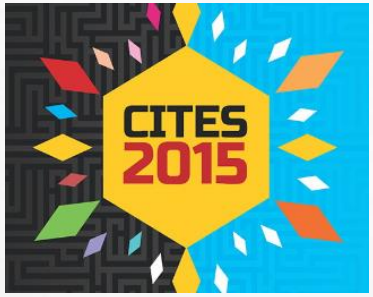

International Conference and Young Scientists School on Computational Information Technologies for Environmental Sciences: "CITES-2015" Tomsk, Russia, 20 – 30 June, 2015

VARIABILITY OF ATMOSPHERIC CIRCULATION IN RESPONSE TO CLIMATE CHANGE IN WEST SIBERIA IN THE END OF XX AND IN BEGINNING OF XXI CENTURIES

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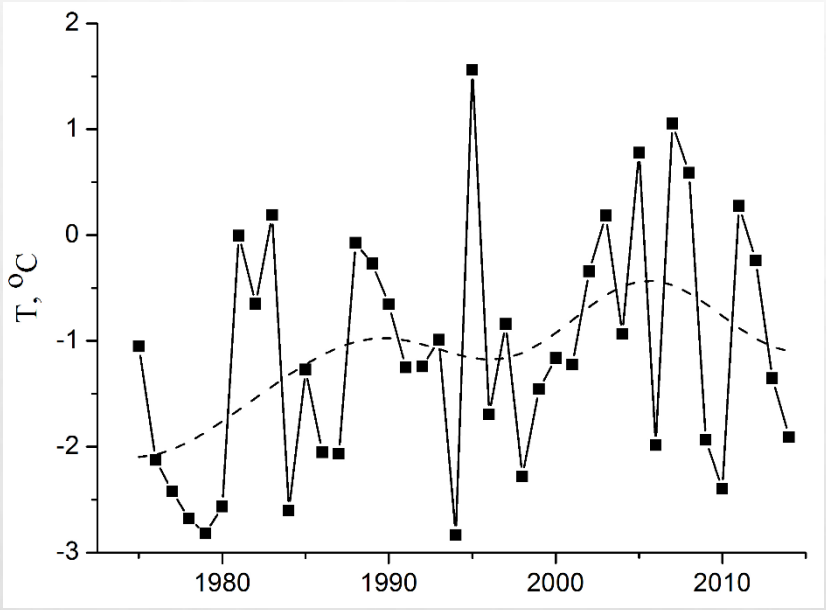
MAIN GOAL

TO INVESTIGATE THE VARIABILITY OF SPATIAL AND TEMPORAL DISTRIBUTIONS OF TEMPERATURE AND PRESSURE AND ATMOSPHERIC CIRCULATION PARAMETERS FOR THE TERRITORY OF WEST SIBERIA OVER THE PERIOD OF 1976-2014

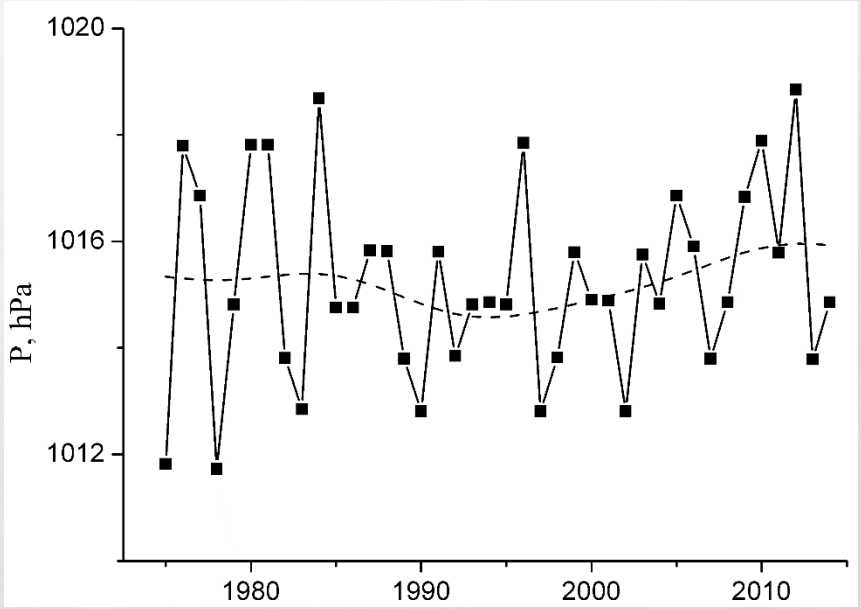
Temporal variability of meteorological parameters

Average annual

Air temperature



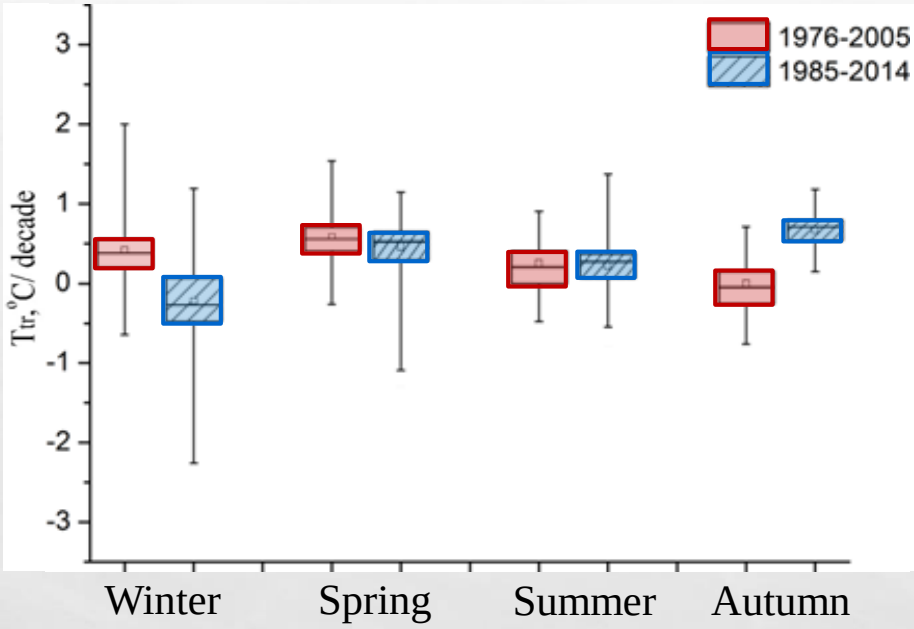
Atmospheric pressure

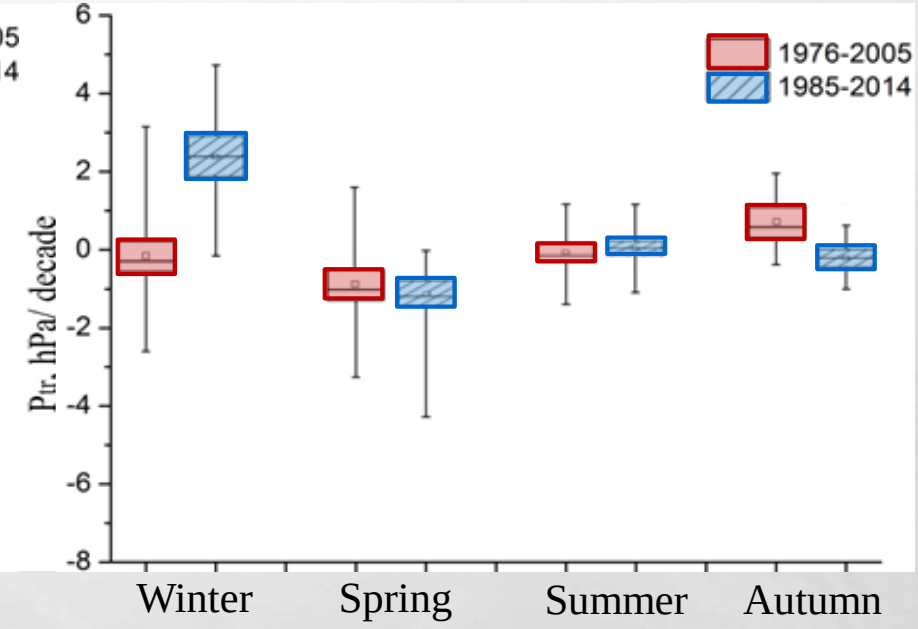


dash line – smoothing with low-frequency filter

Observational data at meteorological stations (169 stations): http://www1.ncdc.noaa.gov/pub/data/

SEASONAL VARIABILITY OF TEMPERATURE IN WEST SIBERIA FROM ONE PERIOD (1976-2005) TO ANOTHER (1985-2014)





T_{tr1}= **0,36°C**/decade; σ_1=±0,27°C/decade

T_{tr2}= **0,24°C**/decade; σ_2=±0,11°C/decade

P_{tr1}= **-0,37 hPa**/decade; σ_1=±0,17 hPa/decade

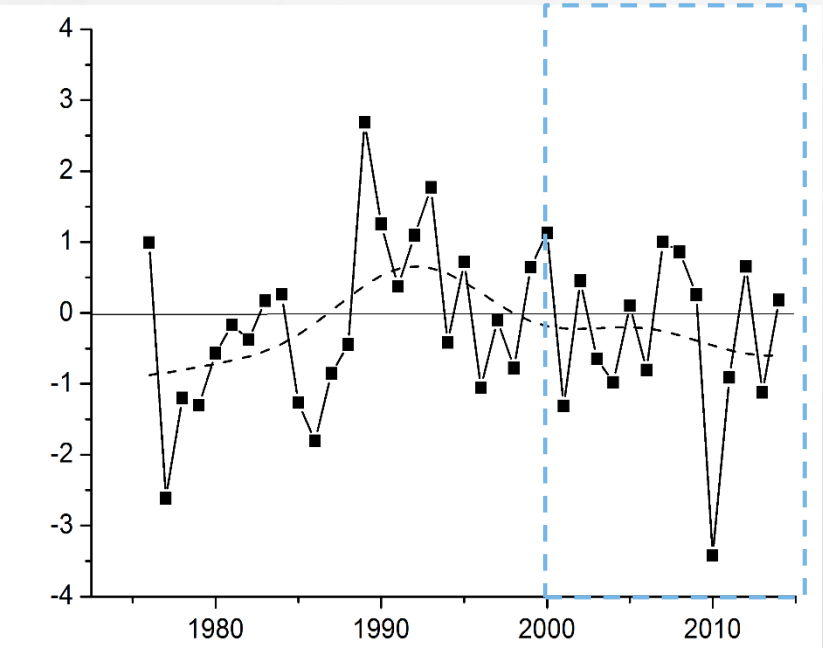
P_{tr2}= **0,35 hPa**/decade; σ_2=±0,22 hPa/decade

Observational data at meteorological stations (169 stations): http://www1.ncdc.noaa.gov/pub/data/

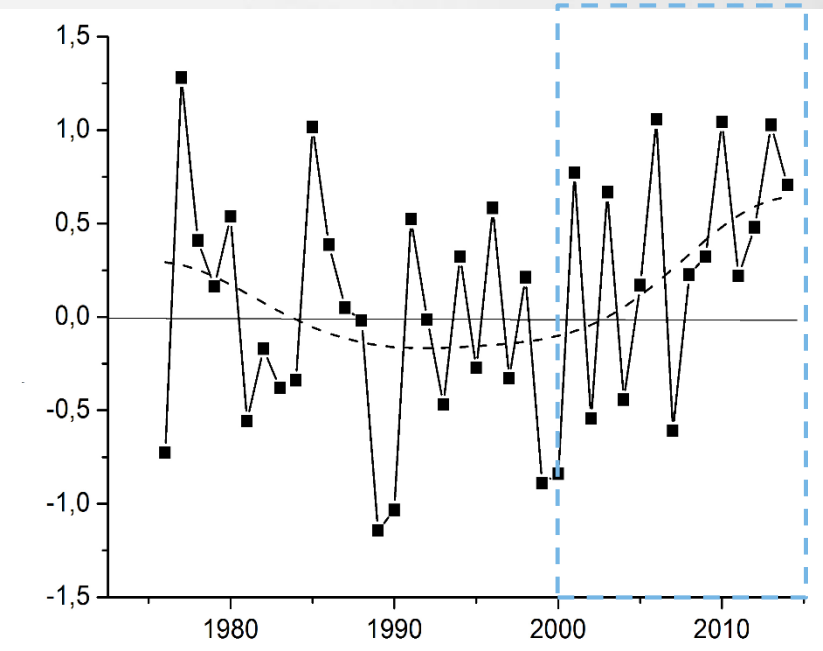
TEMPORAL VARIABILITY OF CIRCULATION INDICES

WINTER MONTHS

AO



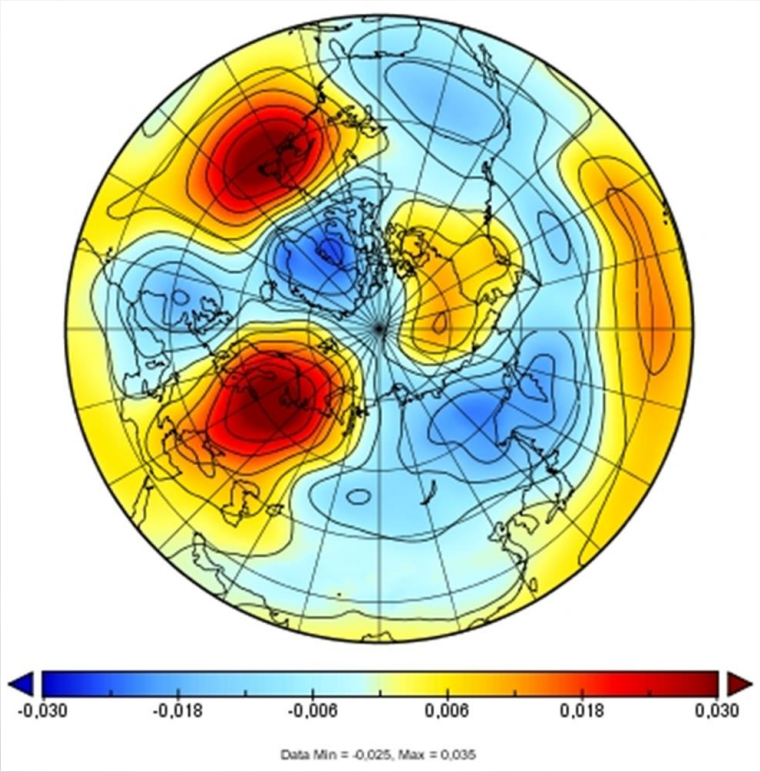
SCAND



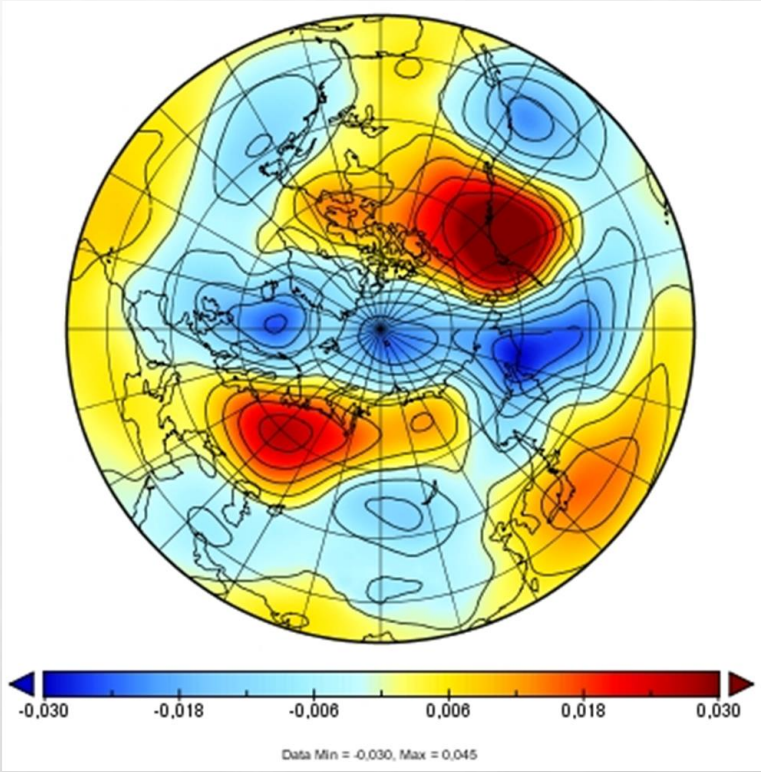
http://www.cpc.ncep.noaa.gov/data/indices

EOF-9. SCAND
DJF

1976-2005



1985-2014



RESULTS

- The tendency of decelerate of surface temperature increase is observed over the territory of West Siberia during the period 1985-2014. In winter months the process of warming was changed by the process of cooling. It deals with atmospheric circulation processes, which are described by SCAND index.

- SCAND and AO indices interannual and EOFs variability can indicate that meridional temperature gradient decrease and weakening of midlatitude west transport probably cause the development of blocking processes.