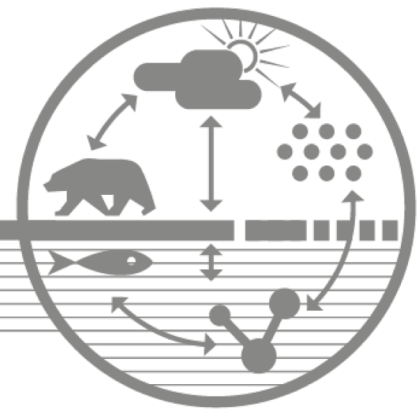


MOSAIC

International
Arctic Drift
Expedition

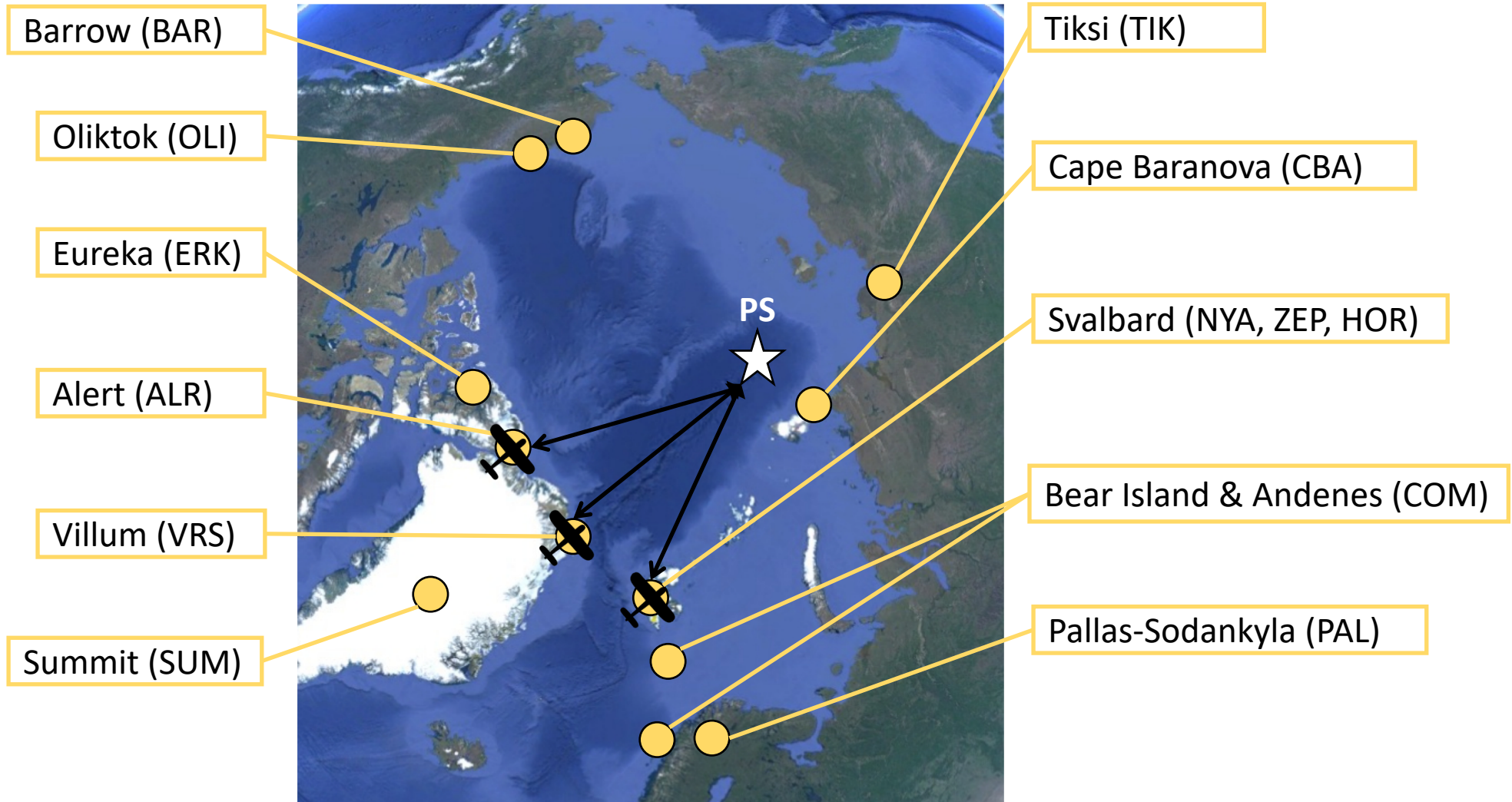


Atmospheric observations beyond Polarstern

[Link to ground and airborne observations](#)



Atmospheric observations during MOSAIC



13 stations with year long monitoring program + **2 AWI planes**

Aircraft

- Two Aircrafts: Polar 5 (P5) and Polar 6 (P6)
- Endurance: **up to 2300 km**
- Main bases: **LYR and VRS**
- 3-5 June 2019 Bremen: **Workshop on Airborne Activities in the Arctic: Science and Prospects**

2020	ATMOSPHERE (P5-P6)	SEA ICE (P5)
SPRING	16 Mar – 7 Apr	24 Apr – 15 May
SUMMER	28 Aug – 15 Sep	27 Jul – 13 Aug

“Basic” observation packs

- Aerosol in-situ
- Gas in-situ
- Sondes
- Remote&meteo
 - Aerosol
 - Clouds
 - Gas
 - Meteo

Aerosol pack

	POLARSTERN	AWI-A	ALR	COM	PAL	VRS	ZEP	NYA	OLI	BAR	CBA	TIK	HOR	ERK	SUM
AEROSOL BASIC															
Total number concentration	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
Total mass concentration	Not observed	Not observed	Not observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
Number size distribution	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
Scattering	Observed	Not observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
Absorption	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
Exinction (direct measurement)	Not observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	Observed	Observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
Cloud condensation nuclei	Observed	Observed	Not observed	Observed	Not observed	Observed	Observed	Not observed	Observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
ChemistryOnline	Observed	Observed	Not observed	Not observed	Not observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
ChemistryOffLine	Observed	Observed	Observed	Not observed	Observed	Observed	Observed	Observed	Not observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
EC/OC	Not observed	Not observed	Not observed	Not observed	Observed	Observed	Observed	Observed	Not observed	Not observed	Observed	To be confirmed	To be confirmed	No info	No info
OTHER															
refractory black carbon	Observed	Observed	Observed	Not observed	Observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
Hygroscopicity (HTDMA)	Observed	Not observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	Observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
In situ cloud activation (CVI or interstitial)	Observed	Observed	Not observed	Not observed	Observed	Observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
INP (online-offline)	Observed	Observed	Not observed	Not observed	Not observed	Observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
Wet scattering	Observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
Cloudinsitu	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?

	Observed		To be confirmed
	Not observed		No info

Gas pack

	POLARSTERN	AWI-A	ALR	COM	PAL	VRS	ZEP	NYA	OLI	BAR	CBA	TIK	HOR	ERK	SUM
GAS BASIC															
CO2	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
CO	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
CH4	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Not observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info
H2O	Observed	Observed	Observed	Observed	Not observed	Observed	Not observed	Not observed	Observed	Not observed	Observed	To be confirmed	To be confirmed	No info	No info
H2O isotopes	Observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
NO2	Observed	Not observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
NOx	Observed	Not observed	Not observed	Not observed	Observed	Not observed	Observed	Observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
NOy	Not observed	Not observed	Not observed	Not observed	Observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
SO2	Observed	Not observed	Observed	Not observed	Observed	Observed	Observed	Observed	Not observed	Not observed	Observed	To be confirmed	To be confirmed	No info	No info
SOx	Not observed	Not observed	Not observed	Not observed	Not observed	Not observed	Observed	Not observed	Not observed	Not observed	Not observed	To be confirmed	To be confirmed	No info	No info
O3	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	Observed	To be confirmed	To be confirmed	No info	No info

Observed	Not observed	To be confirmed	No info
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Sonde pack

Sonding	POLARSTERN	AWI-A	ALR	COM	PAL(SNK)	VRS	ZEP	NYA	OLI	BAR	CBA	TIK	HOR	ERK	SUM
#/week		drop/flight													
Temperature	28	1-2	14	28	7			7	14	28	7				
Humidity	28	1-2	14	28	7			7	14	28	7				
Wspeed	28	1-2	14	28	7			7	14	28	7				
Wdirection	28	1-2	14	28	7			7	14	28	7				
O3	1		1		1			1							

	Observed			To be confirmed
	Not observed			No ifo

Remote&meteo pack

Intrument	POLARSTERN	AWI-A	ALR	COM	PAL	VRS	ZEP	NYA	OLI	BAR	CBA	TIK	HOR	ERK	SUM
Sun photometer															
Lidar	DL-RL	AL		DL				DL-RL	DL-RL	DL					
Cloud radar															
Ceilometer															
Microwave radiometer															
Pyrgeometer															
Pyranometer															
Pyrheliometer															
Standard meteo (T,RH,Ws,Wd)															
Disdrometer (or other precipitation sensor)															

	Observed			To be confirmed
	Not observed			No ifo

DL=doppler lidar
RL=raman lidar
AL=aerosol lidar

Open points

Other field of interest

Data exchange

IASOA and T-MOSAIC Involvement

YOPP