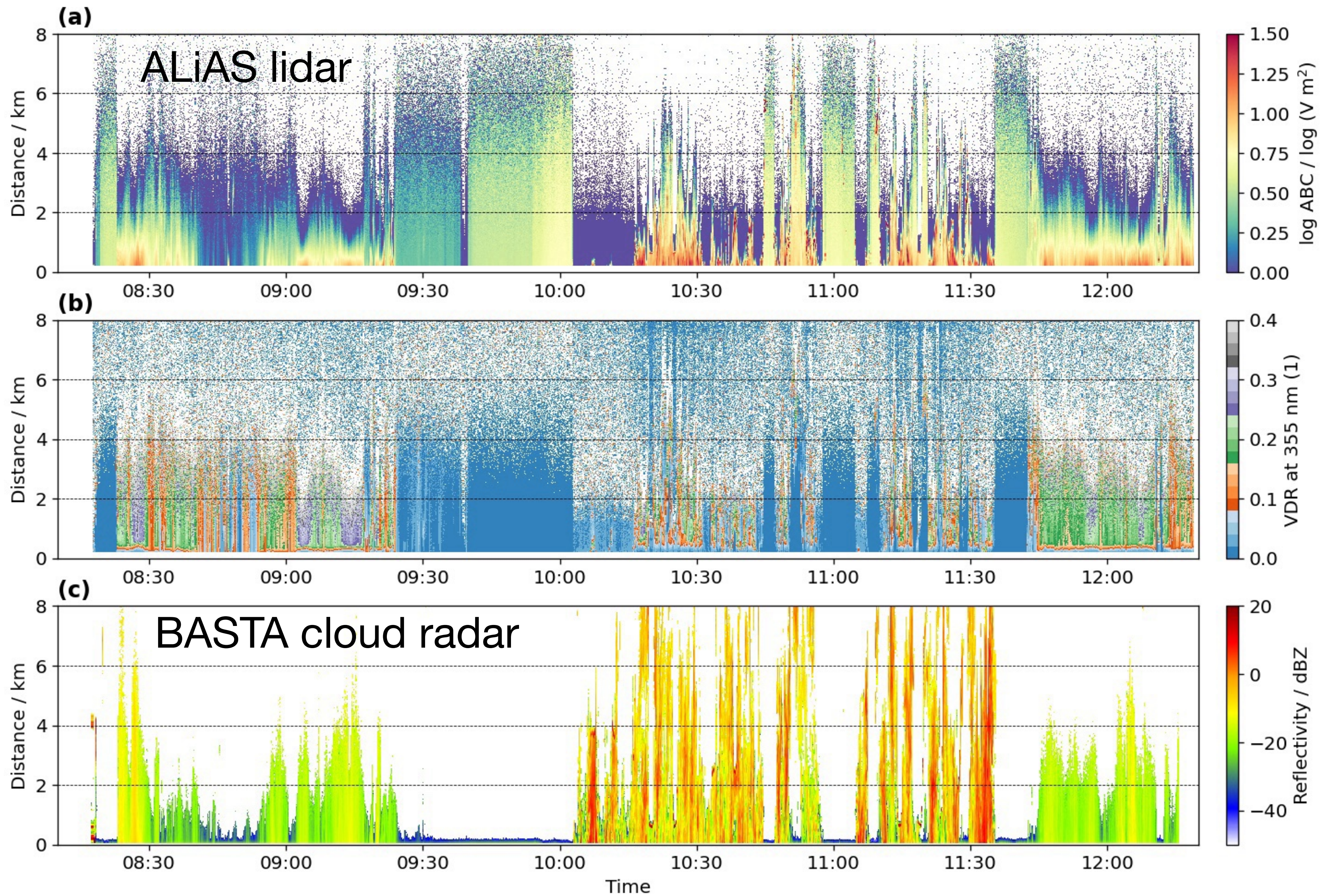
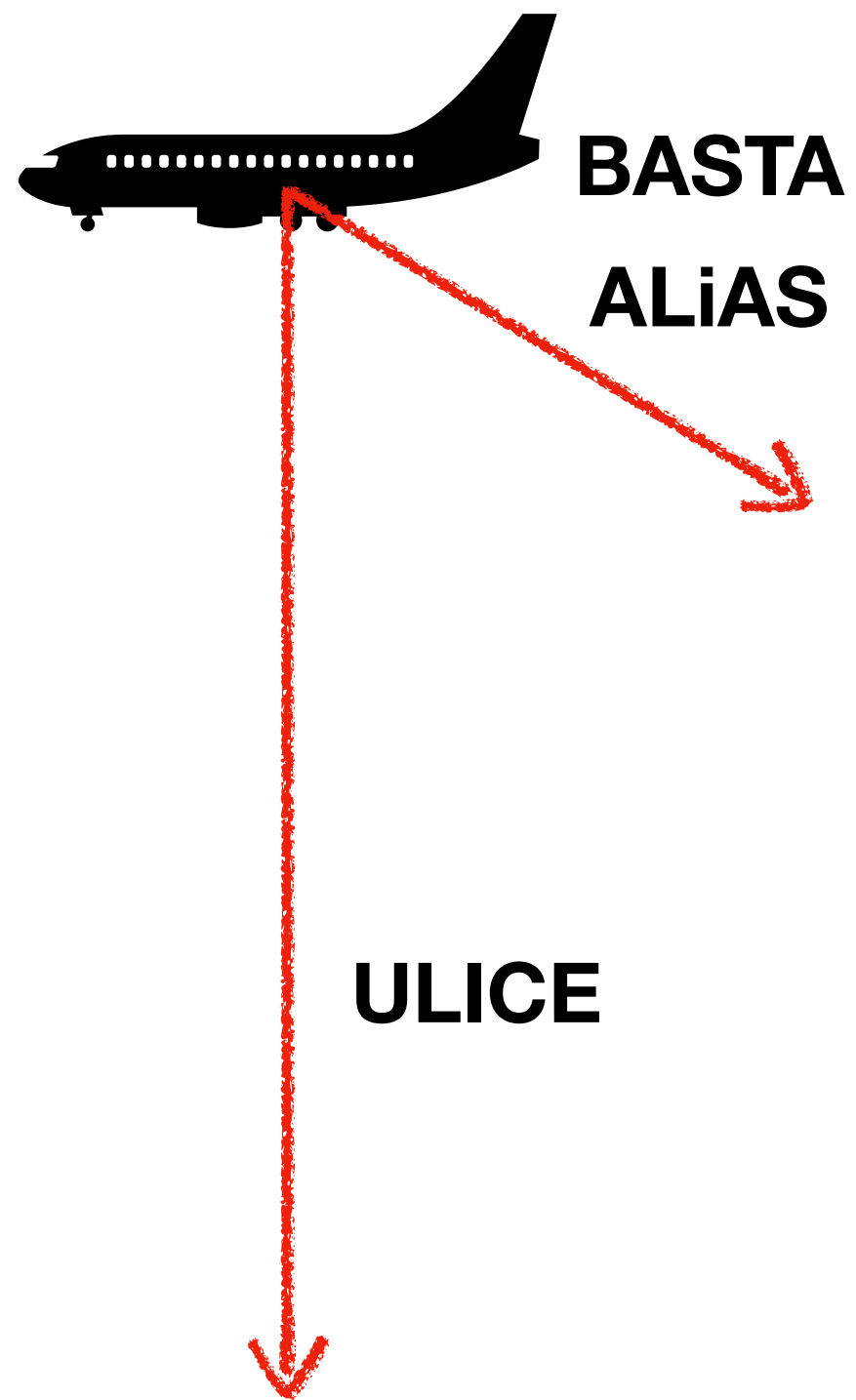
IS22-07 FAAM/HALO coordination

- coord. legs
- filter samples
- dropsondes

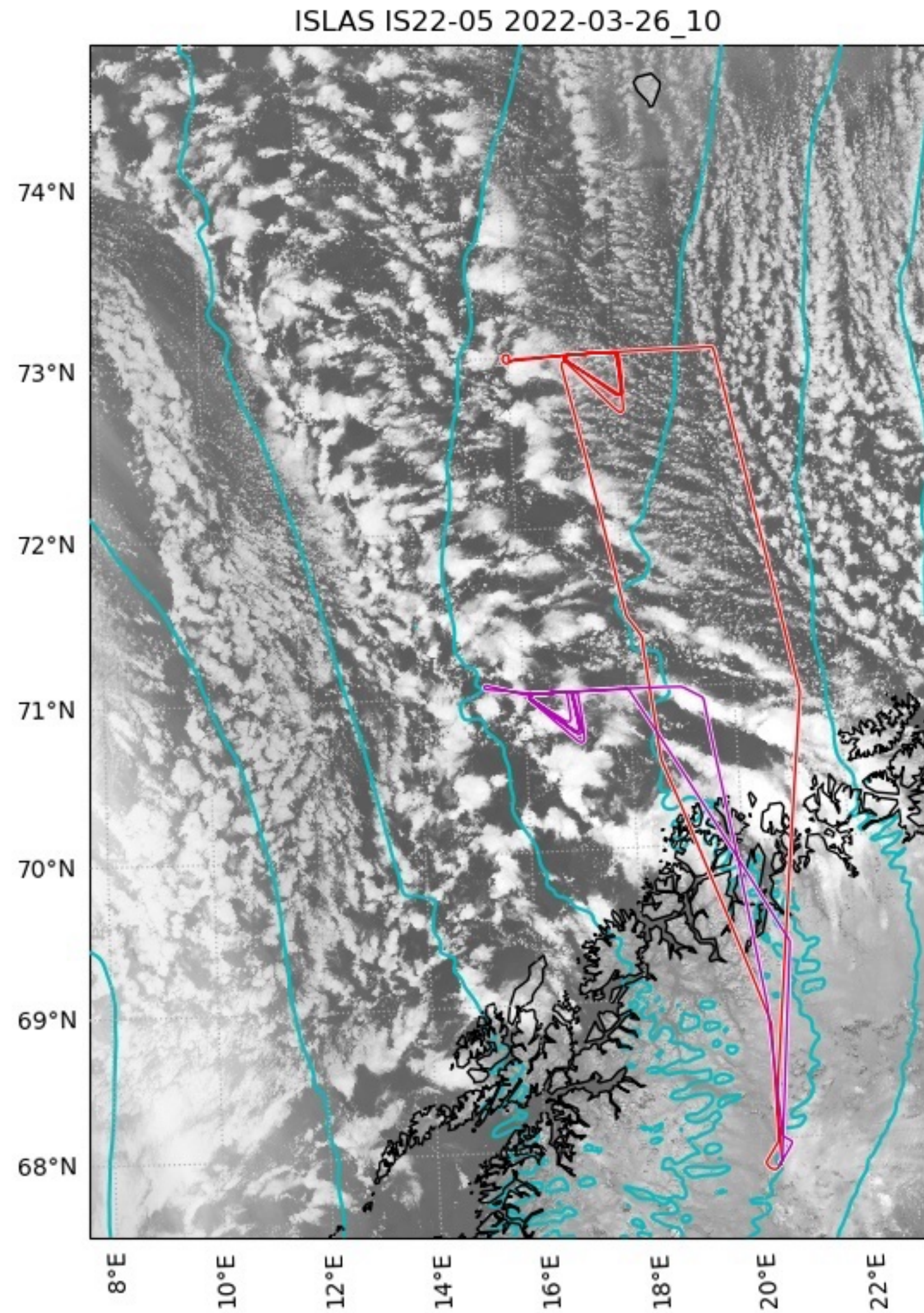


IS22-07 FAAM/HALO coordination

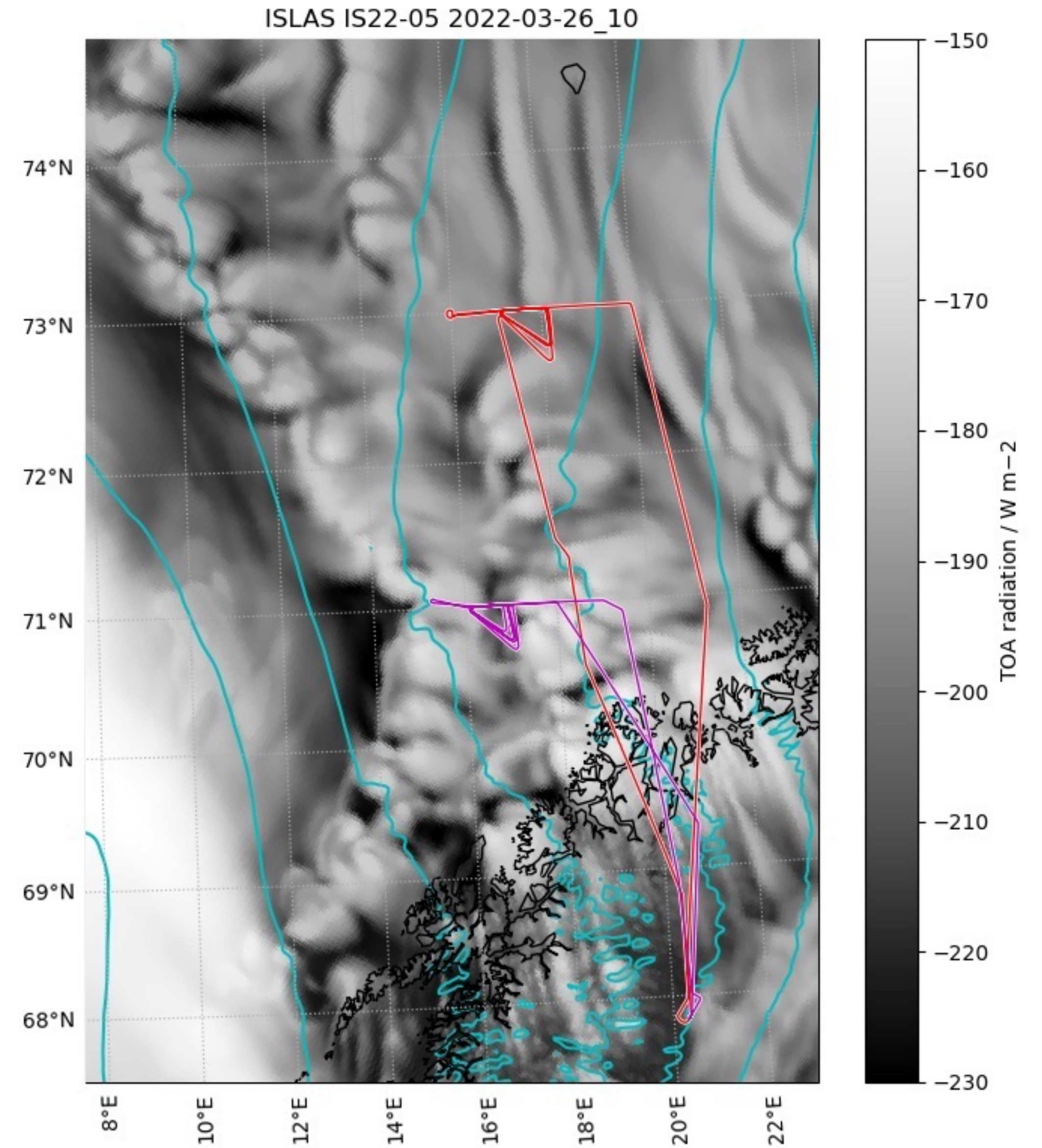
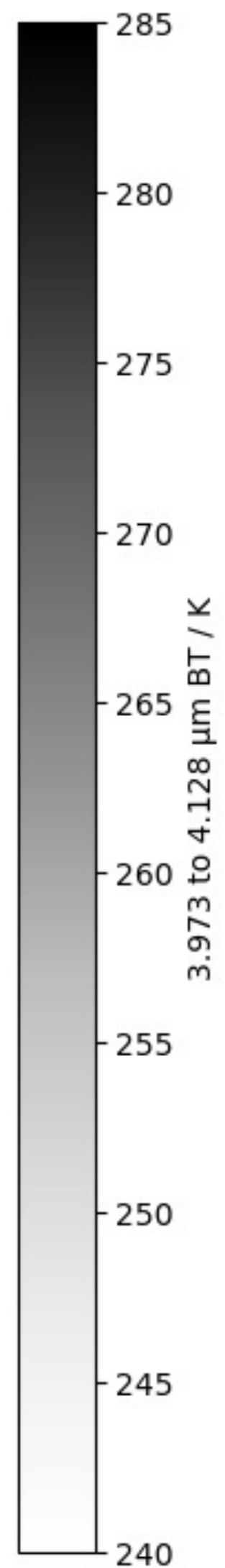
- coord. legs
- filter samples
- dropsondes



IS22-05 and IS22-06 on 26 Mar 2022: Lagrangian cloud in-situ flights

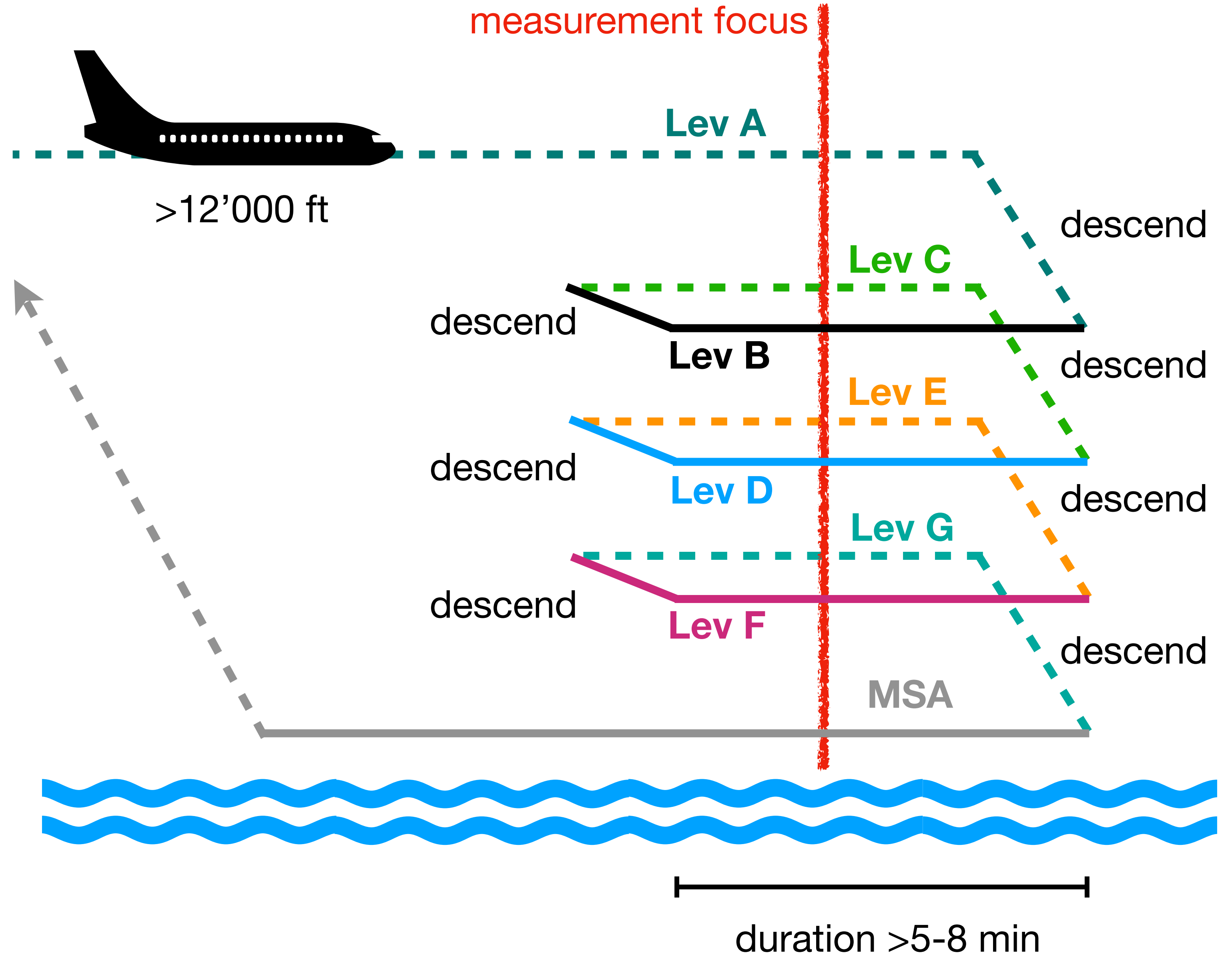
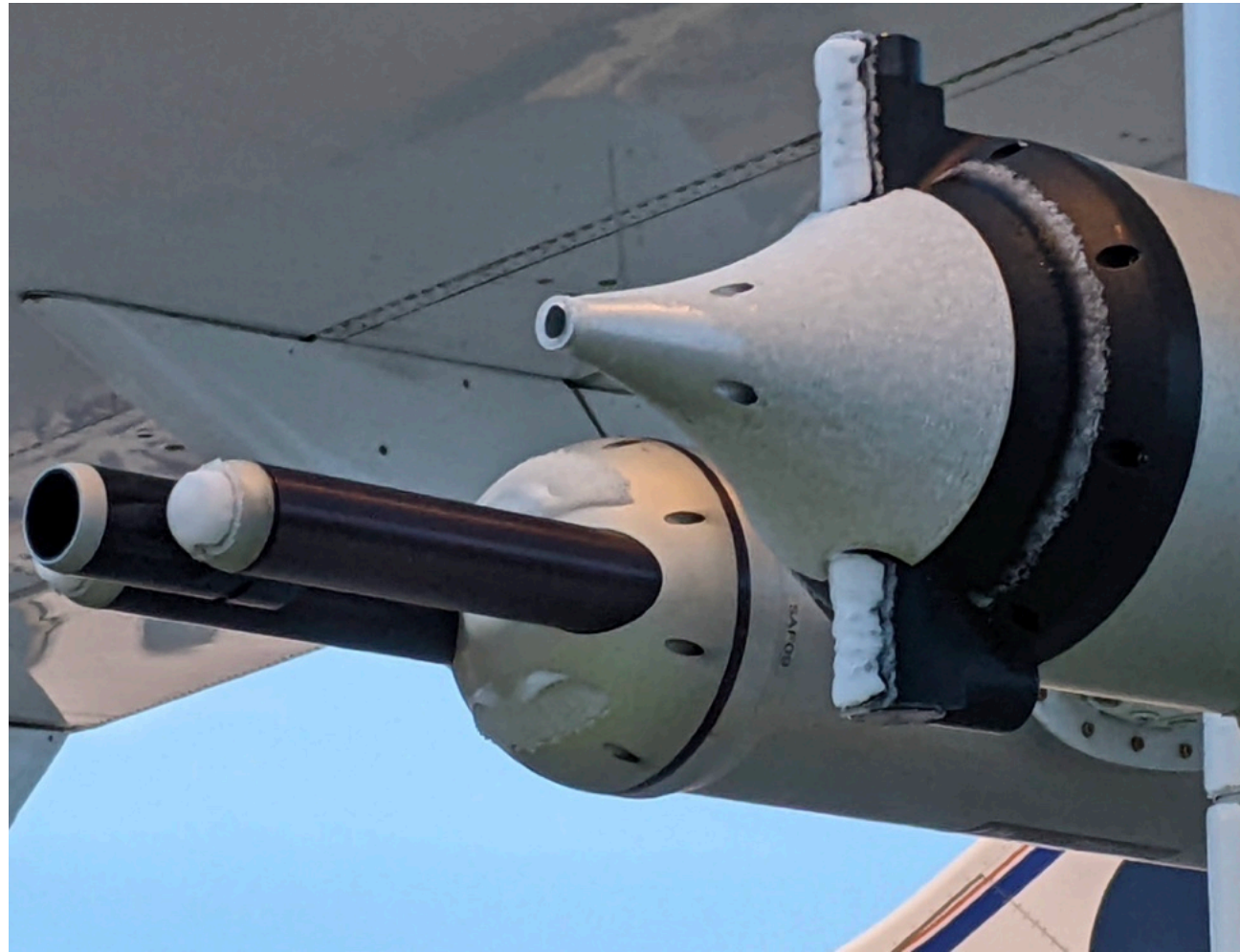


VIIRS image

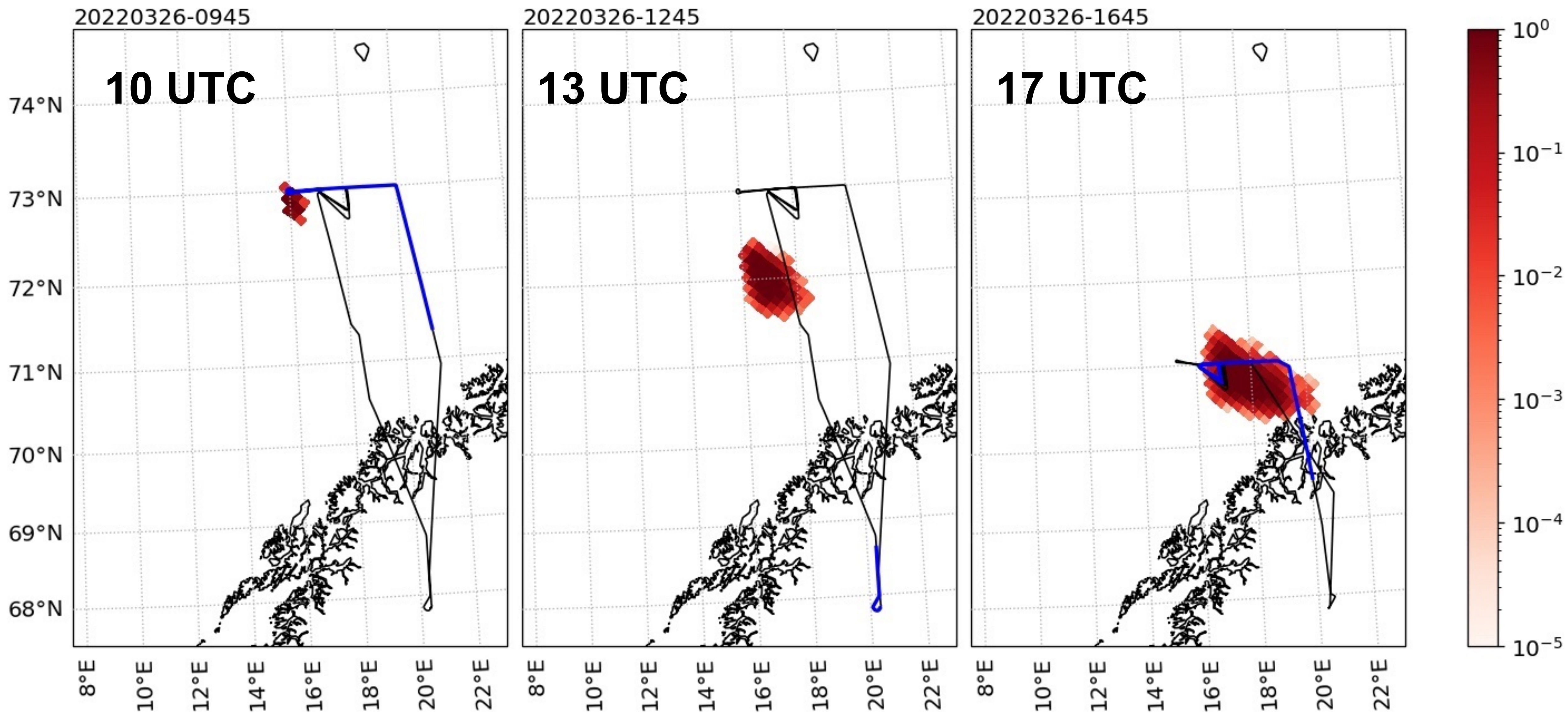


AROME Arctic forecast

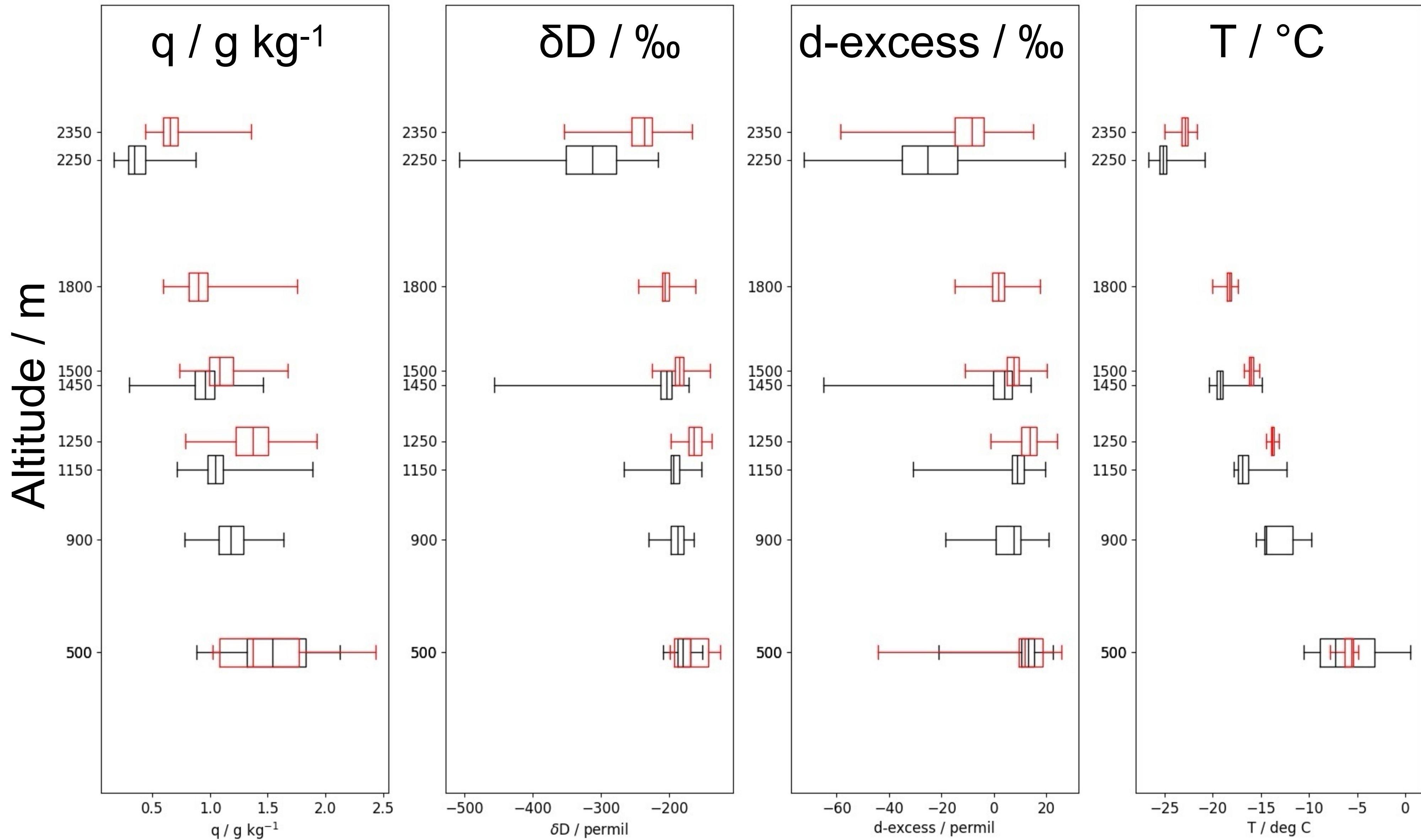
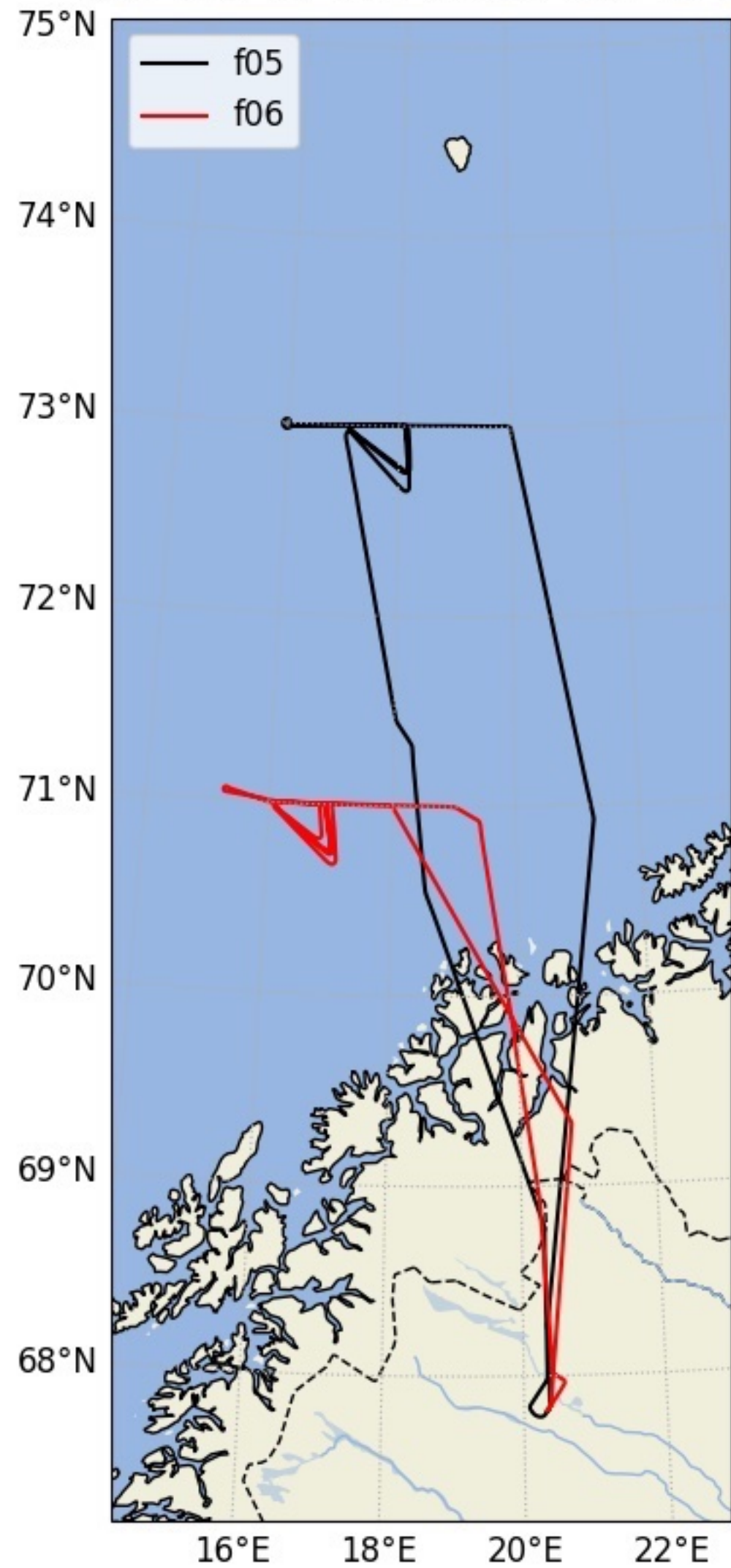
ATR42 airmass sampling pattern



FLEXPART plume calculation of airmass sampled during flight IS22-05

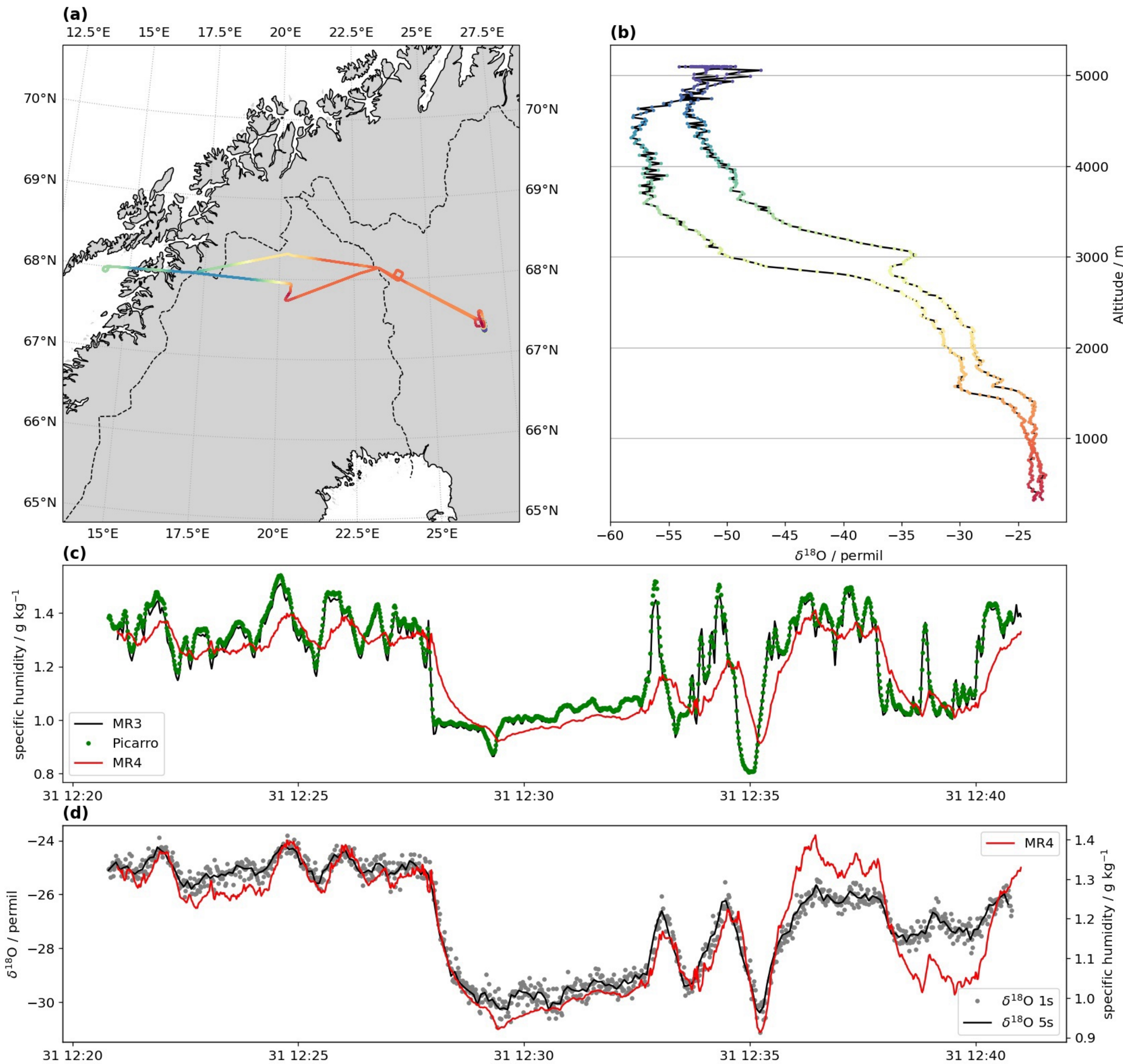


IS22-05/IS22-06: Profile evolution between flights ($\Delta t = 6$ h)



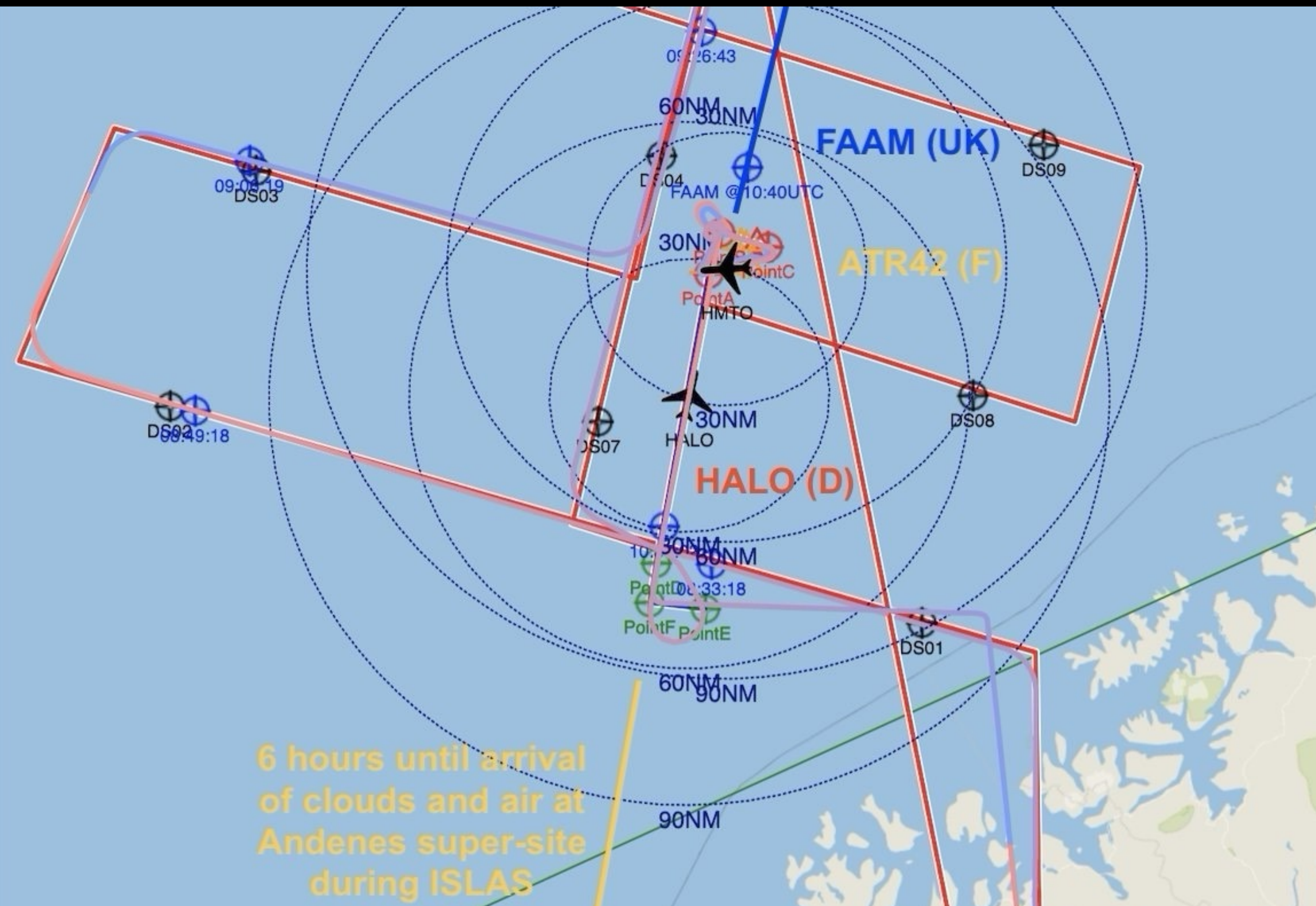
Flight IS22-09 (31 Mar 2022)

- Resampling for flight IS22-08
- Vertical profile at Sodankylä
- Fly-by Pallas observatory





In a brief moment of celestial harmony, three European research aircraft aligned within the flow towards #ISLAS2022 supersite Andenes, giving unique insight into the development of Arctic clouds and air on the way south.



ISLAS movie



ISLAS2022

ISLAS2022 aircraft campaign
 44 effective flight hours
 10 science flights
 4 coordinated flights



Andenes supersite