

## Supplementary Materials:

*Article*

# Climatology and Formation Environments of Severe Convective Windstorms and Tornadoes in the Perm Region (Russia) in 1984–2020

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**Table S1.** Median, minimum and maximum values, 25th and 75th percentiles of major indicators and convective indices for  $SGE_{WT}$  (numerator) and  $SGE_{NT}$  (denominator) Median values with statistically significant differences between two groups (based on K-S test) are highlighted.

Variable	Temperature Gradient at 850 hPa, °C/500 km	Dewpoint Temperature at 2m, °C	3D Index, °C	SB CAPE, Jkg <sup>-1</sup>	CAPE255, Jkg <sup>-1</sup>	CIN, Jkg <sup>-1</sup>	DLS, m s <sup>-1</sup>	MLS, m s <sup>-1</sup>	LLS, m s <sup>-1</sup>	EH1	PW, mm	0-3 km SRH, m <sup>2</sup> s <sup>-2</sup>	0-1 km SRH, m <sup>2</sup> s <sup>-2</sup>	SCP	WMAXSHEAR
Median	9.5/	14.2/	14.05/	986/	<u>1223/</u>	<u>138/</u>	<u>28.7/</u>	<u>21.6/</u>	<u>12.4/</u>	0.94/	30.7/	<u>261/</u>	<u>194/</u>	1.93/	1025/
	8.5	15.0	12.70	1120	<u>1743</u>	<u>495</u>	<u>20.4</u>	<u>15.8</u>	<u>9.9</u>	1.0	33.7	<u>181</u>	<u>120</u>	1.41	758
25th percentile	5.2/	12.0/	12.7/	346/	438/	77/	25.1/	17.9/	10.2/	0.40/	25.8/	192/	148/	0.96/	653/
	5.5	12.6	7.9	565	1087	201	15.7	11.2	7.5	0.42	28.6	127	77	0.63	525
75th percentile	12.0/	17.1/	16.1/	1251/	1463/	247/	33.5/	25.3/	14.2/	1.97/	36.5/	355/	244/	3.62/	1285/
	11.0	17.0	15.9	1694	2427	817	23.9	19.2	11.6	1.70	38.1	255	176	2.70	1067
Minimum	3.5/	9.9/	6.8/	112/	179/	28/	19.1/	7.8/	4.7/	0.08/	20.7/	56.7/	44.1/	0.09/	356/
	2.0	-4.1	-6.9	0	66	16	7.1	4.7	2.5	0.0	8.9	34.9	19.0	0.01	11
Maximum	14.5/	20.5/	19.3/	2798/	3240/	982/	45.6/	30.4/	16.8/	9.4/	45.3/	666/	461/	11.8/	1731/
	17.0	21.0	20.6	2885	4201	995	52.4	26.0	19.9	4.3	45.1	726	444	5.5	1594

**Table S2.** The same for  $SGE_{WD}$  and  $SGE_{ND}$  respectively. Median values with statistically significant differences between two groups (based on K-S test) are highlighted.

Variable	Temperature Gradient at 850 hPa, °C/500 km	Dewpoint Temperature at 2m, °C	3D Index, °C	SB CAPE, Jkg <sup>-1</sup>	CAPE255, Jkg <sup>-1</sup>	CIN, Jkg <sup>-1</sup>	DLS, m s <sup>-1</sup>	MLS, m s <sup>-1</sup>	LLS, m s <sup>-1</sup>	EH1	PW, mm	0-3 km SRH, m <sup>2</sup> s <sup>-2</sup>	0-1 km SRH, m <sup>2</sup> s <sup>-2</sup>	SCP	WMAXSHEAR
Median	<u>11.0/</u> <u>7.5</u>	15.5/ 14.9	13.6/ 12.9	1131/ 997	1552/ 1477	337/ 327	<u>25.4/</u> <u>20.9</u>	<u>20.3/</u> <u>14.9</u>	<u>11.7/</u> <u>9.9</u>	1.26/ 0.87	34.5/ 32.1	<u>260/</u> <u>176</u>	<u>192/</u> <u>119</u>	<u>2.48/</u> <u>1.28</u>	<u>1156/</u> <u>710</u>
25th percentile	8.0/ 5.0	13.0/ 12.0	10.8/ 7.5	435/ 543	1124/ 928	97/ 150	20.9/ 14.5	17.9/ 10.9	10.0/ 7.5	0.40/ 0.42	26.9/ 27.6	191/ 121	126/ 73	1.52/ 0.48	664/ 514
75th percentile	12.0/ 10.0	18.0/ 17.0	16.8/ 15.8	1855/ 1608	2373/ 2164	795/ 755	29.9/ 24.8	23.5/ 18.4	13.5/ 11.4	3.03/ 1.43	39.2/ 36.7	333/ 238	227/ 162	4.36/ 2.43	1289/ 1019
Minimum	4.0/ 2.0	9.9/ -4.1	6.0 /-6.9	35/ 0	179/ 66	22/ 16	16.3/ 7.1	6.8/ 4.7	3.2/ 3.5	0.04/ 0.0	20.7/ 8.9	55.1/ 34.9	22.8/ 19.0	0.04/ 0.01	191/ 10.5
Maximum	16.0/ 17.0	20.9/ 20.1	19.3/ 20.6	2885/ 2769	3869/ 4201	982/ 995	45.6/ 52.4	30.4/ 26.0	16.8/ 19.9	9.37/ 2.43	45.3/ 43.8	666/ 726	461/ 444	11.7/ 5.0	1731/ 1594