



Influence of atmospheric energy transport on amplification of winter warming in the Arctic

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The study was performed on base reanalysis ERA/Interim to discover the link between amplified warming in the high Arctic and the atmospheric transport of heat and water vapor through the 70 ° N. The partitioning transports across the Atlantic and Pacific "gates" is established the link between variations of atmospheric flux through the "gates" and a larger part of the variability of the average surface air temperature, water vapor content and its trends in the winter 1980-2014. Influence of winter (December-February) atmospheric transport across the Atlantic "gate" at the 1000 hPa on variability of average for January-February surface air temperature to north 70° N is estimated correlation coefficient 0.75 and contribution to the temperature trend 40%. These results for the first time denote the leading role of increasing atmospheric transport on the amplification of winter warming in the high Arctic. The investigation is supported with RFBR project 15-05-03512.