Institute of Monitoring of Climatic and Ecological Systems (IMCES) SB RAS, Russia, Tomsk

Long-term dynamics of anticyclonic eddies over Siberia

Podnebesnykh N.V. Ippolitov I.I. Gorbatenko V.P. The purpose of this research is to study the characteristics and dynamics of anticyclones determined climatic conditions in Siberia for the period of 1976-2006.

Surface synoptic maps (0, 6, 12, 18 UTC) were used To get the climatic and dynamic characteristics of anticyclonic activity over Siberia during the period 1976-2006 (45260 maps).

Number of anticyclones and pressure in anticyclone centers over Siberia for 1976-2006



For the period from 1976 to 2006 we have selected 1198 anticyclones over Siberia. Number of anticyclones varies from 21 (2006) to 66 (1995) in year. The average number is 39. Minimum pressure was observed for west anticyclones, coming from ETR - 1018.9 hPa, while the maximum - for the south-east anticyclones centered over the Altai region - 1045.0 hPa.

Average number of days with anticyclones over Siberia for 1976-2006



On average, there is an anticyclone over the territory in question within 11.3 days. The maximum number of days with anticyclones over Siberia was noted for anticyclones coming from ETR - 9.7 days, the minimum for the Black Sea anticyclones - 7,4 days. Number of days with anticyclones other areas ranged 8,2-9,3 days.

Number of anticyclones moving along different trajectories over Siberia for 1976-2006



The largest number of anticyclones came to the territory of Siberia from the south directions (517). Their number has significant increased since the beginning of 90's. The smallest number of anticyclones came from the west direction (312).

Characteristics of anticyclones that affect climatic conditions of Siberia for 1976-2006

Type of anticyclone	Characteristics			
	n	Pc, hPa	t, day	Month
Center over the Altai	10,0 (3,5)	1035,3 (4,2)	9,4 (3,1)	January
Center over the Arctic	8,2 (3,0)	1027,5 (2,9)	8,6 (3,2)	June
Center over the Urals	3,7 (2,4)	1030,4 (4,9)	9,4 (5,3)	September
Come from ETR	10,1 (3,8)	1028,1 (3,4)	10,5 (4,1)	May
Come from the Black Sea	6,7 (5,2)	1028,7 (4,6)	8,0 (2,4)	October

Note: In parentheses are the standard deviation - σ .

n - the total number of anticyclones;

Pc - pressure in the centers of anticyclones;

t - number of days with anticyclones in the study area.

Thank you for your attention