

Ice Historical Forecast Project

a WGSIP project

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Multimodel Experiment with Four Prediction Systems

UKMO GloSea4 (Arribas et al., 2011, 2012)

Max Planck Institute MPI-ESM (Steffen Tietsche and Dirk Notz)

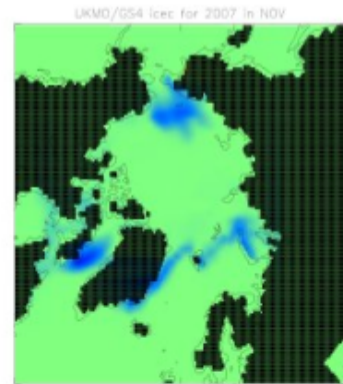
Meteo-France CNRM CM5.1 (Voldoire et al., 2012, Chevallier et al., 2012)

CCCma CanSIPS (Merryfield et al., 2012)

- 9 members for 2007 and 1996**
- with and without sea ice initialised according to observed extents**
- 1 November and 1 August initialisation for Winter and Autumn**

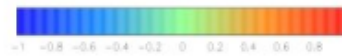
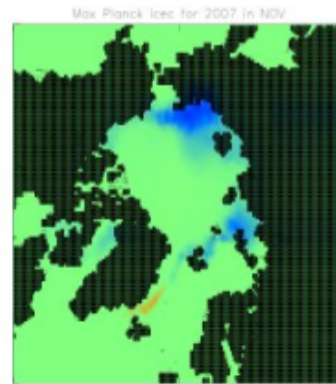
Difference in Sea Ice due to Initialisation

UKMO



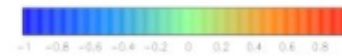
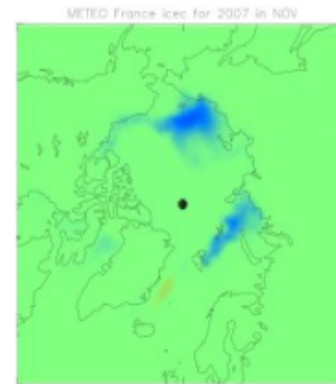
b)

MPI



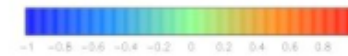
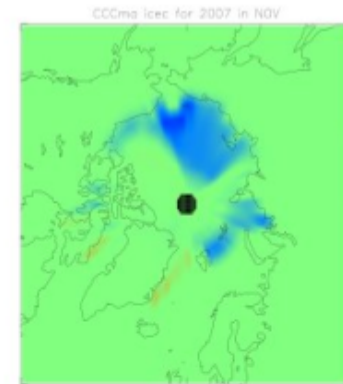
c)

MeteoFr

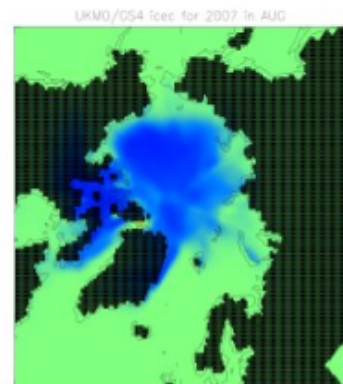


d)

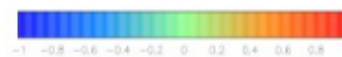
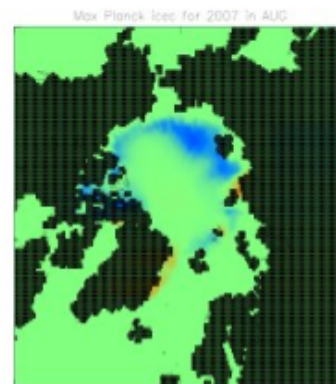
CCCma



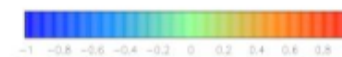
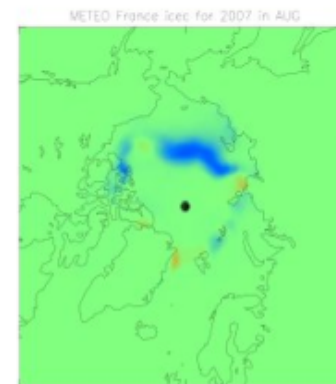
Nov



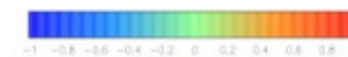
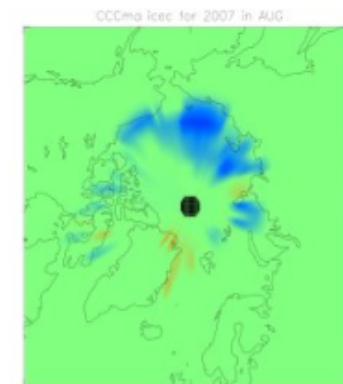
f)



g)

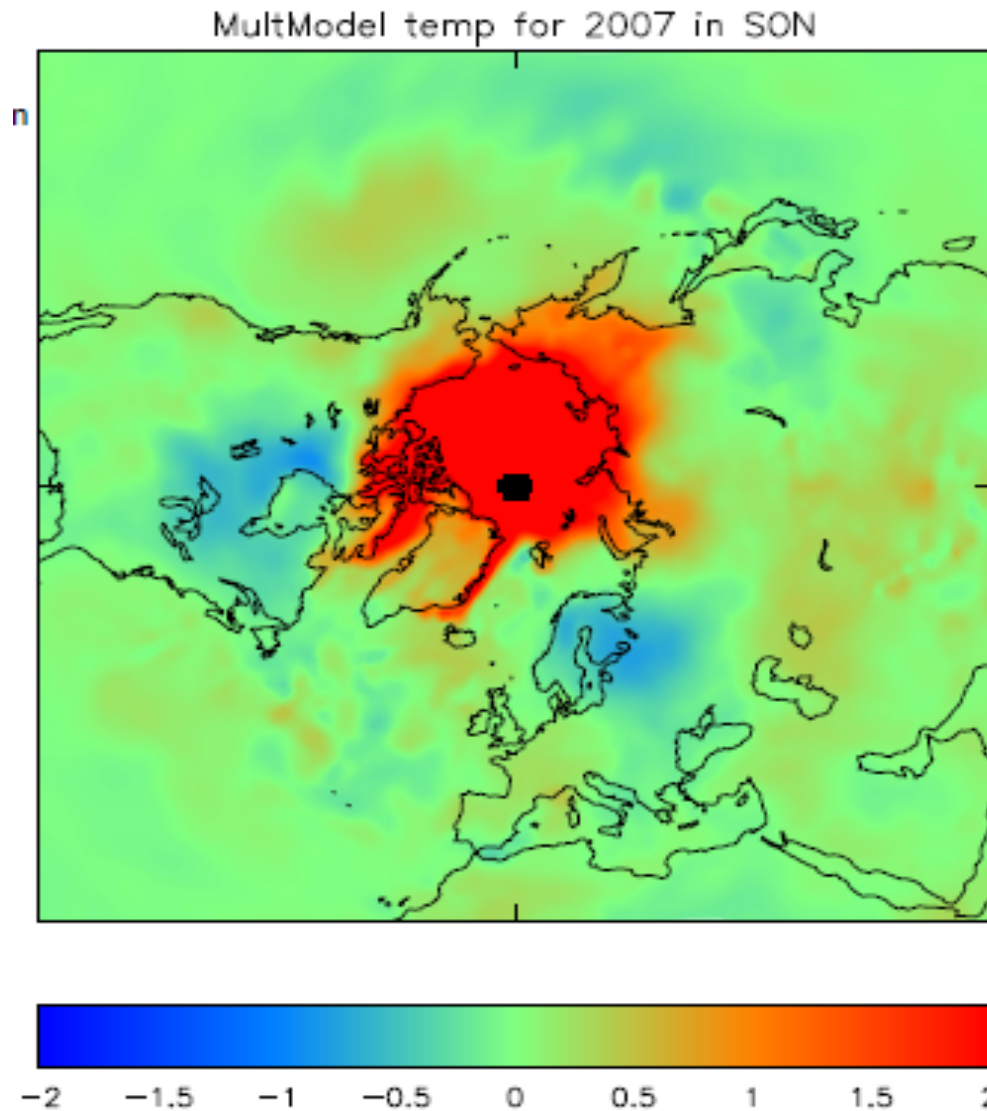


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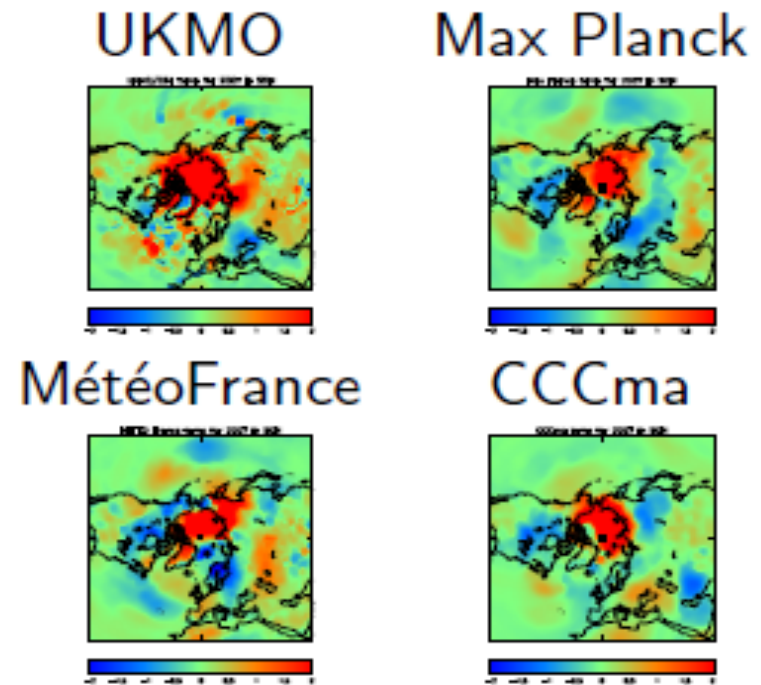


Aug

Autumn Near Surface Temperature Response

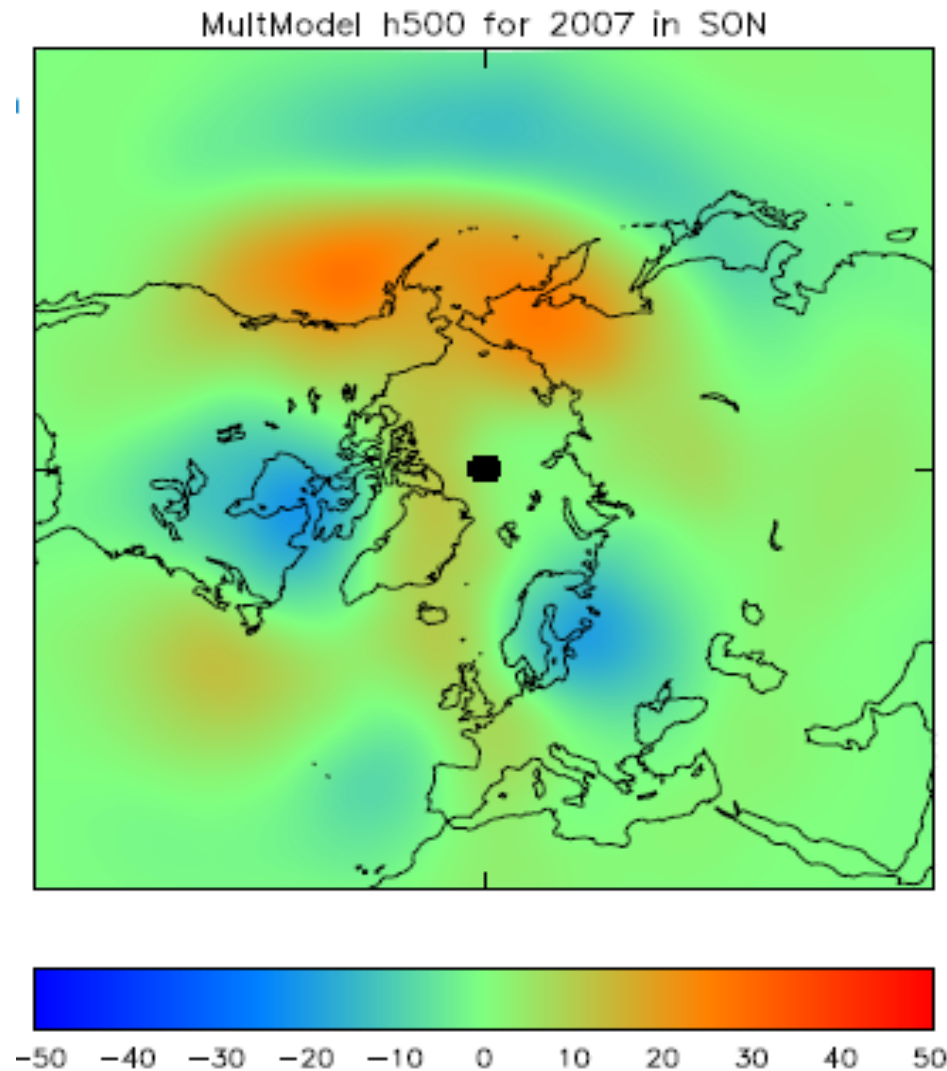


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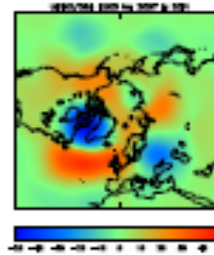


Autumn Geopotential Height Response

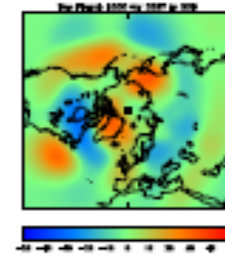
(@ 500hPa)



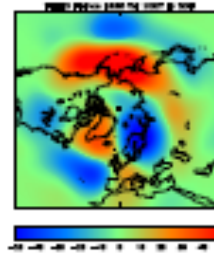
UKMO



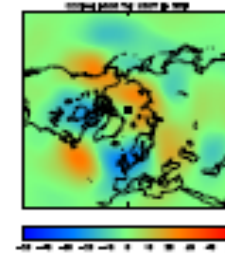
Max Planck



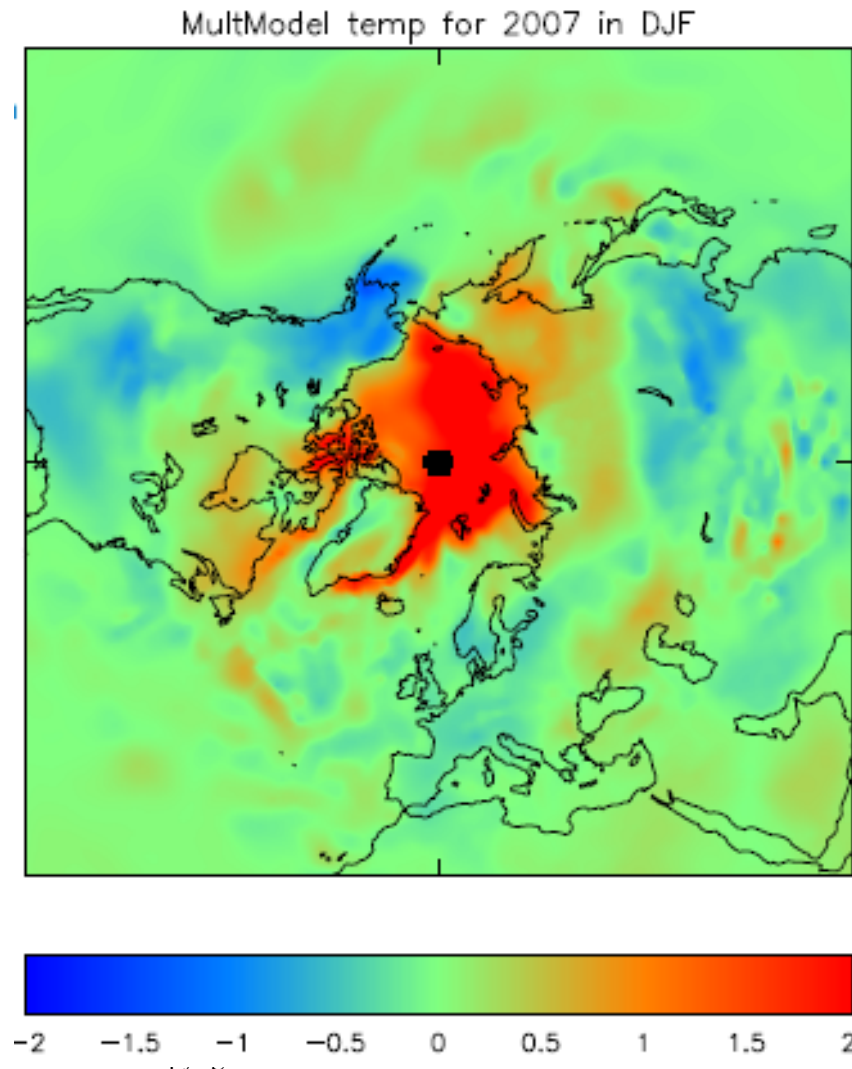
MétéoFrance



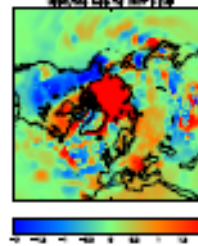
CCCma



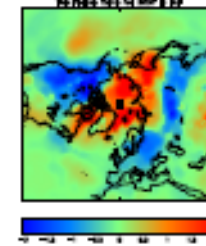
Winter Near Surface Temperature Response



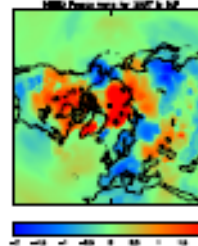
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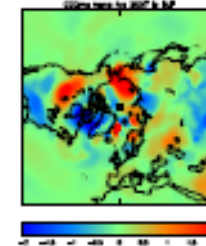
Max Planck



MétéoFrance

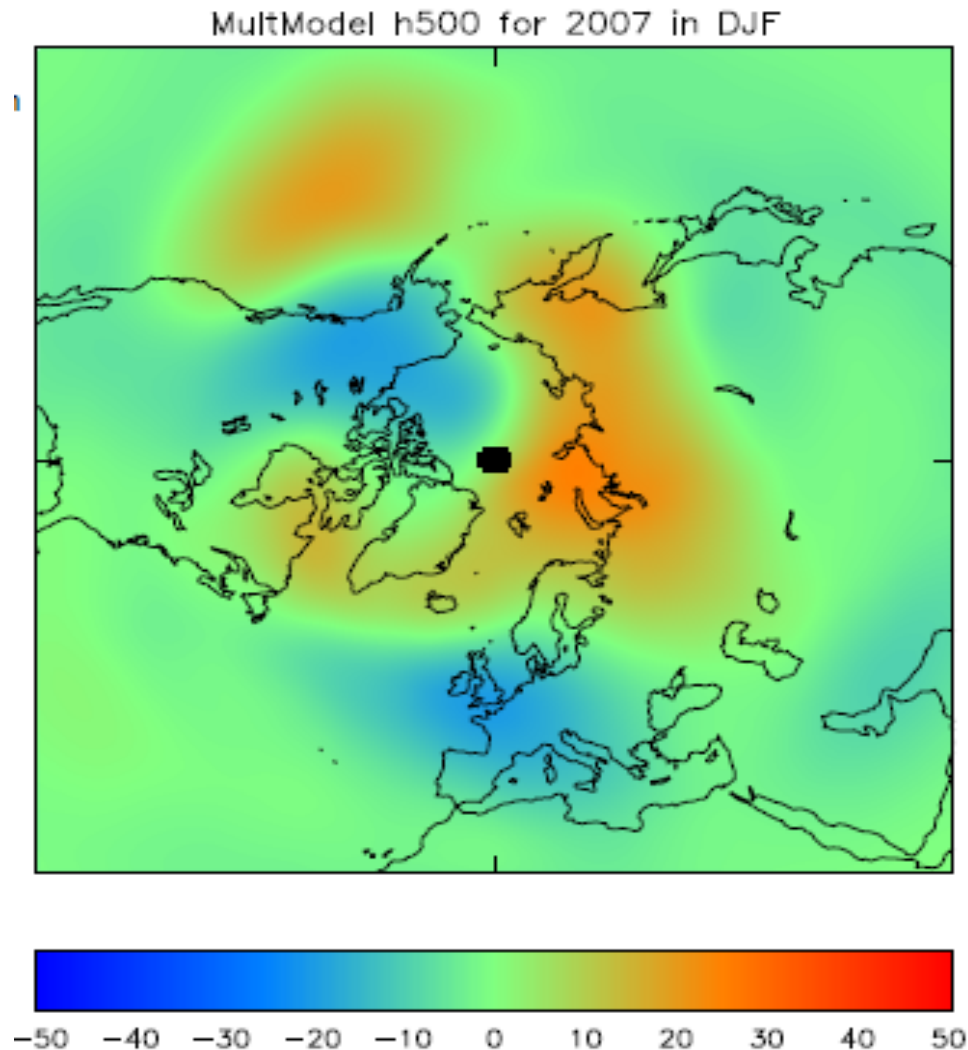


CCCma

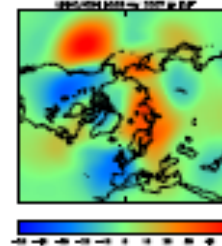


Winter Geopotential Height Response

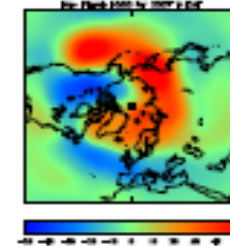
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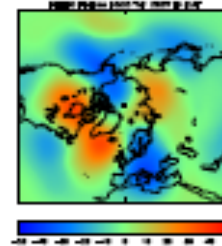
UKMO



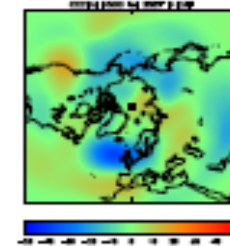
Max Planck



MétéoFrance



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Summary

Multiple Models show similar effects of ice initialization

Also similar to observed regressions

Winter circulation has blocking pattern over Scandinavia, reduced European temperatures

Also blocking pattern over west Pacific and reduced North American temperatures

Autumn circulation has jet stream returning south over Europe

Exact location varies with model

Paper in preparation:

Peterson et al 2012: The Effects of Sea Ice initialisation on Seasonal Forecasts – the WGSIP IceHFP Project