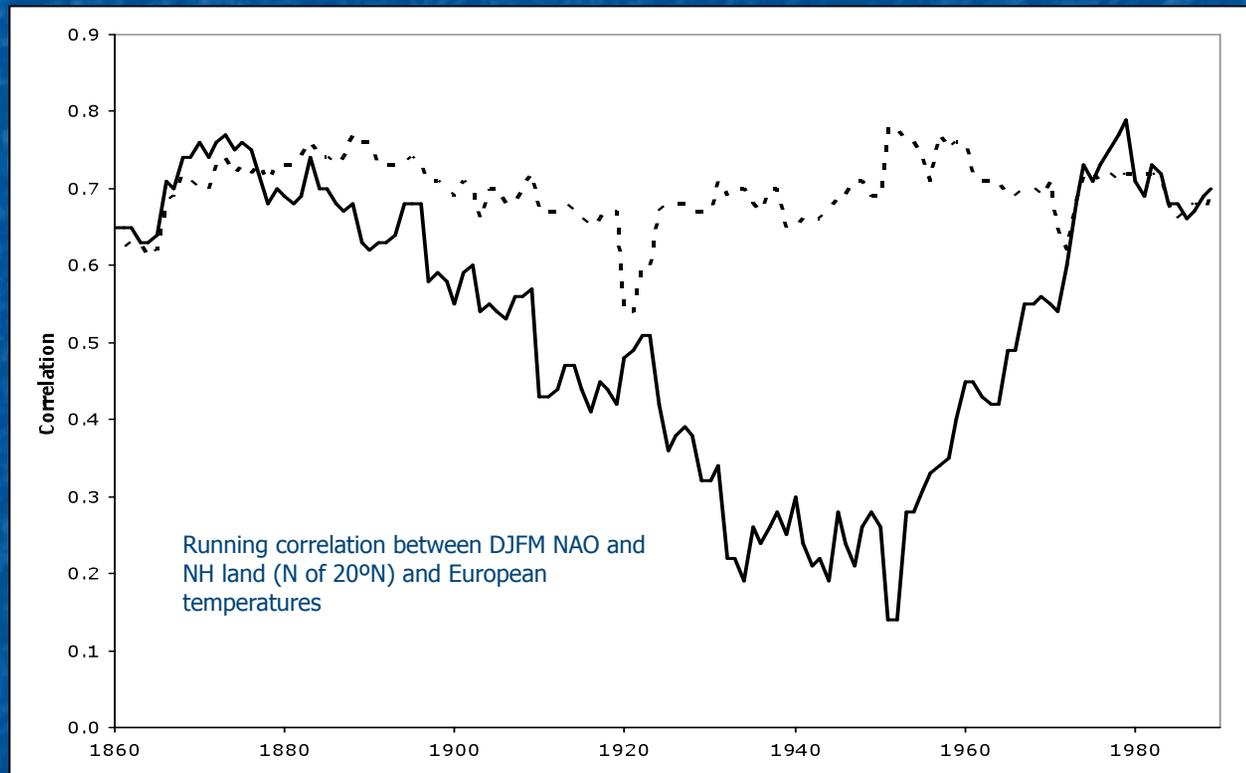


# Changes in the influence of the NAO on winter surface temperatures over the NH: a possible explanation

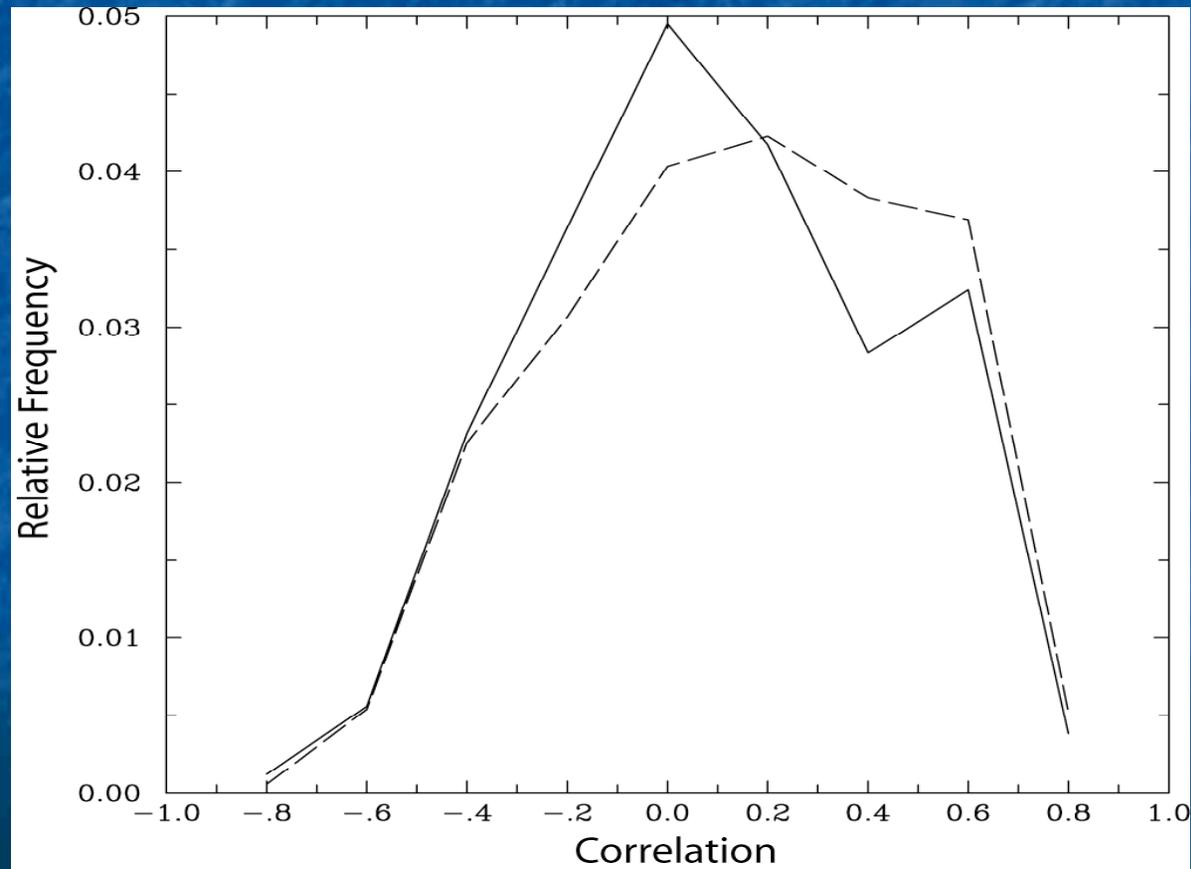
Phil Jones and Malcolm Haylock, CRU, UEA, Norwich, UK

The issue – correlation between the NAO and winter temperatures changes with time

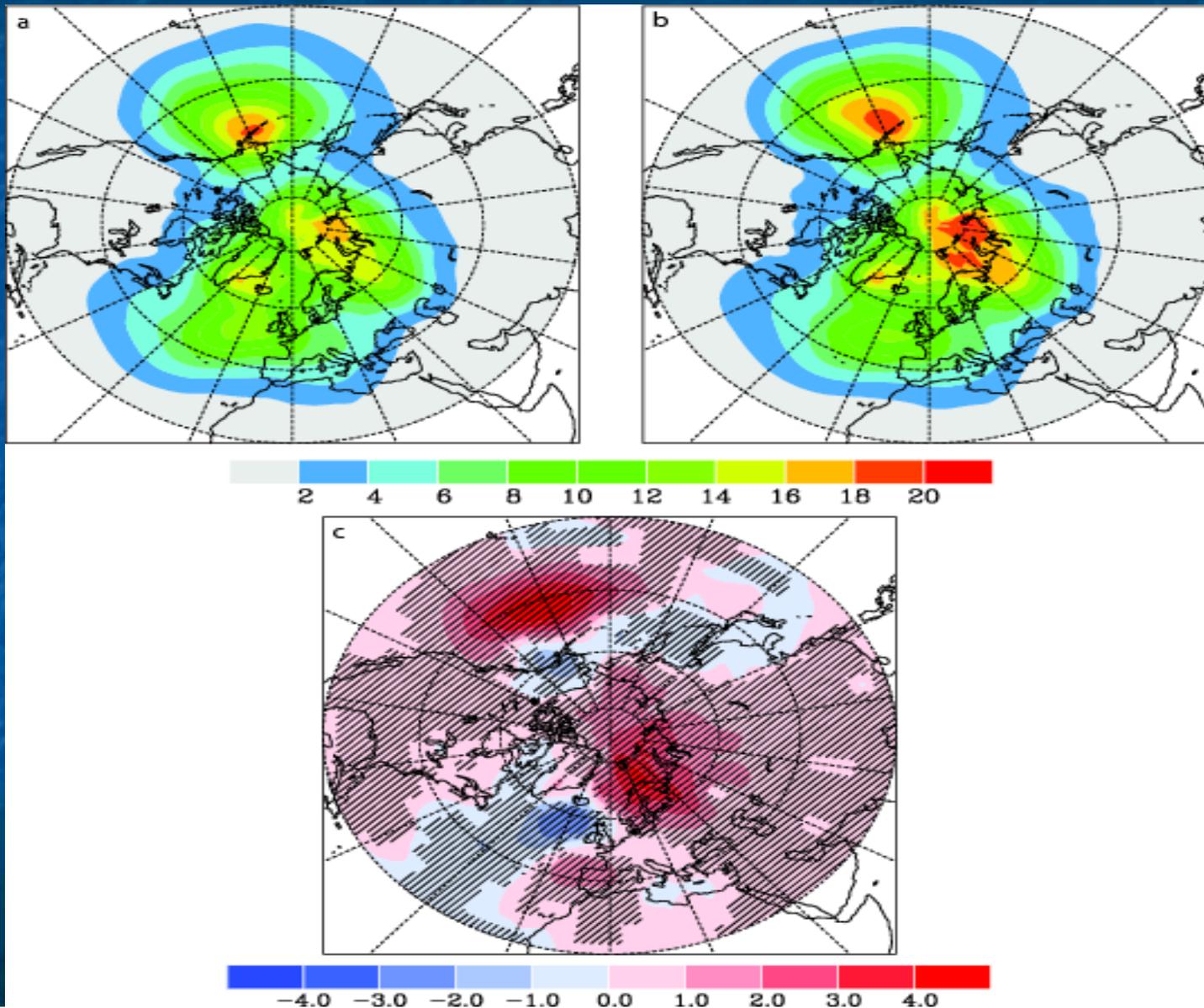


Haylock, M.R. et al., 2006: Decadal changes in 1870-2204 NH winter sea-level pressure variability and relationship with temperature. JGR (submitted).

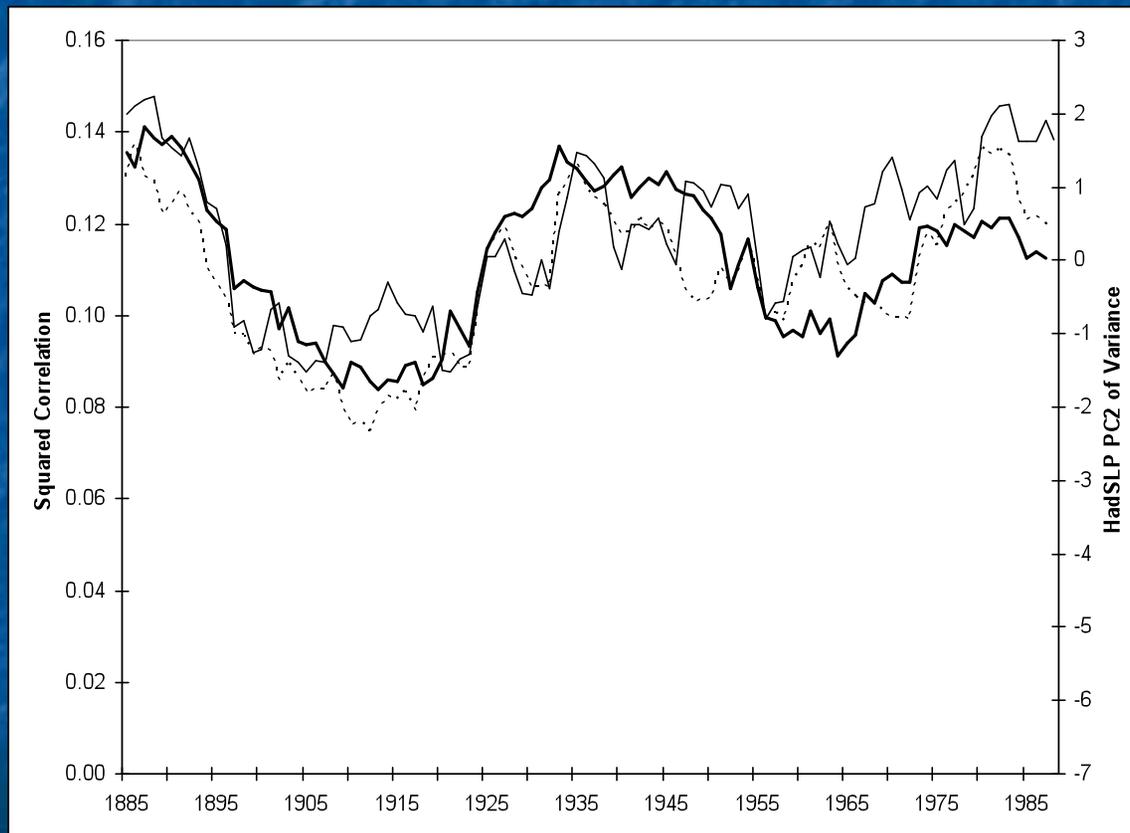
Changes shown not to be due to changes in coverage. Instead they relate to a change in the pdf of local correlations with the NAO. Solid line is that for overall correlation below median (above median dashed).



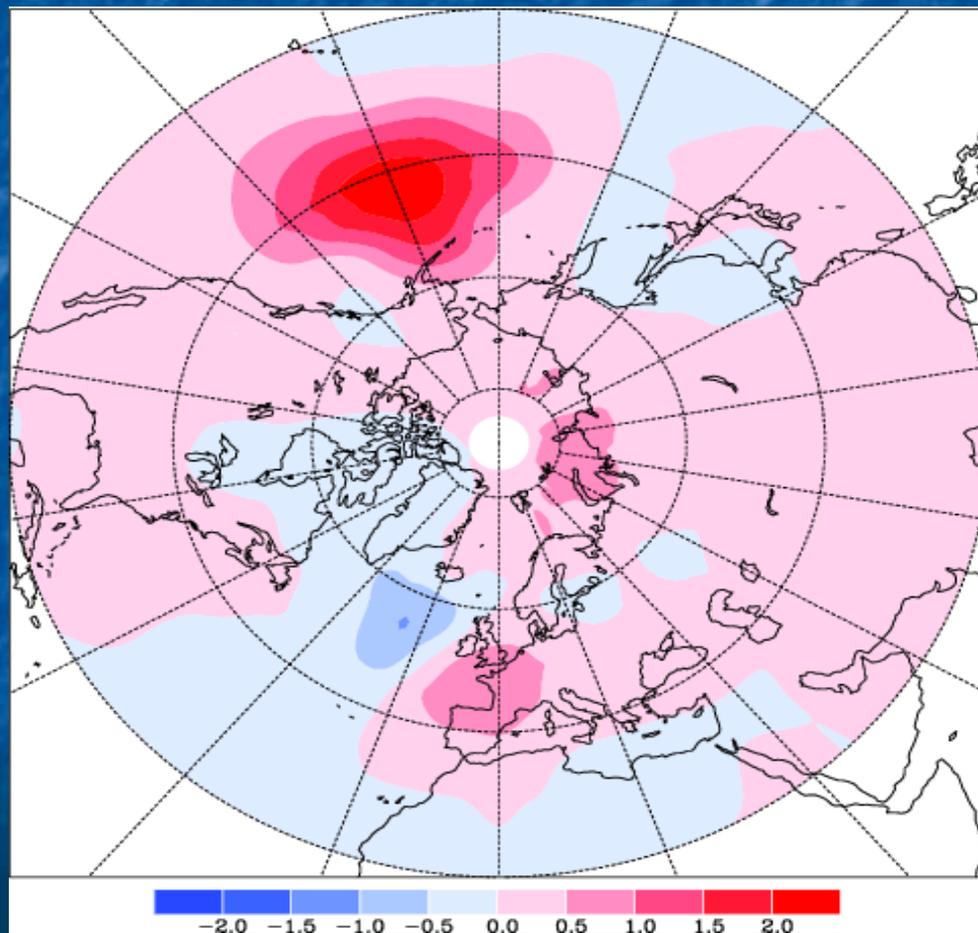
Composite of HadSLP2 variance for periods when  $R^{*2}$  between NAO and HadCRUT2v is a) below, b) above its median. c) is difference.



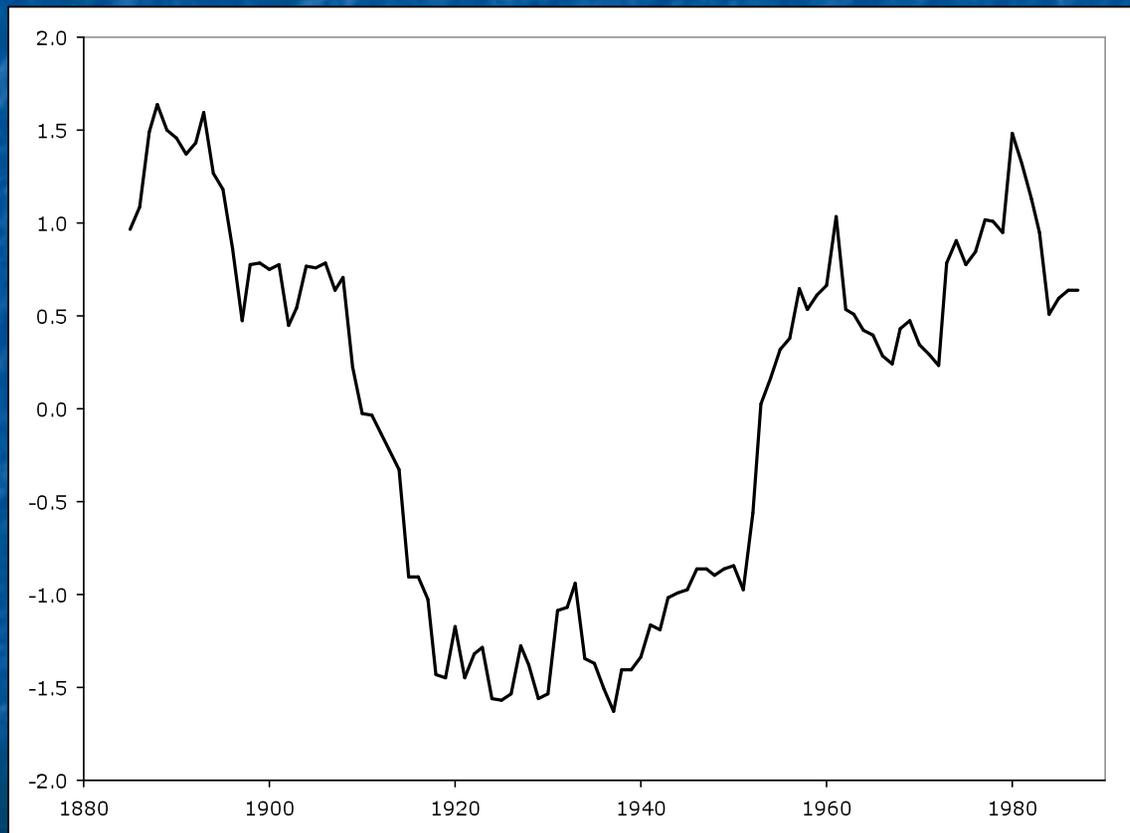
Second PC of running 31-year DJFM SLP variance (solid line). Thin line is running 31-year correlation between NAO and HadCRUT2v. AO is dashed line.



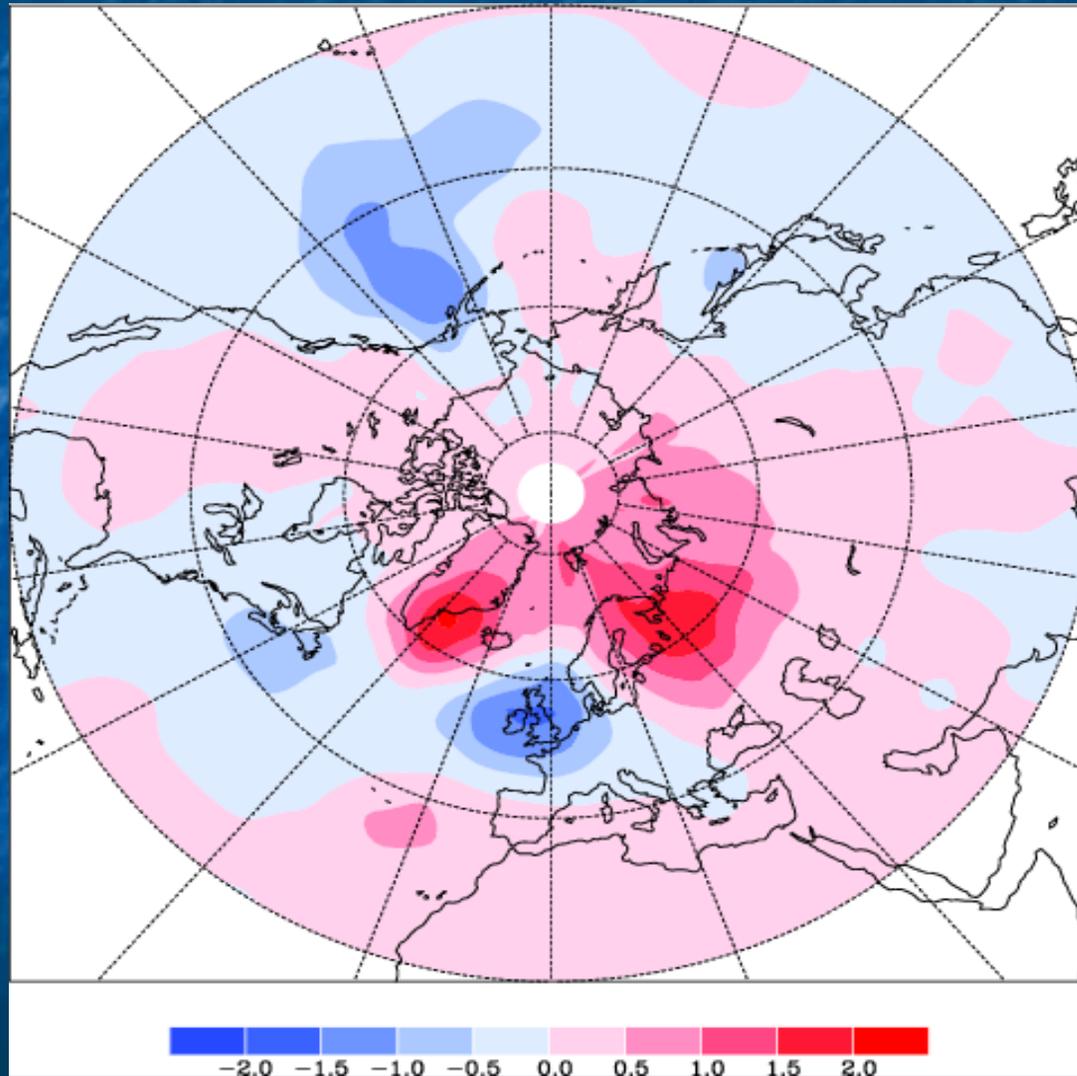
## Second PC of running variance of HadSLP2



## First PC of running 31-year DJFM SLP variance



# First PC of running variance of HadSLP2



## Conclusions

The issue – correlation between the NAO and winter temperatures changes with time

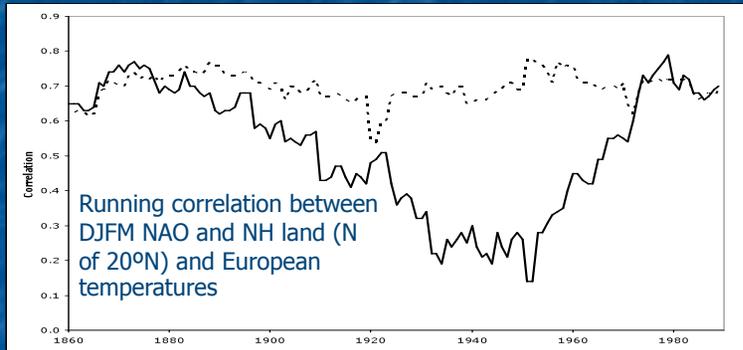
Changes shown not to be due to changes in coverage. Instead they relate to a change in the pdf of local correlations with the NAO.

Appears related to conditions in the North Pacific, which has marked changes in temporal variability, whereas the North Atlantic has fairly constant variability. It seems as though the North Pacific undergoes increases in temporal variance when ENSO influences on the North Pacific are weak.

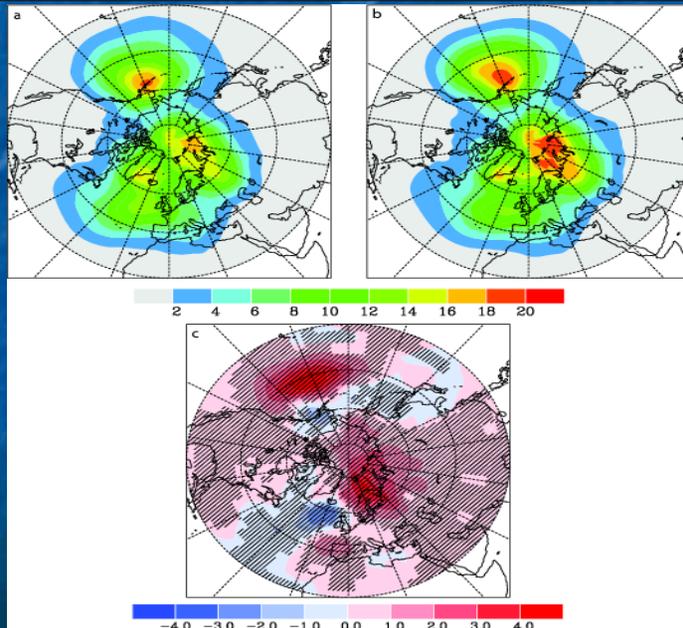
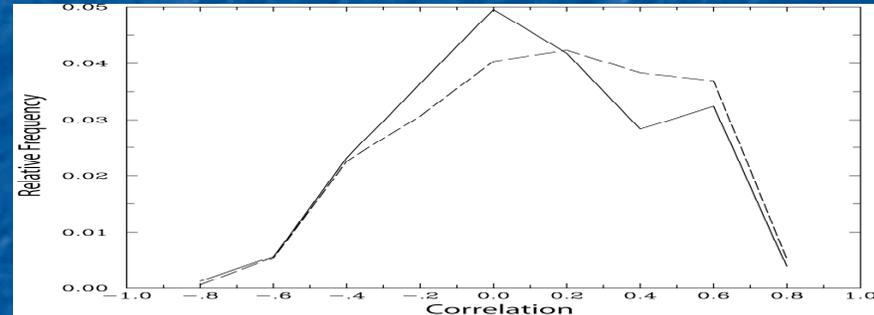
# Changes in the influence of the NAO on winter surface temperatures over the NH: a possible explanation

Phil Jones and Malcolm Haylock, CRU, UEA, Norwich, UK

The issue – correlation between the NAO and winter temperatures changes with time

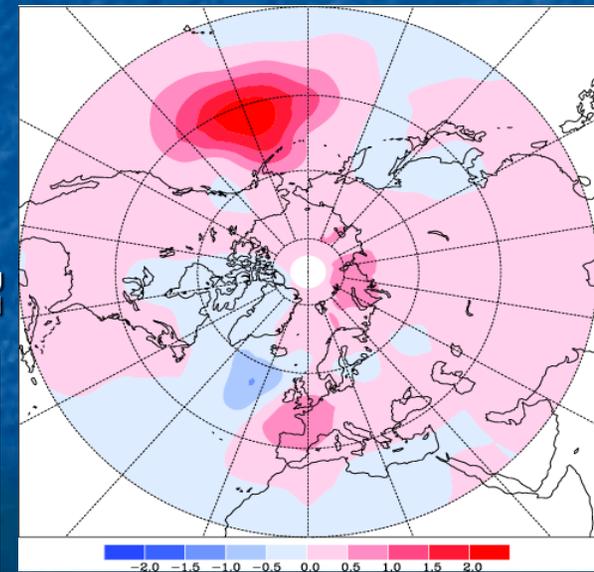
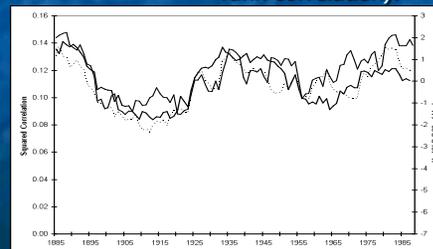


Changes shown not to be due to changes in coverage. Instead they relate to a change in the pdf of local correlations with the NAO. Solid line is for overall correlation below median (above median dashed).



Composite of HadSLP2 variance for periods when  $R^{**2}$  between NAO and HadCRUT2v is a) below, b) above its median. c) is the difference.

Second PC of running variance of HadSLP2 (right) and its time series compared with the  $R^{**2}$  series (using latitude weighting and rank correlation).



Haylock, M.R. et al., 2006: Decadal changes in 1870-2204 NH winter sea-level pressure variability and relationship with temperature. JGR (submitted).