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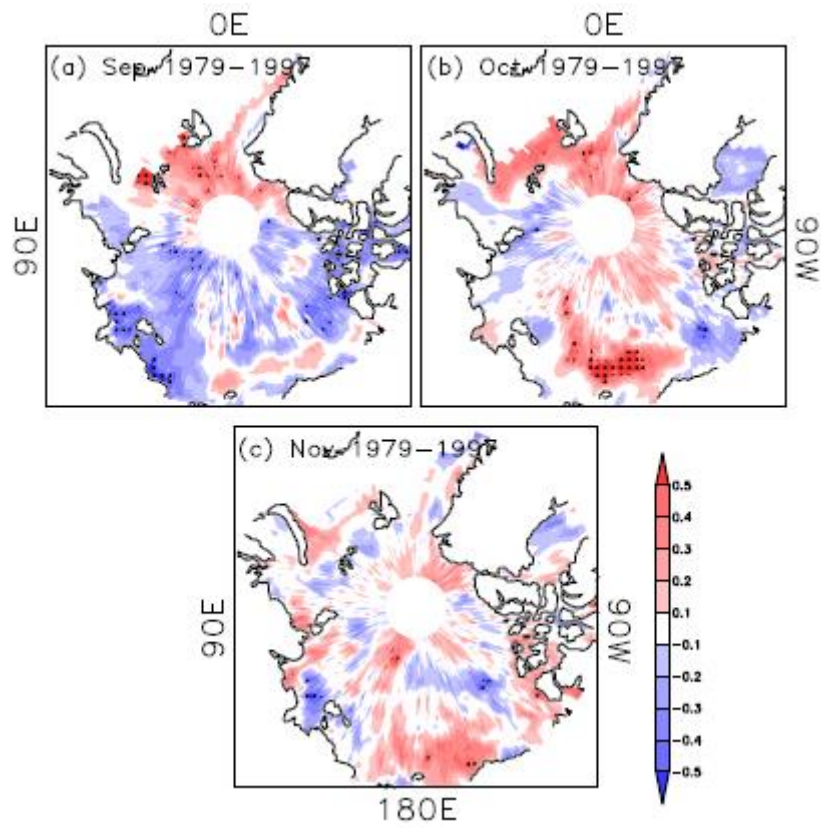
*Supplement of*

## **The strengthening relationship between Eurasian snow cover and December haze days in central North China after the mid-1990s**

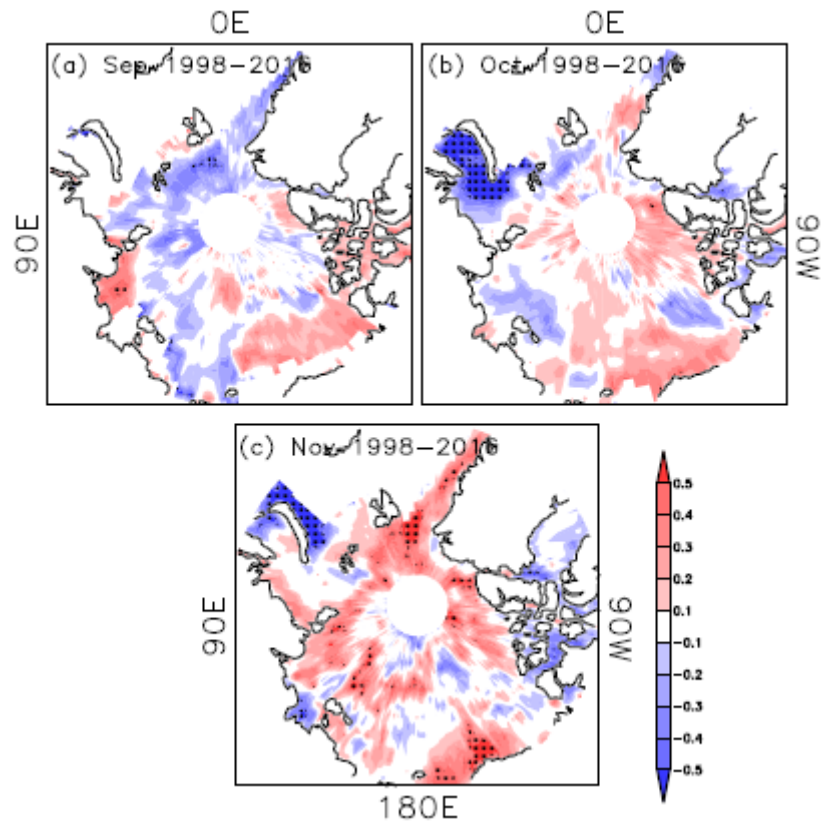
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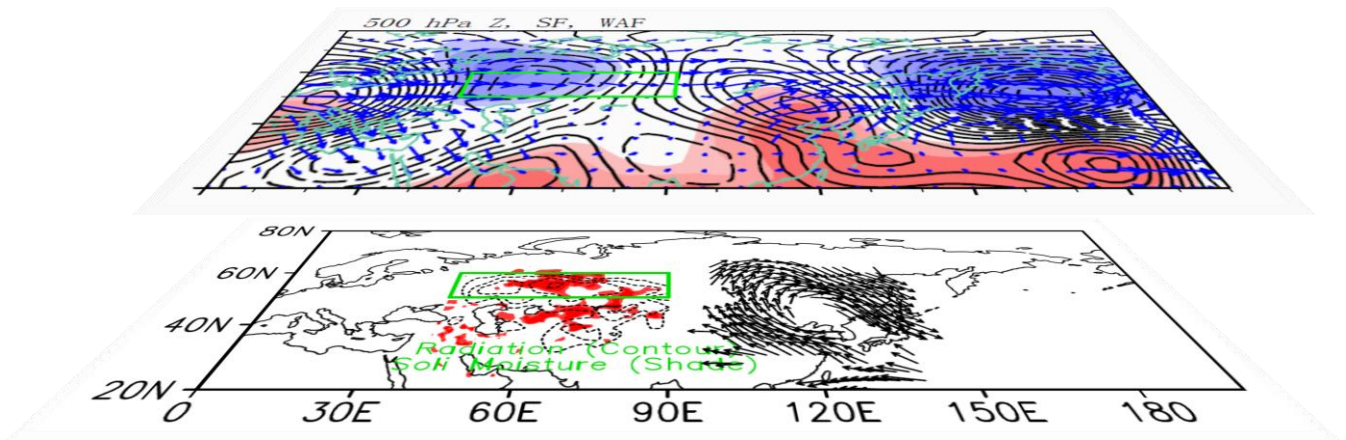
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**Figure S1.** The CC between  $SC_{ES}$  and September (a), October (b) and November (c) Arctic sea ice from 1979 to 1997 after detrending. The black dots indicate CC exceeding the 95% confidence level (t test).



**Figure S2.** The CC between  $SC_{ES}$  and September (a), October (b) and November (c) Arctic sea ice from 1998 to 2016 after detrending. The black dots indicate CC exceeding the 95% confidence level (t test).



**Figure S3.** Diagram of the associated physical mechanisms. Near surface, the ON radiation (contour) and soil moisture (shade) were influenced by the SCES. On the mid-high level, the teleconnected Rossby wave-like pattern propagated into the Central North China, representing by Z500 (shade), stream function (contour) and wave activity flux (arrow). Finally, the local anti-cyclonic circulation near surface (arrow) led to weak ventilation conditions in December.