

S-E-C-R-E-T

CIA/RR GB 64-47  
December 1964

SURFACE WIND DATA FOR SPECIFIED FACILITIES IN THE USSR

Summaries of the wind characteristics in the vicinity of 19 specified facilities in the USSR and surface wind data for the nearest meteorological station are given below. Table 1 gives general wind characteristics for each facility. It also indicates which of the supplementary tables (Tables 2 through 16) provides additional data on conditions at the nearest meteorological station. The supplementary tables give available data on average velocities by month or by direction, percentage frequencies of winds from different directions and at different velocities, and frequencies of calms and high winds. In most cases the nearest meteorological station is located not in the immediate vicinity of the facility but at some distance from it. Because of this and because local terrain may modify general wind patterns, the data collected at the station are not always truly representative of wind conditions at the facility. Because some tables include data from more than one source, slight discrepancies appear. Lengths of record for the data in all the tables are unknown. All data have been extracted from various official Soviet publications issued between 1954 and 1963 and are considered to be the most reliable data available.

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GROUP 1  
Excluded from automatic down-  
grading and declassification

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Table 1

General Wind Characteristics at Specified Soviet Facilities

<u>Facility</u>	<u>General Wind Characteristics</u>	<u>Meteorological Station and Supplementary Table</u>
1	Flow from east or west predominant throughout year with east winds somewhat more frequent; west winds in general have higher velocities. Surface winds average 7-13 miles per hour (mph) with generally higher velocities in spring, fall, and early winter.	Biysk 52°34'N-85°15'E Table 2
2	East and southeast winds predominant, but winds with westerly components common. Surface winds average 7-12 mph with little seasonal variation. Calms frequent in summer and fall. Strong winds recorded each month but most frequent in winter. Surface winds in summer have higher velocities in afternoon.	Kamensk-Shakhtinskiy 48°21'N-40°19'E Table 3
3	Prevailing winds east in winter and west-northwest in summer. Velocities average 8-14 mph with generally higher winds in summer.	El'ton 49°08'N-46°50'E Table 4  Verkhniy Baskunchak 48°14'N-46°44'E Table 5
4	Prevailing winds in winter south or southwest; winds in summer vary in direction. Strong winds reported each month but most common in December.	Tayga 56°04'N-85°37'E Table 6

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Table 1 (Continued)

<u>Facility</u>	<u>General Wind Characteristics</u>	<u>Meteorological Station and Supplementary Table</u>
5	Prevailing winds from southeast to west and northwest in winter and from west to north in summer. Velocities average 7-11 mph. Summer winds generally lighter and more variable in direction.	Moscow 55°45'N-37°35'E Table 7
6, 7	Surface winds from southwest predominant throughout year. Calms and light winds common all year with surface winds averaging 4-6 mph. Strong winds recorded each month but most frequent in winter and spring.	Krasnoyarsk 56°01'N-92°50'E Table 8
8	Prevailing winds in summer generally have northerly component and in winter southerly component; east and west winds common all year. Velocities average 7-12 mph with summer winds generally lighter. Strong winds rare in summer.	Kuybyshev 53°14'N-50°10'E Table 9
9	Prevailing winds from west, southwest, and south; secondary winds in summer from north and northwest. Calms and light winds very common. Strong winds recorded each month but most frequent in late spring.	Omsk 54°58'N-73°23'E Table 10
10, 11	Predominant wind in winter southwest and in summer west or southwest. Northeast winds common in morning and evening. Surface winds average 6-9 mph with little seasonal variation.	Perm' 58°00'N-56°15'E Table 11

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Table 1 (Continued)

<u>Facility</u>	<u>General Wind Characteristics</u>	<u>Meteorological Station and Supplementary Table</u>
12, 13, 14	Winds generally variable but most commonly from southeast to northwest in winter and from west to northwest in summer. West winds in midsummer more common in midday than in morning. Surface winds average 8-10 mph with little seasonal variation. High winds infrequent except in spring.	Leningrad 59°55'N-30°15'E Table 12
15	Winds from northeast predominant, especially in winter. Winds more variable in summer with winds from south or southwest common. Surface winds average 10-13 mph with little seasonal variation. Diurnal variations pronounced in summer with highest velocities in afternoon. Land breezes blow offshore toward Lake Balkhash at night and sea breezes onshore in late morning and afternoon during spring, summer, and fall.	Balkhash 46°49'N-75°00'E Table 13
16	Prevailing winds from southwest in summer and from north and northwest in winter.	No data available
17	Winds with northerly and easterly components generally predominant in winter; in summer west and northwest winds common. Surface winds average 6-9 mph with little seasonal variation.	Kazalinsk 45°46'N-62°07'E Table 14  Kyzyl-Orda 44°48'N-65°28'E Table 15

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Table 1 (Continued)

<u>Facility</u>	<u>General Wind Characteristics</u>	<u>Meteorological Station and Supplementary Table</u>
18	Prevailing winds in spring from southeast but southwest winds common; reverse pattern in fall. Summer winds generally from north in morning and from southwest in afternoon. Winter winds variable; north or northeast winds probably least frequent. Surface winds average 8-14 mph with higher velocities generally in winter and late spring.	Voronezh 51°38'N-39°12'E Table 16
19	Prevailing winds from southeast to west and northwest in winter and from west to north in summer. Velocities average 7-11 mph. Summer winds generally lighter and more variable in direction.	Moscow 55°45'N-37°35'E Table 7

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Table 2

Surface Wind Data  
BIYSK  
(52°34'N-85°15'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	9.6	8.7	12.1	11.4	11.2	9.4	7.8	7.6	9.2	10.3	12.7	11.2	10.1
Average number of days with wind velocity ≥33.5 mph	1.6	1.5	1.4	1.3	1.8	2.2	1.0	1.5	1.9	2.9	1.9	3.0	22.0
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>					
Average velocity (mph)													
January	4.0	7.4	7.2	6.3	6.3	12.1	13.6	7.8					
July	6.9	6.9	6.9	6.7	6.7	8.5	7.6	6.5					
Average frequency (percent)													
January	6	14	29	10	3	14	19	5					
July	9	14	20	13	7	14	13	10					

Average number of calms:

January 13  
July 13

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Table 3

Surface Wind Data  
KAMENSK-SHAKHTINSKIY  
(48°21'N-40°19'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	10.5	12.1	12.1	10.7	9.6	8.7	7.6	8.3	9.4	10.1	11.4	11.6	10.3
Average frequency (percent)													
North	5	4	6	7	7	6	7	6	7	4	4	4	5
Northeast	12	11	10	10	9	10	8	8	9	8	8	9	9
East	23	26	25	22	22	15	14	20	24	32	28	26	23
Southeast	13	19	20	18	15	11	11	12	18	16	19	17	16
South	6	8	8	11	10	10	8	6	7	6	7	7	8
Southwest	14	13	14	15	14	17	16	13	13	13	14	13	14
West	18	13	11	11	14	19	22	21	14	13	13	17	15
Northwest	9	6	6	6	9	12	14	14	8	8	7	7	10

Average number of calms:

January	5	July	7
February	4	August	12
March	5	September	13
April	7	October	11
May	7	November	9
June	8	December	4

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Table 4

Surface Wind Data  
EL' TON  
(49°08'N-46°50'E)

	North	Northeast	East	Southeast	South	Southwest	West	Northwest	Total
Average velocity (mph)									
January	10.1	13.2	14.1	13.0	11.6	11.2	11.0	9.2	N.A.
July	8.7	9.6	9.6	9.6	8.9	9.2	9.6	8.9	N.A.
Average frequency (percent)									
January	6	14	23	17	9	12	11	8	N.A.
July	14	13	11	9	7	12	17	17	N.A.
Average frequency (percent) of velocity ranges (mph)									
	January								
0-4.5	1.8	1.4	1.7	1.7	1.4	1.8	1.7	2.0	13.5
4.5-13.4	3.8	6.0	10.2	8.3	4.5	5.9	6.6	4.7	50.0
13.4-24.6	1.3	5.6	9.6	5.7	2.5	3.5	3.2	1.7	33.1
24.6-33.6	0	0.4	1.4	0.3	0.2	0.2	0.5	0	3.0
33.6	0.1	0.1	0.1	0.1	0	0	0	0	0.4
	July								
0-4.5	1.7	2.2	1.7	1.4	1.2	1.7	2.7	4.1	16.7
4.5-13.4	9.8	9.9	7.0	4.4	4.1	7.9	11.9	11.7	66.7
13.4-24.6	1.2	2.6	2.1	1.6	0.8	2.4	3.4	2.0	16.1
24.6-33.6	0	0.1	0	0.2	0.1	0	0.1	0	0.5
33.6	0	0	0	0	0	0	0	0	0

Average number of calms:

January 4  
July 3



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Table 5

Surface Wind Data  
VERKHNIY-BASKUNCHAK  
(48°14'N-46°44'E)

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	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>
Average frequency (percent)								
January	7	12	22	12	10	13	16	8
July	10	10	12	7	9	13	23	16

Average velocity (mph) during three coldest months -- 12.7

Average velocity (mph) during three warmest months -- 9.2

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Average number of calms:

January 1  
July 2

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Table 6

Surface Wind Data  
TAYGA  
(56°04'N-85°37'E)

	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>
Average velocity (mph)								
January	3.6	5.4	4.0	6.5	12.1	13.9	7.6	3.2
July	5.6	7.6	7.2	6.9	7.6	8.3	6.5	5.8
Average frequency (percent)								
January	2	9	1	6	39	38	4	1
July	11	19	5	10	18	19	9	9

Average number of calms:

January	9
July	16

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Table 7

Surface Wind Data  
MOSCOW  
(55°45'N-37°35'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	10.3	10.3	10.5	9.6	9.2	7.8	7.2	7.4	8.7	9.6	10.3	9.8	9.2
Average number of days with wind velocity > 33.5 mph	1.9	2.0	1.9	1.7	1.8	1.4	1.0	0.9	1.5	1.6	2.1	1.7	19.5
Average frequency (percent)													
North	8	10	9	11	16	15	18	13	9	7	7	7	11
Northeast	4	5	6	8	12	9	10	6	5	5	5	6	7
East	7	7	7	8	9	8	11	10	4	5	5	6	7
Southeast	16	18	14	18	12	10	8	12	10	14	15	17	14
South	14	15	15	17	11	10	7	9	15	17	19	19	14
Southwest	17	15	16	14	12	14	11	14	19	19	20	16	15
West	20	16	20	12	13	15	15	17	21	20	17	17	17
Northwest	14	14	13	12	15	19	20	19	17	13	12	12	15
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>	<u>Total</u>				
Average velocity (mph)													
January	14.3	9.8	10.1	12.1	10.3	9.8	10.7	14.1	N.A.				
July	9.8	6.9	8.5	8.5	8.1	7.4	7.4	10.1	N.A.				

Table 7 (Continued)

	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>	<u>Total</u>
Average frequency (percent) of velocity ranges (mph)									
January									
0-4.5	2.3	1.8	2.0	4.7	4.0	4.4	3.1	2.5	24.8
4.5-13.4	5.1	4.0	4.8	7.9	8.3	11.4	7.4	6.9	55.8
13.4-24.6	1.1	0.3	1.3	3.1	4.0	2.6	1.9	2.5	16.8
24.6-33.6	0.1	0	0.1	0.3	0.6	0.2	0.1	0.3	1.7
33.6	0.1	0	0	0.3	0.2	0.2	0.1	0	0.9
July									
0-4.5	6.3	4.1	3.5	2.7	1.4	3.0	4.3	5.6	30.9
4.5-13.4	9.0	5.6	5.7	5.6	4.7	6.5	10.0	10.2	57.3
13.4-24.6	2.7	1.1	0.9	0.9	0.7	0.5	1.4	3.1	11.3
24.6-33.6	0.1	0	0.1	0	0	0	0	0.2	0.4
33.6	0.1	0	0	0	0	0	0	0	0.1

SECRET

Table 8

Surface Wind Data  
 KRASNOYARSK  
 (56°01'N-92°50'E)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average velocity (mph)	5.6	4.0	5.4	6.0	6.0	4.7	3.8	3.8	4.9	5.6	6.3	5.1	5.1
Average number of days with wind velocity >33.5 mph	1.8	0.9	1.5	1.3	1.6	0.7	0.7	0.5	0.6	1.3	1.8	1.8	14.5
Average frequency (percent)													
North	1	2	2	2	2	3	2	2	2	1	1	2	2
Northeast	2	3	3	2	3	3	4	3	3	3	3	2	3
East	4	3	5	8	6	12	12	9	6	4	3	4	7
Southeast	2	2	3	4	3	5	7	5	3	2	3	3	3
South	4	4	4	3	5	6	7	7	4	6	3	2	4
Southwest	48	38	41	42	46	40	39	42	50	46	51	45	44
West	30	24	28	28	24	21	18	23	25	29	27	28	26
Northwest	9	24	14	11	11	10	11	9	7	9	9	14	11
Average number of calms	19	20	18	12	11	10	17	20	16	15	13	23	194
Average frequency (percent) of velocity ranges (mph)													
0-4.5	57.3	68.0	57.0	47.2	47.7	56.9	65.8	64.1	53.1	50.3	48.9	58.8	
4.5-13.4	32.3	27.5	35.4	43.3	44.8	40.3	33.1	34.9	42.6	42.5	40.5	29.6	
13.4-24.6	8.4	4.2	6.8	8.8	6.7	2.7	1.1	1.0	3.9	6.8	9.0	10.9	
24.6-33.6	1.7	0.3	0.8	0.5	0.7	0.1	0	0	0.3	0.4	1.0	0.5	
33.6	0.3	0	0	0.2	0.1	0	0	0	0.1	0	0.6	0.2	

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Table 9

Surface Wind Data  
KUYBYSHEV  
(53°14'N-50°10'E)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average velocity (mph)	10.7	11.6	11.9	10.5	10.1	8.9	7.8	8.1	8.7	10.3	10.3	11.0	10.1
Average frequency (percent)													
North	10	9	8	12	14	17	21	18	15	10	12	10	13
Northeast	6	6	5	9	9	14	14	16	7	7	5	4	8
East	21	25	16	15	12	12	12	19	11	13	17	20	16
Southeast	15	16	11	9	8	6	5	7	9	7	12	11	10
South	13	9	14	12	7	4	3	3	10	11	10	12	9
Southwest	16	18	23	20	17	14	9	7	16	17	18	21	16
West	12	10	16	14	18	19	18	14	17	21	17	14	16
Northwest	7	7	7	9	15	14	18	16	15	14	9	8	12

Average number of calms:

January	5	July	8
February	4	August	8
March	3	September	6
April	3	October	5
May	4	November	6
June	4	December	4

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Table 10

Surface Wind Data  
OMSK  
(54°58'N-73°23'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average frequency (percent)													
North	5	4	6	9	12	16	16	16	8	7	5	4	9
Northeast	4	5	6	5	6	9	10	6	5	3	3	4	6
East	8	11	10	9	7	5	9	6	6	3	5	8	7
Southeast	10	10	8	7	8	9	8	8	8	6	8	10	8
South	19	22	19	15	16	14	13	14	19	20	20	19	17
Southwest	27	22	24	21	17	11	11	13	18	23	27	25	21
West	20	20	20	23	19	20	17	22	24	27	22	22	21
Northwest	7	6	7	11	15	16	16	15	12	11	10	8	11
Average frequency (percent) of velocity ranges (mph)													
0-4.5	52.4	52.4	55.9	47.6	43.5	48.0	49.0	45.9	47.3	41.4	42.6	48.4	
4.5-13.4	38.2	36.3	34.0	38.1	39.2	40.2	40.0	43.8	40.1	42.0	41.6	39.7	
13.4-24.6	7.4	8.0	8.3	11.4	13.2	9.5	9.6	9.0	10.4	14.0	12.2	9.8	
24.6-33.6	1.4	2.0	1.0	1.7	2.5	1.6	0.8	0.6	1.6	1.5	2.8	1.3	
33.6	0.6	1.2	0.8	1.2	1.6	0.7	0.6	0.7	0.7	1.1	0.8	0.8	
Average number of days with wind velocity >33.5 mph	1.3	1.3	2.9	2.0	2.9	2.0	1.0	1.5	1.4	1.7	2.2	1.9	22.1

Average number of calms:			
January	11	July	15
February	15	August	15
March	21	September	16
April	19	October	14
May	13	November	9
June	11	December	11

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Table 11

Surface Wind Data  
PERM'  
(58°00'N-56°15'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	8.5	7.4	8.7	7.8	8.3	6.7	5.8	6.3	7.2	8.9	8.7	8.3	7.6
Average number of days with wind velocities >33.5 mph	0.3	0.7	0.5	0.4	1.7	0.9	0.9	0.7	0.9	0.5	0.8	0.5	8.8
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>					
Average velocity (mph)													
January	4.7	5.8	7.4	8.3	10.5	10.7	9.8	6.0					
July	5.6	5.6	5.8	6.7	6.0	7.4	7.2	6.3					
Average frequency (percent)													
Annual	7	10	10	12	14	24	17	6					
January	4	9	10	14	16	29	15	3					
July	14	13	11	9	10	16	18	9					
Average frequency (percent) of velocity ranges (mph)	<u>Dec-Feb</u>	<u>Mar-May</u>		<u>Jun-Aug</u>		<u>Sep-Nov</u>		<u>Annual</u>					
0-4.5	28.4	28.3		37.8		26.1		30.1					
4.5-13.4	50.9	50.2		51.1		52.9		51.3					
13.4-24.6	17.9	18.4		10.2		18.7		16.3					
24.6-33.6	1.9	2.4		0.7		1.7		1.7					
33.6	0.9	0.7		0.2		0.6		0.6					

Average number of calms:

January 6  
July 11

Average number of calms during a year: 80



Table 12

Surface Wind Data  
 LENINGRAD  
 (59°55'N-30°15'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	10.7	10.3	10.1	9.4	9.2	9.2	8.7	8.9	9.8	10.3	10.7	10.5	9.8
Average frequency (percent)													
North	3	5	5	5	6	8	7	8	8	5	5	4	6
Northeast	6	8	10	14	14	14	17	11	7	6	5	6	10
East	8	8	9	12	12	10	12	10	7	8	8	9	9
Southeast	18	17	17	15	10	9	9	13	13	16	17	19	15
South	18	17	13	13	9	8	8	11	14	20	18	18	14
Southwest	16	14	14	12	9	10	9	14	16	18	18	16	14
West	18	18	18	16	21	23	21	18	18	13	13	13	17
Northwest	13	13	14	13	19	18	17	15	17	14	16	15	15
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>					
Average velocity (mph)													
January	8.5	7.8	9.8	11.6	11.4	10.3	10.1	8.3					
July	8.5	8.7	8.7	9.2	8.5	8.9	9.4	7.8					

Table 13  
Surface Wind Data  
BALKHASH  
(46°49'N-75°00'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	12.7	12.5	11.6	11.2	11.6	11.0	10.5	10.7	10.3	10.1	10.7	11.0	11.2
Average number of days with wind velocities >33.5 mph	1.0	1.0	1.0	1.0	2.0	2.0	0.8	2.0	1.0	0.9	0.8	0.8	14.3
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>					
Average velocity (mph)													
January	8.7	12.7	11.2	6.7	5.8	8.7	8.3	7.8					
July	10.1	12.1	12.5	11.2	12.1	12.5	13.2	12.1					
Annual	9.8	12.5	11.6	8.9	8.7	11.2	12.3	10.5					
Average frequency (percent) at 0100 and 1300 hours													
				January									
0100	4	71	8	0.4	3	6	5	3					
1300	4	57	18	4	2	7	7	1					
				April									
0100	10	49	14	1	2	9	8	7					
1300	2	15	15	19	18	22	5	4					
				July									
0100	19	44	6	1	2	6	7	15					15
1300	4	5	4	15	41	19	8	4					4
				October									
0100	14	42	7	3	3	8	14	9					
1300	2	17	14	17	18	20	8	4					

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Table 13 (Continued)

	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>
Average frequency (percent)								
January	3	66	12	2	2	6	6	3
July	10	22	8	8	18	16	7	11
Annual	7	42	11	5	8	12	8	7

<u>Average velocity (mph)</u>	<u>Average frequency (percent)</u>
0	100
4.5	86.5
8.9	63.6
13.4	37.7
17.9	18.5
22.4	9.3
26.8	4.5
31.3	1.7
35.8	0.8
40.3	0.2
44.7	0.1
53.7	0

Average number of calms:

January	4
July	4

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Table 14

Surface Wind Data  
KAZALINSK  
(45°46'N-62°07'E)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
Average velocity (mph)	7.4	7.6	8.5	8.5	8.1	6.9	6.3	5.8	6.0	6.7	6.9	8.1	7.2	
Average number of days with wind velocities >33.5 mph	1.0	2.0	2.0	3.0	1.0	0.9	0.9	0.4	0.5	1.0	0.7	1.0	14.4	
	North	Northeast	East	Southeast	South	Southwest	West	Northwest						
Average velocity (mph)									11.6	8.9	4.9			
January	6.5	6.7	7.4	6.3	10.7	11.6	8.9	4.9						
July	6.0	6.3	5.4	5.1	5.8	8.3	7.8	6.7						
Annual	6.9	7.4	7.4	6.5	8.5	9.6	8.5	6.5						
Average frequency (percent)									9	7	5			
January	11	28	19	11	10	9	7	5						
July	18	13	8	4	3	13	20	21						
	Average velocity (mph)				Average frequency (percent)									
	0				100									
	4.5				68.9									
	8.9				31.2									
	13.4				14.0									
	17.9				6.3									
	22.4				3.4									
	26.8				2.4									
	31.3				1.6									
	35.8				0.6									
	40.3				0.15									

Average number of calms:

January 3  
July 4

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Table 15

Surface Wind Data  
 KYZL-ORDA  
 (44°48'N-65°28'E)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	<u>Annual</u>
Average velocity (mph)	7.6	8.7	8.3	8.3	7.2	6.3	5.8	6.0	6.3	6.5	6.9	7.8	7.2
Average number of days with wind velocities >33.5 mph	0.5	0.7	1.0	0.7	0.5	0.4	0.1	0	0.3	0.4	0.5	0.3	5.4
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>					
Average velocity (mph)													
January	6.5	9.4	7.2	5.6	6.5	8.5	7.6	5.8					
July	6.7	6.9	8.1	7.4	4.2	7.6	6.9	7.4					
Annual	5.8	8.7	8.1	5.8	6.5	8.3	7.2	6.3					
Average frequency (percent)													
January	10	37	13	9	9	14	4	4					
July	26	22	9	3	2	4	10	24					

Average number of calms:

January	8
July	17

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Table 16

Surface Wind Data  
 VORONEZH  
 (51°38'N-39°12'E)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average velocity (mph)	13.6	12.5	11.4	11.4	11.0	9.2	8.5	8.3	9.4	11.6	11.9	12.1	11.0
	<u>North</u>	<u>Northeast</u>	<u>East</u>	<u>Southeast</u>	<u>South</u>	<u>Southwest</u>	<u>West</u>	<u>Northwest</u>	<u>Total</u>				
Average velocity (mph)													
January	11.6	9.4	10.3	11.2	13.0	14.8	14.8	15.0	N.A.				
July	7.6	7.6	6.9	6.5	8.3	10.7	10.7	10.1	N.A.				
Average frequency (percent)													
January	7	8	21	14	12	13	13	12	N.A.				
July	15	13	10	6	9	10	17	20	N.A.				
Average frequency (percent) of velocity ranges (mph)													
	January												
0-4.5	1.4	1.6	1.0	1.4	1.0	1.2	1.2	1.4	10.2				
4.5-13.4	6.9	7.8	6.7	7.6	6.1	6.7	6.9	5.4	54.1				
13.4-24.6	2.9	2.3	3.8	4.8	4.8	5.1	5.0	3.4	32.1				
24.6-33.6	0.2	0	0.2	0.7	0.5	0.7	0.4	0.5	3.2				
33.6	0	0	0.1	0	0.1	0.1	0.1	0	0.4				
	July												
0-4.5	4.1	3.0	2.3	2.6	2.2	2.3	3.7	3.3	23.5				
4.5-13.4	11.2	10.7	6.1	4.2	3.1	5.2	8.3	9.7	58.5				
13.4-24.6	3.5	1.8	0.9	0.6	0.9	1.2	3.5	4.0	16.4				
24.6-33.6	0.3	0.1	0	0	0	0.2	0.5	0.3	1.4				
33.6	0	0	0	0	0	0	0.1	0.1	0.2				
Average number of calms:													
January												3	
July												4	

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**SECRET**

Date: 28 October 1964

TO: Ch/G

THROUGH: Ch/GG

FROM: Ch/GG/S

SUBJECT: Research Activity Notice

SUBJECT: Wind Data

PROBLEM: To provide wind data (directions, velocities) for 17 specified points in the USSR.

REQUESTER: [redacted] Life Sciences/CRD/DDS&T 25X1A

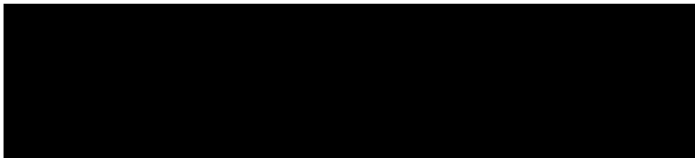
ANALYST: [redacted] GG/S 25X1A

COORDINATION WITH OR AID FROM OTHER AGENCIES: None

USE DATE: 10 November 1964

APPLICABLE PROJECT NO. (if any): 60-2051-J GB 64-47 (see 64)

Classification is SECRET except one page which is TSR



GROUP 1 Excluded from automatic downgrading and declassification

**SECRET**



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