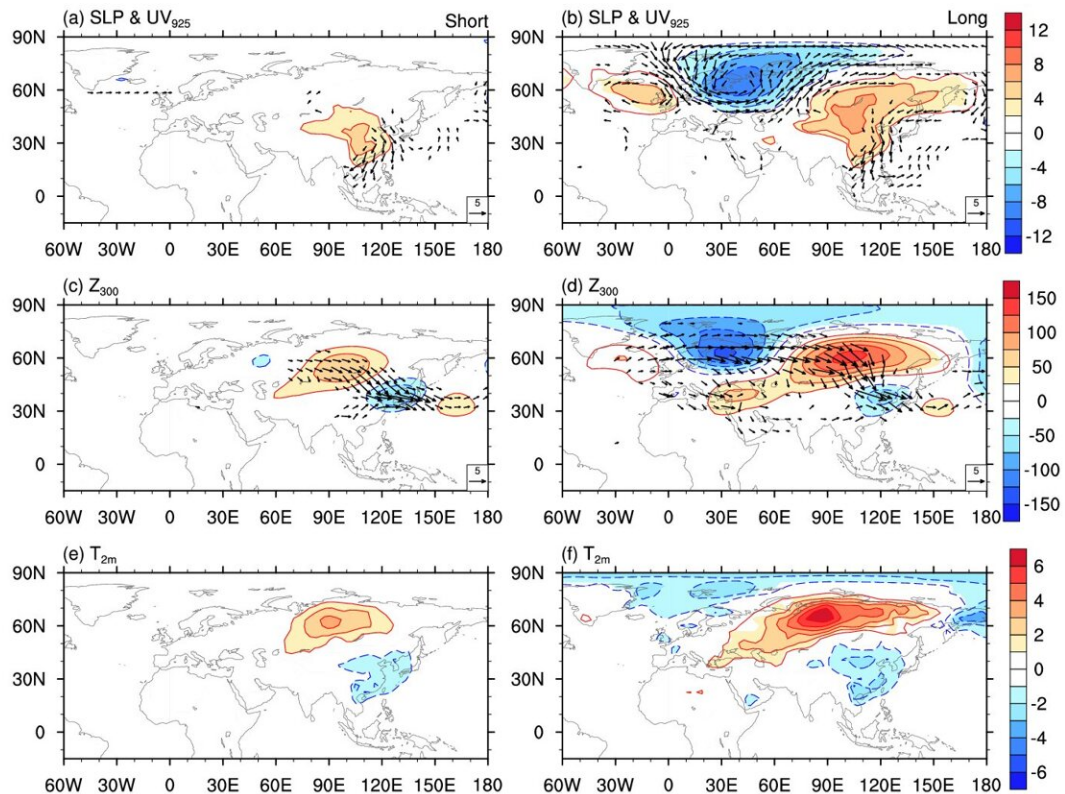


Teleconnection from North Atlantic contributes to persistence of cold surges over South China Sea

January 21 2022, by Li Yuan



Circulation anomalies relevant to the onset of short- (left) and long-lived cold surge events over the South China Sea. Credit: IAP

Cold surge over the South China Sea is known as a typical but hazardous weather phenomenon during the boreal winter. It exhibits important socioeconomic effects on adjacent countries.

In general, cold surge is characterized as a transient disturbance, which keeps its strength for only one or two days. However, it is reported that some cold surges can persist for a much longer time, posing a more severe threat to [human society](#).

Recently, a study by researchers at the Institute of Atmospheric Physics of the Chinese Academy of Sciences shows evidence that the distinct extratropical circulation anomalies are responsible for the short-lived and long-lived cold surges. The result shows that the Scandinavian (SCA) pattern is responsible for the persistence of long-lived cold surges, which is absent in the short-lived ones.

The study was published in the *Journal of Climate*.

The researchers found that nearly 80% long-lived cold surges over the South China Sea were preceded by a negative phase of quasi-stationary SCA pattern. Furthermore, the connection was mainly conducted by facilitating blocking occurrence through the extensive anticyclone over central Siberia.

"This [work](#) has an implication for the extended weather forecast," said Dr. Pang Bo, the lead author of the study. "The teleconnection originated from North Atlantic can affect weather phenomena over the South China Sea."

More information: Bo Pang, Riyu Lu, and Rongcai Ren, Impact of the Scandinavian pattern on long-lived cold surges over the South China Sea, *Journal of Climate* (2021). [DOI: 10.1175/JCLI-D-21-0607.1](https://doi.org/10.1175/JCLI-D-21-0607.1)

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