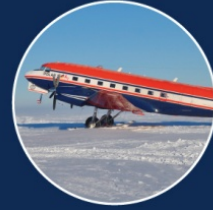




German Arctic expeditions 2010 - 2011

ASSW, March 27 – April 1, 2011, Seoul, Korea

Overview: Research facilities around the globe



Research Vessels

Polar aircraft



Samoylov Station



Arctic



Antarctica



Neumayer Station III



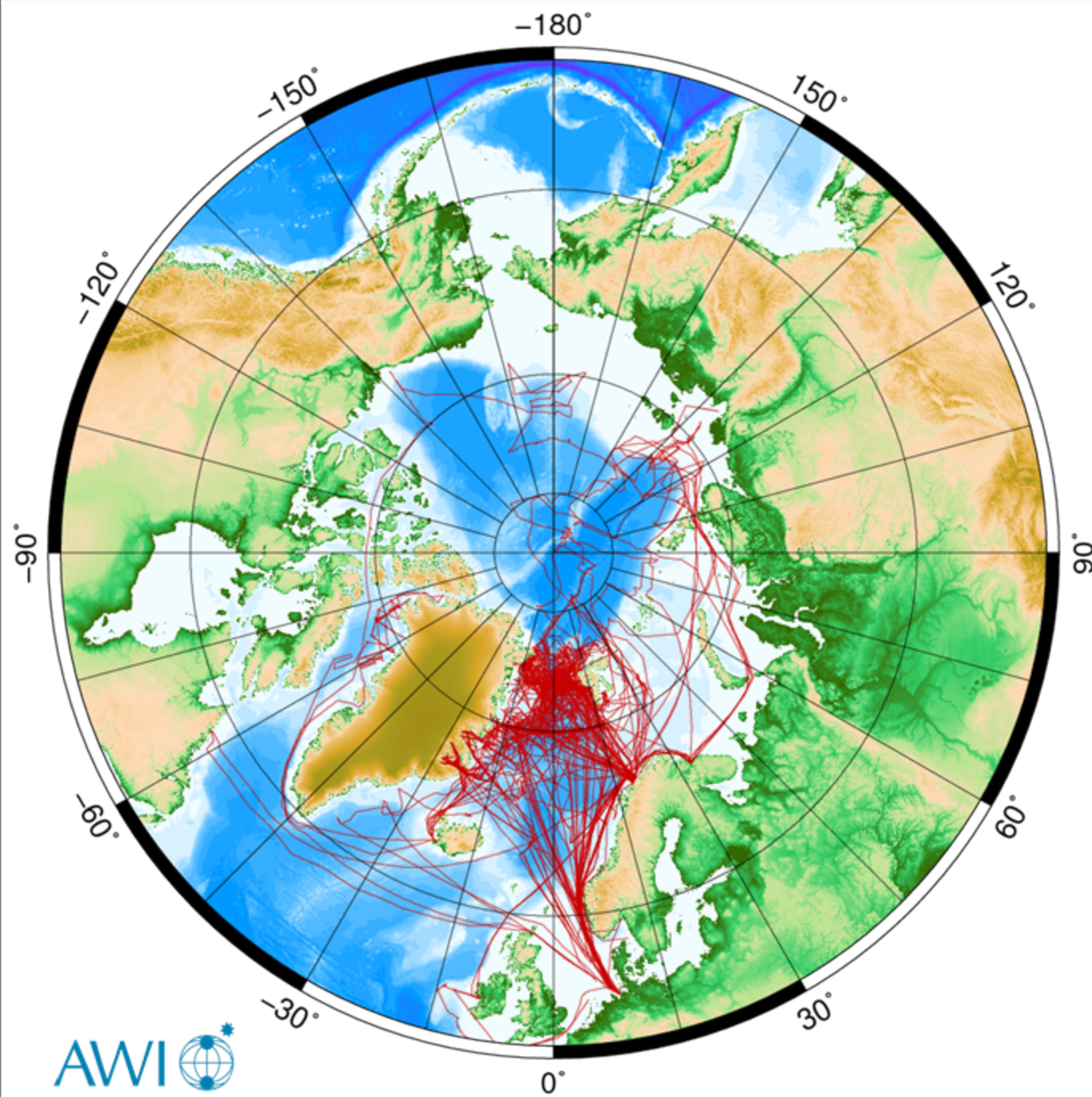
French German Arctic
Research Base (AWIPEV)



Dallmann Laboratory



Kohnen Station



Northern Hemisphere Cruise tracks

12/1982
to
02/2011

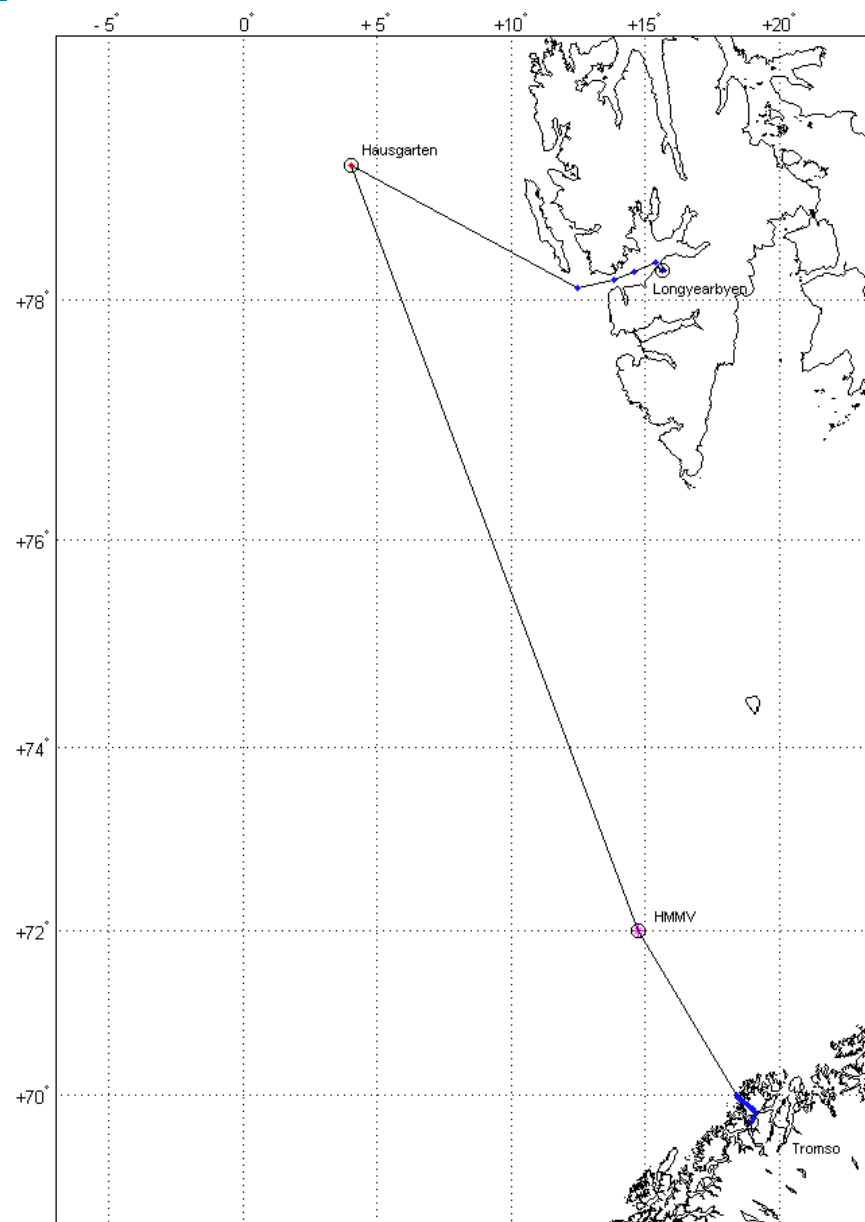
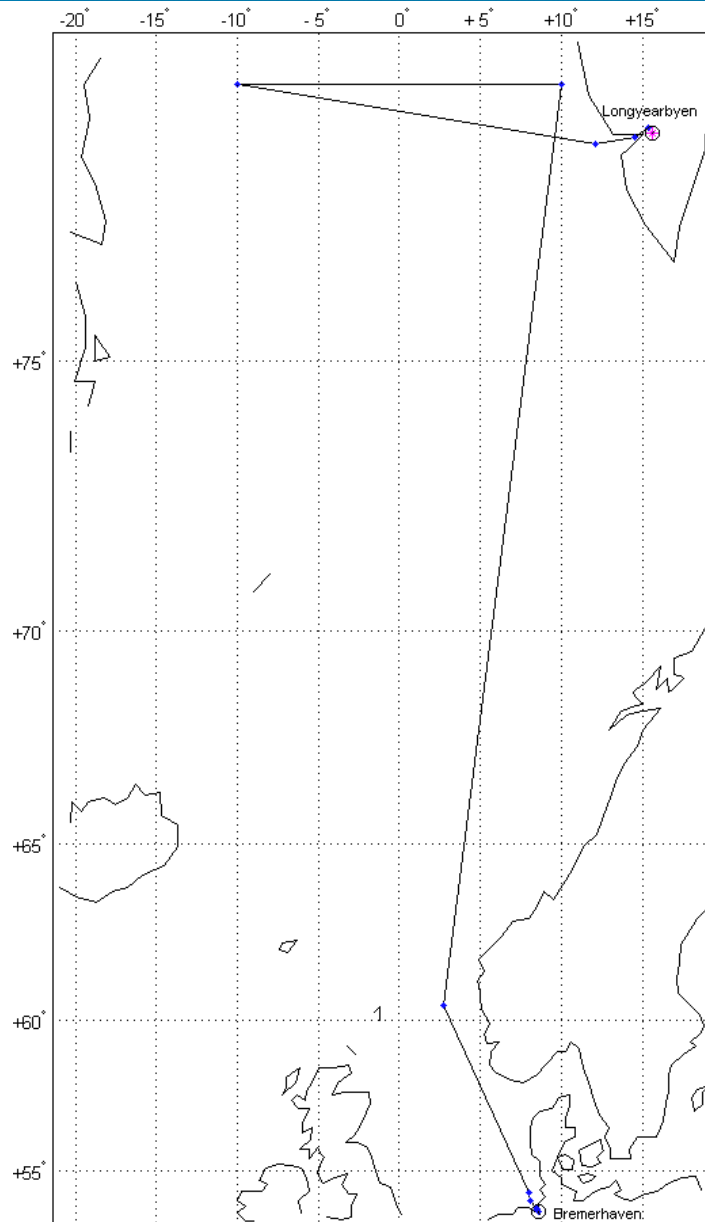
included
2010 tracks
ARK XXV 1-3
to
Greenland Sea
Fram Strait, Hausgarten
Baffin Bay

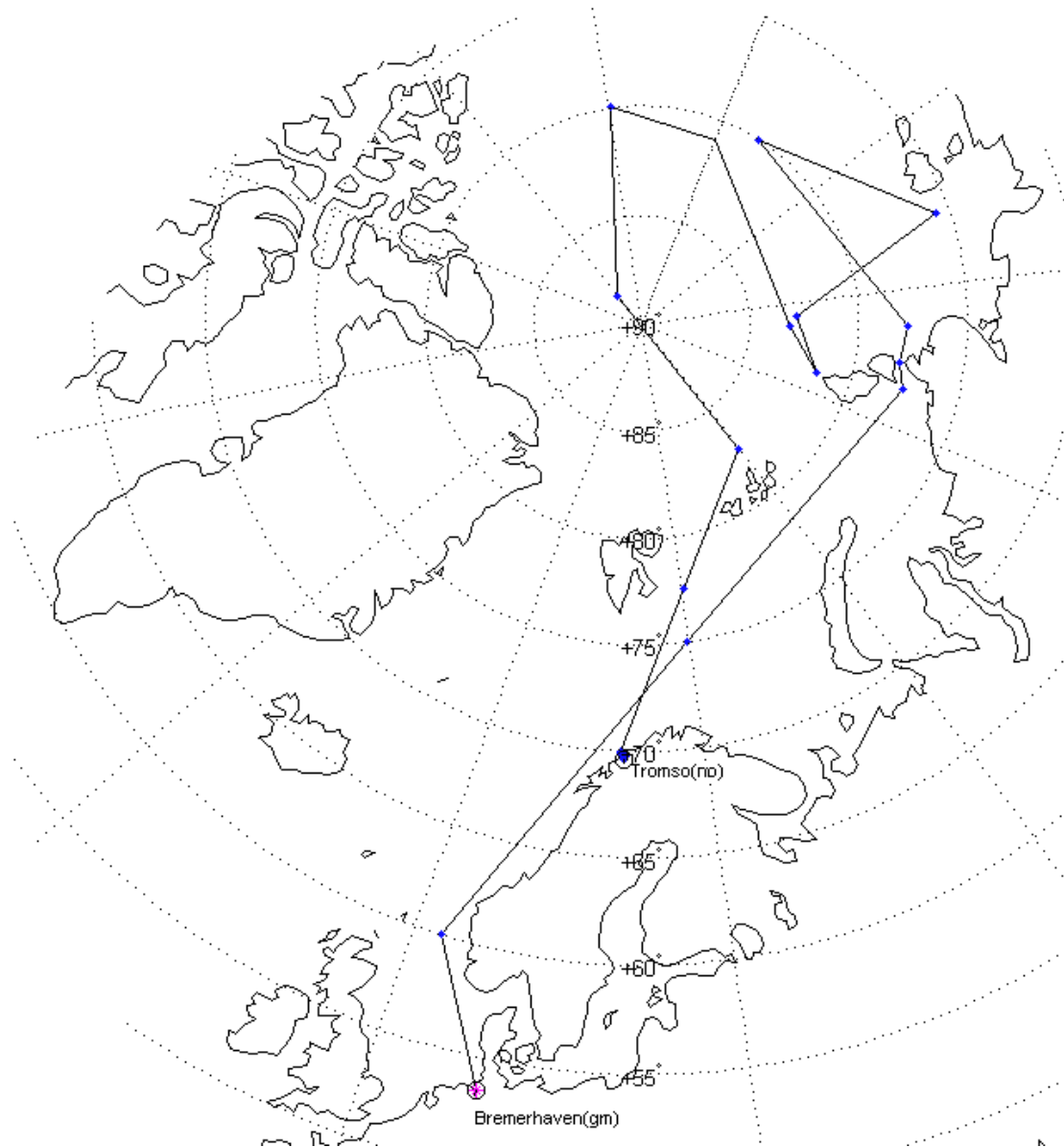
Polarstern Arctic Expeditions 2010 AWI

Leg	Start	End	Days	Pers.	Person days	Programme name	Mission
ARK-XXV/1	10.06.10	29.06.10	19	72	1368	LOTEVA-GS/ PEBCAO	Long term changes in biological and physical properties in the Greenland Sea
ARK-XXV/2	30.06.10	29.07.10	29	90	2610	ACOBAR/HAUSGARTEN/ PEBCAO	Long term changes in biological physical properties and the deep sea environment in Fram Strait
ARK-XXV/3	31.07.10	10.10.10	71	90	6390	Northern Baffin Bay	Geoscientific investigations to explain the structural and tectonic evolution of the crust in the northern Baffin Bay

Polarstern Arctic Expeditions 2011 AWI

Leg	Start	End	Days	Pers.	Person days	Programme name	Mission
ARK-XXVI/1	15.06.11	13.07.11	28	74	2072	ACOBAR/ PEBCAO	Long term changes in biological and physical properties in Fram Strait
ARK-XXVI/2	13.07.11	03.08.11	21	97	2037	HAUSGARTEN/ PEBCAO	Long term changes in the deep sea environment in Fram Strait
ARK-XXVI/3	05.08.11	07.10.11	63	97	6111	TranArc	Sea ice/ocean/biosphere interactions in the changing Arctic Ocean





Alaska (Barrow and Fairbanks)

Permafrost history

Chukotka

Permafrost history

Deep permafrost borehole

Samoylov Station

Gas flux, energy and water balance, recent cryogenesis

Since 1992



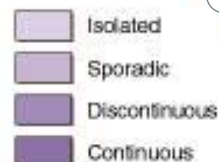
Tibetan Plateau

Lake sediments, hydrology, energy and water balance, palaeo permafrost

Ny Alesund (year round)

AWI land based Arctic activities

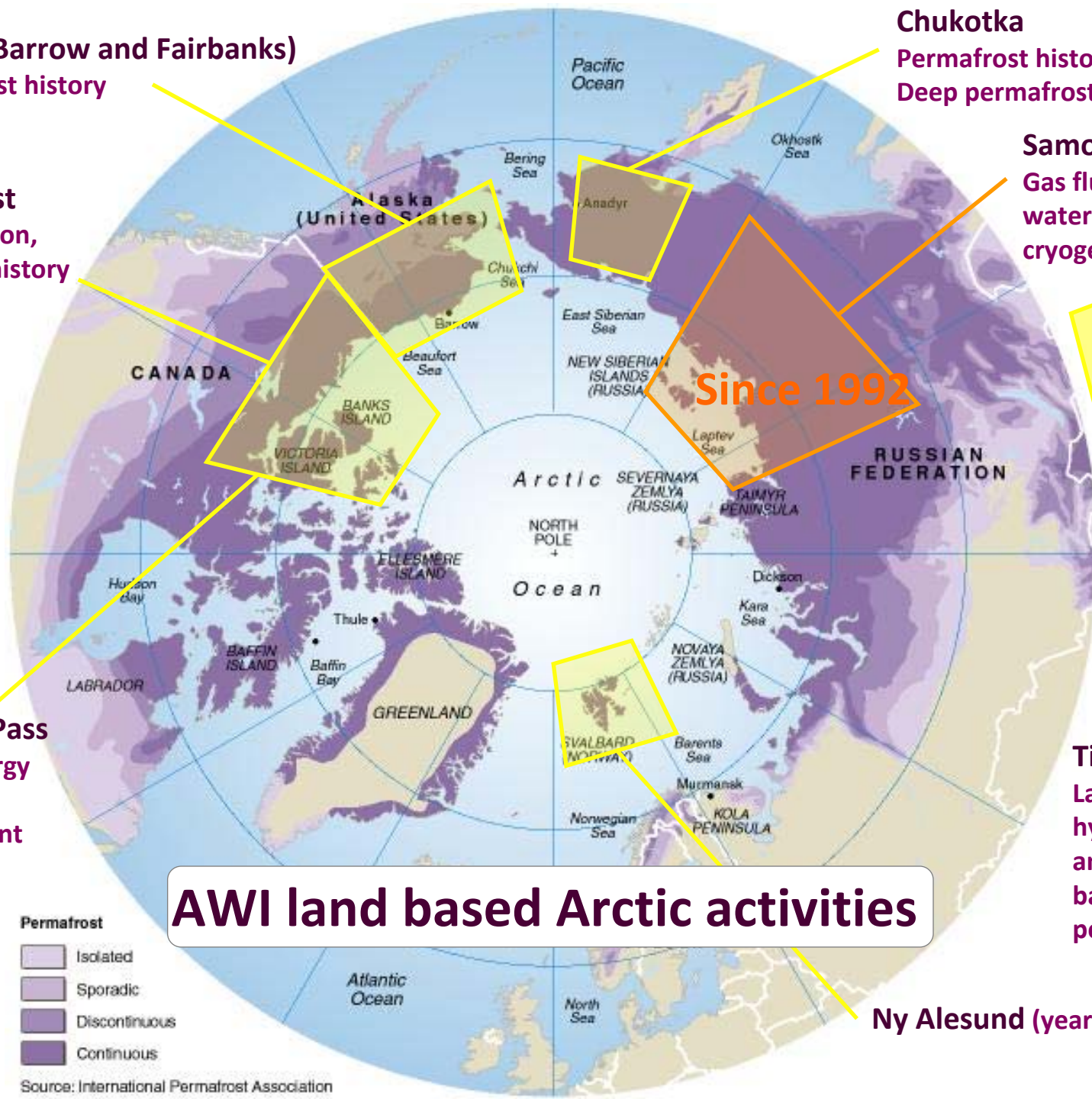
Permafrost



Source: International Permafrost Association

Yukon Coast
Coastal erosion,
Permafrost history

Polar Bear Pass
Gas flux, energy
and water
balance, recent
cryogenesis

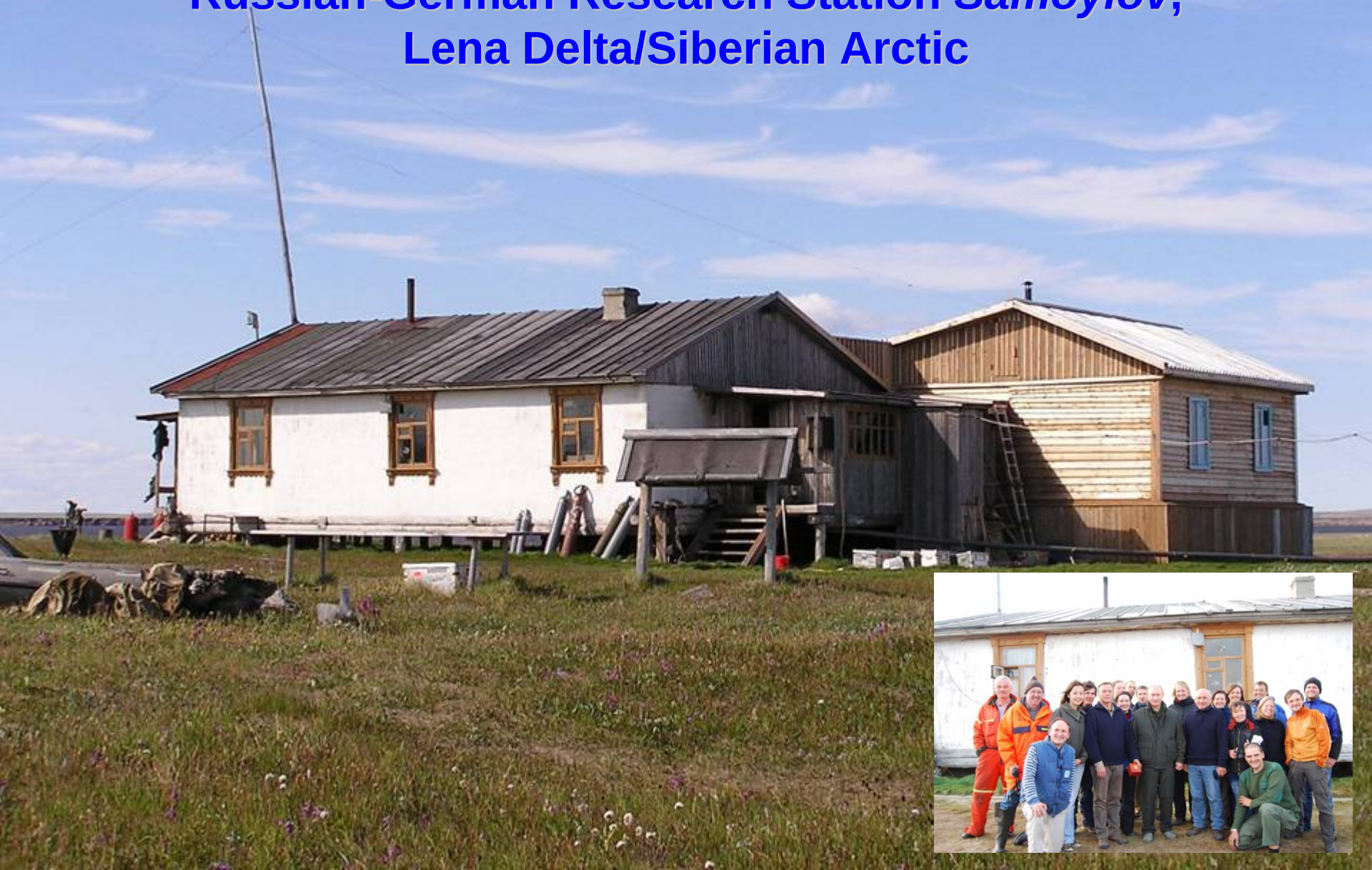


Research platform Ny Alesund

International Cooperation



Russian-German Research Station *Samoylov*, Lena Delta/Siberian Arctic

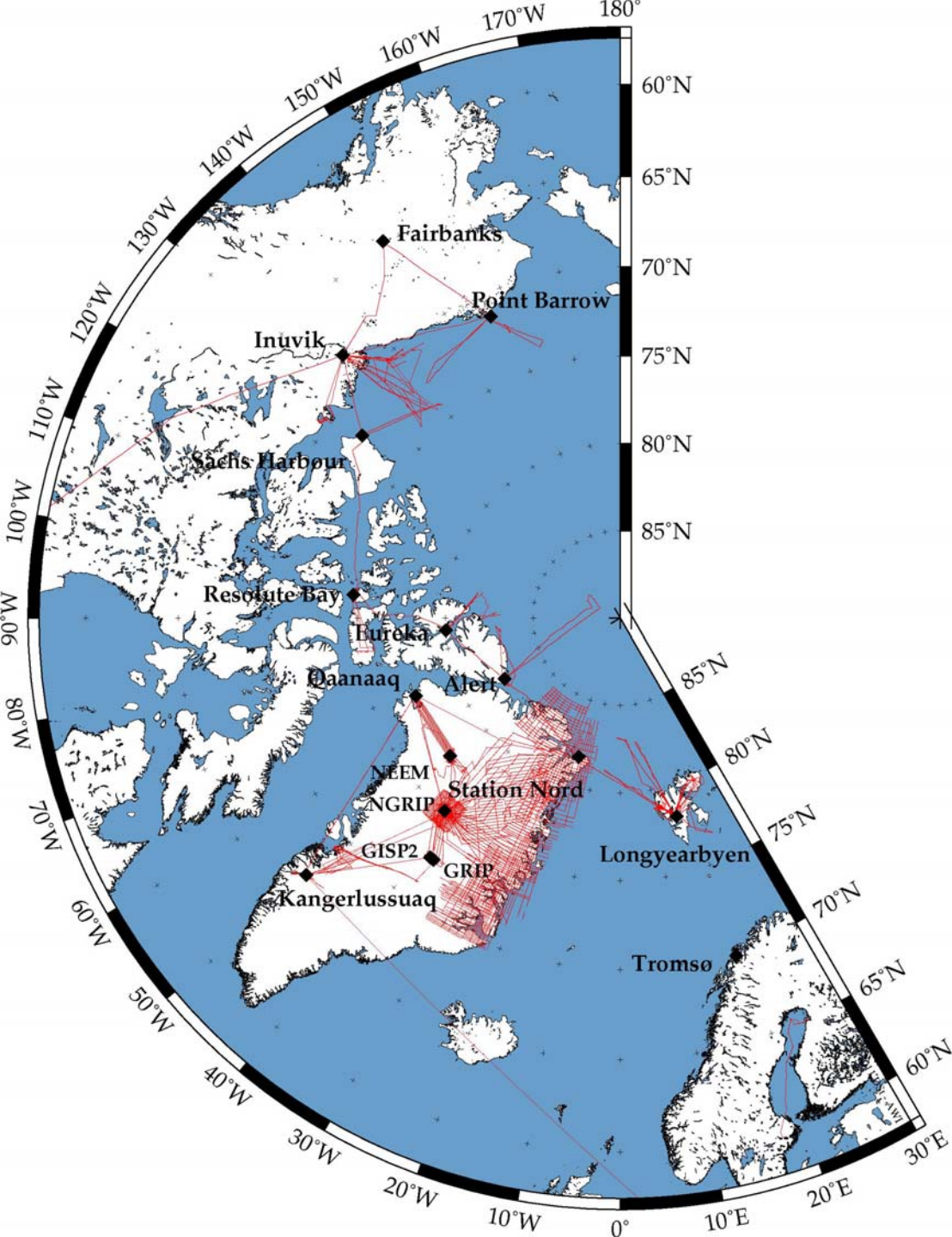


AWI land based Arctic activities



Leg	Start	End	Pers. Days	Nations	Mission
LENA 2010	Jul 12	Nov 22	4704	Russia Germany	Long term studies of energy and water balance, carbon turn over, greenhous gas emission in permafrost Transport of water and sediment Lake sediment sampling and limnology
Yukon Coast 2010	Jul 21	Aug 17	243	Canada Germany	Coastal erosion and permafrost geomorphology Permafrost cores → reconstruct paleogeography Sediment and nutrient fluxes Bacterial activity and methan fluxes
LENA 2011	April 15	Sep 01	6348	Russia Germany	Long term studies of energy and water balance, carbon turn over, greenhous gas emission in permafrost Coastal dynamic and subsea permafrost stud. Hydrological, sedimentological and biological studies in shoreface transects
Yukon Coast 2011	Jul 01	Aug 07	456	Canada Germany	Coastal erosion and permafrost geomorphology Permafrost cores → reconstruct paleogeography Sediment and nutrient fluxes Bacterial activity and methan fluxes

Arctic flight tracks



Leg	Start	End	Pers. Days	Institutions	Programme name	Mission
SORPIC	April 30	May 19	220	Uni Leipzig LAMP Clermont AWI	Solar Radiation and Phase Discrimination in Arctic C louds	Ice and liquid water content in planetary boundary layer Interaction between aerosols and clouds Sea ice thickness
IKAPOS	June 8	June 28	140	Uni Trier	Investigation of Katabatic winds and Polynyas during S ummer	katabatic wind over glaciers in northwest Greenland and the air sea interaction processes in the stable atmospheric boundary layer
NEEM	Jul 19	Aug 12	155	ESA AWI	North Eemian Ice	Ice internal structure and thickness at ice core drill site CryoSat Cal/Val
TIFAX	Aug 13	Aug 24	108	AWI	Thick Ice Feeding Arctic Export	Sea ice thickness and roughness and radiation above SMOS, CryoSat Cal/Val

Leg	Start	End	Pers. Days	Institutions	Programme name	Mission
PAM ARC MIP	March 24	May 06	482	many see next slide	Polar Airborne Measurements and Arctic Regional Climate Model Simulation Project	Black carbon in atmosphere and deposition to snow/ice surfaces and climatic impacts Sea ice thickness CryoSat Cal/Val
NOGRAM	Jul 06	Jul 29	161	BGR AWI	Northern Gravity and Magnetism	Geological evolution of the Arctic basin by mapping anomalies of local earth magnetic and gravity field
TIFAX	Jul 30	Aug 10	72	AWI	Thick Ice Feeding Arctic Export	Sea ice thickness and roughness and radiation above SMOS, CryoSat Cal/Val
NEEM	Jul 21	Aug 12	46	AWI	North Eemian Ice	Ice internal structure and thickness at ice core drill site

OBJECTIVE:

PAMARCMiP will provide a unique snapshot of Arctic trace gases and aerosol distributions, meteorological conditions, and sea ice distribution

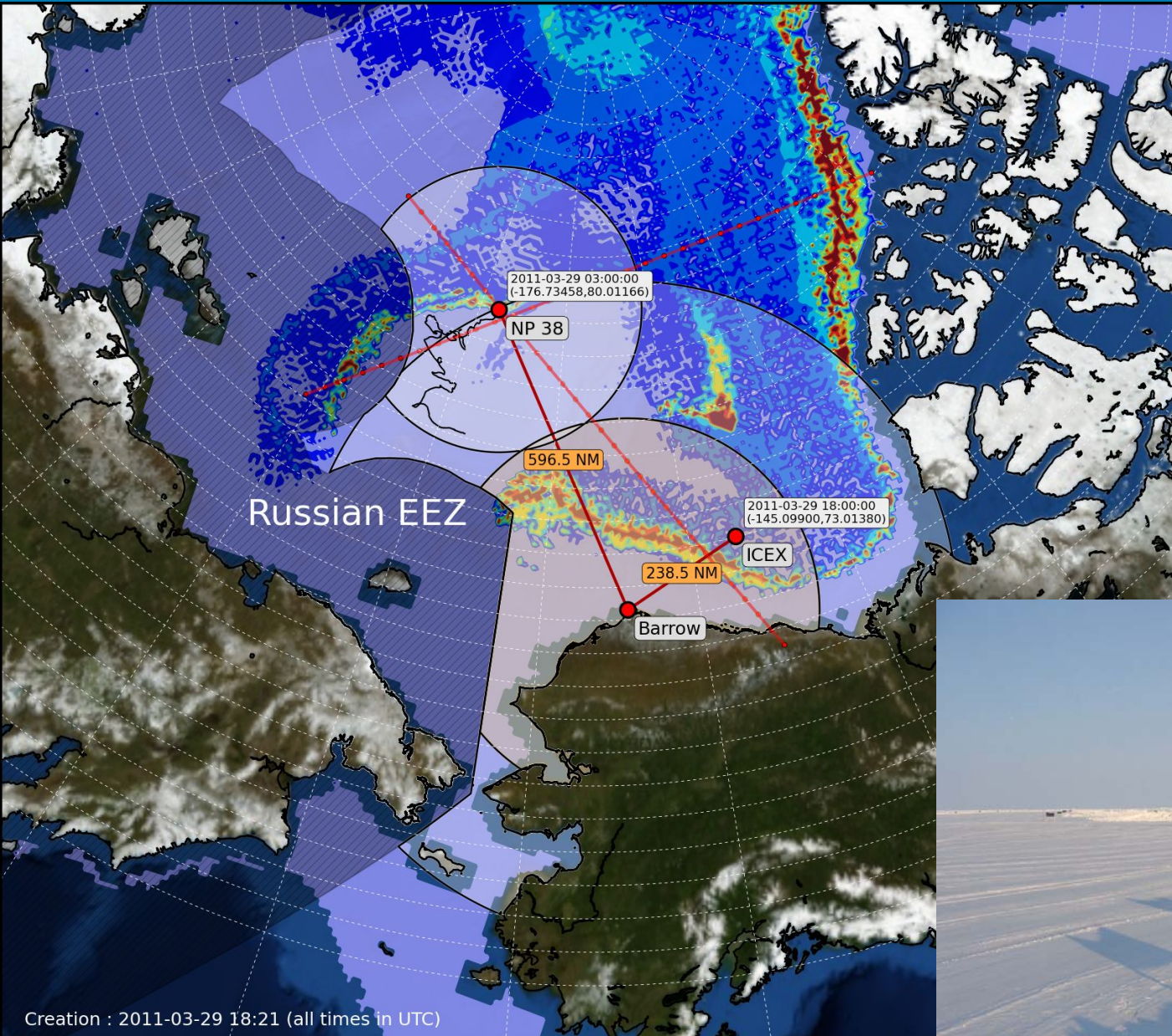
- PARTNER:**
- Environment Canada
 - University of Alberta
 - York University
 - University of Fairbanks AL
 - NOAA, Boulder CO
 - NASA LaRC, Hampton VA
 - European Space Agency
 - AARI St. Petersburg



ROUTE [March 24, 2011 – May 6, 2011]:

Muskoka – Fairbanks – Barrow – NP 38 - Inuvik – Sachs Harbour – Resolute Bay – Eureka – Alert – Station Nord – Longyearbyen – Bremerhaven

Map dated 29.3.2011



just these
days

Polar 5 at NP 36



A large, rectangular iceberg floats in the ocean under a bright, hazy sky. The iceberg's surface is mostly flat and white, with some vertical ridges and a small dark spot near the base. The water is dark blue with gentle ripples. A faint, semi-transparent watermark of a globe with latitude and longitude lines is centered over the image. The text "Thank you" is written in a simple black font across the middle of the iceberg.

Thank you