

Report – field campaign summer 2008 - climatology team

(August 1st – August 22nd)

Participants on the summer 2008 field campaign:

- Matthias Braun, ZFL, University of Bonn
- Roman Finkelnburg, TU Berlin
- Fred Meier, TU Berlin
- Marco Möller, RWTH Aachen University

Associated colleagues:

- Regine Hock, Geophysical Institute, University of Alaska, Fairbanks
- Dieter Scherer, TU Berlin
- Christoph Schneider, RWTH Aachen University

Objectives:

- Investigation of mass and energy balance of Vestfonna and De Geerfonna
- Meteorological measurements
- Assessment of spatial variability in local and regional climate setting
- Documentation and analysis of snow stratigraphy
- Obtainment of ground truth data for DTM generation
- Preparation for future assessment of ice dynamic information

Conducted fieldwork:

- Gathering data from six automatic weather stations (Kinnvika research station; De Geerfonna ~240 m asl; NW ramp of Vestfonna ~240, ~370, ~500 m asl and ~375 m asl (Regine Hock))
- Fixing and maintaining of four full energy balance automatic weather stations at the NW ramp of Vestfonna (~240, ~370, ~500 m asl) and Kinnvika research station
- Fixing and maintaining of two automatic weather stations (De Geerfonna ~240 m asl and NW ramp of Vestfonna ~375 m asl (Regine Hock))
- Metering and maintaining of ablation stake networks on Vestfonna and De Geerfonna
- Differential GPS measurements at different ablation stakes at NW ramp of Vestfonna

- Digging of snow pits at NW ramp of Vestfonna (~240, ~370 and ~500 m asl)
- Clearing and winterizing Kinnvika research station

Preliminary results:

- Extraordinarily high snow cover; Vestfonna and De Geerfonna both completely covered with snow (snow depth > 50 cm)
- Measured ablation/accumulation pattern ranging between -40 cm (250 m asl) and +15 cm (500 m asl)
- High snow cover at the beginning and continuing solid precipitation events during the ablation period seem to suppress ablation
- Monthly mean temperature above 0°C not until July

LOG of activities:

Date	Workings	Weather	Site
01.08.08	Arrival in LYR	Sunny, clear sky	LYR
02.08.08	Polar bear training with Norsk Polar/ UNIS: Fred, Matthias; preparing field campaign	Overcast, low clouds, foggy	LYR
03.08.08	Preparing field campaign	Cloudy and overcast	LYR
04.08.08	Heliflight to Kinnvika; repacking of equipment; heliflight to ice edge of Vestfonna	Breaking-up in the afternoon in LYR, low clouds in Kinnvika	LYR / Kinnvika / NW fringe of Vestfonna
05.08.08	Trip to ECS1; gathering data; maintaining/fixing ECS1; reading ablation stakes; digging snow pit	Overcast, cloudy, light snowfall	NW fringe of Vestfonna
06.08.08	Trip to ECS2; couldn't gather data (laptop too cold); maintaining/fixing ECS2	Overcast, cloudy, strong wind, snowstorm starting in the afternoon	NW fringe of Vestfonna
07.08.08	Trip to ECS2; gathering data; maintaining/fixing ECS2; reading ablation stakes; trip to ECS; maintaining/fixing ECS1	Snowstorm until noon, cloudy, breaking-up with translucence of sun in late afternoon	NW fringe of Vestfonna
08.08.08	Trip to ECS3; gathering data; maintaining/fixing ECS3; reading ablation stakes; digging snow pit; trip to ECS2; gathering data; reading ablation stakes; trip to ECS1; gathering data; reading ablation stakes	High clouds in the morning, sunny in the afternoon	NW fringe of Vestfonna
09.08.08	Trip to Regine's station; gathering data; maintaining/fixing	Overcast	NW fringe of Vestfonna
10.08.08	Dismounting camp; trip to De Geerfonna; gathering data of AWS1; maintaining/fixing AWS1; snowshoeing to Kinnvika; setting up camp at Wargentinfjellet	Sunny, occasional clouds	NW fringe of Vestfonna / De Geerfonna / Wargentinfjellet
11.08.08	Dismounting camp; Snowshoeing to Kinnvika	Cloudy	Wargentinfjellet / Kinnvika

12.08.08	Recovering (sleeping, etc.)	Cloudy with temporal break-ups throughout the day	Kinnvika
13.08.08	Recovering (sleeping, etc.)	Partly cloudy	Kinnvika
14.08.08	Gathering data of LAND; maintaining/fixing LAND	Sunny	Kinnvika
15.08.08	Maintaining/fixing LAND; Heliflight to Ahlmann summit (aborted)	Moderately cloudy	Kinnvika
16.08.08	Cleaning up Kinnvika research station	Overcast, cloudy, snowfall	Kinnvika
17.08.08	Winterizing Kinnvika research station	Cloudy and overcast, breaking-up in late afternoon, sunny in the evening	Kinnvika
18.08.08	Embarkation to SY Arctica; Cruise to LYR	Cloudy with temporal break-ups throughout the day, sunny in the evening	Kinnvika / SY Arctica
19.08.08	Cruise to LYR	Overcast, storm and rain	SY Arctica
20.08.08	Arrival in LYR; Recovering (sleeping, etc.)	High clouds with transuence of sun	SY Arctica / LYR
21.08.08	Departure from LYR: Marco, Matthias;	Sunny, temporal clouds	LYR
22.08.08	Departure from LYR: Fred, Roman		LYR

Photos:



At Airlift (Marco Möller, Fred Meier, Roman Finkelburg, Matthias Braun)



Trip to ECS2 (Roman Finkelburg, Fred Meier, Matthias Braun)



Maintaining ECS2 (Fred Meier, Matthias Braun, Roman Finkelburg)



Metering ablation stake (Marco Möller, Fred Meier)



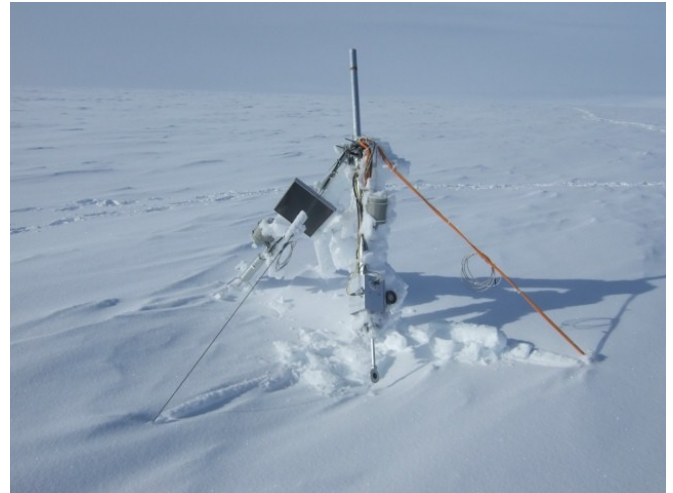
Digging out tents (Roman Finkelburg)



Freezing rain on hiking poles



First sun (Matthias Braun, Roman Finkelburg, Fred Meier)



Broken mast at ECS3



Measuring snow profile (Marco Möller)



Trip back to Kinnvika (Roman Finkelburg, Fred Meier, Matthias Braun)



Recovering at Kinnvika research station (Roman Finkelburg, Fred Meier, Marco Möller, Matthias Braun)



Embarkation to SY Arctica (Fred Meier, Matthias Braun)