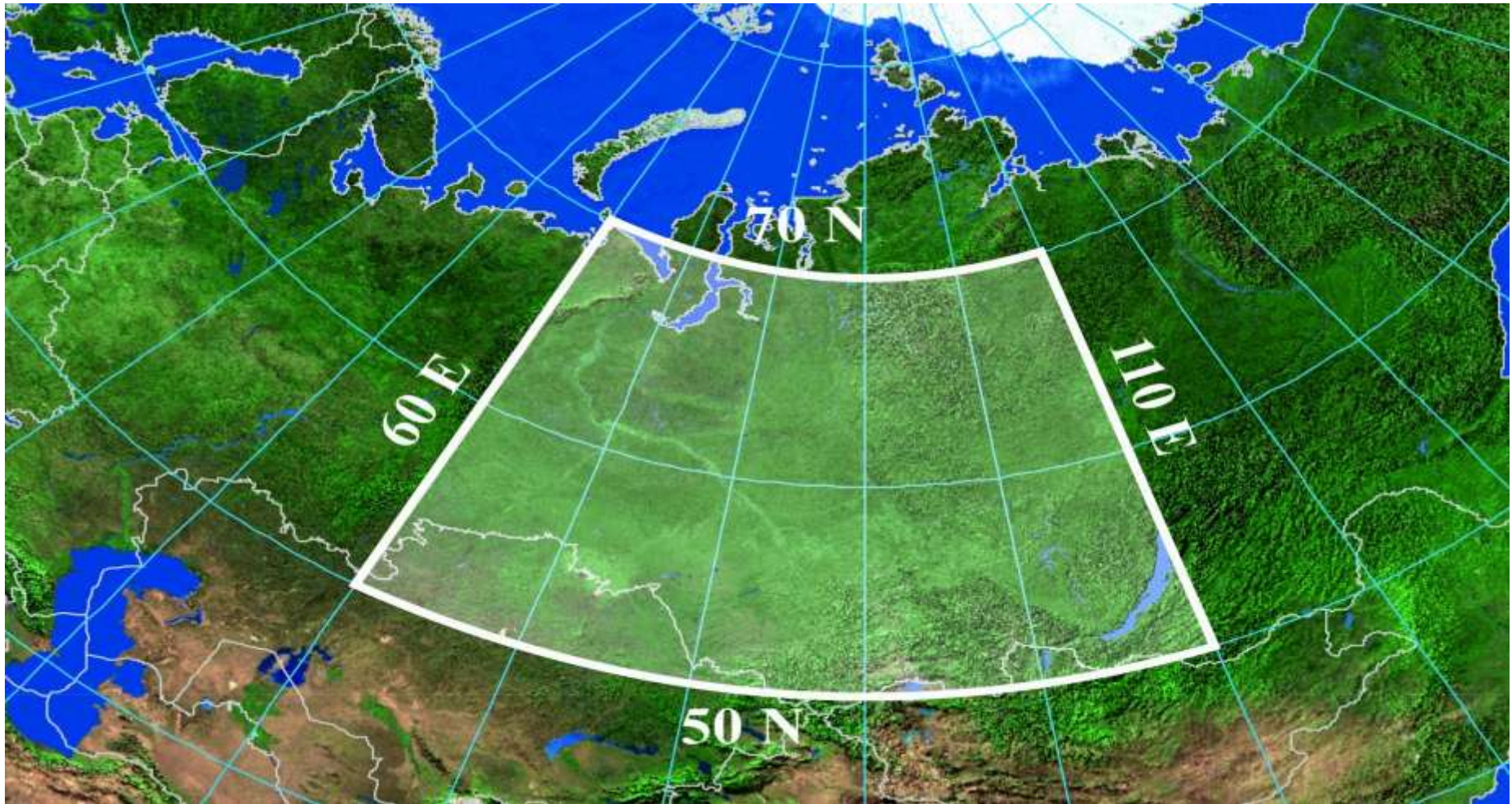


Institute of Monitoring of Climatic and Ecological Systems (IMCES) SB RAS, Russia, Tomsk

Long-term dynamics of atmospheric circulation over Siberia and its relationship with air temperature

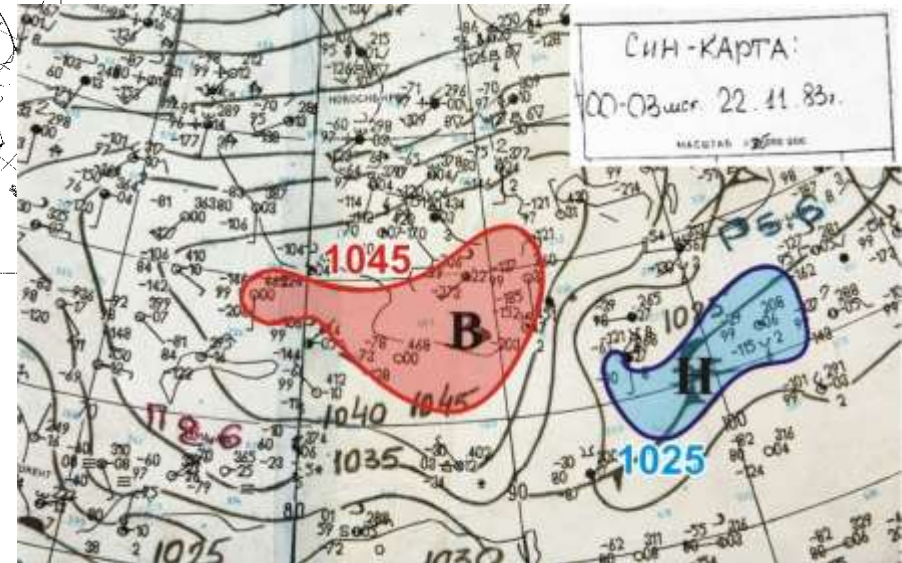
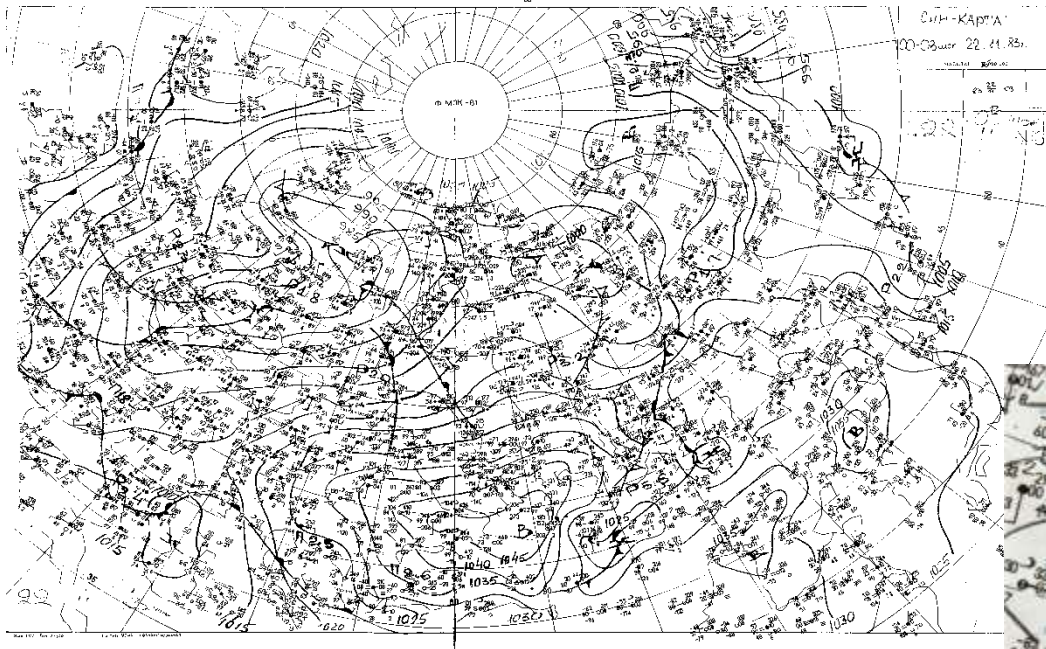
**Podnebesnykh N.V.
Ippolitov I.I.**

The territory of the study



The region bounded by the coordinates 50-70°N, 60-110°E which includes Western Siberia and the part of Eastern Siberia

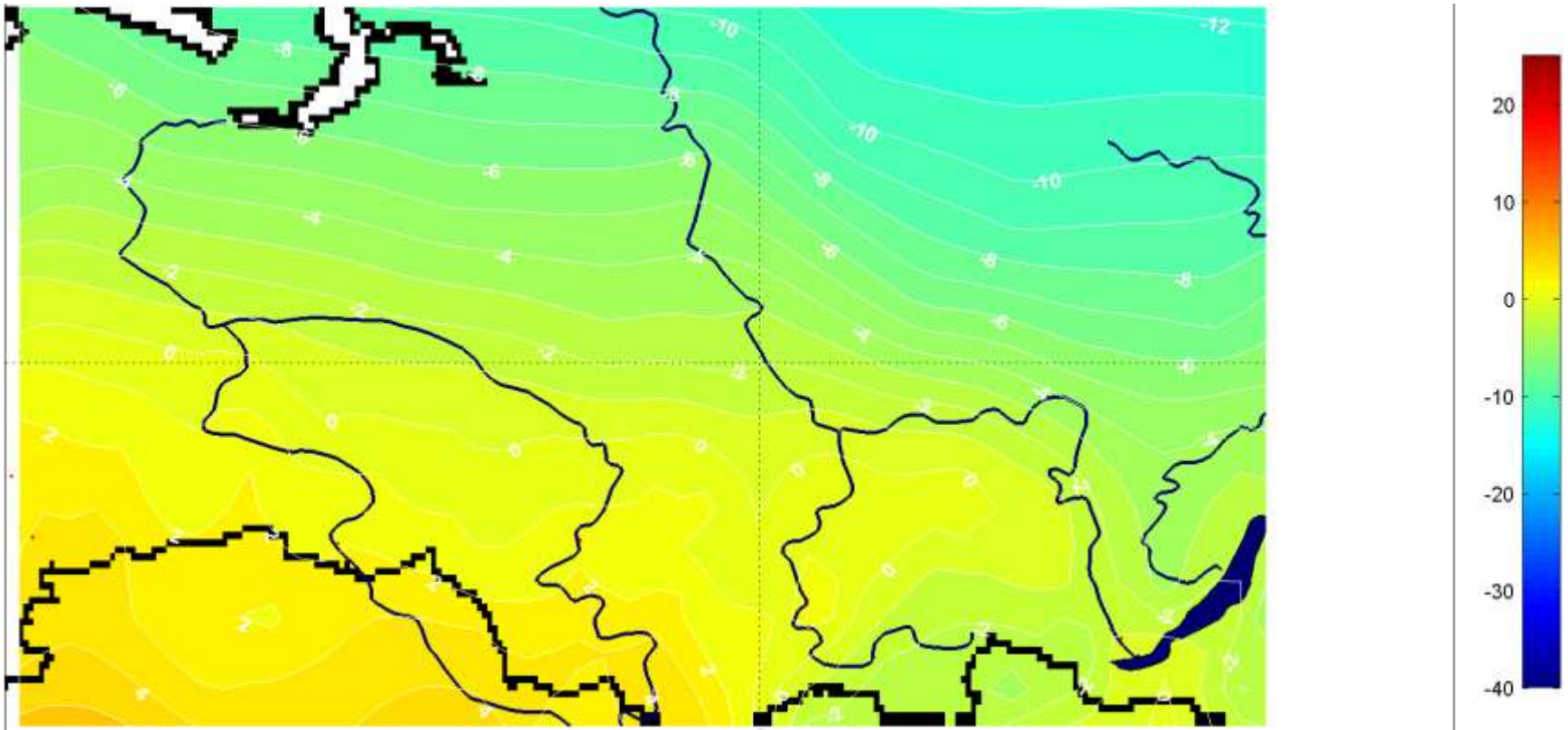
Initial data



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

Initial data

To study the trends of air temperature daily data from 169 ground-based meteorological stations and posts located in the study area were analyzed.



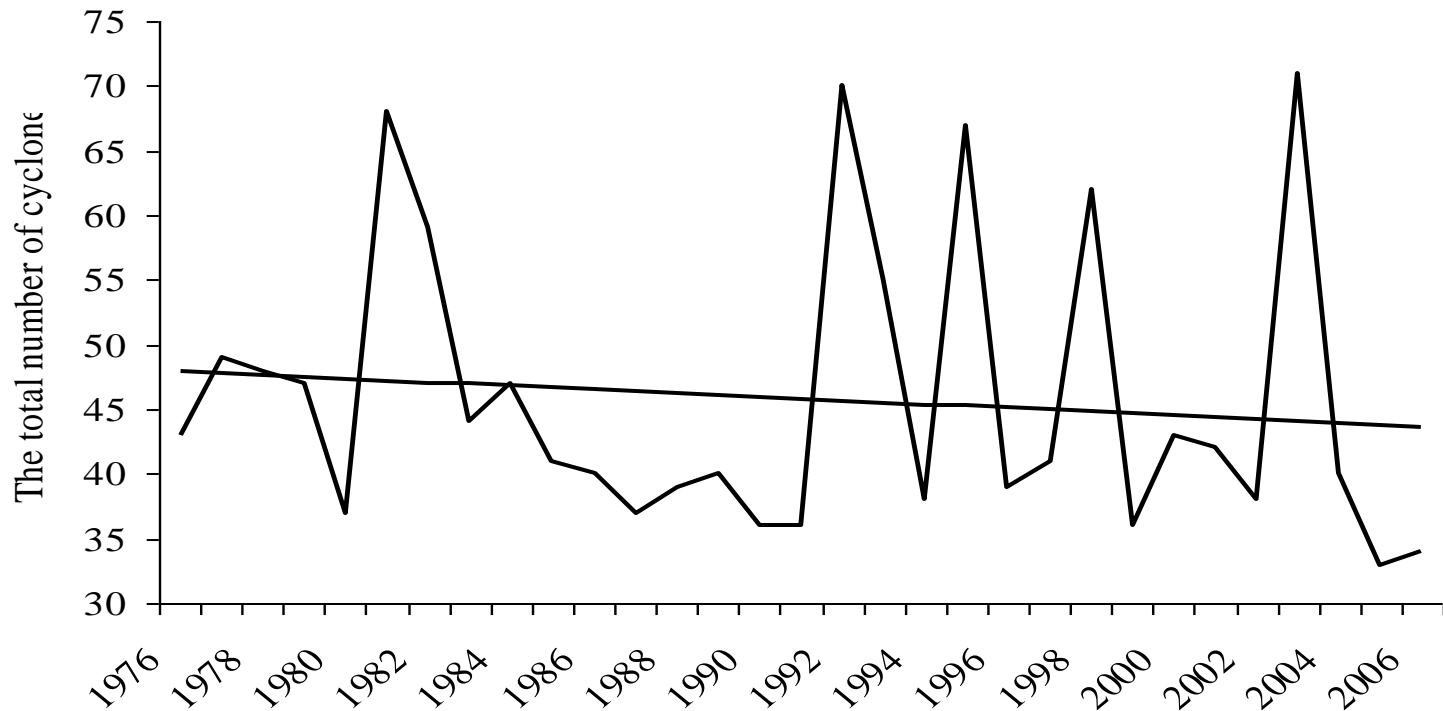
The value of the average trend in the territory of $0,36^{\circ}\text{C}/10$ years, therefore, on average, for the 1976-2006 surface air temperature has increased by $1,1^{\circ}\text{C}$

Intra-field characteristics of air temperature (°C) and air pressure (hPa) over Siberia in 1976-2006

Months	The temperature characteristics of air				The pressure characteristics of air			
January	-22,23	5,86	0,19	0,53	1024,6	7,00	-0,46	0,29
February	-19,71	5,30	0,83	0,50	1024,1	5,61	-0,82	0,42
March	-10,79	4,94	0,77	0,34	1021,2	3,97	-0,88	0,73
April	-1,83	5,28	-0,01	0,41	1016,3	2,50	-0,34	0,47
May	6,64	4,66	0,73	0,27	1012,9	1,94	-0,01	0,56
June	14,23	3,13	0,30	0,25	1008,9	1,22	-0,53	0,19
July	17,52	1,99	0,29	0,30	1007,6	1,57	0,12	0,24
August	14,09	0,91	0,21	0,28	1009,8	1,54	0,17	0,26
September	6,94	2,17	0,01	0,16	1014,3	2,68	-0,11	0,44
October	-1,68	3,64	0,60	0,30	1016,5	4,83	0,02	0,76
November	-12,47	5,40	-0,26	0,51	1020,9	5,29	0,80	0,94
December	-19,38	5,64	0,04	0,32	1022,2	7,15	0,80	0,73
Year	-2,70	4,07	0,36	0,18	1016,7	3,40	-0,18	0,16

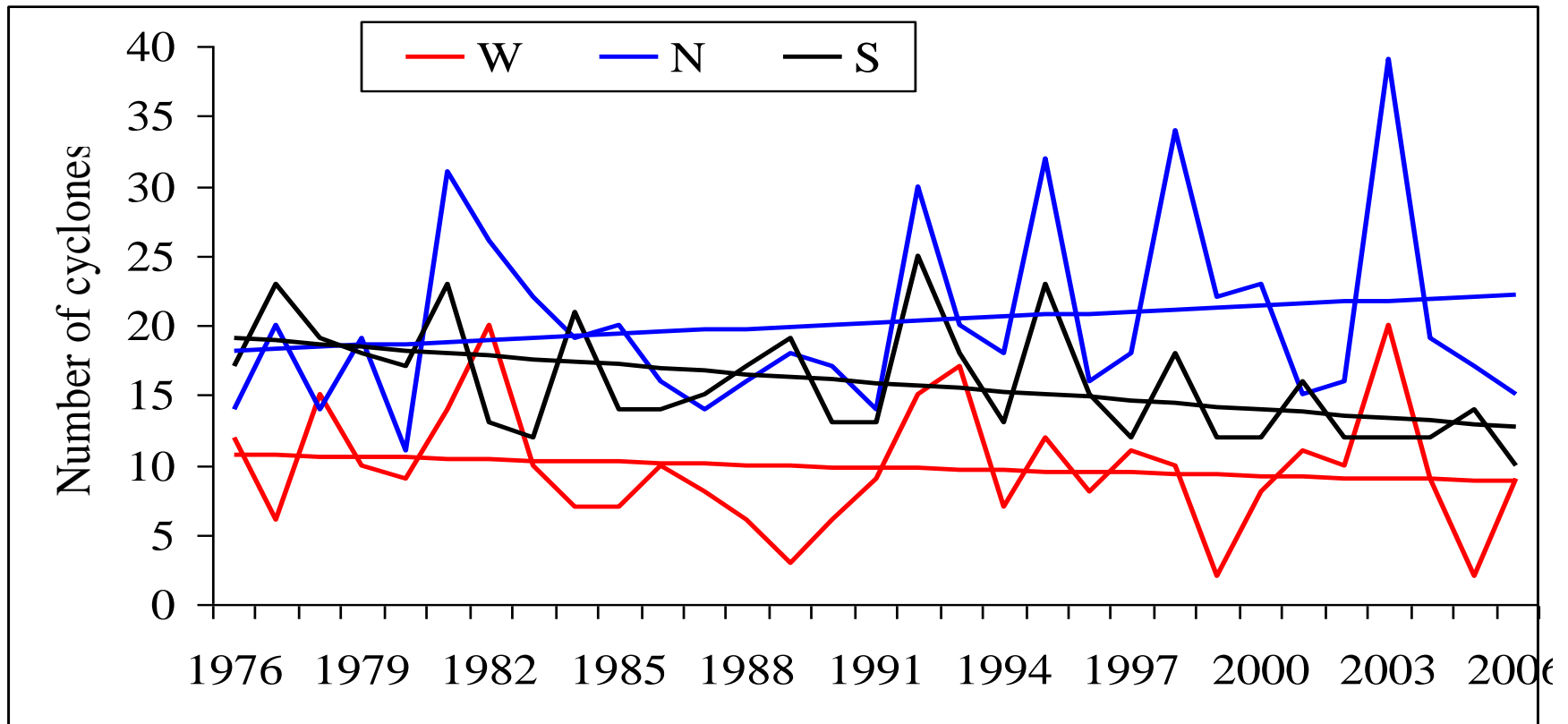
In the second column of the table are averaged over the area and throughout the time interval of temperatures for each month of the year, and in the third column - the corresponding dispersion. The fourth and fifth columns give the values defined in this way the linear trends of temperature and of their ariances. The same parameters are given for the pressure.

The total number of cyclone



The total number of cyclones over the territory of under study for the period of 1976-2006 has decreased at a rate of 1.4 cyclone/10 years

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



It was found the number of south and west cyclones decreased, whole the number of cyclone from north directions increased.

Classification of pressure systems



I Western Zn moving along 60-65°N

II Western Zn

III South-west Zn

IV Northern Zn

V Southern Zn

VI Local Zn

VII North-west Zn



Thank you for your attention