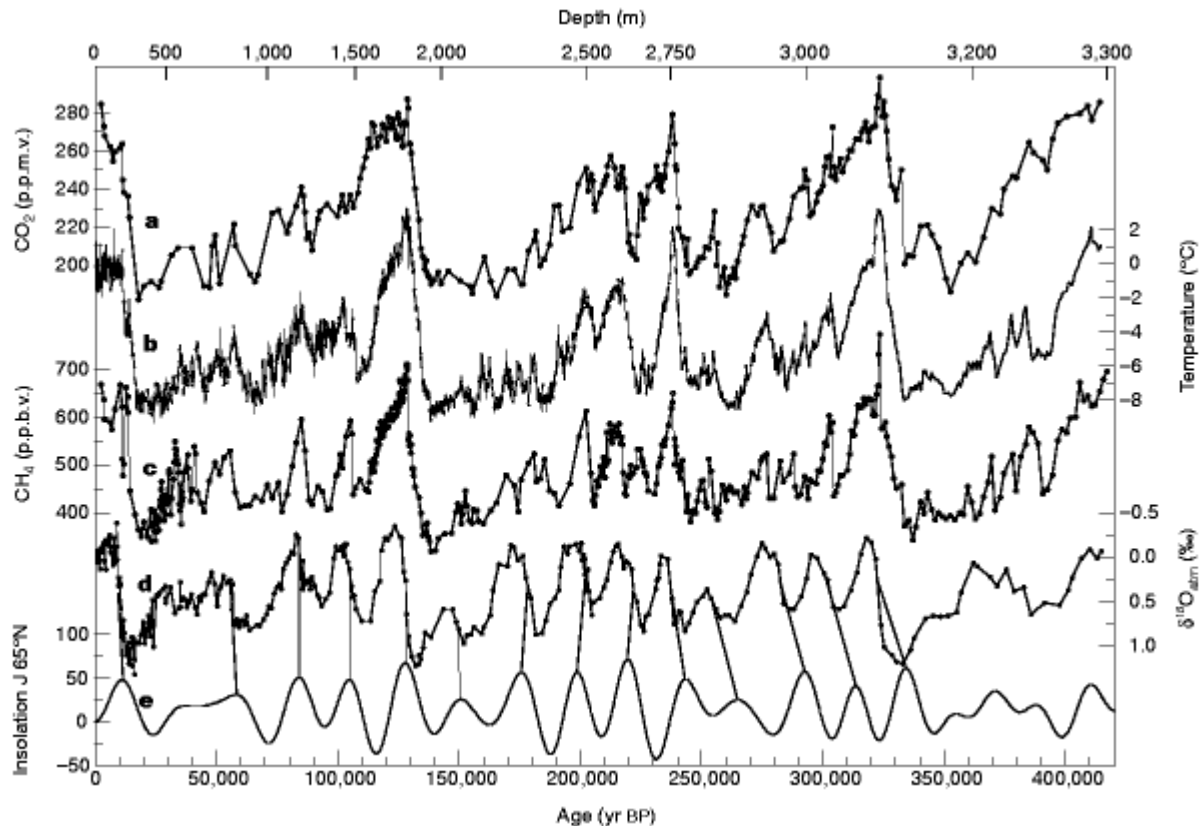


Glacial Inception in CCSM

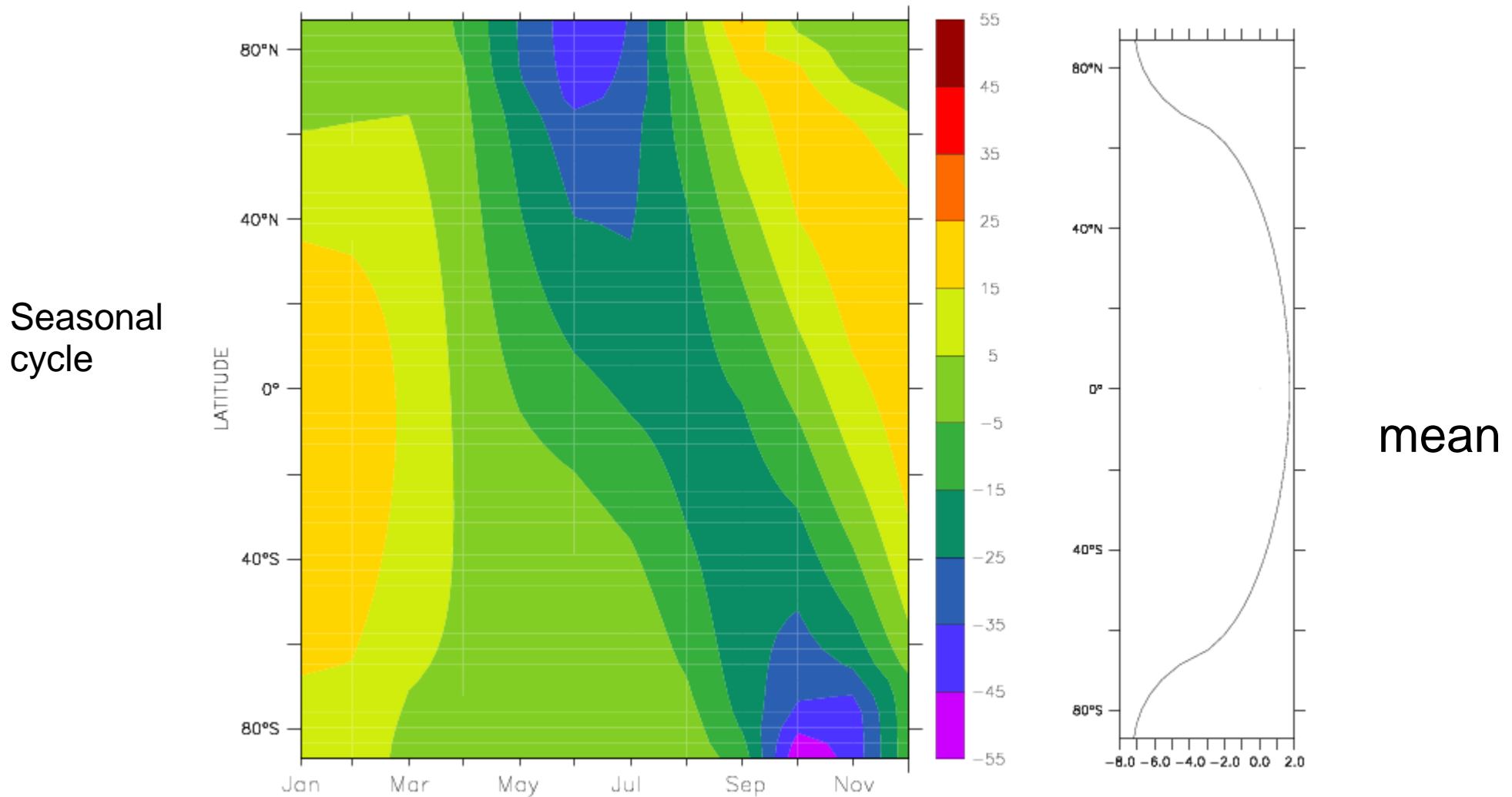
Jochum, Peacock, Moore & Lindsay

OMWG 2009



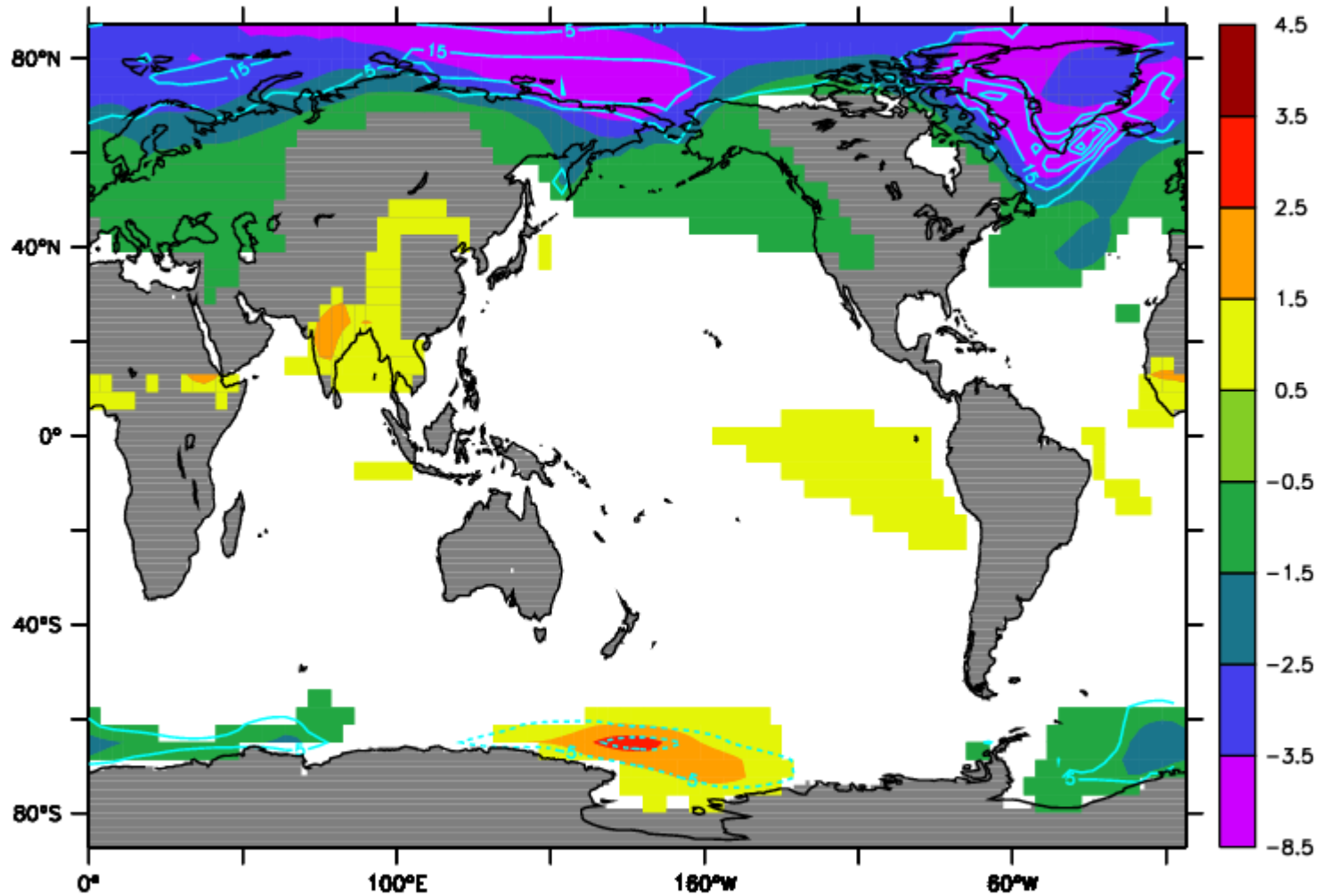
Insolation 115 kya

Difference between THEN and NOW

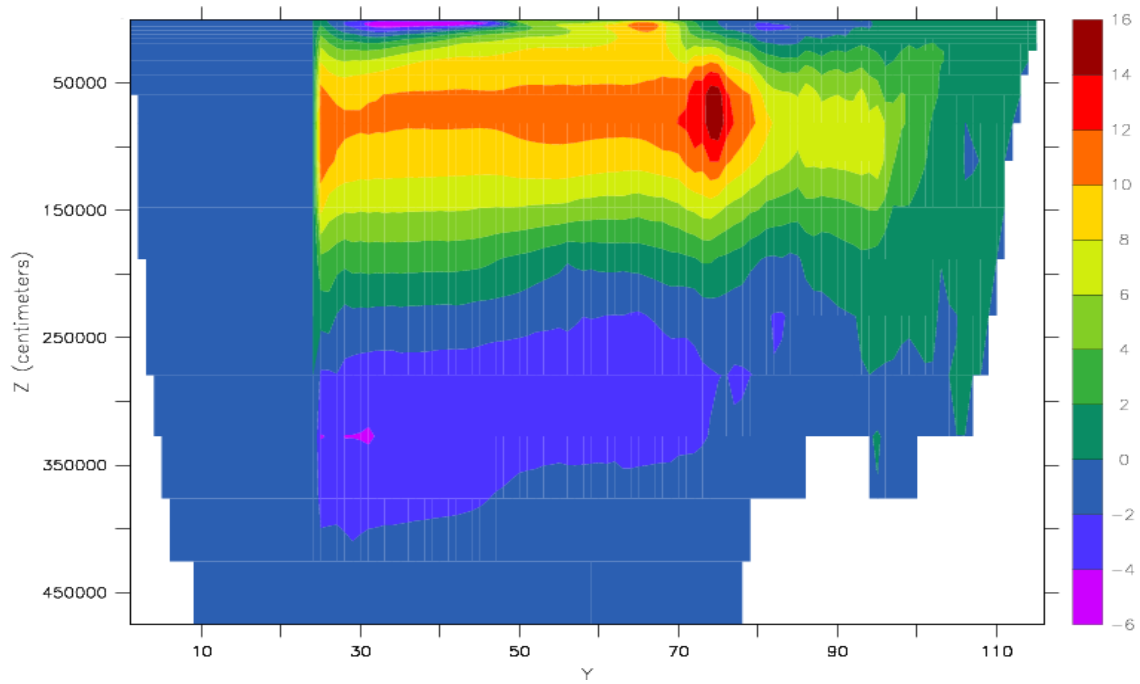


All figures are based on yrs 401-500 of T31x3/CCSM3.5.
Only difference between NOW and THEN is orbital parameters.

Difference in annual mean surface temperature

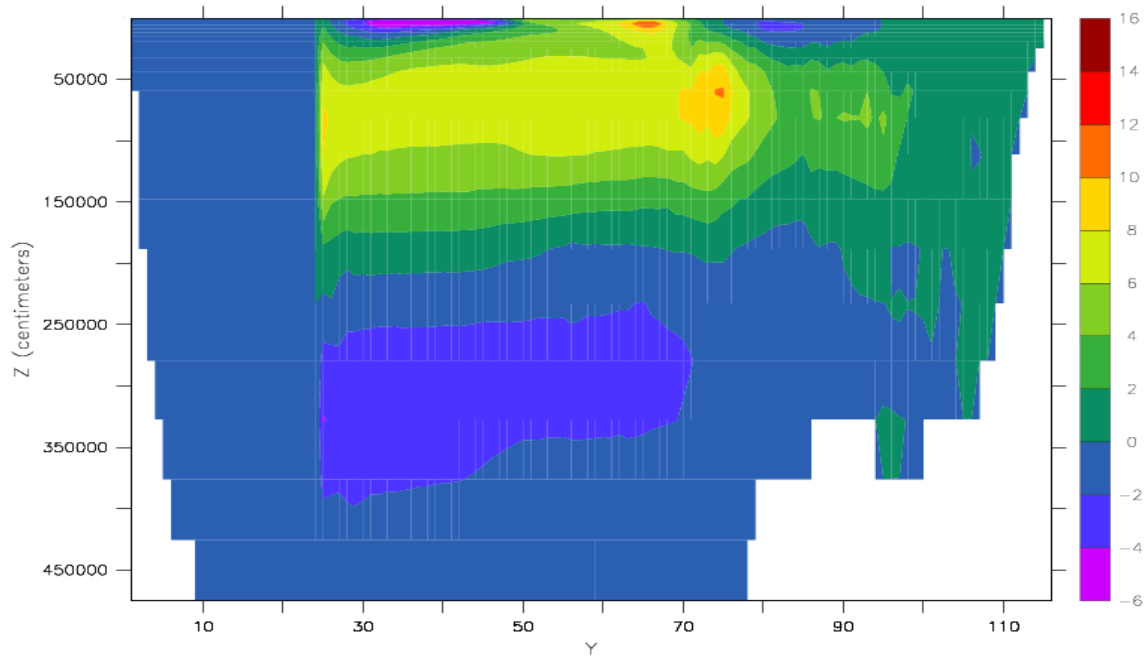


THEN - NOW

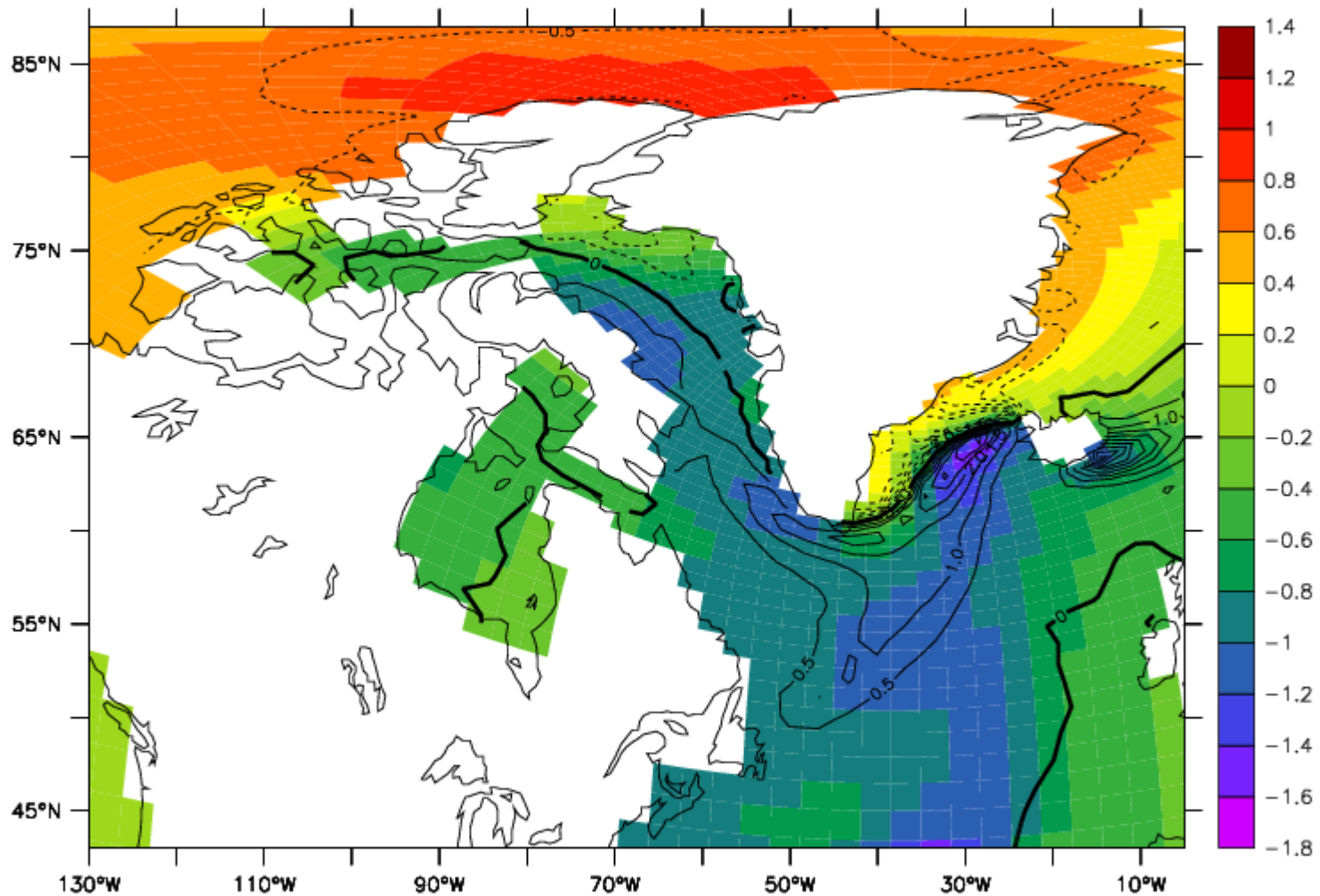


NOW

Atlantic MOC



THEN



Difference in meltwater flux (contour interval 0.5 m/yr) and SSS (psu) between THEN and NOW.

Conclusions

- no more hosing !!!
- CCSM first and only GCM to reproduce glacial inception with orbital parameter changes only!
 - this works in CCSM4 FV1x1 as well
 - simulations with fully interactive land free atmospheric CO₂ are currently under way