

Polar Climate Working Group Session

June, 2009

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(Towards) CCSM4

Track I

(CSM3.5 Atmosphere; Other components updated)

- Several 1850 Runs
 - 2 degree atmosphere, 1 degree atmosphere
 - Different sea ice albedo tunings
 - Typically Arctic sea ice has been thin; winter distribution much improved over CCSM3; Antarctic ice improved over CCSM3
- Several 20th Century Runs
 - Different albedo tunings, CN on/off, land use change

Track V

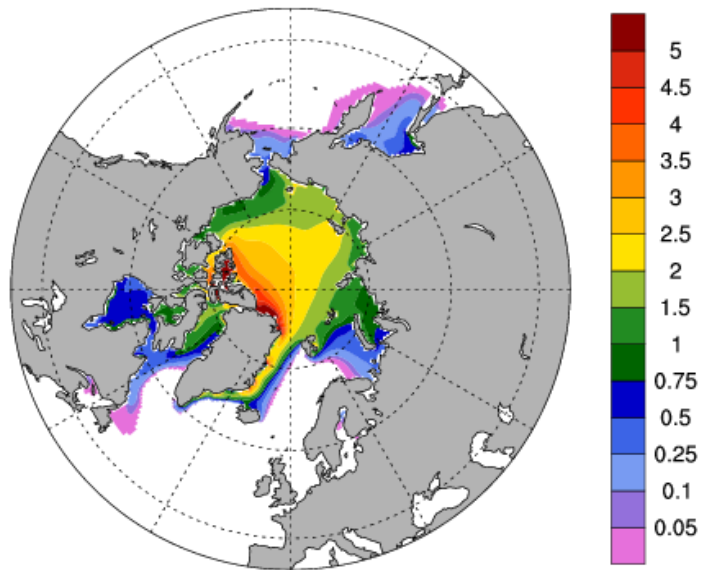
(Kitchen sink atmosphere; other components as in track 1)

- 1850 Control Runs (2 degree)
- 1990 Control Runs (2 degree)
- Sea ice typically very thin in Arctic

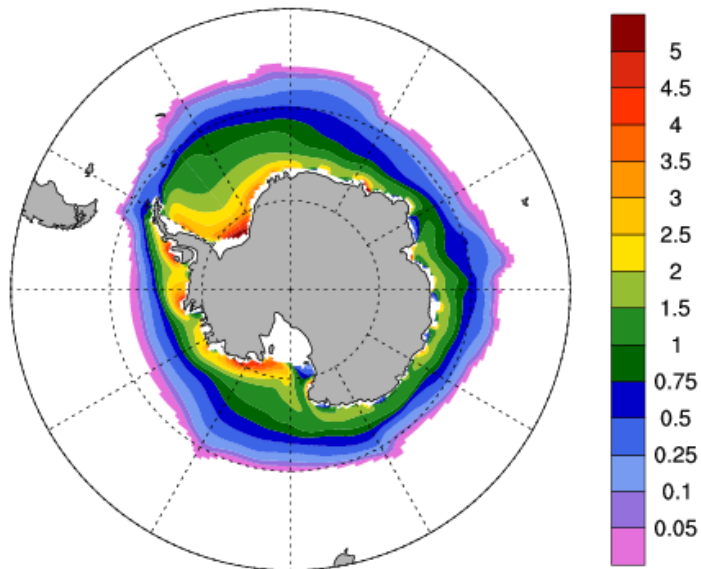
Sea Ice Thickness CCSM Runs

Case b40.20th.track1.005
ANN Mean Years 1955-1974

grid cell mean ice thickness m

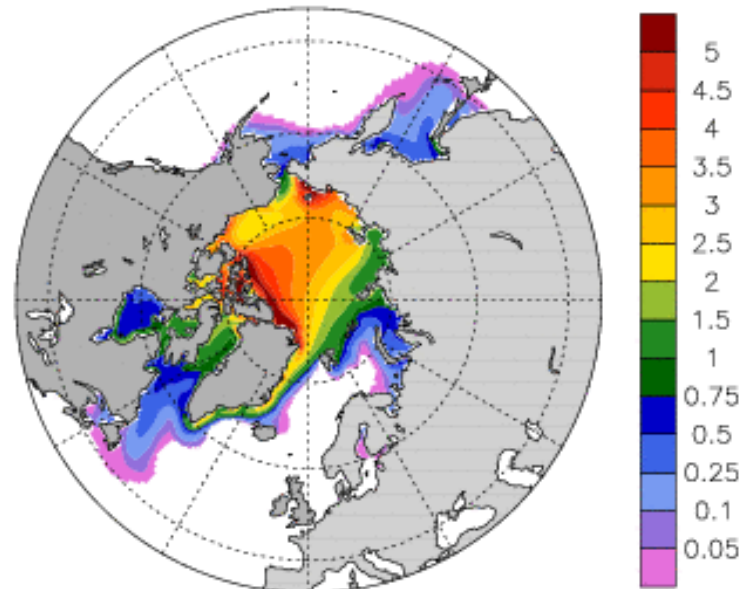


grid cell mean ice thickness m

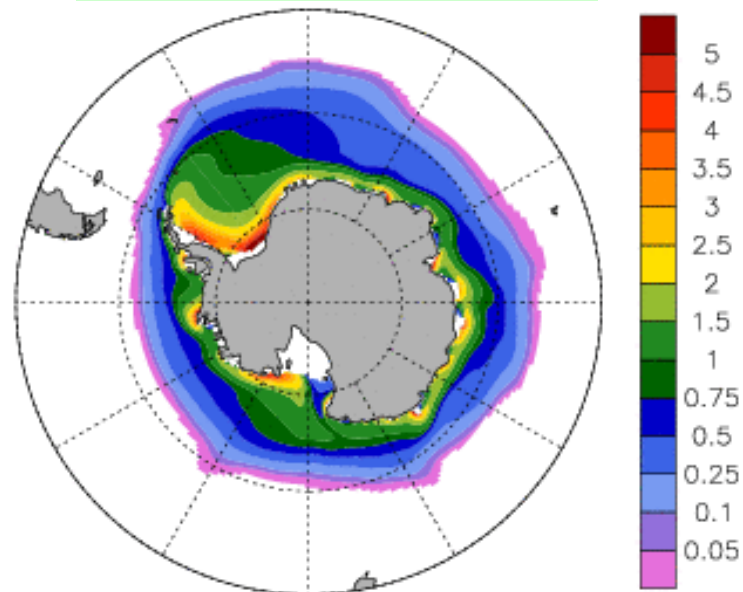


Case b30.030b.ES01 Years

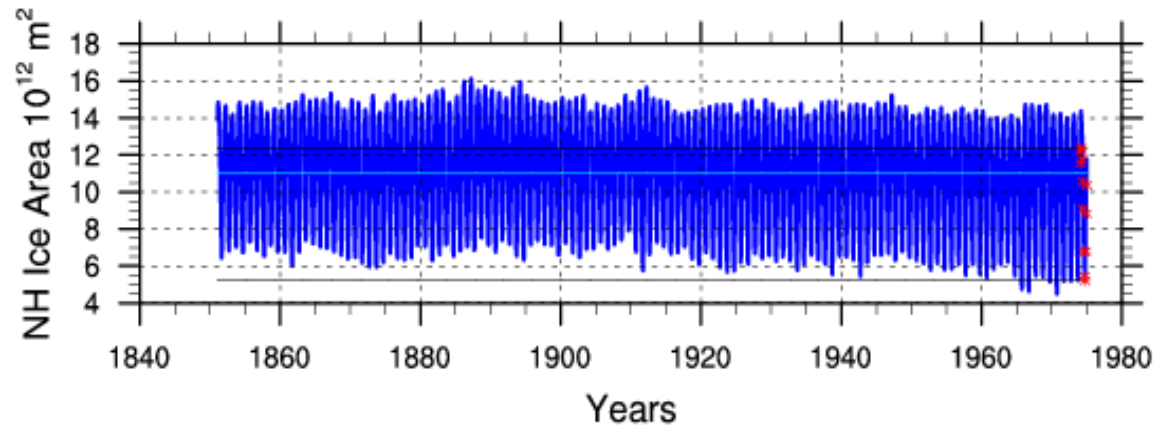
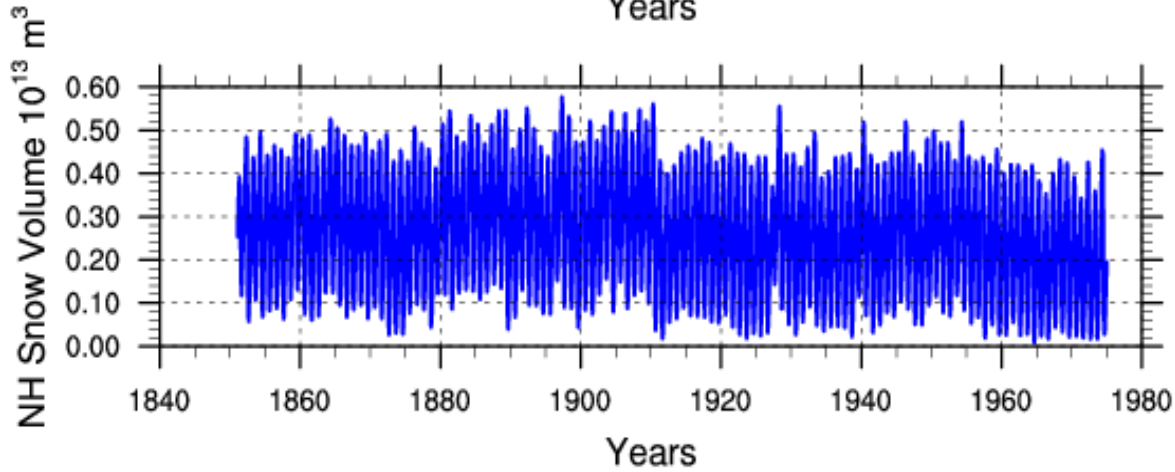
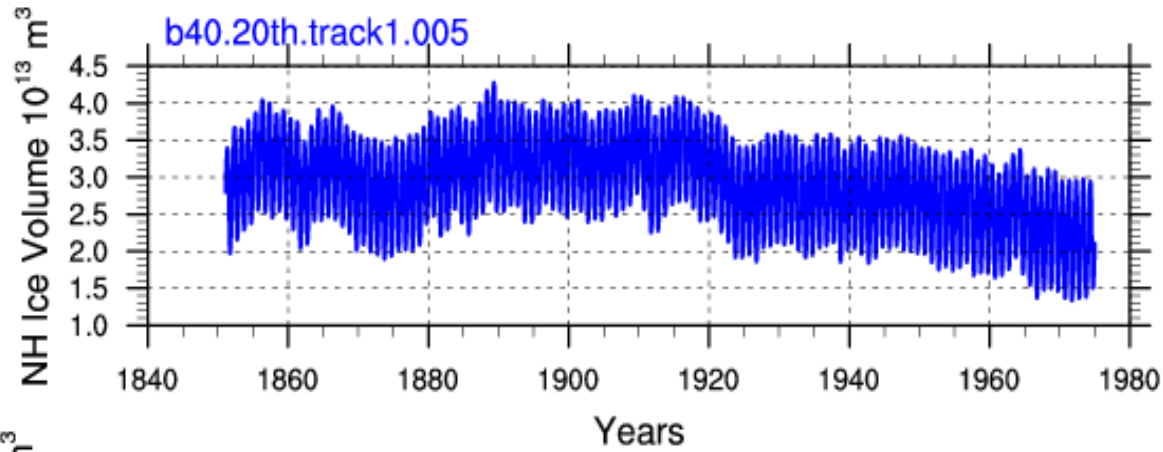
grid box mean ice thickness m



grid | CCSM3 1970-1999



b40.20th.track1.005



Different
model with
different
variability

Projects supported under CSL computing

- Sea ice predictability experiments
- Arctic Ocean freshwater tracer experiments
- Sea ice-marine ecosystem experiments
- The impact of black carbon on sea ice change
- The role of seasonal sea ice loss on the climate system
- The importance of changing snow conditions for Arctic sea ice mass budgets
- Changing seasonality in the Arctic system
- Stability of seasonally ice-free conditions

Questions?

b30.030b.ES01

