PART 0

1. Approaching Sweden: A view from above

2. Swedish Polar Research
area: 450,000 sq km / 174,000 sq mi

max N–S distance: 1574 km / 978 mi

max E–W distance: 499 km / 310 mi

population: 9.3 mio

pop. density: 20(52) people/sq km(mi)

government: constitutional monarchy/parliamentary democracy
Area: 450,000 sq km / 174,000 sq mi
Max N–S distance: 1,574 km / 978 mi
Max E–W distance: 499 km / 310 mi
Population: 9.3 mio
Pop. density: 20(52) people/sq km(mi)
Government: constitutional monarchy / parliamentary democracy

Daylight hours:
- 0 (January), 24 (July)
- 6 (January), 18 (July)

Average temp:
- 16°C (3.2°F) January
- 12.8°C (55°F) July
- -2.8°C (27°F) January
- 17.2°C (63°F) July

Swedish Polar Research Secretariat / Bert Bolin Center for Climate Research / Stockholm University
The home of modern Swedish Polar Research:
Royal Swedish Academy of Sciences
(Kungl. Vetenskapsakademien KVA)

1981: Polar Research Commitee is founded at the Royal Swedish Academy of Sciences

1984: Swedish Polar Research Secretariat (Polforskningssekretariatet) is established as a governmental authority to promote and coordinate Swedish polar research, to follow and plan research and development and to organise and lead research expeditions to the Arctic and Antarctic regions.
Swedish polar history
1878–1880: ”Vega”
Adolf Erik Nordenskjöld,
North East Passage
Swedish polar history

1878–1880: "Vega"
Adolf Erik Nordenskjöld,
North East Passage

1901–1903: "Snow Hill",
Adolf Erik Nordenskjöld,
Antarctic Peninsula
Swedish polar history

1878–1880: "Vega"
Adolf Erik Nordenskjöld,
North East Passage

1901–1903: "Snow Hill",
Adolf Erik Nordenskjöld,
Antarctic Peninsula

1949–1952: "Maudheim", Queen
Maud Land, Antarctica
Swedish polar history

1878–1880: ”Vega”
Adolf Erik Nordenskjöld, North East Passage

1901–1903: ”Snow Hill”,
Adolf Erik Nordenskjöld, Antarctic Peninsula

1949–1952: ”Maudheim”, Queen Maud Land, Antarctica

1957–1959: ”Kinnvika”, Svalbard
Swedish polar history

1878–1880: "Vega"
Adolf Erik Nordenskjöld,
North East Passage

1901–1903: "Snow Hill",
Adolf Erik Nordenskjöld,
Antarctic Peninsula

1949–1952: "Maudheim", Queen
Maud Land, Antarctica

1957–1959: "Kinnvika", Svalbard

1980: "Ymer 80" – celebrating the 100th anniversary of "Vega",
Start of modern Swedish Arctic research
First Swedish Arctic Ocean initiative
Glaciology

has a long tradition in Sweden:

Storglaciären

("The large glacier") in the Kebnekaise Mountains is the glacier with the World's longest mass balance record

1130 m asl. ma air temp. -3.9 C
mean summer air temp. + 5.6 C
Bert Bolin Center for Climate Research (BBCC) @ SU

Core theme 1: Climate variability

Core theme 2: Atmosphere and ocean circulation

Core theme 3: Land and Ocean spatial reconstructions
  \[\rightarrow\] Ice sheet modeling \[<\]

Core theme 4: Small-scale processes with large scale impacts

Core theme 5: The water cycle

Core theme 6: Biogeochemical cycles

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Core Themes 1 and 5: INK
Physical Geography & Quaternary Geology

Core Themes 2 and 4: MISU
Meteorology

Core Theme 3: IGG
Geology & Geochemistry

Core Theme 6: ITM
Applied Environmental Science

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Foci within numerical Ice sheet modeling:

IMAPS:
Integrative Modeling of Arctic Paleoglacial Systems

Pictures: T. Mauritzen, M. Jakobsson
Swedish Polar Research Secretariat / Bert Bolin Center for Climate Research / Stockholm University
Foci within numerical Ice sheet modeling:

IMAPS: Integrative Modeling of Arctic Paleoglacial Systems

Ice streams in the Cordilleran/Laurentide Ice Sheet

Pictures: T. Mauritzen, M. Jakobsson

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Foci within numerical Ice sheet modeling:

IMAPS: Integrative Modeling of Arctic Paleoglacial Systems

Ice streams in the Cordilleran/Laurentide Ice Sheet

Paleoconfigurations of Tibetan Plateau Glaciations

Moris Jesup Rise
Ice scours

Pictures: T. Mauritzen, M. Jakobsson

Swedish Polar Research Secretariat / Bert Bolin Center for Climate Research / Stockholm University
Foci within numerical Ice sheet modeling:

IMAPS: Integrative Modeling of Arctic Paleoglacial Systems

Ice streams in the Cordilleran/Laurentide Ice Sheet

Paleoconfigurations of Tibetan Plateau Glaciations

Ice Sheet – Atmosphere Interactions (Stationary Waves)
Pic: T. Mauritzen

2008: Arctic Ocean north of Svalbard

Crown Princess Victoria (Sweden)
Crown Prince Frederik (Denmark)
Crown Prince Haakon (Norway)
Ice sheet modeling in Sweden focuses currently on

- Arctic Ocean Region
- Paleoconfigurations
to contrast available spatial reconstructions

Activities at the other end of the scale (time-wise & geographically) are planned....