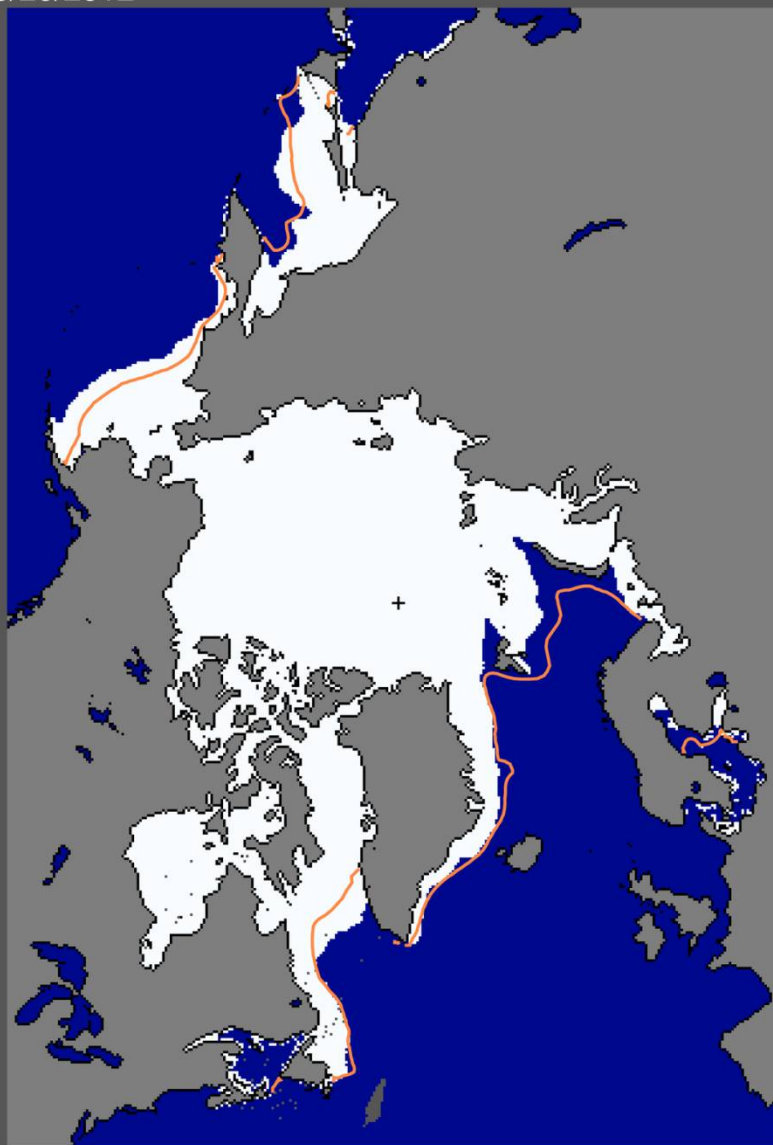


Kliima muutused Arktikas

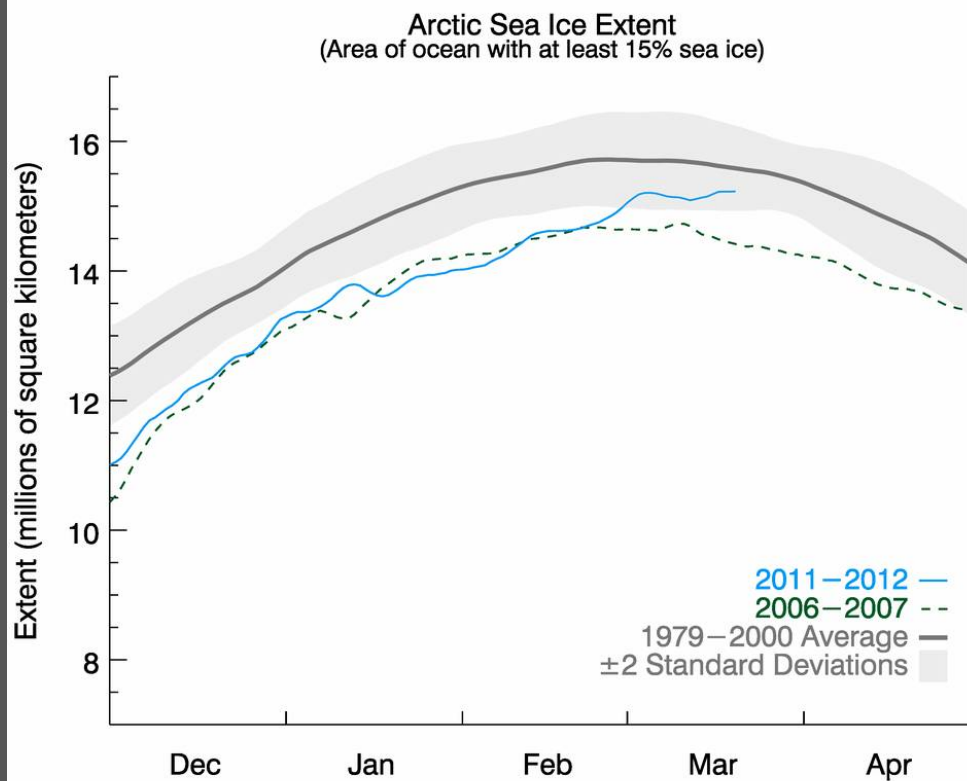
Jaak Jaagus

Meteoroloogiapäev,

23. märtsil 2012



National Snow and Ice Data Center, Boulder, CO

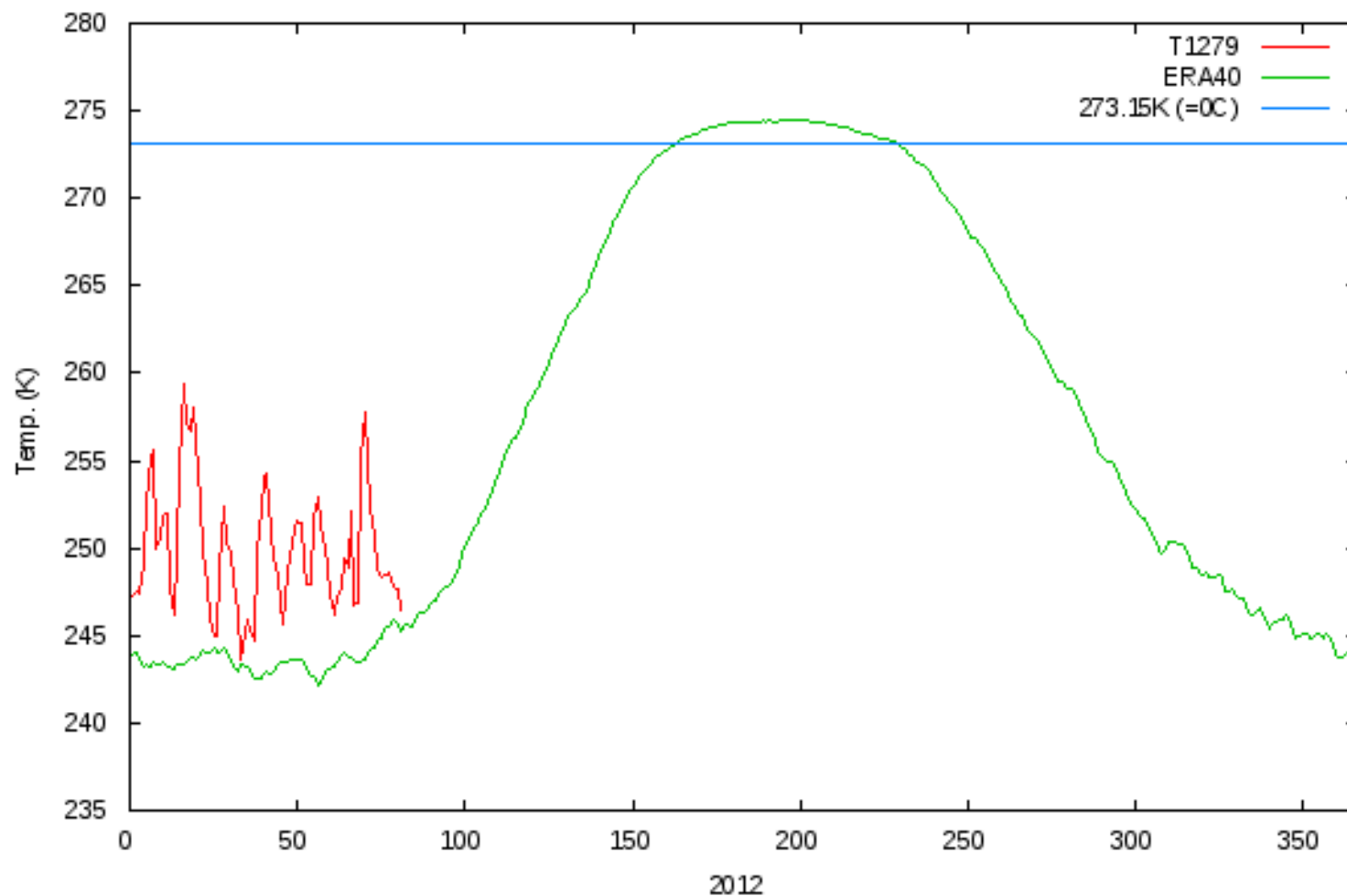


National Snow and Ice Data Center, Boulder, CO

20 Mar 2012

median
1979-2000

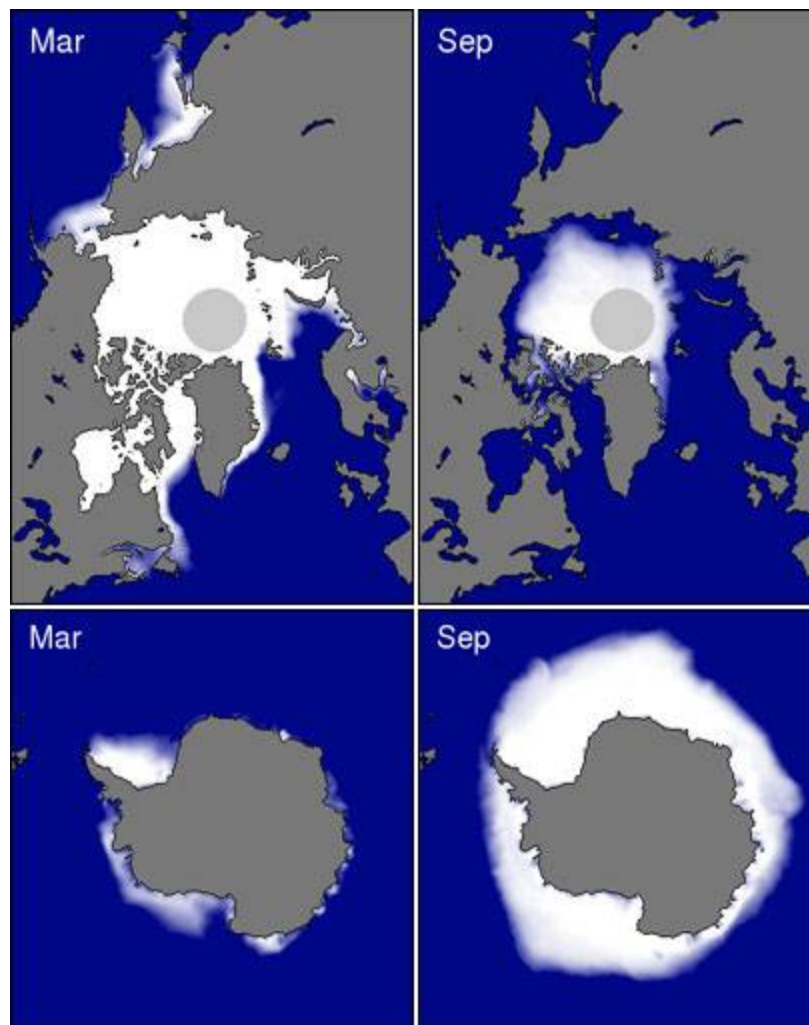
Keskmine temperatuur dūnaamika 2012. a. pōhja pool 80° pl.



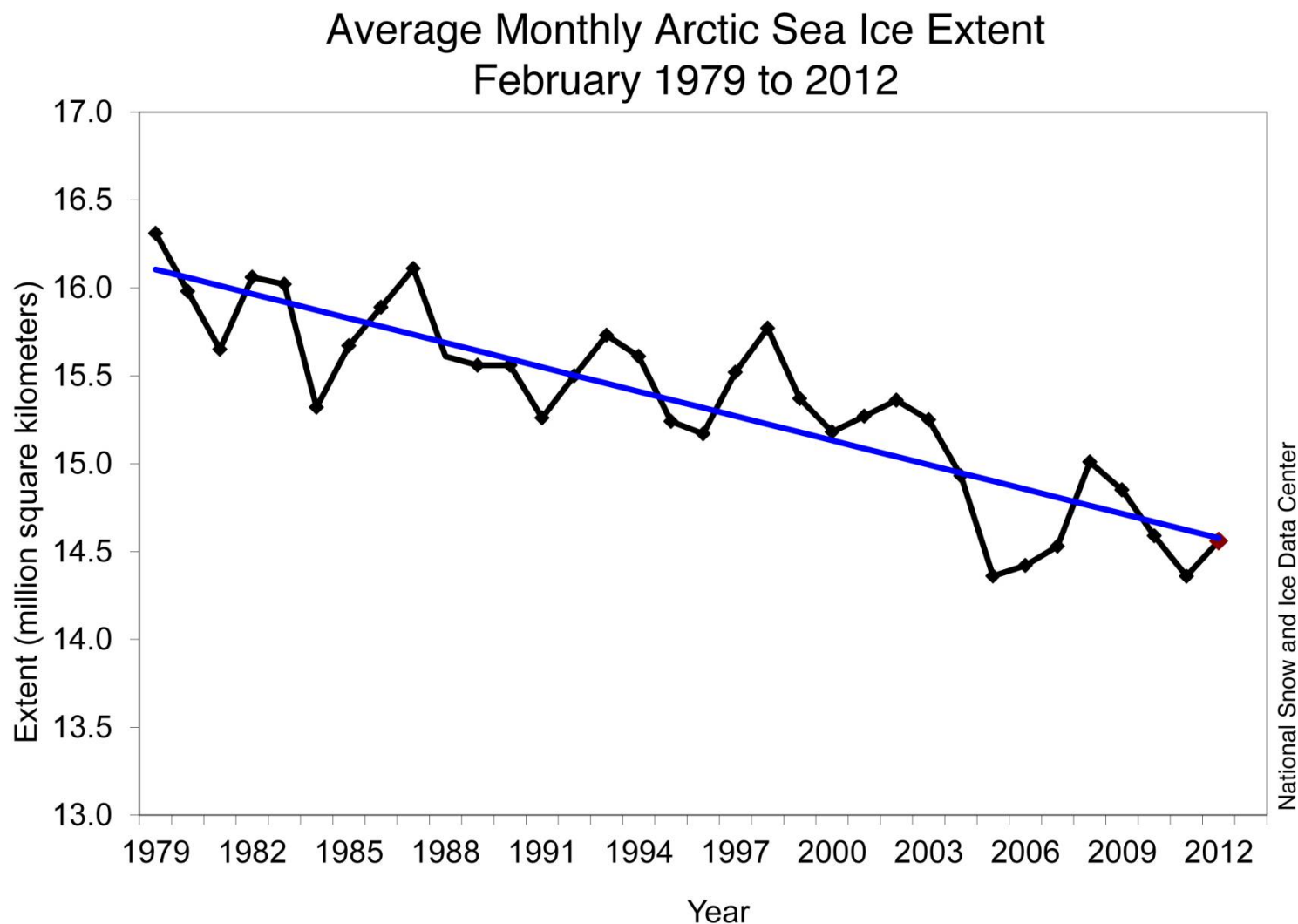
Wed Mar 21 19:00:14 UTC 2012

Kõik Arktika merejää parameetrid
(ulatus, kontsentratsioon, paksus, triiv,
vanus) on viimase 20 aasta jooksul
drastiliselt muutunud

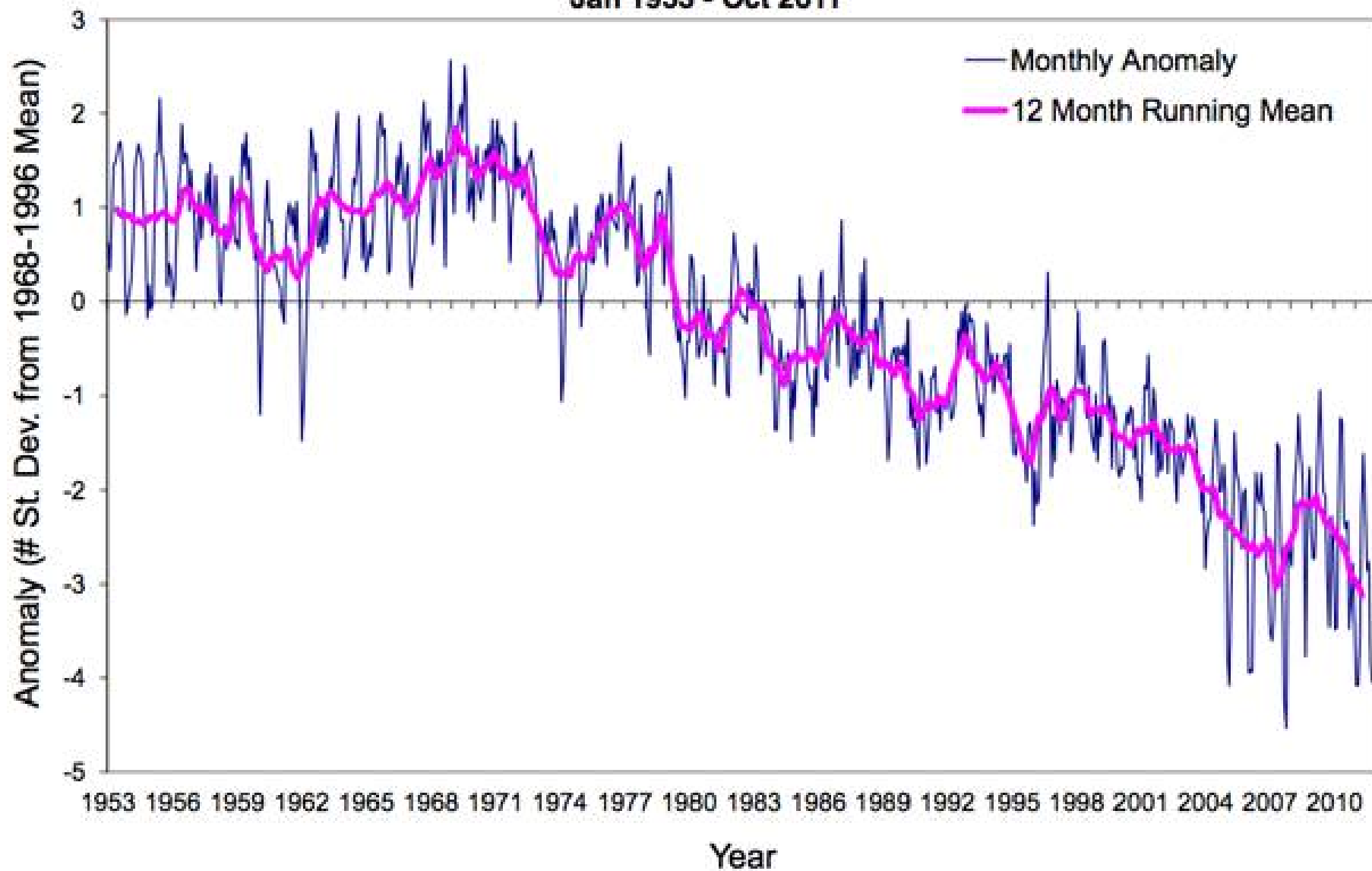
Keskmine jää ulatus märtsis ja septembris



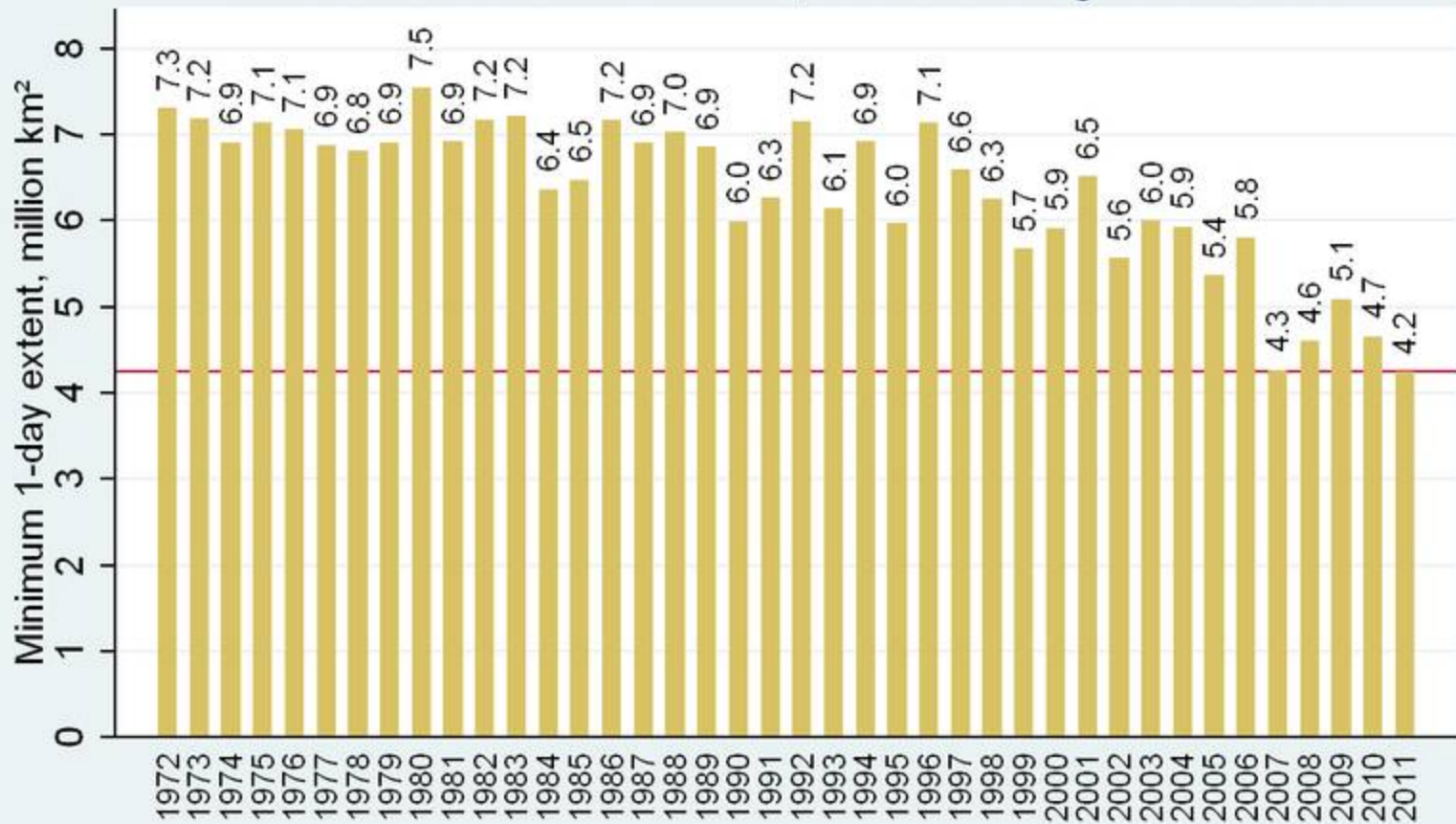
Veebruari keskmine merejää ulatus Põhja-Jäämerel (miljonites ruutkilomeetrites)



Arctic Sea Ice Extent Standardized Anomalies Jan 1953 - Oct 2011



Min Arctic sea ice extent, 1972 through 9/8/2011

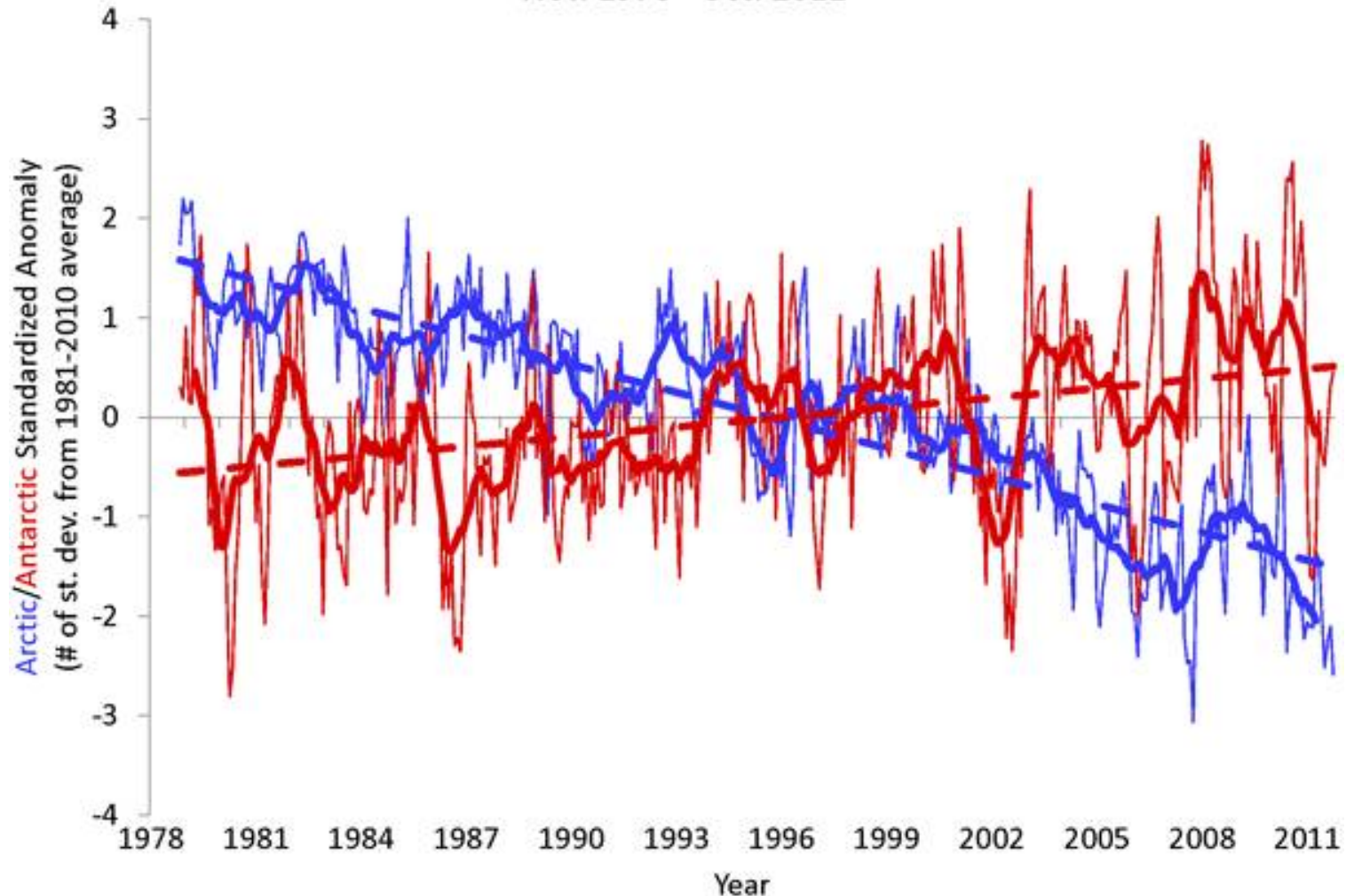


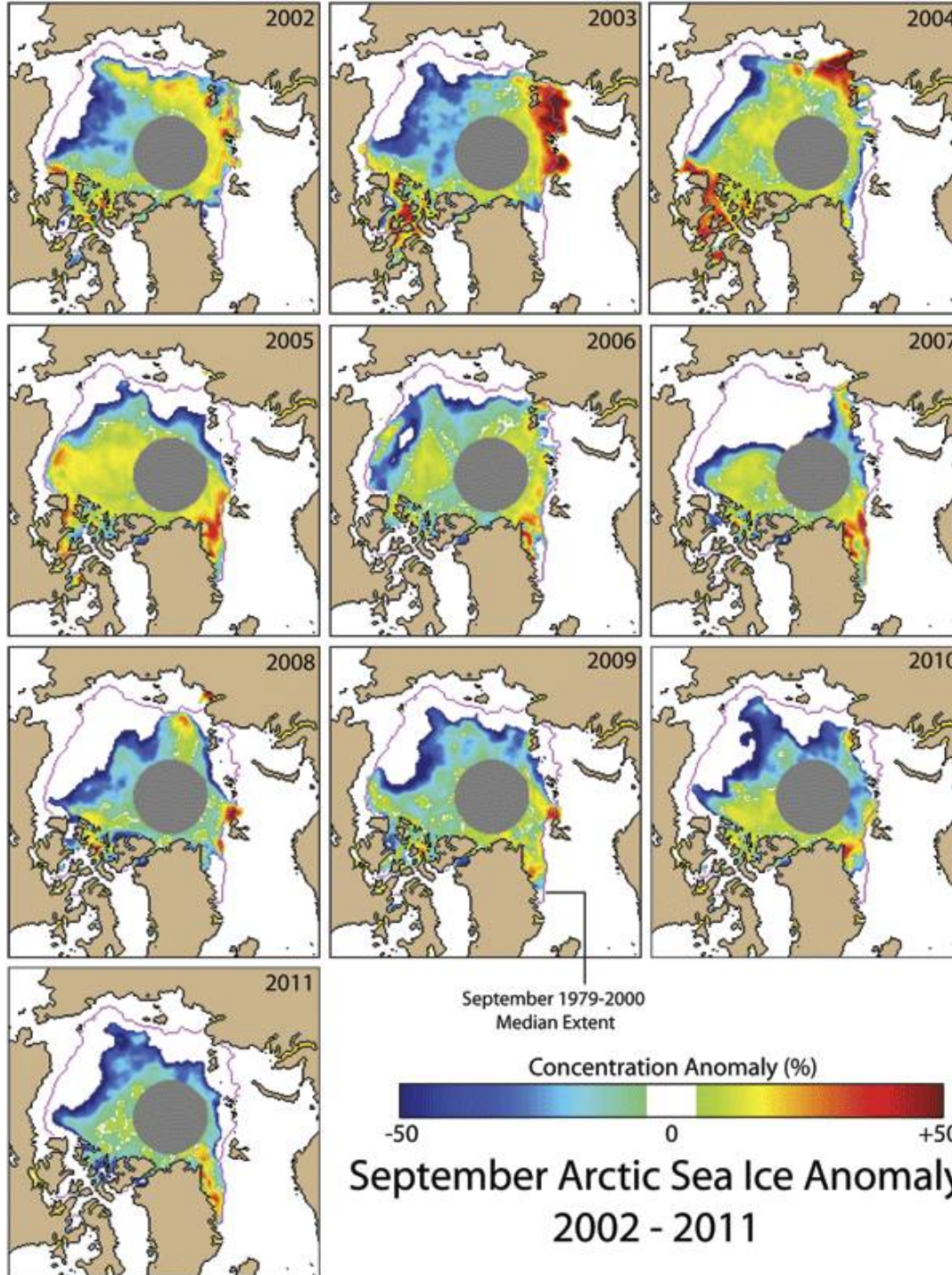
graph: L Hamilton

data: Milke & Heygster 2009 'Trend der Meereisausdehnung von 1972-2009'
Technical Report, Inst Environmental Physics, Univ Bremen (August)

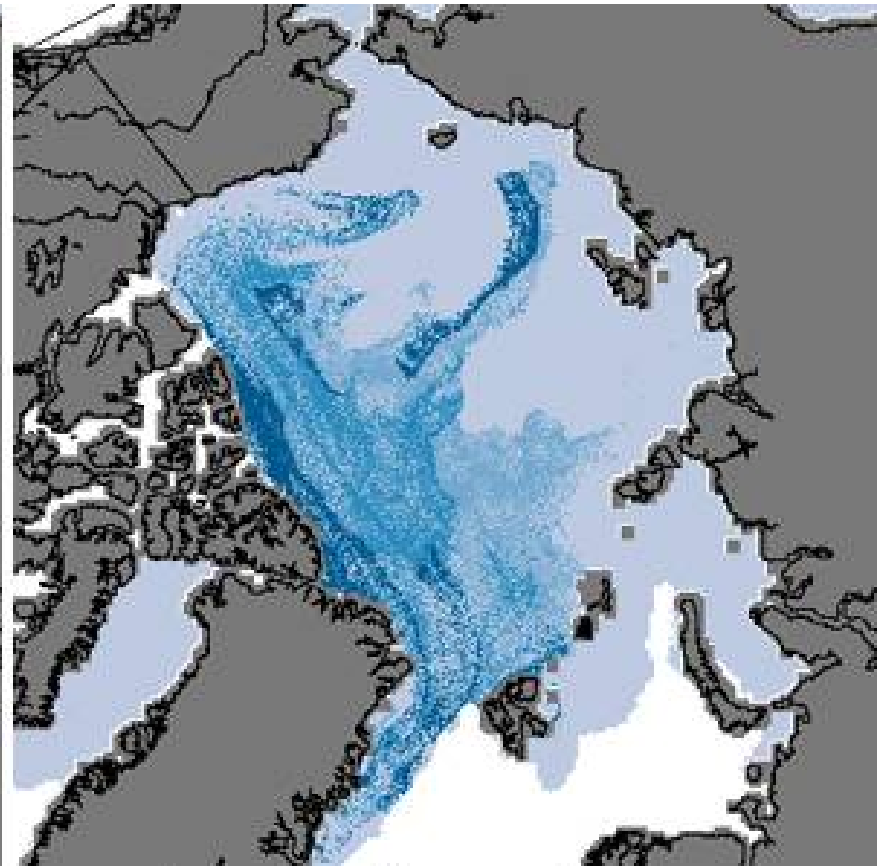
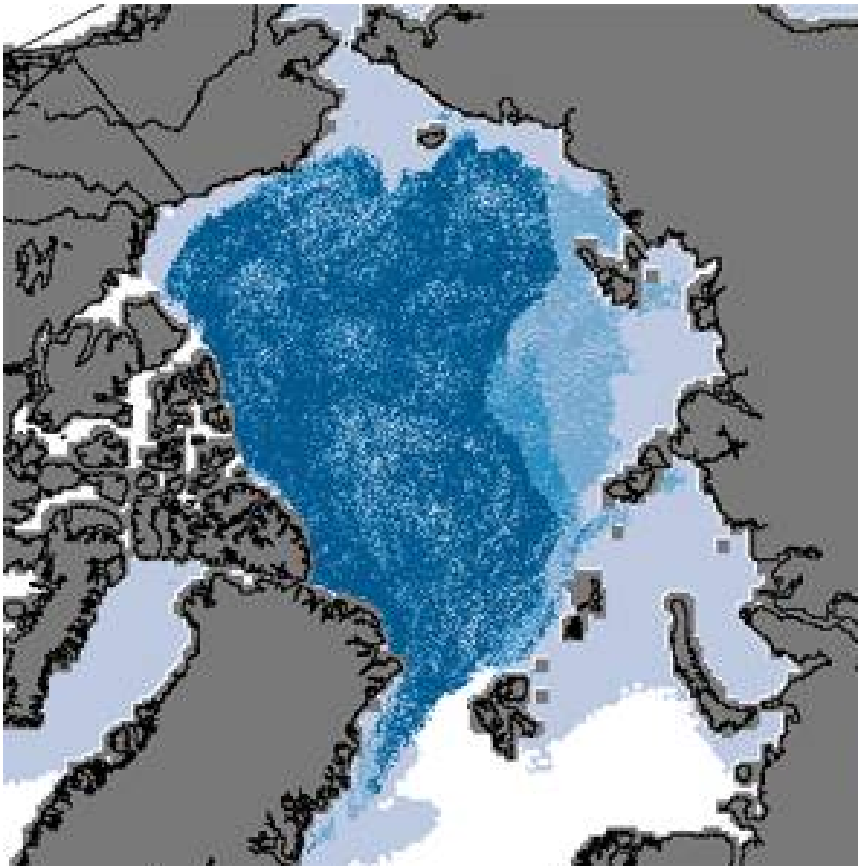
Merejää ulatuse vastupidised trendid Arktikas ja Antarktikas

Arctic and Antarctic Standardized Anomaly and Trend
Nov. 1978 - Oct. 2011

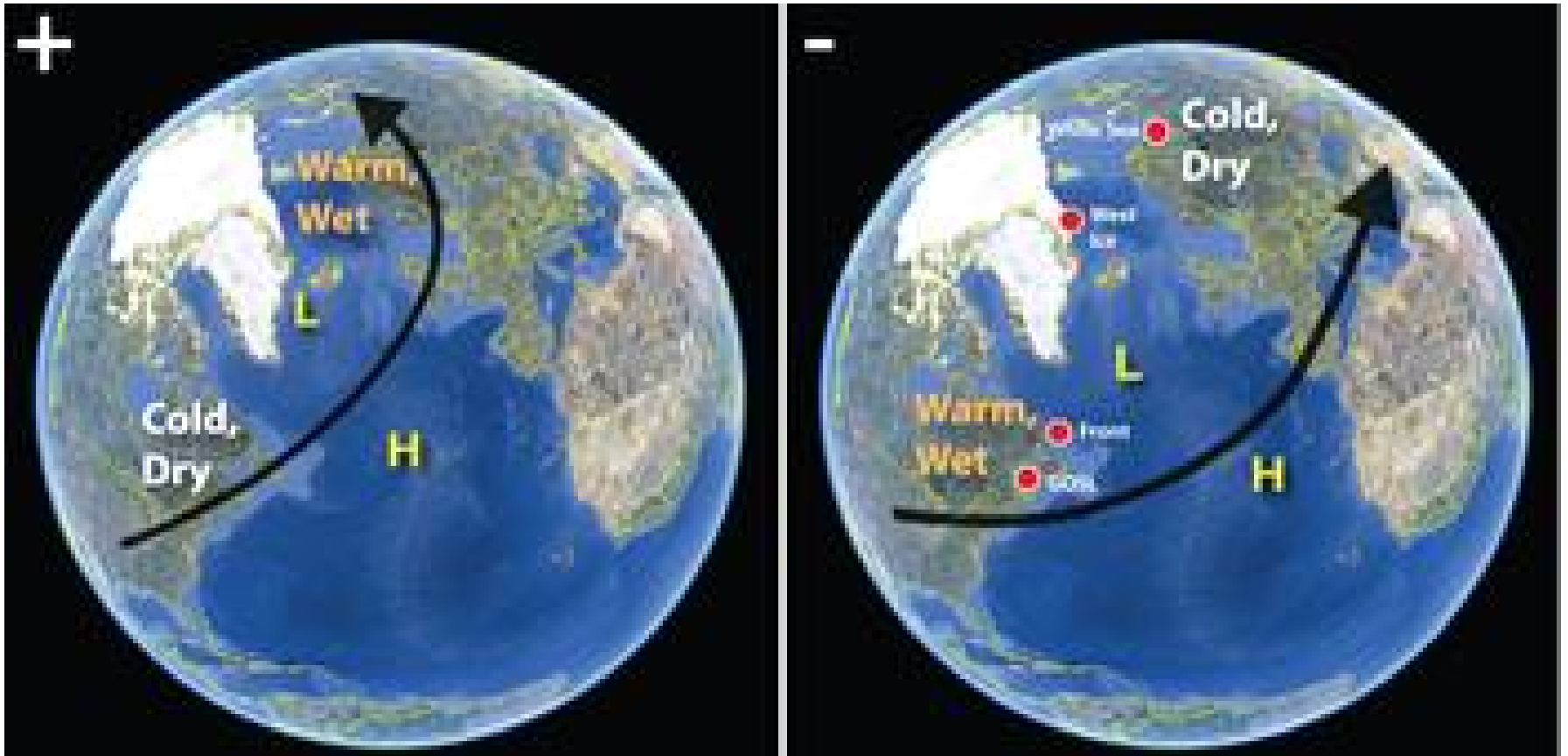




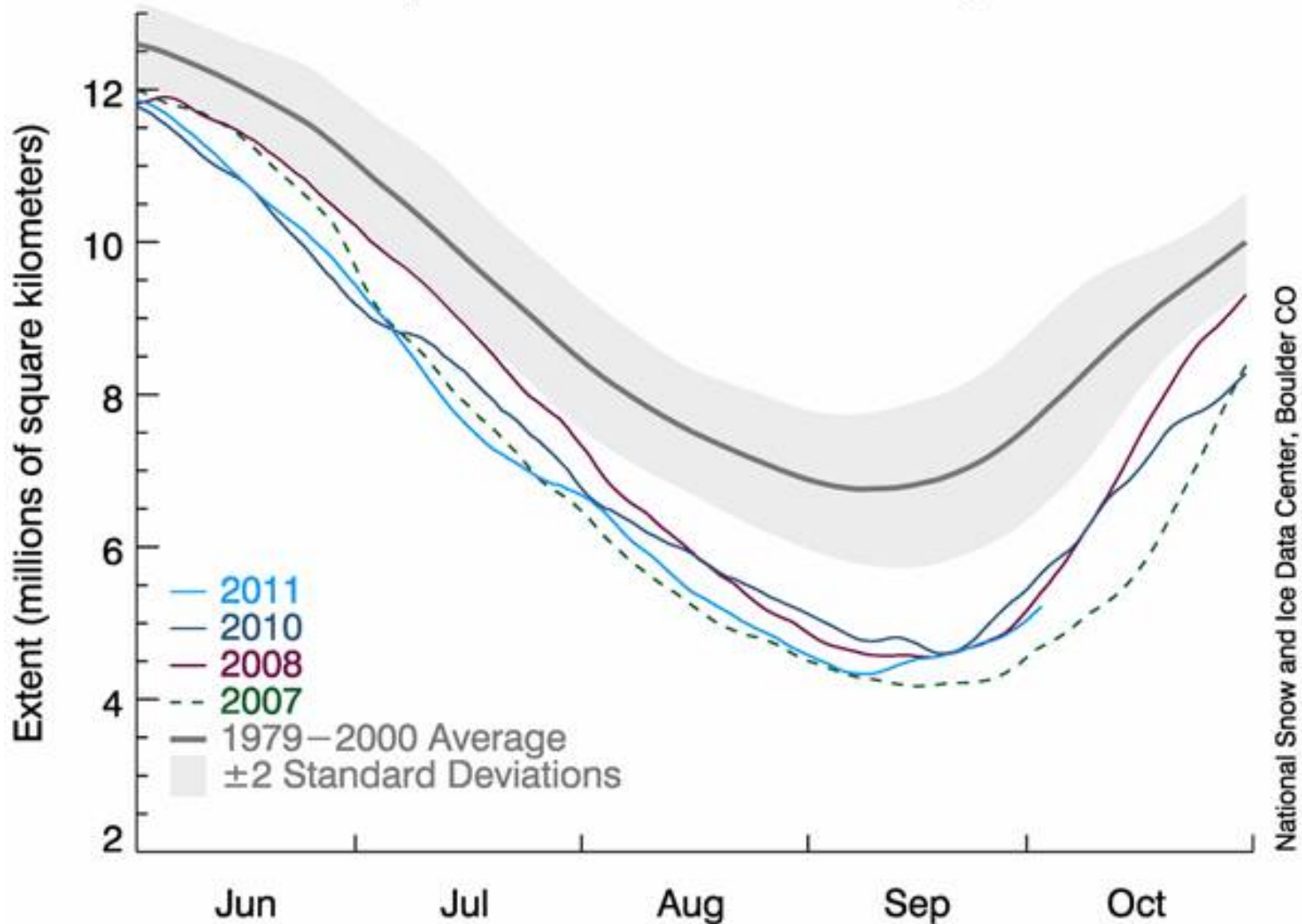
Vana ja noore jää vahekord märtsis 1985 ja 2011



Põhja-Atlandi ostsillatsiooni faasid

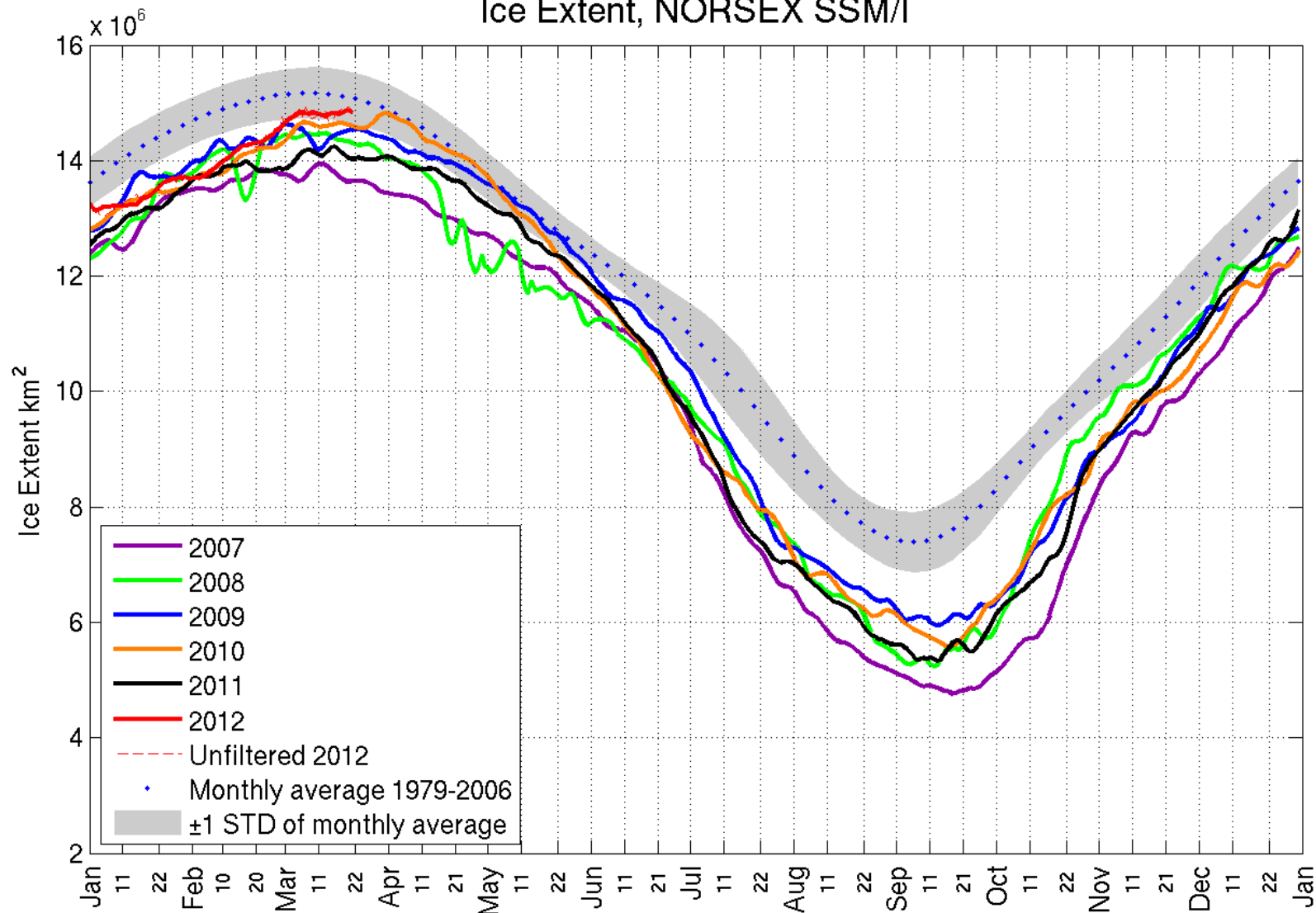


Arctic Sea Ice Extent (Area of ocean with at least 15% sea ice)

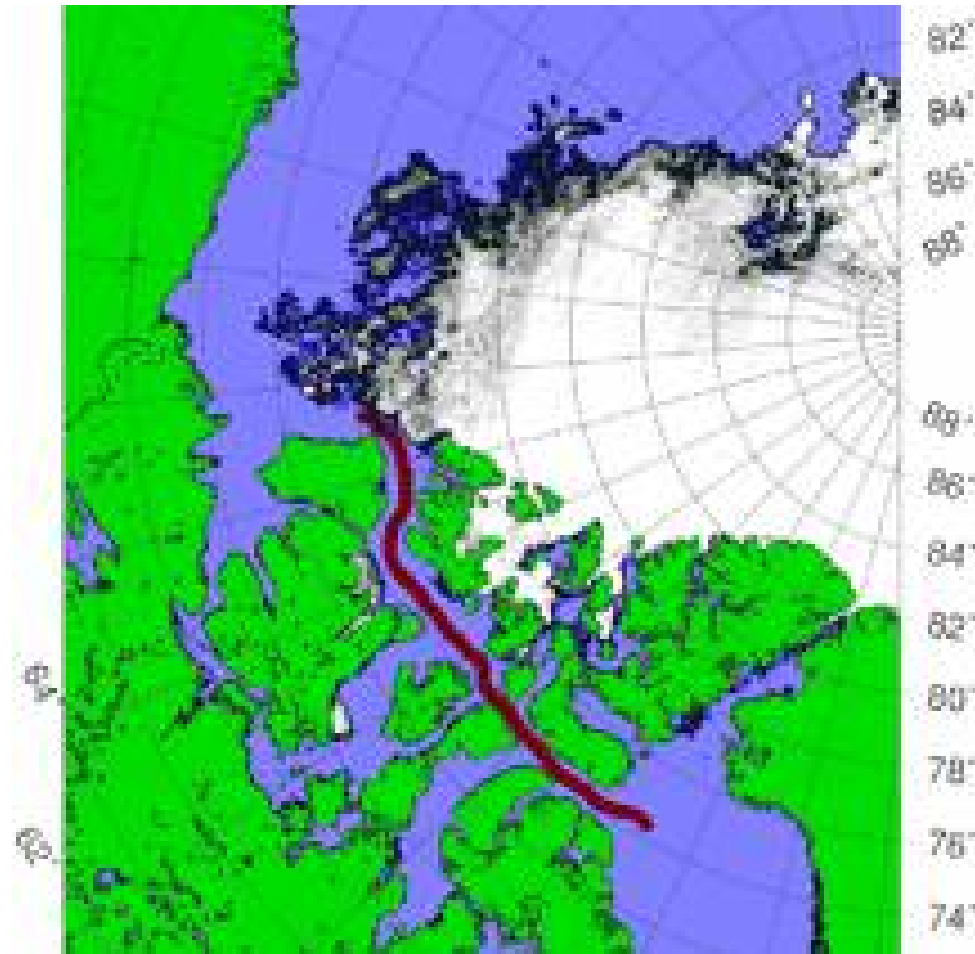


03 Oct 2011

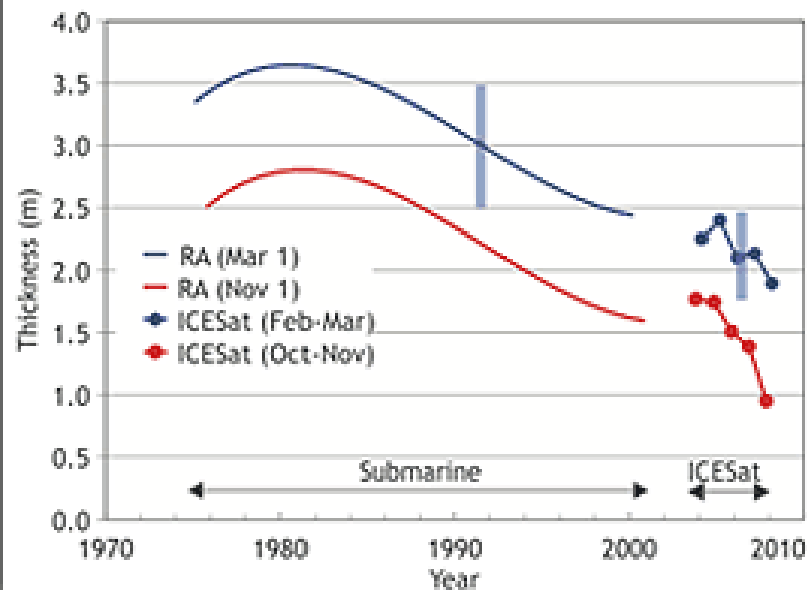
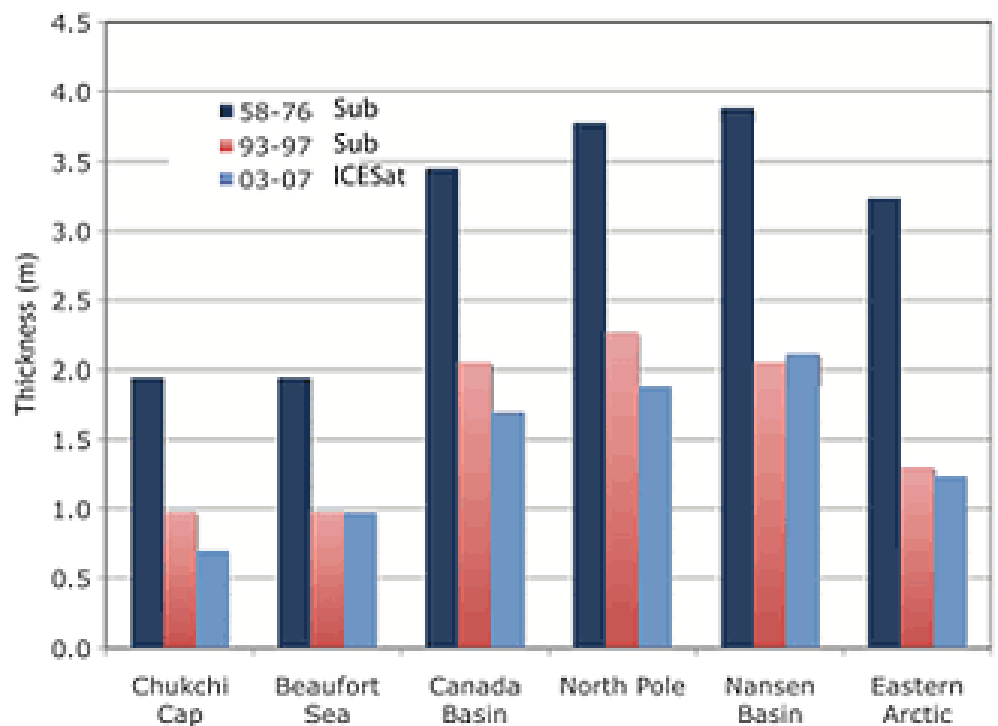
Ice Extent, NORSEX SSM/I



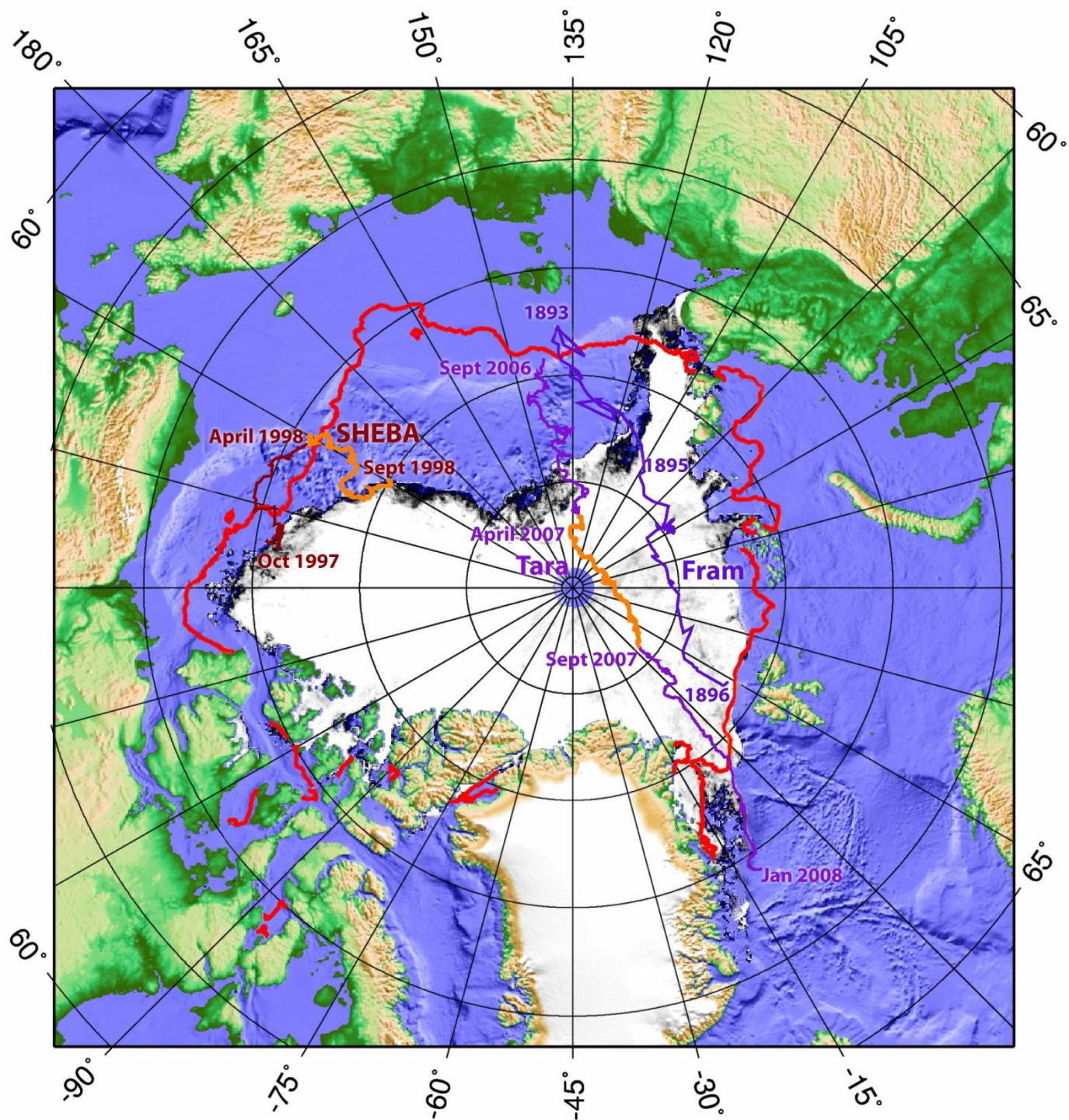
Loodeväila vabanemine jääst suvel 2007



Jää paksuse muutused Põhja-Jäämerel

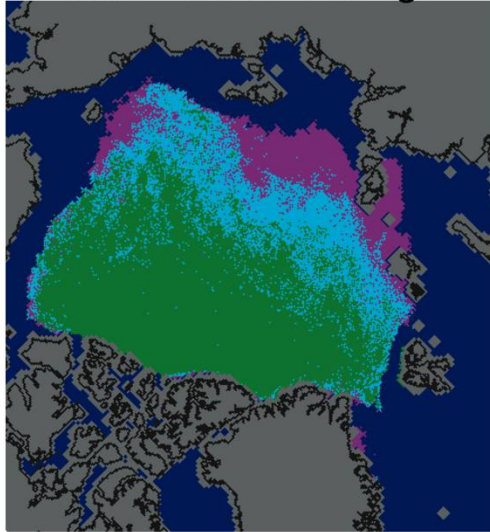




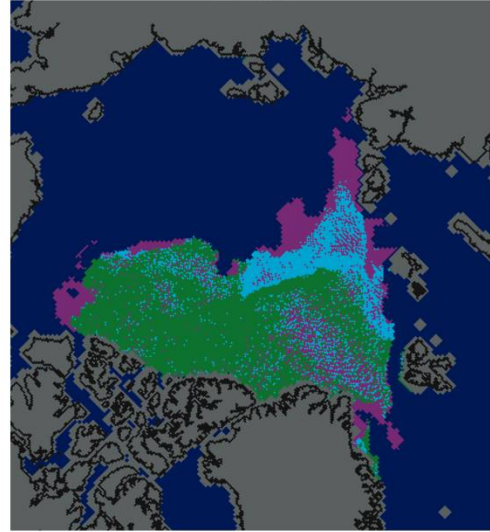


Arctic sea ice age at the end of the melt season

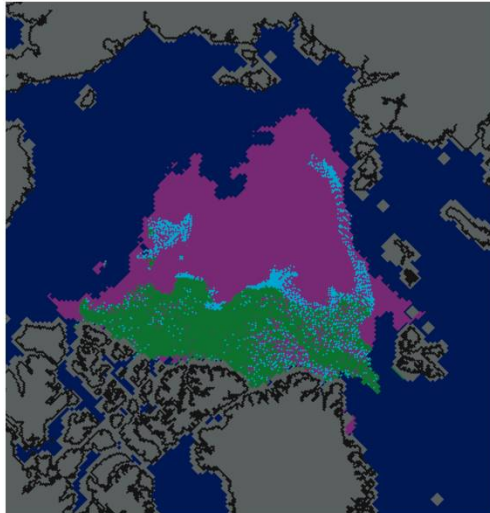
1981 - 2000 average



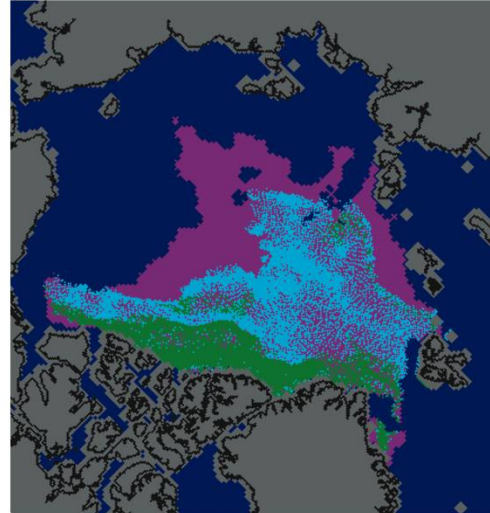
2007



2008

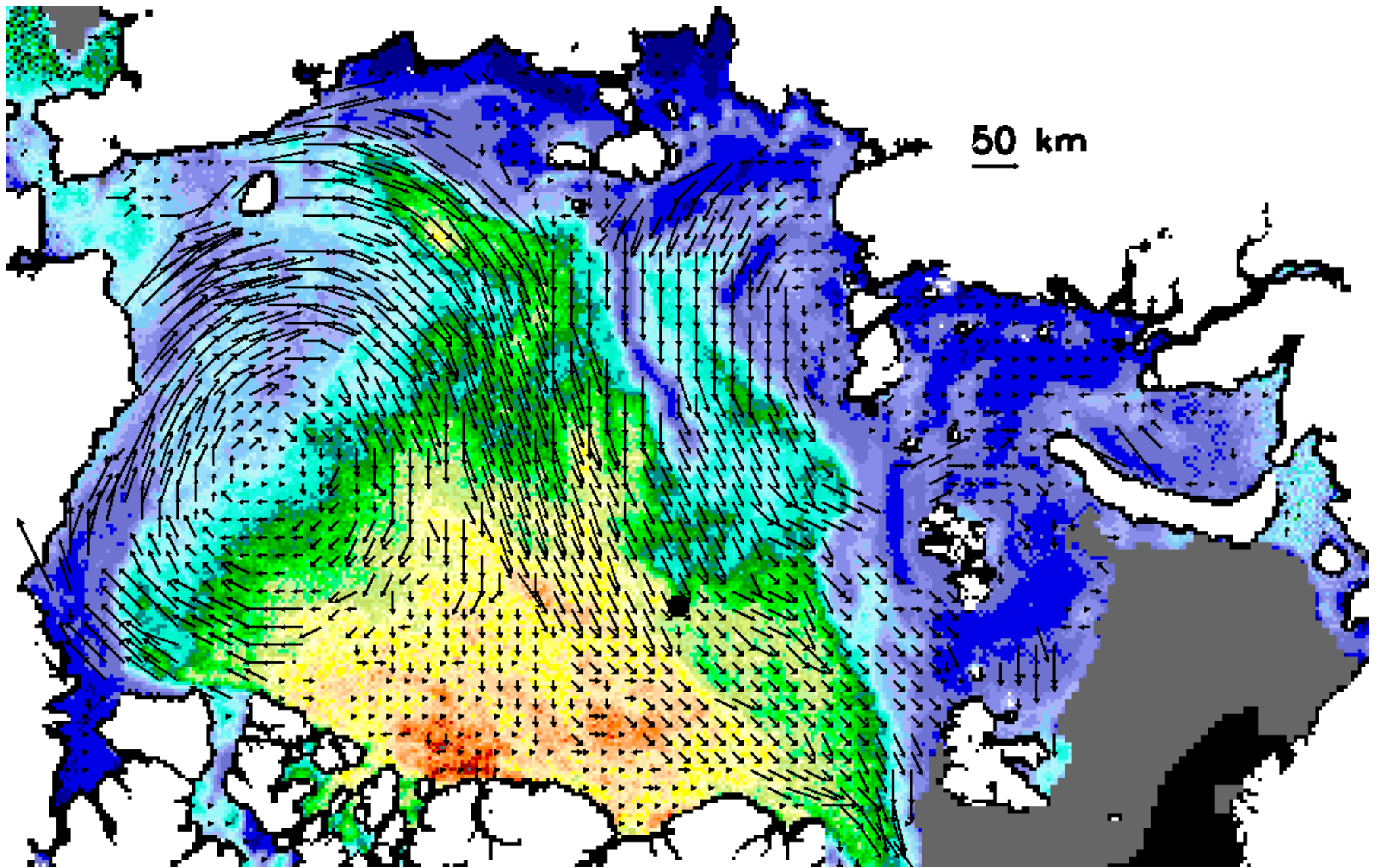


2009

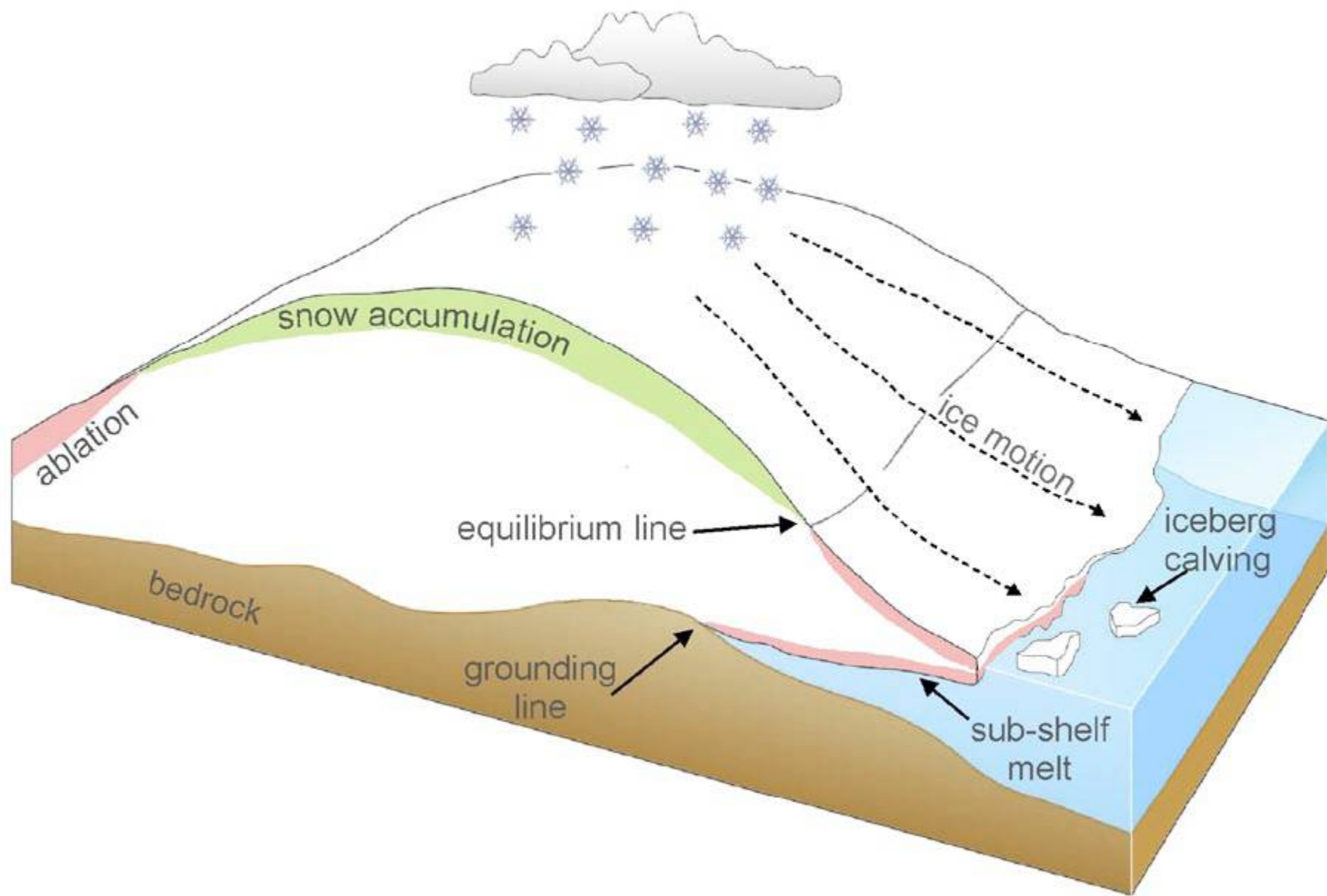


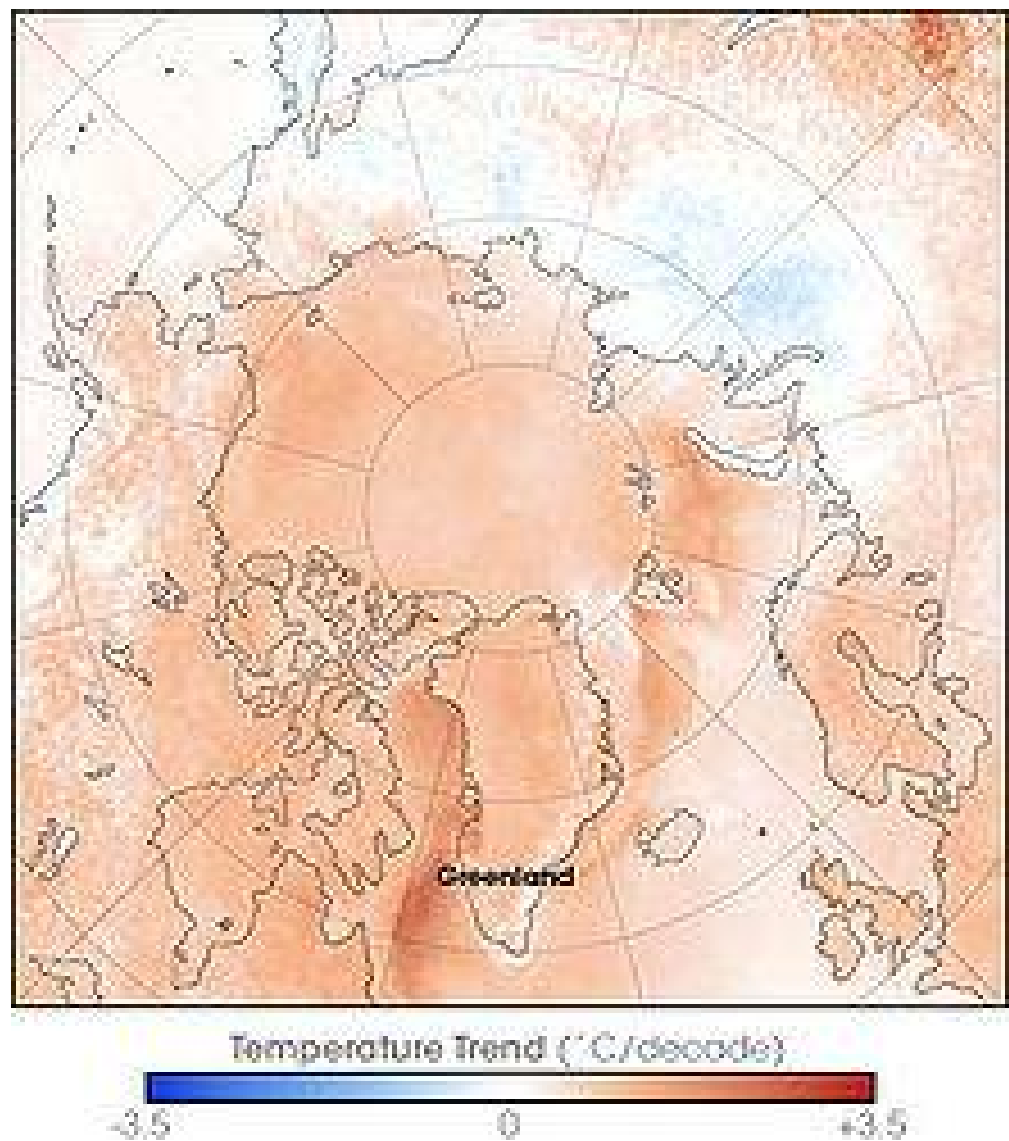
First-year ice (<1 year old) Second-year ice (1-2 years old) Older ice (>2 years old) Open water Land

NSIDC courtesy C. Fowler and J. Maslanik, University of Colorado Boulder

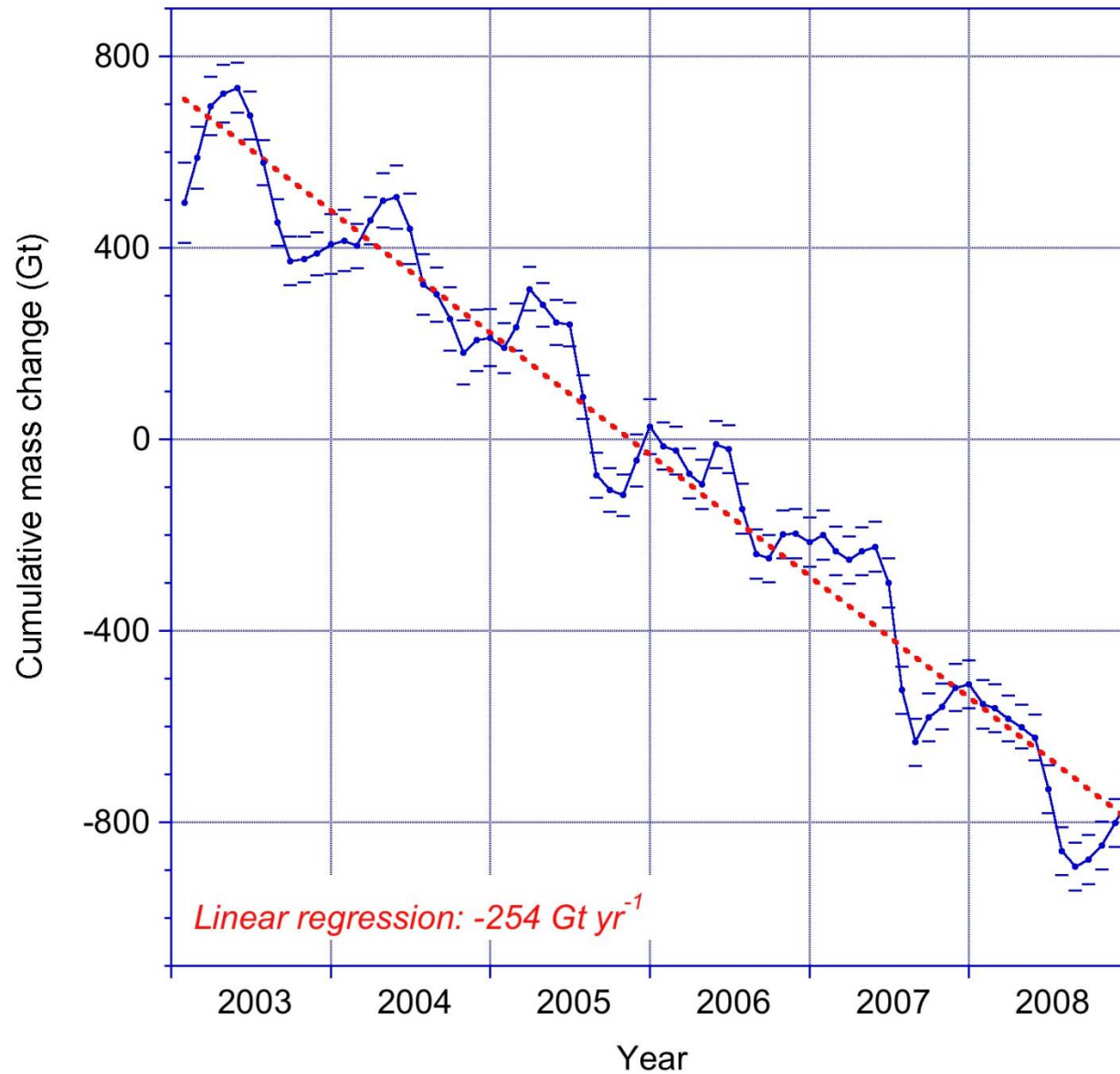


Gröönimaa mandrijää massi ja
ulatuse kiire vähenemine

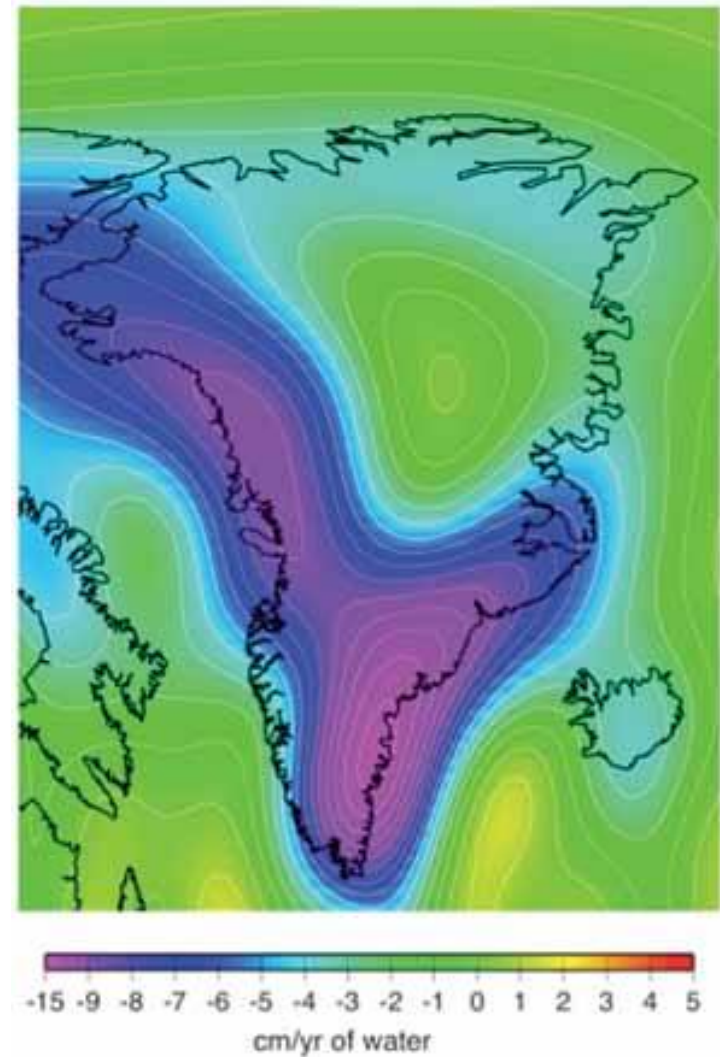
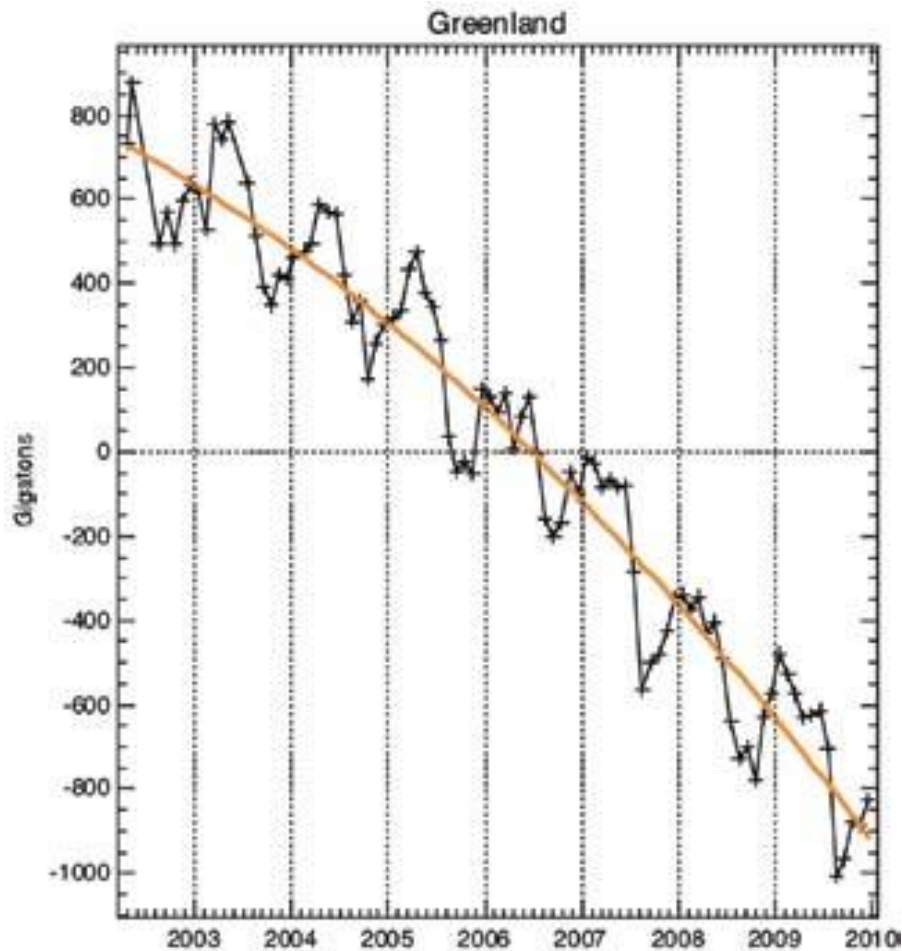


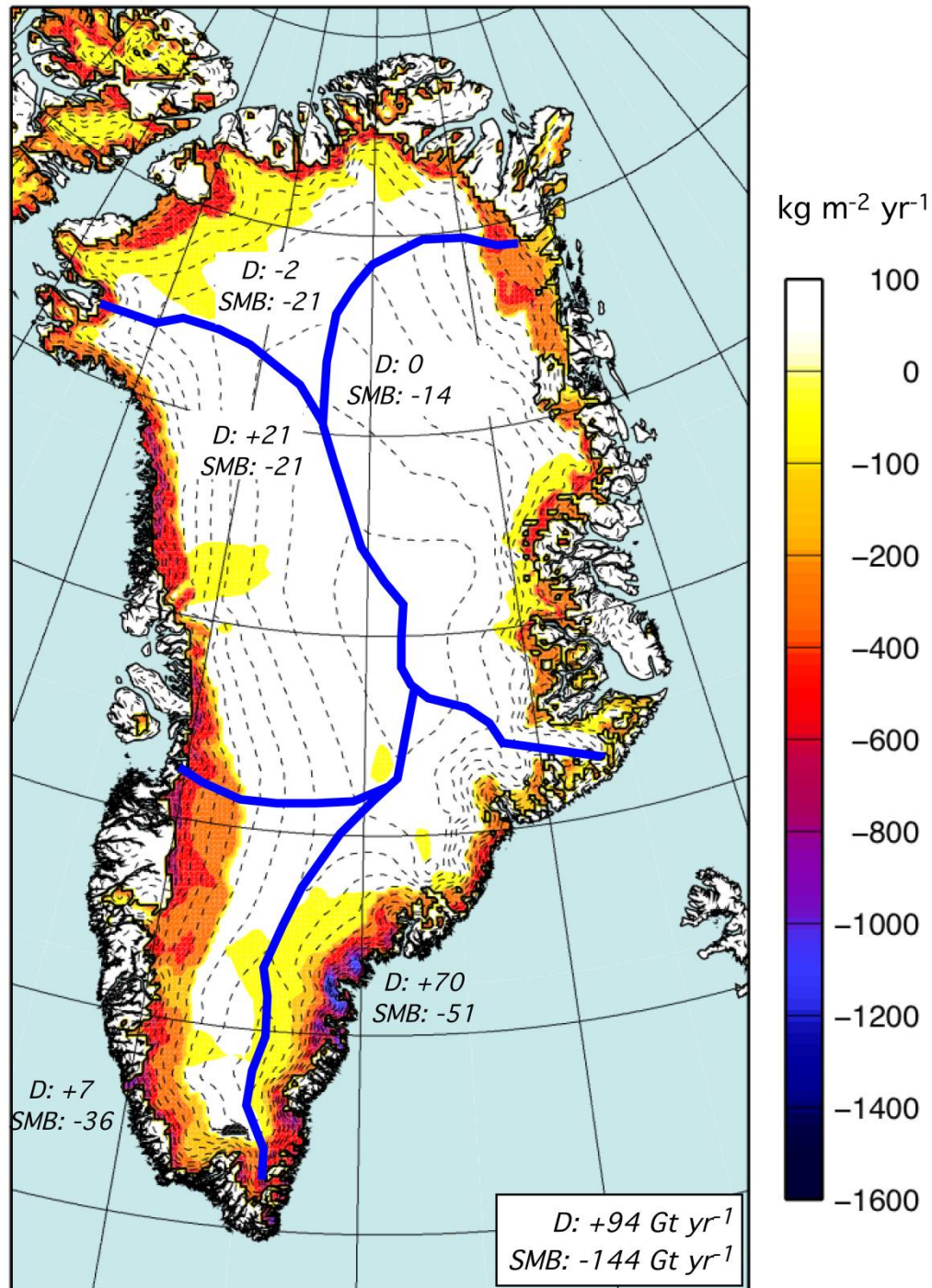


Gröönimaa mandrijää mass

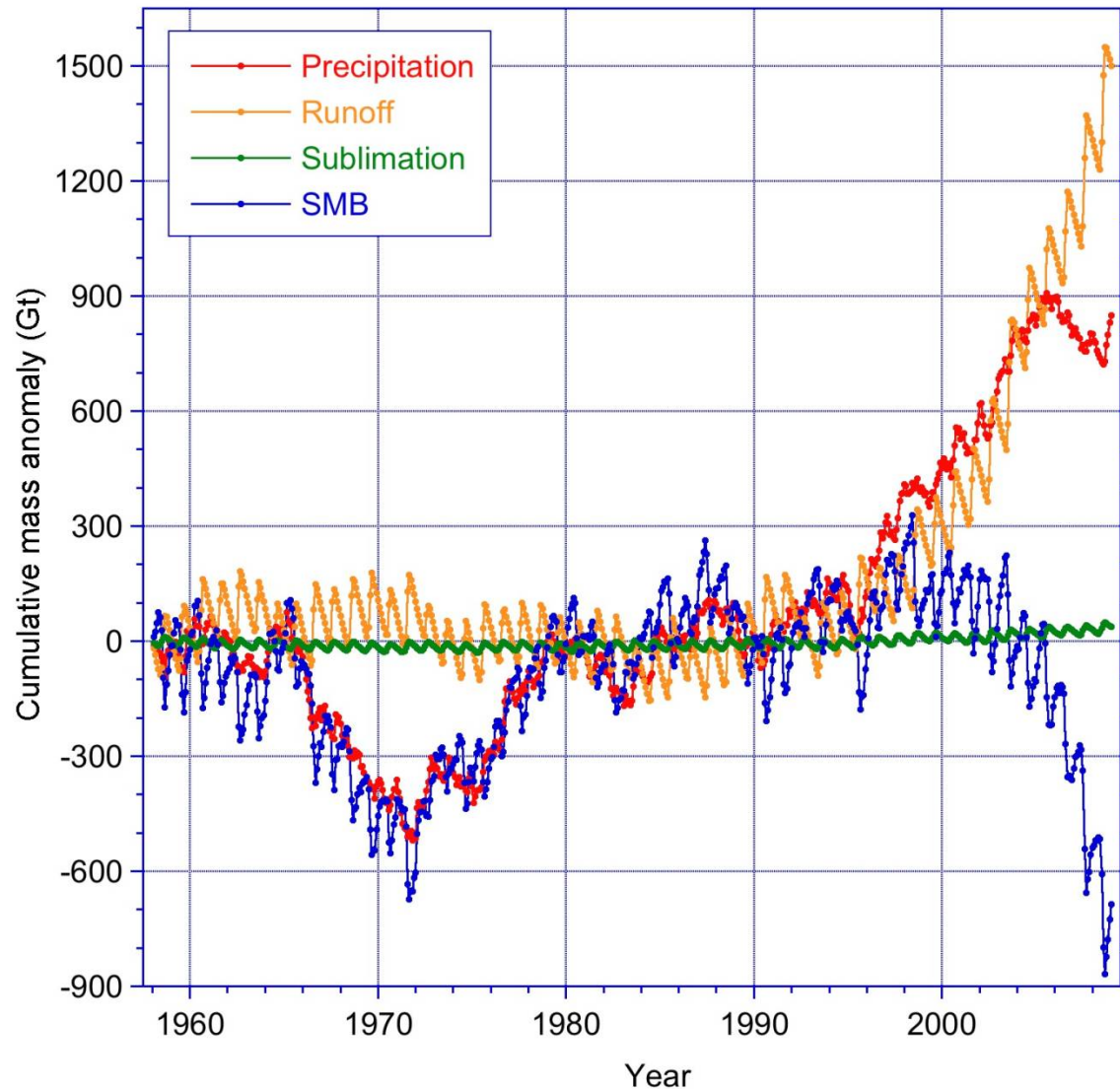


Gröönimaa mandrijää massi vähenemine





Muutused Gröönimaa mandrijää parameetrites

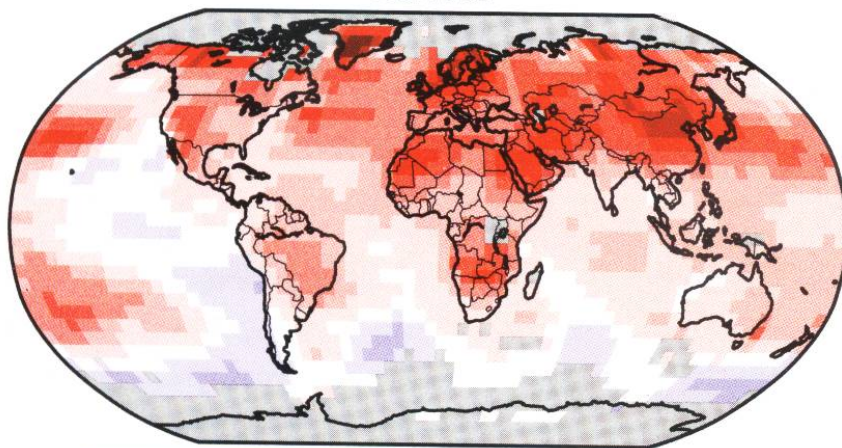


Arktika on piirkond maakeral, kus
õhutemperatuur on viimastel
aastakümnetel enim tõusnud
(kuni 1°C sajandi kohta)

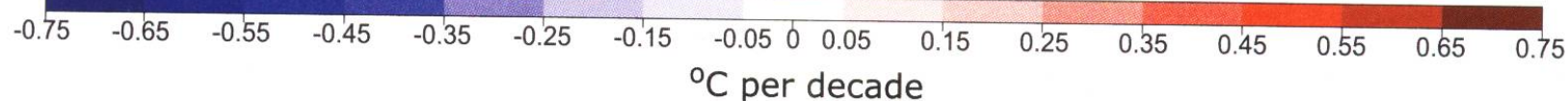
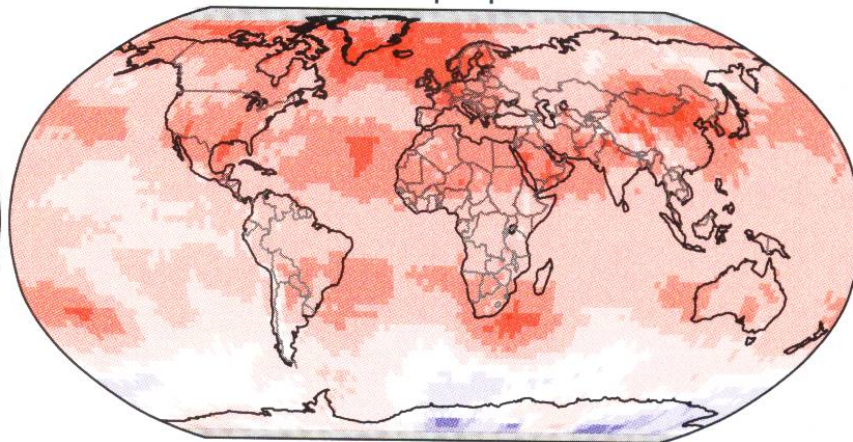
Õhutamperatuuri trendid perioodil 1979-2005

GLOBAL TEMPERATURE TRENDS

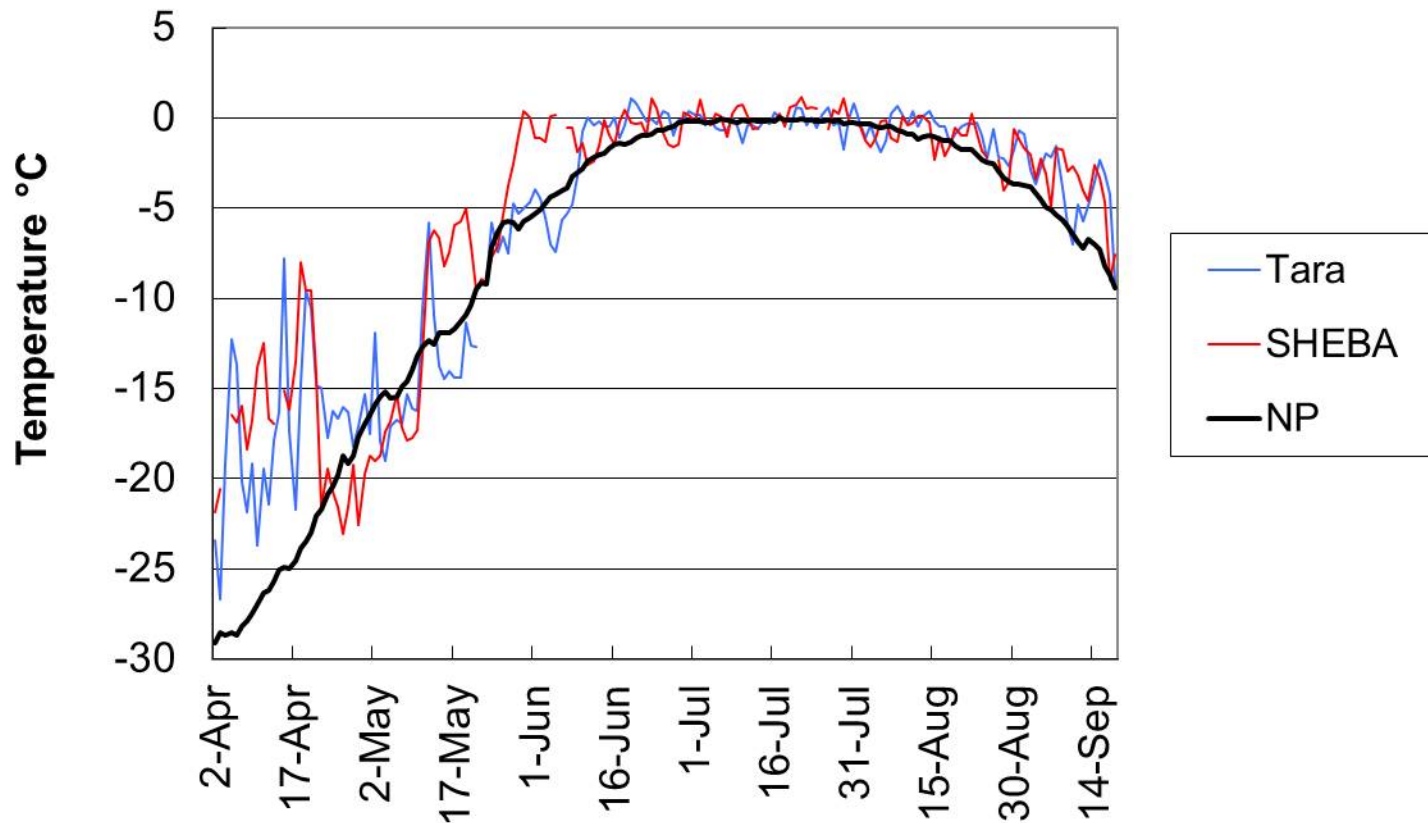
Surface



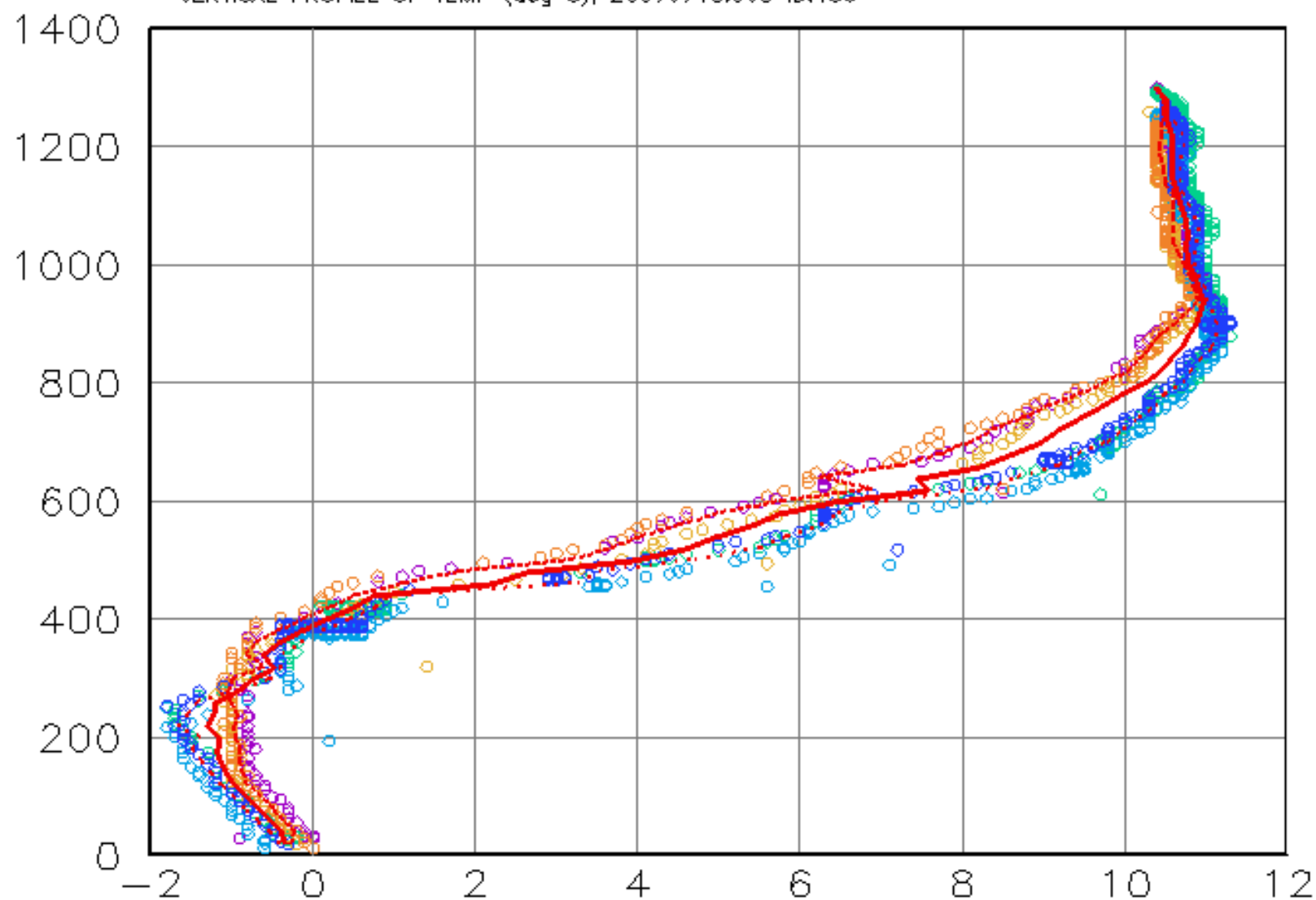
Troposphere



Õhutamperatuuri käik suvel



Altitude (m)



TEMP (deg C)

Kliima muutuse stsenaariumid Arktika jaoks

- Temperatuuri tõus 1,5-2,5°C aastateks 2020-2029 ja 4-6°C aastateks 2090-2099
- Sademete hulga suurenemine talvel üle 20% ja suvel 10-20% aastateks 2090-2099
- Põhja-Jäämeri muutub 21. sajandi lõpuks suvel peaaegu jäävabaks
- Gröönimaa mandrijää oluline vähenemine
- Igikeltse jätkuv sulamine

