Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

DOCUMENT NO. _____
NO CHANGE IN CLASS. ☐
☒ DECLASSIFIED
CLASS. CHANGED TO: TS S C
NEXT REVIEW DATE: _____
AUTH: HR 70-2
DATE: 9/6/82 REVIEWER: 037169

SECRET

82249

CIG

LIBRARY

DOCUMENTS BRANCH
TRANSLATION

Number 64

23 Apr 1947

Prepared By

Documents Branch

CENTRAL INTELLIGENCE GROUP

New War Department Building
21st and Virginia Avenue, N. W.
Washington, D. C.

SECRET

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

WARNING

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, 50 U.S.C., 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN [redacted] UNAUTHORIZED PERSON IS PROHIBITED BY LAW. REPRODUCTION OF THE INTELLIGENCE IN THIS PUBLICATION IS PROHIBITED WITHOUT SPECIAL AUTHORITY FROM THE DIRECTOR OF CENTRAL INTELLIGENCE.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

[redacted]

EDITOR'S NOTE:

Because of the magnitude of reproducing the many tables, maps and charts included in this document (DB No 273908), and the fact that the material presented herein is of special interest only to certain technical agencies, Documents Branch has resorted to furnishing the translation only to accompany loan copies of the original.

The text is completely translated. Translation masks and keys are furnished for application against the original pages of the document as indicated, page by page.

The pagination given in the Table of Contents refers directly to the original document.

288996

[redacted]

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

COMPLETE TRANSLATION

Doc No 273405

EAST ASIA METEOROLOGICAL DATA: Vol IV, SIBERIA

The East Asia Research Group — January 1942

Special Publication of the 7th Survey Commission — CONFIDENTIAL

CPYRGHT

FOREWORD

The task of collecting and editing data on the weather of Eastern Asia was entrusted to the 7th Survey Commission of the East Asia Research Group and was carried out at the Central Meteorological Observatory. The research was begun in 1939 and has at last been completed and the results published. The data consists of six volumes, each dealing with a separate area. The requisite meteorological information from each area has been recorded with the greatest possible accuracy and we believe therefore that the data will prove useful in meteorological work for all areas covered.

During the course of this research, the data and completed manuscript were unfortunately destroyed on 20 June 1940 in a fire caused by lightning. Subsequently, the personnel of the Statistics Section of the Central Meteorological Observatory, with the magnificent support of the members of the 7th Survey Commission and many of the Secretaries, worked diligently to restore the lost material and completed the work about a year later.

The foreword has been written to place on record the circumstances of the production of this volume.

June 1941

OKADA Takematsu, Chief
The Central Meteorological Observatory

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

PREFACE

This volume of East Asia Meteorological Data deals with Siberia and is divided into three parts. The first part gives the average figures for successive years and is to be used as a general survey of Siberian weather. The second part gives the actual figures for each month and year. The third part is in the nature of an annex, with notes and maps.

Weather observations in Siberia seem to have been fairly complete in recent years, but owing to the particular conditions of the country it has been absolutely impossible to obtain any recent reports. Fortunately there was a collection of old reports available at the Central Meteorological Observatory and a large amount of material has been taken from the sources listed below:

Annales de l'Observatoire Physique Central Nicolas I, II 1895-1905

(Annals of the Central Geographical Observatory of Nicholas I and II, 1895 - 1905) This covers a period of 11 years. The surveys vary in length, some of them covering only 2 or 3 years. Observations were made three times a day, at 0700, 1300 and 2100.

Much of the atmospheric pressure and temperature data was taken from the following tables:

Klima der Union der Sozialistischen Sowjet-Republiken: Teil II Lieferung I, Luftdruck in der USSR nach Monatsmitteln von A. Kaminsky (Climate of the USSR, Part II, Section I. Average Monthly Atmospheric Pressure Figures for USSR, by A. Kaminsky)

Meteorological Tables for Foreign Countries, Continued, Central Meteorological Observatory.

Atmospheric pressure is expressed in millimeters of mercury and is corrected to 0° centigrade and standard gravity (latitude 45° at sea level).

Temperature is given in centigrades corrected to the International Temperature Scale (Celsius Hydrogen Thermometer).

Vapor pressure is shown in millimeters; humidity is shown by percentage of saturation.

Sky cover is expressed in figures: 10 being complete cover, 0 the total absence of cloud, and 1 to 9 the varying quantities between.

Wind velocity is given in meters per second and frequency of direction is indicated by the 8 points of the compass and percentage of total observations. Days on which the wind was 1 meter per second or less are termed "calm."

Amount of precipitation is shown in millimeters and the reading taken at 0700 hours gives the rainfall for the previous day.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

The average monthly figures for atmospheric pressure, temperature, vapor pressure, humidity, sky cover and wind velocity are the averages of the daily readings taken at 0700, 1300 and 2100.

Maximum and minimum atmospheric pressures for the month are the maximum and minimum readings taken at any of the three times noted above. The highest maximum temperature is the highest temperature recorded at any of the three /daily/ observations. The lowest minimum temperature is the lowest thermometer reading during the month and the average minimum temperature is the average of the lowest daily readings.

"Number of days with minimum temperature equal to or less than zero" is the number of days when the temperature was 0° centigrade or below and corresponds to the number of days of freezing.

"Number of days with maximum temperature equal to or less than zero" is the number of days when none of the three temperature readings was above 0° centigrade and corresponds to the number of days with no thaw.

Days of fine weather are those on which the total of the three computations of sky cover in one day does not exceed 5. Days of cloud are those on which the total is not less than 25.

Days of precipitation (including rain, sleet, hail and snow), days of snow and days of hail are those on which there was a fall of 0.1 mm or more, the reading being taken at 0700 the following morning. A fall of less than 0.1 is disregarded.

Days of fog are those on which fog was observed.

Days of thunder are those on which thunder occurred. The sign ↯ indicates lightning accompanying local thunder and the sign T indicates distant thunder. When there is local lightning and distant thunder on the same day the sign ↯ only will be used and the distant thunder disregarded.

Humidity and vapor pressure are measured on a dry and wet bulb thermometer when the wet bulb temperature is 0.5° C or more. If it is less than 0.5° C they are calculated with a hair-hygrometer in conjunction with temperature.

Evaporation is shown in millimeters and is measured in the shade.

Sunshine is given in hours and the figure represents the total number of hours per month during which the sun shone undimmed by cloud or mist. Insolation is the amount of time the sun shines expressed as the percent of the potential number of hours of sunshine. This potential is not computed astronomically but varies according to the terrain and characteristics of the locality.

Snow cover is shown in centimeters; and the figures give the average depth for each ten-day period. The maximum snow cover is the highest figure of the above ten-day averages.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

The last day of freezing in the first half of the year (January to June) and the first day of freezing in the latter half of the year (July to December) are the last and first days on which the minimum temperature falls to 0^{0} C or below, read on a thermometer within a thermoscreen.

The last and first days of snow are the last and first days during the first and latter half of the year in which there was snowfall.

The freezing and thawing of rivers are calculated for the principal bodies of water emptying into the Pacific and Arctic Oceans.

The day of freezing of a river is the day when ice is first observed filling the river from bank to bank, regardless of thickness, or the day in which ice ceases to flow down the stream. The day of thaw is the day when the ice is first broken up or when it begins to move.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

EAST ASIA METEOROLOGICAL DATA: Vol IV, SIBERIA

TABLE OF CONTENTS

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Key to Map 1 (following p 3 of List of Contents)

a. Map of Locations of Weather Stations, No 1.

b. The numbers correspond to those of the first list of observation stations.

c. Arctic Ocean

d. Volga River

e. Ob River

f. Yenisei River

g. Yana River

h. Indigirka River

i. Kolyma River

j. Bering Sea

k. Lena River

l. Sea of Okhotsk

m. Amur River

n. Ussuri River

o. Sea of Japan

p. Yellow Sea

q. Tarim River

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Key to Map 2 (following p 3 of List of Contents)

a. Map of Location of Weather Stations No 2.

b. The numbers correspond to those given in the second, third and forth lists of Weather Stations. Those of the third list are in heavy type and those of the fourth in slanting figures.

(c to q same as for Map 1)

Refer to: Key to Map 1 on the preceding page.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

PART I

AVERAGE FIGURES FOR SUCCESSIVE YEARS

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mark for tables on pages 2/3. 4/5. 6/7.

LIST OF WEATHER STATIONS No 1

(Giving Number of Years for Which Statistics Are Available)

1 Number

2 Place Name

3 Latitude

4 Longitude

5 Elevation

6 Mean Atmospheric Pressure

7 Atmospheric Pressure at Sea Level

8 Maximum Atmospheric Pressure

9 Minimum Atmospheric Pressure

10 Mean Temperature

11 Maximum Temperature

12 Minimum Temperature

13 Mean Minimum Temperature

14 Vapor Pressure

15 Humidity

16 Sky Cover

17 Wind Velocity

18 Prevailing Wind Direction and Frequency Percentage

19 Precipitation

20 Maximum Precipitation on a Single Day

21 Number of Days of Precipitation

22 Number of Days of Snow

23 Number of Days of Hail

24 Number of Days of Local Lightning

25 Number of Days of Distant Thunder

26 No of Days Clear (Sky Cover 0.0-0.2)

27 No of Days Overcast

28 No of Days of Fog

29 No of Days of Gale

30 No of Days with Maximum Temperature equal to or less than Zero

31 No of Days with Minimum Temperature equal to or less than Zero

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

No 1

(Place Names p 2)

Tobolsk Okrug (Omsk Oblast)

1. Berezovo
2. Turginskoye
3. Kondinskoye
4. Kurgan
5. Obdorsk
6. Padun
7. Samarovo
8. Satyzhinskoye
9. Surgut
10. Staro-Sidorovo
11. Tara
12. Tyumen
13. Tobolsk
14. Tobolsk Agricultural School
15. Turinsk
16. Zavodoukovskoye

Tomsk Oblast

17. Andovinsky Priisk
18. Barnaul
19. Belgachskoye Zimovye
20. Biysk
21. Bolshe-Nikolskiy Priisk
22. Borovya Ozera
23. Burlinskoye Ozero
24. Itkulskiy Zavod
25. Kainsk
26. Kainsk School
27. Kainsk Railway Station
28. Kamen
29. Karagatskiy Forpost
30. Kolchuginskoye Mines
31. Kolyban'
32. Kuchuk
33. Kuznetsk
34. Loktevskiy Zavod
35. Mariinsk
36. Narym
37. Neodzhidannyy Priisk
38. Pravaya Ob'
39. Proroko-Ilimskiy Priisk
40. Salair
41. Spasskaya Rezidentsiya
42. Tayga
43. Tatarska
44. Chulym
45. Tyumentsevskoye
46. Tisul
47. Tomsk
48. Tomsk Agricultural School
49. Taurak
50. Vyshe-Subrasskiy Priisk
51. Zmeinogorsk
52. Zyranovskiy Rudnik

Semipalatinsk Oblast

53. Altayskaya
54. Yamyshyevskoye
55. Kokpetky
56. Karkaralinsk
57. Ust-Kamenogorsk
58. Uzon-Bulak
59. Semipalatinsk
60. Zaysan

(Place Names p 4)

Akmolinsk Oblast

61. Akmolinsk
62. Omsk

Yeniseysk Oblast

63. Abakanskiy Zavod
64. Achinsk
65. Yeniseysk
66. Yermakovksoye
67. Kamenka
68. Kansk
69. Kazachinskiy
70. Keshma
71. Konkordievskiy Priisk
72. Krasnoyarsk
73. Minusinsk
74. Novo-Mariinskiy Priisk
75. Nazimovo
76. Tolstyy-Nos
77. Turkhansk
78. Troitskoye

Yakut ASSR

79. Blagoveshchenskiy Priisk
80. Tenyuka-Olekma
81. Yakutsk
82. Kazach'ye (Ust-Yansk)
83. Markhinskiy Ulus
84. Markhinskoye
85. Nizhne-Kolymsk
86. Olekminsk
87. Ust'Maya
88. Rodchevo
89. Russkoye Ust'ye

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

90. Suntar
91. Sredne-Kolymsk
92. Tikhono-Zadonskiy Priisk
93. Verkhoyansk
94. Vilyuysk

Irkutsk Oblast

95. Beznosovo
96. Biryusa
97. Bratskiy Ostrog
98. Dushkachan
99. Bol'shoye Goloustnaye
100. Ilimsk
101. Irkutsk
102. Zherdovskaya Agricultural School
103. Kharbatovskoye
104. Kirensk
105. Kultuk
106. Listvinichnoye
107. Mondy
108. Nizhne-Udinsk
109. Nikolayevskiy Zavod
110. Olkhon
111. Omoley
112. Usolye
113. Ust-Kutskiy Zavod
114. Peschnaya Bukhta
115. Tayshet
116. Tulun
117. Tunka
118. Zalari
119. Verkhnaya Zima'

(Place Names p 6)

Chita Oblast and Buryat Mongolian ASSR

120. Akatuy
121. Aksha
122. Barguzin
123. Bol'shoy Ushkaniy (Island)
124. Borzya
125. Dagarskiy Lighthouse
126. Doge
127. Dono
128. Goryachinsk
129. Yamarovka
130. Kabansk
131. Kharaus
132. Khilok
133. Mangut
134. Mogzon
135. Mysovsk
136. Nerchinsk
137. Nerchinskiy Zavod
138. Olmur
139. Olovyannaya
140. Tankhoy
141. Petrovskiy Zavod
142. Stretensk
143. Chita
144. Turinskiy Lighthouse
145. Troitskosavsk
146. (Verkhnyaya) Mishikha
147. Verkhne-Udinsk

Maritime Kray

148. Ayan
149. Gizhiga
150. Grodekovo
151. Khabarovsk
152. Markovo-na-Anadyre
153. Nikolayevskiy Lighthouse
154. Nikolskoye (Bering Is)
155. Nikolsk Ussuriyskiy
156. Nikolayevsk-na-Amure
157. Novo Marienskiy Post
158. Okhotsk
159. Pavlinovka
160. Petropavlovsk Lighthouse
161. Posyet
162. Povorotnyy Lighthouse
163. Preobrashenskoye
164. Rukovskoye
165. Skryplev Lighthouse
166. Vyazemskaya
167. Vladimirskiy Post
168. Vladivostok Observatory
169. Vladivostok Port
170. Vladivostok Station

Amur Oblast

171. Blagoveshchensk
172. Dshalinda
173. Yekaterino-Nikolsk
174. Sofiskiy Priisk
175. Chernyayevo

Sakhalin

176. Alexandrovskiy Post
177. Galkino Vrashskoye (OCHIRI)
178. Korsakovskiy Post (ODOMARI)
179. Kririon Lighthouse
180. Onor

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT
Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask for tables on Pages 8 and 9

LIST OF WEATHER STATIONS No 2

(Atmospheric Pressure Only)

1 Place Name

2 Lat N

3 Long E

4 Elevation

5 Number of Years Covered by Statistics

6 Mean Atmospheric Pressure

7 Atmospheric Pressure at Sea Level

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Place Names page 8)

1. Marre-Sale
2. Dickson (Island)
3. Ust Yeniseyskiy Post
4. Dudinka
5. Bulun
6. Monastyrskoye
7. Verkhne Imbatskoe
8. Bogoslovsk
9. Verkhotur'ye
10. Blagodatka
11. Nizhniy'Tagil
12. Sverdlovsky (Yekaterinburg)
13. Chelyabinsk
14. Irbit
15. Shadrinsk
16. Novosibirsk Bolshoye Krivoshchekovo
17. Rybnoye
18. Kotelnikovskiy Lighthouse
19. Klyuchevskaya
20. Troitsk
21. Konstanaiskaya Koniushnya
22. Urkach
23. Sarymbet
24. Kokchetav
25. Atbasar
26. Parlodar
27. Kupino
28. Borovskoye
29. Kolchuginskoye
30. Karitui
31. Perevalnaya
32. Pokrovka
33. Tygan-Urkan
34. Magdagachi
35. Pikan-Zeya
36. Buomnaak
37. Mazanovo
38. Gosh
39. Pronge
40. Bolsheretsk
41. Turgay
42. Spasskiy Zavod
43. Urga (Ulan-Bator)
44. Mikhailovskoye
45. Tarbagatay
46. Zhorkiershiy Lighthouse
47. Kizil-Djar
48. Aralskoye More
49. Kazalinsk
50. Kzyl-Orda (Perovsk)
51. Turkestan (Dzambui)
52. Aulie-Ata
53. Frunze (Pishpek)
54. Alma-Ata (Verniy)
55. Przhevalsk
56. Kopal
57. Koktal (Borokhudzir)
58. Ti-Hua (Urumchi)

(Place Names p 9)

59. Lu-k'o-ch'in (Linkchun)
60. Yergenevka
61. Anuchino
62. Gamovskiy Lighthouse
63. Askoldskiy Lighthouse
64. Bikin
65. Muravyev-Amurskiy
66. Post Olga
67. Krasnovodsk
68. Cheleken Island
69. Uzun-Ada
70. Chikishlyar
71. Kizil-Arvat
72. Ashkhabad
73. Turtkul
74. Bayram-Ali
75. Sultan-Bend
76. Chardzhov (Leninsk-Turkmenskiy)
77. Bukhara
78. Samarkand
79. Kerki
80. Termez
81. Jizak
82. Tashkent
83. Leninabad (Khodzhent)
84. Namangan
85. Margelan
86. Andizhan
87. Irkeshtan
88. Pamirskiy Post
89. Khorog
90. Naryn

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mark for tables on PP 10 and 11)

LIST OF WEATHER STATIONS No 3

(Temperature Only)

1 Place Names

2 Latitude

3 Longitude

4 Elevation

5 Dates Covered By Statistics

6 Number of Years for which Statistics Are Available

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Place Names p 10)

1. Yugorskiy Shar
2. Marre-Sale
3. Dickson Island
4. Khatanskoye
5. Dulun
6. Petrun (Bolbon)
7. Verkhne Imbatskoye
8. Rodchevo
9. Cheremkoyevskiy Yurty
10. Lar'yat
11. Noviy Stan
12. Yur'yeva
13. El'gyay
14. Ola
15. Nayakhan
16. Petrovskiy Poselok
17. Shipitsinskoye
18. Molchanovo
19. Ushur
20. Tanguy
21. Unakha
22. Urkach
23. Cholakhai
24. Salymbet
25. Kokchetav
26. Mikhailovskiy Poselok
27. Borovskoye
28. Balandino
29. Tolbukskaya
30. Okinskiy Stan
31. Ukyr
32. Bolshoye Amalatskoye
33. Sugaluy
34. Gorobitsa
35. Tapurgary
36. Pokrovka
37. Erofei Pavlovich
38. Urusha
39. Reinovo
40. Rukhlovo (Skovorodino)
41. Tygan-Urkan
42. Taldan
43. Ulanga
44. Pikan (Zeya)
45. Dambuki
46. Gondatti (Shimanovskaya)
47. Kukhterin Lug
48. Bomnak

(Place Names p 11)

49. Mazanovo
50. Gosh
51. Otradnoye
52. Ekimchan
53. Kerbi
54. Tsimmermanovskaya
55. Mariinskoye
56. Pronge
57. Langer
58. Turgay
59. Troitskiy Poselok
60. Zaysan
61. Kosh-Agach
62. Innokenti'yevskoye
63. Amurskoye
64. Mikhaylovskoye
65. Tarbogataya
66. Arkhara
67. Paykan
68. Sovietskaya Gavan
69. Kamen Rybolov
70. Askold Lighthouse
71. Spassk-Dal'niy
72. Yevgeniyevka
73. Bikin
74. Post Olga

Kamchatka Oblast

75. Bolsheretsk
76. Tigil'
77. Klyuchi
78. Ust-Kamchatsk

Sakhalin

79. Dzhenkier
80. Timovskaya

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Mark for table on page 12.

LIST OF WEATHER STATIONS No 4

(Only the Number of Days of Precipitation, of Maximum Precipitation, and Day of Different Type of Weather)

		Number of Years Covered by Statistics Available
1	Place Names	
2	Latitude	
3	Longitude	
4	Elevation	12
5	Precipitation	
6	Maximum Precipitation in a Single Day	
7	Number of Days of Precipitation	
8	Number of Days of Snow	
9	Number of Days of Hail	
10	Number of Days of Local Lightning	
11	Number of Days of Distant Thunder	

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Place Names, p 12)

Tobolsk Okrug (Omsk Oblast)
1. Alexandrovskoye
2. Dem'yanskoye
3. Bol'sheblinnikova
4. Lipchinskoye
5. Plekhanovo
6. Ust-Ishim
7. Iyevlevo
8. Nitsa
9. Lipchinskoye
10. Pokrovskoye
11. Kurakova
12. Iushkovo (Tugulym)
13. Dubrovka
14. Sozonovo
15. Malkovskoye
16. Bagandinskoye
17. Yalutorovsk
18. Ishim
19. Tyukalinsk
20. Pustynskoye

Tomsk Oblast
21. Noviystan
22. Zyryanskoye
23. Karpysak
24. Kasandinskiy Poselok
25. Bolshoye Krivoshchekovo
26. Malobragino
27. Beloborodovo

Semipalatinsk Oblast
28. Zheleznka
29. Lebyazhiy Poselok
30. Bolshoye Vladimirskoye
31. Semiyarskoye
32. Krasnoyarskiy Poselok

Yeniseysk Oblast
33. Leonidovskiy Zavod
34. Verkhne Suetuk
35. Nizhnyaya Bulanka
36. Kuragino

Yakut ASSR
37. Amga

Irkutsk Oblast
38. Shamanskoye
39. Kimiltey
40. Kutulik
41. Novo-Alexandrovskiy Zavod

Chita Oblast and Buryat Mongolian ASSR
42. Gorbitsa

Maritime (Primorskiy) Kray
43. Kozlovskaya

Amur Oblast
44. Pristan
45. Pokrovka
46. Poyarkovo

Sakhalin
47. Lesogorsk (Nayoshi)
48. Seraroki
49. Voskresenskoye

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mean Atmospheric Pressure (+ 700mm) (Place Names: List No 1)

Mask for tables on pages 13, 14 and 15

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mean Atmospheric Pressure (+ 700mm)

Mask for tables on page 16 and half page 17 (to *)

(Place Names According to List of Met Observation Stations No 2)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Sea Level Atmospheric Pressures (+ 700mm)

Mask for tables on half p 17 (from *) p 18 and half p 19 (to *)

(Place Names According to List of Met Observation Stations No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Atmospheric Pressure at Sea Level (+ 700mm)

Mask for tables on half p 19 (from *) and p 20

(Place Names According to List of Met Observation Stations No 2)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pages 21, 22 and half p 23 (to *)

Maximum Atmospheric Pressure (+ 700mm) (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on half p 23 (from *) and pp 24 and 25

Minimum Atmospheric Pressure (+ 700mm) (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask for tables on pp 26, 27, 28 and part 29 (to *)

Average Temperatures (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on part p 29 (from *) and p 30

Average Temperatures (Place Names: List No 3)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pages 31, 32 and 33

Maximum Temperatures (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pages 34, 35 and 36

Minimum Temperatures (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pp 37, 38 and 39

Average Minimum Temperatures (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pp 40, 41 and half 42 (to *)

Average Vapor Pressure (mm) (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on half p 42 (from *) and pp 43 and 44

Average Humidity (%) Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask for tables on pp 45, 46, 47 and half 48 (to *)

Average Sky Cover (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on half pp 48 (from *) 49, 50 and 51 (to *)

Average Wind Velocity (m/s) (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on part p 51 (from *) 52, 53, and 54

Prevailing Wind Direction and Frequency Percentage (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pp 55, 56, 57 and part 58 (to *)

Precipitation (mm) (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on part p 58 (from *) and part p 59 (to *)

Precipitation (Place Names: List No 4)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on part p 59 (from *) on 60, 61 and 62

Maximum Precipitation on a Single Day (Place Names: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on p 63

Maximum Precipitation on a Single Day (Place Names: List No 4)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask for tables on pp 64, 65, 66 and part 67 (to *)

Number of Days of Precipitation (Place Names: List No 1)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on part pp 67 (from *) and part p 68 (to *)

Number of Days of Precipitation (Place Names: List No 4)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on part p 68 (from *) pp 69, 6 70, 71 and part p 72 (to *)

Number of Days of Snow (Place Names: List No 1)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on part p 72 (from *) and part p 73 (to *)

Number of Days of Snow (Place Names: List No 4)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on p 73 (from *) to page 76

Number of Days of Hail (Place Names: List No 1)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on p 77 and part p 78 (to *)

Number of Days of Hail (Place Names: List No 4)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask fer tables on p 78 (from *) and part p 80 (to *)

Days of Local Thunder Accompanied by Lightning (Place Names: List No 1)

Place Name	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Entire Year	Local Plus Distant Thunder	Days of Thunder Accompanied by Hail

Mask for tables on part of p 80 (from *) and part p 81 (to*)

Number of Days of Local Thunder Accompanied by Lightning (Place Names: List No 4)

Place Name	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Entire Year	Local plus Distant Thunder	Days of Thunder Accompanied by Hail

Mask for tables on part of p 81 (from *) p 82 and part p 83 (to *)

Number of Days of Distant Thunder (Place Names: List No 1)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Mask for tables on part of p 83 (from *) and part p 84 (to *)

Number of Days of Distant Thunder (Place Names: List No 4)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Mask for tables on part p 84 (from *) pp 85, 86 and 87

Number of Days of Fine Weather (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Mask for tables on pp 88, 89, 90 and part 91 (to *)

Number of Days of Cloudy Weather (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Mask for tables on part p 91 (from *) pp 92, 93 and part 94 (to *)

Number of Days of Fog (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Mask for tables on part p 94, pp 95, 96 and part 97 (to *)

Number of Days of Gale (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Mask for tables on part p 97 (from *) pp 98, 99, 100

Number of Days with a Maximum Temperature equal to or less than Zero (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Mask for tables on pp 101, 102 and 103

Number of Days with a Minimum Temperature equal to or less than Zero (Place Names: List No 1)

Place Name | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Entire Year

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for tables on p 104 to 105)

Depth Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

a. Latitude -.- Longitude -.- Elevation -.-
(and all similar headings after place names on pp 104 and 105)

(Place Names as follows:)

Page 104:

b. Galkino Vrazhskoye
c. Khabarovsk
d. Alexandrovskiy Post
e. Rukovskoye
f. Barasul
g. Borovye Ozera

Page 105:

h. Zyranovskiy Rudnik
i. Tomsk
j. Omsk
k. Achinsk
l. Akatuy
m. Chita
n. Korsakov
o. Tyumen
p. Itkulskiy Zavod
q. Neodzhidanniyy Priisk

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

(Mask for pp 106/107)

AVERAGE DEPTH OF SNOW COVER (cm)

Observation Stations	September	October	November	December	January	February	March	April	May	Years Observed

(Place Names p 106: As in Place Name List No 1 except for following additions:

(After #9, a. Surgut), add b. Karmak and c. Ishim
(After #68, d. Kansk), add e. Verkhne-Sovetsuk, f. Anga
(After #164, g. Rukovskoye), add h. Kozlovskaya
(After #152, i. Markovo-na-Anadyre), add j. Pavlodar

(Mask for pp 108/109)

MAXIMUM DEPTH OF SNOW COVER (cm) by Ten Day Averages

Observation Stations	September	October	November	December	January	February	March	April	May	Years Observed

(Column headings same as pp 106-107. Place Names same as pp 106-107.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Mask for top part of p 110

Evaporation (in shade) mm per Month
(All Place Names on p 110: List No 1)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for middle part of p 110

Sunshine - Hours per Month

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for bottom part of p 110

Insolation

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Entire Year

Mask for tables on pp 112, 113 and 114

Region	First and Last Dates of Freezing (Minimum Temperature Equal to or Less than Zero)			First and Last Dates of Snow		
	First date	Last date	Period Covered by	First date	Last date	Period Covered by
	Day Mo	Day Mo	Statistics	Day Mo	Day Mo	Statistics

(Place Names: List No 1)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for pp 115-117)

FREEZING AND THAWING OF RIVERS

River	Observation Station	Latitude	Longitude	Thawing	Freezing	Disappearance of Ice	Period of Observation
	On the Pacific Coast of Siberia						
Zeya	Berezovka						
	Blagoveshchensk						
Akatuy	Akatuy						
Alexandrovska Bolshaya	Alexandrovskiy post						
Alexandrovska Malaya	Alexandrovskiy post						
Amur	Khabarovsk						
	Nikolayevsk						
	Blagoveshchensk						
Anadyr	Markovo						
Zavitaya	Mikhailovka						
Gishiga	Gishinsk						
Ingoda	Chita						
Kukhtuy	Okhotsk						
Nayba	Galkino Vrasskoye						
Nercha	Nerchinsk						
Lagernaya	Petropavlovsk Lighthouse						
Onon	Aksha						
Onor	Onor						
Shilka	Nerchinsk						
	Stretensk						
Suputenka	Nikolsk Ussuriyskiy						
Takaye	Galkino Vrasskoye						
Tom' and Zeya	Vasilyevskoye						
Unda	Undinskaya						
Usuri	Khabarovsk						
	Koslovskaya						
	On the Arctic Coast of Siberia						
Ob'	Pravaya Ob'						
	Alexandrovo						
	Barnaul						
	Maryn						
	Kruglikova						

(Contd on next page)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Contd from preceding page)

	Surgut
	Obdorsk
	Itkulskiy Zavod
	Kamen
	Novosibirsk
	Malobragino
	Kolyban
	Molchanovo
	Velyi Zhar
Irtysh	
	Pustynskoye
	Ust-Kamenogorsk
	Ust-Kamenogorsk, Ferma
	Yamishevskiy Poselok
	Pavlodar
	Samorovo
	Krasnoyarsk Poselok
	Semipalatinsk
	Semiyarskoye
	Lebiazhiy Poselok
	Chyerniy
	Demyanskoye
	Zheleznka
	Omsk
	Tobolsk
	Tara
Ishim	Akmolinsk
	Ishim
	Petropavlovsk
	Voznesenskaya
	Petropavlovskaya
Tobol	Zverinogolovskoye
	Yalutorovsk
	Iyevlevo
	Verkhne-Berkteri
	Bol'she Blinnikova
	Tobolsk
Chulym	Leonidovskiy Zavod
	Achinsk
	Zyrianskoye
	Kashatakova
	Sergeyevo
p. 47	Tatalskoye
	Birilyussi
	Semenovskaya
Yenisey	Krasnoyarsk
	Kazachinskoye
	Kostyl'nikova
	Yeniseisk
	Nazimovo
	Tolstiy Nos
Angara	Irkutsk
	Bratskoye
	Vladimirova

(Contd on next page)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Contd from preceding page)

	Keshma
	Olonki
Lena	Yakutsk
	Omoloy
	Kirensk
	Olekminsk
	Markha
Aldan	Ust-Maya
Kolyma	Rodchevo
	Sredne-Kolymsk
	Nishne-Kolymsk
Yana	Verkhoyansk
	Kazache
Indigirka	Russkoye Ustye
Vilyui	Vilyuisk

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for tables
on pp 118 to 151)

FREQUENCY OF WIND DIRECTION (%)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year

Place Names : List No. 1.

[End of Part 1]

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

PART II

METEOROLOGICAL TABLES BY YEAR AND MONTH

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

PREFACE

This is Part II of the Volume of East Asia Meteorological Statistics dealing with Siberia (Vol IV).

This volume gives for each year and month meteorological averages as well as the number of days of different types of weather, soil temperature, evaporation, days of sunshine, depth of snow cover, first and last days of freezing, first and last days of snowfall, the freezing and thawing of rivers and harbors, and other useful information.

The figures given for atmospheric pressure and temperature are the averages of the three daily readings taken at 0700, 1300 and 2100. The figures for vapor pressure, humidity, sky cover, wind velocity, etc., are the averages of the readings taken at 1300.

Atmospheric pressure is expressed in millimeters corrected to 0° centigrade and standard gravity (sea level at Lat 45°).

Temperature is given in centigrade corrected to the international temperature scale (hydrogen thermometer).

Vapor pressure is expressed in millimeters and humidity is shown as a percentage of saturation.

Sky cover is expressed in figures: 10 being complete cover, 0 the total absence of cloud, and 2 to 9 the varying intermediate quantities.

Wind velocity is given in meters per second; precipitation is given in millimeters, the reading taken at 0700 being the precipitation for the previous day.

Maximum and minimum atmospheric pressures for the month are the maximum and minimum readings taken at any of the three times noted above. The highest maximum temperature is the highest temperature observed at any of the three /daily/ observations during the month. The lowest minimum temperature is the lowest thermometer reading during the month and the average minimum temperature is the average of the lowest daily readings.

"Number of Days with Minimum Temperature Equal to or Less than Zero" corresponds to the number of days of freezing when the temperature falls to 0° C or below, i.e., Number of Days of Freezing. "Number of Days with Maximum Temperature Equal to or Less than Zero" corresponds to the Number of Days with No Thaw, when none of the three temperature readings is above 0° C.

Days of fine weather are those on which the total of the three observations of sky cover in one day does not exceed 5. Days of cloud are those on which the total is 25 or over.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Days of precipitation (including rain, sleet, hail and snow), days of snow, and days of hail are those on which there was a fall of 0.1 mm or more, the reading being taken at 0700 hours the following morning. A fall of less than 0.1 mm is disregarded.

Days of fog are those on which fog was observed.

Days of thunder are those on which thunder occurred. The sign ⚡ indicates lightning accompanying local thunder and the sign T indicates distant thunder. When there is local lightning and distant thunder on the same day the sign ⚡ only will be used and the distant thunder disregarded.

Humidity and vapor pressure are measured on a dry and wet bulb thermometer when the wet bulb temperature is 0.5° C or more. If it is less than 0.5° C they are calculated with a hair hygrometer in conjunction with temperature.

Evaporation is shown in millimeters and is measured in the shade.

Sunshine is given in hours and the figure represents the total number of hours per month during which the sun shone undimmed by cloud or mist. Insolation is the amount of sun experienced expressed in percent of the potential number of hours of sunshine. The potential is not computed astronomically but varies according to the terrain and characteristics of the locality.

Snow cover is shown in centimeters and is the average depth for each ten-day period. The maximum snow cover is the highest figure of the above ten-day averages.

The last day of freezing in the first half of the year (January to June) and the first day of freezing in the latter half of the year (July to December) are the last and first days on which the minimum temperature falls to 0° C or below, read on a thermometer within a thermoscreen.

The last and first days of snow are the last and first days during the first and latter half of the year on which there was snowfall.

The dates of freezing and complete freeze-over of the main rivers that empty into the Pacific and Arctic Oceans are the days on which they are covered from bank to bank with a sheet of ice of whatever thickness or the days when all movement of floating ice near the banks has ceased. The date of thaw is the first day on which the ice breaks or the water starts to flow.

This section includes the latest information on the freeze-up conditions of the harbors on the Pacific coast, based on "The State of Ice on the Seas of the USSR; Fasc. 1-4; Winter 1924-1925." (Russian text)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

The List of Place-Names used in Part II follows. They have been extracted from Weather Station List No 1 in Part I.

(Place Names p 155)

Tobolsk Okrug (Omsk Oblast)
1. Berezovo
4. Kurgan
5. Obdorsk
9. Surgut
10. Staro-Sidorovo
12. Tyumen
13. Tobolsk
16. Zavodoukovskoye

Tomsk Oblast
17. Andovinsky Priisk
18. Barnaul
19. Belgachskoye Zimovye
20. Biysk
22. Borovya Ozera
23. Burlinskoye Ozero
25. Kainsk
30. Kolchuginskoye Mines
31. Kolyban'
33. Kuznetsk
35. Mariinsk
36. Narym
37. Neodzhidanniyy Priisk
38. Pravaya Ob'
47. Tomsk
52. Zyranovskiy Rudnik

Semipalatinsk Oblast
55. Kokpetky
56. Karkaralinsk
57. Ust-Kamenogorsk
59. Semipalatinsk
60. Zaysan

Akmolinsk Oblast
61. Akmolinsk
62. Omsk

Yeniseysk Oblast
63. Abakanskiy Zavod
65. Yeniseysk
66. Kansk
69. Kazachinskiy
72. Krasnoyarsk
73. Minusinsk
76. Tolstyy-Nos
77. Turkhansk

Yakut ASSR
79. Blagoveshchenskiy Priisk
81. Yakutsk
82. Kazach'ye (Ust-Yansk)
84. Markhinskoye
85. Nizhne-Kolymsk
86. Olekminsk
87. Ust'Maya
88. Rodchevo
89. Russkoye
91. Sredne-Kolymsk
93. Verkhoyansk
94. Vilyuysk

Irkutsk Oblast
98. Dushkachan
101. Irkutsk
104. Kirensk
107. Mondy
108. Nizhne-Udinsk
111. Omoloy

Chita Oblast and Buryat Mongolian ASSR
120. Akatuy
121. Aksha
122. Barguzin
128. Goryachinsk
135. Mysovsk
136. Nerchinsk
137. Nerchinskiy Zavod
143. Chita

(Place Names p 156)
145. Troitskosavsk
147. Verkhne-Udinsk

Maritime Kray
148. Ayan
149. Gizhiga
152. Markovo-na-Anadyre
154. Nikolskoye (Bering Is)
155. Nikolsk Ussuriyskiy
156. Nikolayevsk-na-Amure
157. Novo Marienskiy Post
158. Okhotsk
160. Petropavlovsk Lighthouse
161. Posyet
162. Povorotnyy Lighthouse
164. Rukovskoye
165. Skryplev Lighthouse
166. Vyazemskaya
168. Vladivostok Observatory
169. Vladivostok Port

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Amur Oblast
171. Blagoveshchensk
172. Dzhalinda
173. Yekaterino-Nikolsk
174. Sofiskiy Priisk

Sakhalin
176. Alexandrovskiy Post
179. Kririon Lighthouse
180. Onor

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Pages 157 to 462) (There is a separate mask for p 437, bottom, see page 40 of this translation.)

(Each page in this group has the same heading..i.e.:)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Complete Year

(The Japanese items running down the left of the pages in this group are translated as follows. Numbers are those keyed in the original document in red.)

1. Mean Atmospheric Pressure
2. Maximum Atmospheric Pressure
3. Minimum Atmospheric Pressure
4. Mean Temperature
5. Highest Maximum Temperature
6. Lowest Minimum Temperature
7. Average Minimum Temperature
8. Vapor Pressure
9. Humidity
10. Sky Cover
11. Wind Velocity
12. Rainfall (mm)
13. Maximum Rainfall in One Day (mm)
14. Number of Days of Rain
15. Number of Days of Snow
16. Number of Days of Hail
17. Number of Days of Local Thunder
18. Number of Days of Distant Thunder
19. Number of Days of Fine Weather (Sky Cover 0.0 - 0.2)
20. Number of Cloudy Days
21. Number of Days of Fog
22. Number of Days of Storm
23. Number of Days with Maximum Temperature equal to or Less than Zero
24. Number of Days with Minimum Temperature equal to or Less than Zero
25. Out
26. Frequency of Wind Direction
27. Mean Maximum Temperature
28. Lowest Recorded Temperature
29. Number of Days of Rainfall of 0.1 mm or less
30. Number of Days of Rainfall of 1.0 mm or less
31. Number of Days of Rainfall of 10.0 mm or less
32. Number of Days with Thunder
33. Highest Recorded Temperature equal to or less than Zero
34. Number of Days of Snow Cover

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

35. Latest Snow Cover of the Year
36. Average Depth of Snow Cover
37. Monthly Average Depth of Snow Cover

(The Place Names, appearing in the original document in French transliteration, on the top of each page, are rendered as in Place Name List No 1, Part I. They are identified by number.)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Table on Lower Part of p 437)

Frost							Snow						
First Day				Last Day			First Day				Last Day		
Year	Day	Month	Minimum Temperature (C°)	Day	Month	Minimum Temperature (C°)	Year	Day	Month	Minimum Temperature (C°)	Day	Month	Minimum Temperature (C°)

(Mask for p 464)

Ground Surface Temperature

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Complete Year

(Place Names)

a. Tobolsk Okrug
b. Tyumen
c. Tomsk Oblast
d. Itkulskiy Zavod
e. Barnaul
f. Borovya Ozera
g. Zyranovskiy Rudnik
h. Tomsk
i. Akmolinsk Oblast
j. Omsk

(Mask for p 465)

Ground Surface Temperature (Contd)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Complete Year

(Place Names)

a. Yakut ASSR
b. Verkhoyansk
c. Chita Oblast and Buryat Mongolian ASSR
d. Chita
e. Sakhalin
f. Alexandrovskiy Post
g. Korsakovskiy Post
h. Rukovskoye

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask Pages 468-472)

Soil Temperature

Year Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Complete Year

(Place Names, Page 468)
a. Tomsk Oblast
b. Borovya Ozera
c. Barnaul
d. Zyranovskiy Rudnik
e. Tomsk

(Place Names, Page 469)
f. Tomsk Oblast
g. Akmolinsk Oblast
h. Omsk

(Place Names, Page 470)
i. Yeniseysk Oblast
j. Achinsk
k. Chita Oblast and Buryat Mongolian ASSR
l. Akatuy
m. Chita
n. Maritime Kray
o. Galinko-Vrazhskoye

(Place Names, Page 471)
p. Maritime Kray
q. Khabarovsk
r. Alexandrovskiy Post
s. Rukovskoye

(Place Names, Page 472)
t. Maritime Kray

(Mask Pages 474, 475)

Evaporation (Measured in Shade)

Year Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Complete Year

(Place Names, Page 474)
a. Tomsk Oblast
b. Barnaul
c. Borovya Ozera
d. Zyranovskiy Rudnik
e. Tomsk
f. Chita and Buryat Mongolian ASSR
g. Nerchinskiy Zavod
h. Akmolinsk Oblast
i. Omsk

(Place Names, Page 475)

j. Maritime Kray
k. Galinko Vrazhskoye
l. Korsakovskiy Post
m. Alexandrovskiy Post
n. Rukovskoye

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask, Pages 478, 479, 480, 481)

Sunshine

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Complete Year

(Place Names, Page 478)
a. Tobolsk Okrug
b. Tobolsk Agricultural School
c. Staro-Sidorovo
d. Obdorsk
e. Surgut
f. Tomsk Oblast
g. Borovya Ozera

(Page 479)

h. Tomsk Oblast
i. Itkulskiy Zavod
j. Zyranovskiy Rudnik
k. Kainsk School
l. Karagatskiy Forpost
m. Tomsk Agricultural School

(Page 480)

n. Irkutsk Oblast
o. Bol'shoye Goloustnaye
p. Usolye
q. Chita Oblast and Buryat Mongolian ASSR
r. Chita

(Page 481)

s. Chita Oblast and Buryat Mongolian ASSR
t. Akatuy
u. Maritime Kray
v. Grodekovo
w. Yeniseysk Oblast
x. Krasnoyarsk

(Key:)
1 = Sunshine (Hours)
2 = Insolation

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Pages 484, 485, 486, 487, 488, 489, 490)

Mean Depth of Snow Cover (cm)

Year Oct Nov Dec Jan Feb Mar Apr May

(Key: a. [in red]) Lat N---Long E---Elev---

(Place Names)

Page 484

b. Tobolsk Okrug
1. Tobolsk
2. Surgut
3. Karmak
4. Ishim
5. Tyumen

Page 485

6. Salair
7. Kamen
8. Narym
9. Tomsk
10. Barnaul

Page 486

c. Semipalatinsk Oblast
35. Pavlodar
59. Semipalatinsk
57. Ust-Kamenogorsk
d. Yeniseysk Oblast
1. Turhansk
2. Achinsk

Page 487

68. Kansk
e. Verkhne Usinskoe
f. Yakut ASSR
79. Blagoveshchenskiy Priisk
93. Verkhoyansk
g. Amga

Page 488

h. Kazach'ye (Ust-Yansk)
i. Kirensk
j. Bratskiy Ostrog
k. Irkutsk
l. Omoloy

Page 489

m. Chita Oblast and Buryat Mongolian ASSR
n. Stretensk
o. Chita
p. Nerchinskiy Zavod
q. Akatuy
r. Sakhalin
s. Alexandrovskiy Post

Page 490

t. Rukovskoye
u. Maritime Kray
v. Kozlovskaya
w. Vladivostok
x. Okhotsk
y. Nikolayevsk-na-Amure
z. Markovo-na-Anadyre

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

(Mask for pp 492 - 501)

First and Last Dates of Freezing(*)				First and Last Snow				First and Last Dates of Freezing(*)				First and Last Snow			
(Freezing = Minimum Temperature equal to or less than 0° C)								(Freezing = Minimum Temperature equal to or less than 0° C)							
	First Date		Last Date		First Date		Last Date		First Date		Last Date		First Date		Last Date	
Years	Day	Mo	Day	Mo	Day	Mo	Day	Mo	Years	Day	Mo	Day	Mo	Day	Mo	Day	Mo

Page 492

a. Tobolsk Okrug
(Place Names as in List No 1

b = Lat N---Long E---Elevation---

(and in all similar headings following place names)
(Pub Note: Footnote on page 492 only)

Page 493 b. Tomsk Oblast

Page 495. c. Yeniseysk Oblast
d. Yakut ASSR

Page 496 e. Semipalatinsk Oblast

Page 497 f. Irkutsk Oblast
g. Maritime Kray

Page 498 h. Irkutsk Oblast

Page 499 i. Chita Oblast and Buryat Mongolian ASSR

Page 501 j. Amur Oblast

(*) The first and last dates of freezing are the first and last dates on which the lowest temperatures are 0° C or below, read on a thermometer inside a thermoscreen.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1
Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1
CPYRGHT

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Headings of Tables on pp 504 - 515)

Freezing and Thawing of Rivers(*) 1

River	Observation Station	Lat N	Long E	Years	Thaw	Freeze	Complete Cessation of River Flow

(Place Names as follows:) Page 504

Zeya	Berezovka
Akatuy	Akatuy
Alexandrovka Bolshaya	Alexandrovskiy post
Alexandrovka Malaya	Alexandrovskiy post
Amur	Khabarovsk
	Nikolayevsk
	Blagoveshchensk
Anadyr	Markovo
Zeya	Blagoveshchensk
Zavitaya	Mikhailovka
Gizhiga	Gizhinsk

Page 505

Ingoda	Chita
Kukhtuy	Okhotsk
Neybe	Galkino Vrasskoye
Nercha	Nerchinsk
Lagernaya	Petropavlovsk Lighthouse
Onon	Aksha
Onor	Onor
Shilka	Nerchinsk
	Stretensk
Suputenka	Nikolsk Ussuriyskiy

Page 506

Takaye	Galkino Vrasskoye
Tom' and Zeya	Vasilyevskoye
Unda	Undinskaya
Ussuri	Kozlovskaya
Aldan	Ust-Maya
Angara	Irkutsk
	Bratskoye
	Keshma

(*) Footnote on page 504 only. The date of freezing is the day on which the river is covered with ice from bank to bank, regardless of thickness or the day when the flow of ice near the banks stops. The date of thaw is the day on which the ice breaks or the ice starts to move.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Place Names, Page 507)

Angara	Kezhma
	Olonki
Yenisey	Krasnoyarsk
	Kazachinskoye
	Kostyl'nikova
	Yeniseisk
	Nazimovo
	Tolstiy Nos
Indigirka	Russkoye Ustye

Page 508

Irtysh	Takmykskoe
	Pustynskoye
	Ust-Kamenogorsk
	Yamishevskiy Poselok
	Pavlodar
	Samorovo
	Krasnoyarsk Poselok
	Semipalatinsk

Page 509

	Semiyarskoye
	Lebiazhiy Poselok
	Chyernaiy
	Demyanskoye
	Zheleznka
	Omsk
	Tobolsk

Page 510

	Tara
Ishim	Akmolinsk
	Ishim
	Petropavlovsk
	Voznesenskaya
	Petropavlovskaya
Kolyma	Rodchevo
	Sredne-Kolymsk
	Nizhne-Kolymsk

Page 511

Lena	Yakutsk
	Omoloy
	Kirensk
	Olekminsk
	Markha
Ob'	Pravaya Ob'
	Alexandrovo
	Barnaul
	Maryn

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Place Names, Page 512

Ob'	Kruglikova
	Surgut
	Obdorsk
	Itkulskiy Zavod
	Kamen
	Novosibirsk
	Malobragino
	Kolyban
Page 513	Molchanovo
	Velyi Zhar
Tobol	Zverinogolovskoye
	Yalutorovsk
	Iyevlevo
	Verkhne-Berkteri
	Bol'she Blinnikova
Page 514	
	Tobolsk
Chulym	Leonidovskiy Zavod
	Achinsk
	Zyrianskoye
	Kashatakova
	Sergeyevo
	Tutalskoye
	Birilyussi
Page 515	
	Semenovskaya
Yana	Verkhoyansk
	Kazache
Vilyui	Vilyuisk

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

CONDITIONS AND FREEZE-UP OF HARBORS OF THE PACIFIC COAST OF SIBERIA (Page 51)

From "The State of Ice on the Seas of the USSR"

(Winter 1924-1928)

Grease Ice is formed when ice needles have crystallized but have not yet formed a solid sheet of ice. The sea is covered with floating particles of ice which form a thin ash or lead-colored scum. It then forms a layer of ice which becomes ridged with the movement of the sea, and the effect of the wind blowing over the "grease ice" thus formed is to level off the ridges and give the surface a slippery appearence.

Drift Ice consists of fragments of various types of ice floating on the surface of the sea. (Taken from "An Album of Ice Forms," 1930, Published in Leningrad.)

Land Ice is the solid ice shelf extending from the sea shore for a distance of about 10 miles out to sea, to which floating ice becomes attached.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

(Mask and Key for pp 518 to 533)

Year	Grease Ice	Floating Ice	First Land Ice	Closed to Navigation	Complete Freeze-up	First Date of Transport etc Over Ice	Breakup of Ice	Open to Navigation	Disappearance of Ice	Number of Days of Freeze-up	Maximum Extent of Land Ice (miles)	Maximum Thickness of Ice (cm)

Key
1. Middle Part
2. Actual Dates
3. No Freeze-up
4. Lat N - Long E
5. Continuous
6. Navigable in winter
7. Navigable
8. Extends to
9. To the horizon
10. With dogs and on foot
11. With horses
12. Twice only
13. Lighthouse
14. Tartary Straits (MAMIYA KAIKYO)
15. Not known
16. No stoppage of navigation
17. Continuous in the bay
18. With dogs
19. On foot
20. Nil

(Headings of Tables as Follows:)

pp 518/519; pp 520/521; Bering Sea

pp 522/533; pp 524/525 (top): Sea of Okhotsk

pp 524/525 (bottom): Amur Bay

pp 526/527 (top): Amur River

pp 526/527; pp 528/529; pp 530/531; pp 532/533 (top): Sea of Japan

pp 532/533 (bottom): Siberian Sea

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for p 518 - p 532)

Place Names, p 518:

aa. Laurentia Bay
bb. Chaplina Cape
cc. Provideniya
dd. (1) Provideniya Bay
ee. (2) Emma Harbor
ff. Kresta Gulf
gg. Anadyr
hh. (1) Nerpichi Bay
ii. (2) Anadyr Bay (Main Estuary)
jj. Olyutorskiy Fish Factory (Apuka)
kk. Tilichiki (Korfa Gulf)
ll. Kichiga (Litke Str)
mm. Karaginskiy
nn. Uka
(1) Ukinskaya Bay

Page 520:

aa. (2) Uka River, Tributaries and Mouth
bb. Bering Island, Nikolskoye
cc. Kolyger
dd. Petropavlovsk Lighthouse
ee. (1) Open sea
ff. (2) Avacha Bay (Entrance in the Bay)
gg. (3) Rakovaiya Bay
hh. Dezhneva, Bering Straits
ii. Preobrazheniya Bay
jj. (1) Little Bay
kk. (2) Large Bay
ll. (3) Open Sea

Page 522:

aa. Ust'Khayryuzovo, Open Sea
bb. Palana River Mouth
cc. Yamskaya Bay
dd. (1) Perevolochny Gulf
ee. (2) Yamskaya Bay
ff. Okhotsk
gg. Chumikan (Udskaya Bay)
hh. Bol'shoy Shantar Island (Yamskaya Bay)
ii. Ayan, Ayan Bay

Page 524:

aa. Vorovskaya River Mouth (West coast of Kamchatka)
bb. Gizhiga
cc. Viliginskiy Priisk
dd. Nayakhan
ee. Langer (Northern Part of Nevelski Channel
ff. Pronge (Amur Estuary and South Channel)
gg. Dzhaose Point (South Channel)
hh. Nikolayevsk (Amur River)

Page 526:

aa. Khabarovsk (Osipova Bay of Amur River
bb. Kloster Kamp Lighthouse
cc. (1) De Kastri Bay
dd. (2) Tartary Straits
ee. Alexandrovsk (Sakhalin) (Tartary Straits)
ff. Jonquiere (Tartary Straits)
gg. Miliautin Lighthouse
hh. (1) Tartary Straits
ii. (2) Sovietskaya Gavan
jj. Nikolayevskiy Point

Page 528:

aa. Belinskiy Lighthouse (Tartary Straits)
bb. Veselui (St Vladimir Bay)
cc. Chikhachevsky Lighthouse
dd. (1) Open Sea
ee. (2) Ol'ga Bay
ff. Ol'ga (Ol'ga Bay, Tikhaya Pristan)
gg. Nizmenisy Lighthouse (Open Sea)
hh. Askolt Lighthouse
ii. Skrypleva
jj. (1) Ussuriyskiy Bay

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Place Names, Page 530:

aa. (2) East Bosporus (West Side)
bb. Basargin (Patroklus Bay) 43-64 131-56
cc. Vladivostok Naval Observatory
dd. (Golden Horn Bay)
ee. Vladivostok (Observatory Mount) (Amur Bay)
ff. Tokarevski Lighthouse
gg. (1) East Bosporus (West Side)
hh. (2) Amur Bay
ii. River Lighthouse (Northern Part of Amur Bay)
jj. Brussovski Lighthouse
kk. (1) Amur Bay

Page 532:

aa. (2) Slavyanski Bay
bb. Gamova Light (Peter the Great Bay)
cc. Nazimov Light (Pos'yeta Bay)
dd. (1) Pallada Road
ee. (2) Novgorod Bay
ff. (3) Expedition Bay
gg. Povorotny Lighthouse (Open Sea)
hh. North Point
ii. Whalen

(End of Part II)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

PART III

ANNEX: NOTES AND MAPS

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

EAST ASIA METEOROLOGICAL DATA: Vol IV, SIBERIA

ANNEX, MAPS AND NOTES

CONTENTS

Maps

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

EAST ASIA METEOROLOGICAL DATA: Vol IV, SIBERIA

ANNEX, MAPS AND NOTES

1. General Remarks

Siberia is situated in the northern half of the Eurasian continent and is a vast area lying between 50° and 75° North and 60° and 180° East. It is bounded on the north by the Arctic Ocean and on the east by the Pacific; on the west it is cut off from Europe by the Ural Mountains and in the south it is bounded by Manchuria and Outer Mongolia. From a topographical point of view it is divided into clearly-distinct regions. From the Ural Mountains to the Yenisei River are the West Siberian Lowlands; between the Yenisei River and the Verkhoyanski Mountains lies the Central Siberian plateau and together these two constitute the largest part of Siberia. From the watershed to the east coast is the Far Eastern region. The Turkistan basin lies to the south in Central Asia separating the West Siberian lowlands and the hilly area of Kirghiz. The above western area is the largest natural land-mass of Siberia. The vast area of Siberia also contains the Tundra region, lying adjacent to the coast of the Arctic Ocean, and the "Taiga" region further inland, which is covered with a luxuriant growth of coniferous and deciduous forests. The region south of the Taiga is termed the Steppe. South of the Steppe are deserts, which are found in each zone. The formation of the continent into contiguous zones in this manner is the chief factor influencing the weather, so that a study of the topography is of prime importance in considering the meteorology of Siberia.

About a third of the northern part of Siberia lies within the frigid zone and, with the exception of the coastal areas and the region near Lake Baikal, the greater part of Siberia has a continental climate of the frigid zone type. The chief characteristic of Siberian weather is the extreme cold during winter: it experiences the most severe cold of any region in the world, with the exception of the polar regions. In the vicinity of Verkhoyansk (Latitude North 67°33', Longitude East 133°24'), the average temperature for January is -50.1° C and a temperature of -67.8° C has been recorded. At high latitudes the winter nights are extremely long and as the sun is low in the sky during the day its rays are very weak. In the far north it is not visible at all. For this reason it is extremely cold during the nights and the result is the peculiar cold climate referred to above. Harbors, rivers, lakes and the soil itself are all frozen hard. During the summer the surface of the ground thaws, but the soil several meters beneath the surface remains permanently frozen. This area of perpetually frozen land covers 300,000 square kilometers in the north and constitutes the remote Tundra region.

On account of the extreme low winter temperatures the high pressure area is concentrated and registers 775 mm at its center

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

in Mongolia. This high pressure is correlated to the low pressures occuring south of the Aleutian chain and in the Indian Ocean. It causes cold dry winds to blow across the Siberian plains, Manchuria, the China continent and as far as Japan. This is the winter wind that controls the winter climate of Far East Asia. It blows in a clockwise direction from the interior of the continent out to sea. In the Siberian plains the winds are generally SW or SSW; in the Trans-Baikal area and the Amur area, NW or W; on the Pacific coastline NW or W. Wind velocity in Western Siberia is 2 to 4 meters per second and, in the Southern Mountainous region and the Central Siberian Plateau it is generally weak, averaging approximately 1 meter per second with a large proportion of windless days. This factor makes the extreme cold comparatively bearable. The Pacific coast, however, is surrounded by area of high pressure and the winds are fairly strong, reaching 6 to 7 meters per second. In winter there is very little precipitation in the Siberian plain as temperatures are low and that which fall takes the form of snow. This snowfall is slight with 10 to 50 cm during the three winter months. This is because the air streams that bring the moisture flow in from the dry regions of Mongolia and Manchuria.

In contrast to those of winter, the days of summer are very long. The sun sinks below the horizon for a short while, reappearing again almost immediately. The dusk of evening merges into the dawn of the next day, and there is no interval of complete darkness such as is observed in Tokyo. It follows that the amount of radiation on one day is large and the consequent rise in temperature is a characteristic feature of the continent. During July the whole of Siberia from East to West is in the isothermic range of 10° to 20° C. The temperature of the land is high compared with that of the sea. The low pressure area is located in Mongolia and registers 753 mm at its center with moist air currents blowing off the sea towards the interior of the continent. This is the seasonal wind that controls the summer climate of Far Eastern Asia. As a rule it is a light wind of 2 to 4 meters per second and its direction in winter is varying and unpredictable. A westerly wind prevails in western Siberia, a southwesterly wind in the mountainous areas of the south, a NE wind in the Transbaikal and Ural regions, a southerly and SW wind in the region along the Pacific coast, and a NE wind in the coastal area of the Arctic Ocean. The moist winds carry humidity into the continent and half the precipitation for the year falls in the summer. The mild temperature combined with rainfall makes part of Siberia suitable for agriculture and there are thick forest of "Taiga" covering a broad area of the central zone. However, the summer is very short and precipitation slight, which facts combined with the low atmospheric and ground surface temperatures in spring and autumn make agriculture extremely difficult and unprofitable. The far eastern region, however, is favored by a comparatively high temperature and heavy precipitation owing to the prevailing summer winds and a certain amount of land therefore has been brought under cultivation. One of these regions stretches from Sinkiang in Mongolia towards Central Asia and is a great distance from the sea coast. The moist wind blowing off the sea in the summer is obstructed by the Takhingan mountains and other mountain ranges and does not

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

penetrate the interior of the continent, so that little rain or snow or humidity reaches the area and there is a large proportion of days of fine weather. Furthermore, the volume of evaporation is large and in winter when the wind blows seaward, owing to the influence of the center of high atmospheric pressure, the whole area is cut off from its source of moisture and is exceptionally dry. The specific heat of the ground, however, is low and day and night temperatures vary greatly. All these factors go to produce large tracts of dry desert land.

Annual variations in temperature are very marked in Siberia, ranging between -20°C and -35°C in January and between 10°C and 20°C in July. The Lena River in the Yakutsk region the Yana River and the Indigirka Basin have a great variation, from 50°C to 60°C, and in Verkhoyansk the temperature reaches 66°C. Other places normally have temperatures ranging between 40°C and 50°C. Thus since a winter with a very low temperature will be followed by a summer with a moderately high temperature there will be marked changes in temperature in spring and autumn. From March to June the temperature rises by an average of 10° to 15° C each month and maximum temperatures are reached everywhere by July. From August to September there is a rapid drop of 7°to 8° C, and from then until November a sudden fall of a further 10° to 15° C. Subsequently the temperature reaches its minimum in January. Thus there are rapid fluctuations in temperature from winter to summer and summer to winter. If we assume that, as in the Tokyo area, a variation of approximately 5°C marks the dividing line between winter and spring and autumn and winter, Siberia may be said to have its spring in May and its summer in June, July and August, with temperatures of 10°C to 20°C, and have its winter suddenly in the middle of September. By about the middle of October the whole of Siberia has temperatures below zero. Spring and autumn are extremely short and to all intents and purposes the year is divided into winter and summer seasons only.

At Russkoye Ustye and Kasachye on the coast of the Arctic Ocean the first snow falls in the early part of July; at Obdorsk, Turkhansk and Verkhoyansk, in the early part of September; at Tobolsk, Surgut, Tomsk, Yeniseisk, Kirensk, Olekminsk and Yakutsk in Central Siberia, in the latter part of September; and in most places in the south, in early October. Some places in the Transbaikal region, however, have their first snowfall earlier, about the beginning of September, on account of the mountainous nature of the area. Most places in the south have their last snowfall about the middle of May, but this occurs later--about the end of May--in the mountainous regions of Transbaikal. The central area has its last snowfall at the end of May and the coastal regions of the Arctic Ocean in the middle of June. In winter, precipitation almost always takes the form of snow. The falling snow does not melt, each successive fall accumulating till the snow cover reaches its maximum depth at the beginning of March. But precipitation is small and snow cover is proportionately slight, rarely exceeding 1 meter in depth, so that although Siberia is a cold country it is not often that skis can be used. In the Ob and Yenisei River basins in Western Siberia there is a fall of 50 to 100 cm; in the lower reaches of the Amur

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

River, in Sakhalin (Karafuto), in the Anadyr River Basin, and in Kamchatka it is 60-80 cm; and elsewhere it is between 20-50 cm. Snow cover is particularly light over an area stretching from the Transbaikal region to Manchuria, the Lena River and the Indigirka River Basin.

There is a high proportion of days of snowfall (about 80 to 100) in Tobolsk Oblast, Tomsk Oblast, Yeniseisk Oblast and Irkutsk Oblast; there is a smaller number, between 20 and 40, over an area that includes the Transbaikal Area, the Amur Oblast, the Amur River Basin, the Am River (a tributary of the Lena) and the Aldan River Basin. These areas where sky cover, precipitation and evaporation are all slight in winter may be considered to form extensions of the vast Mongolian deserts.

In winter, rivers, lakes and harbors are frozen over; all shipping transport either eases or becomes extremely difficult. But the surface of the ice, on the other hand, is firm enough for transport and thus proves itself useful. The coasts and rivers of the Arctic Ocean start to freeze up at the beginning of October and by the end of November all the large and small rivers of Siberia are completely frozen over. The rivers flowing south start to thaw at the end of April. The mouths of the rivers that flow into the Arctic Ocean are unfrozen for a short time by the beginning or middle of June. The places that are completely ice-free, however, remain so for about 10 days only. The Arctic Ocean remains frozen over for a large part of the year and the northern coastline of Siberia is rarely ice-free for more than a very short period. The coastal waters of the Bering Sea are frozen from the middle of November until the middle of December and by June all the ice has thawed except for the northern part of the Bering Sea Straits, which are not ice-free till late July or early August. Petropavlovsk in Kamchatka, however, is never ice-bound and shipping traffic is rarely interrupted. The Sea of Okhotsk begins to freeze about the beginning of November and is ice-free from about the middle of May till the middle of June. The coastal waters of the Sea of Japan are frozen from the middle of November till about the middle of December and are ice-free from the middle of April till the middle of May. Vladivostock harbor remains navigable all the year round.

Although Siberia experiences extreme cold in winter humidity is often, surprisingly enough, as high as 80%. But vapor pressure is very low, about 1 mm, owing to the low temperatures. In this sense Siberia can be said to have a dry atmosphere. In the spring the rapid rise in temperature is not accompanied by an increase in moisture, so that humidity decreases everywhere and reaches its minimum in May or June with a reading of 60% or 65%, slowly increasing after this date. Vapor pressure increases with the rise in temperature and reaches its maximum at the same time as temperature, i.e., in July, with a reading of 10 mm or over. In summer a rise in atmospheric temperature is caused by the heat of the earth's surface; and in summer precipitation takes the form of showers which are frequent, especially in the mornings. These places have a tropical type of rainfall and contrary to expectation there are many thunderstorms. These are particularly frequent in the zone between 50° and

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

60° N, the average yearly number of days of thunder being 15, mostly in the summer. These storms are less and less frequent as one proceeds north and south of this zone. Thus the deserts of Mongolia and Central Asia where the temperature in the summer is very high during the day and the atmosphere contains little moisture are less subject to thunderstorms.

Siberia has a high proportion of clear days in the winter due to the high pressure area gathering over it. The average sky cover in the western Siberian plains is 6 - 7; in Mongolia, Manchuria, the Transbaikal region, the Amur region, Yakutsk Province, and in the Maritime province sky cover is exceptionally small, generally about 3. The Turkistan area of Central Asia, however, has a comparatively large cover of 5 or 6. The winter in these areas is inclined to be damp and to have more rainfall, humidity and sky cover than in the summer. The January readings for Tashkent, for precipitation, humidity and sky cover are, respectively, 44 mm, 74% and 6.4; and for July, 3 mm, 46% and 1.7, the summer being very dry. In the Turan plain east of the Black Sea the monthly precipitation in winter is extremely slight, about 10 mm. In summer it is also very dry with a precipitation of 1 - 4 mm, so that it is to all intents and purposes a desert. When the summer prevailing wind sets in, sky cover over Manchuria, Mongolia and the Maritime province increases to 5 or 6 and rainfall moves from Manchuria and the Maritime province into the interior of Siberia. The rainfall in Mongolia is somewhat heavier, but is still insufficient to moisten the earth. In western Siberia the sky cover decreases from winter onwards to 5 - 6, but rainfall increases and in July there is a fall of 60 - 70 mm. The reason for this is the proximity of the low-pressure area of Europe. On the coasts of the Arctic Ocean, sky cover rises to 7 and rainfall increases slightly and rises to 30 mm in July, but never goes beyond this figure.

When the summer prevailing wind sets in from about May onwards, it is frequently foggy in the Bering Sea and Sea of Okhotsk and on the shores of the Sea of Japan. Fog increases in July and August, when half the total number of days of the month may be foggy. This decreases rapidly as one proceeds inland, but there are several days of fog per month in Irkutsk Oblast, the Transbaikal Krai and the Amur Krai, especially in July and August. There is, on the other hand, a great deal of fog in the winter and in the Lena and Yana River basins a large number of days per month are foggy. In winter there are a large number of sunny days, but the climate is extremely cold; it is thought that this cold in conjunction with radiation causes the fog. The vicinity of the Yamal Peninsula and the Taimyr Peninsula on the coast of the Arctic Ocean is extremely foggy, having about 100 days of fog in a year.

As regards evaporation, in winter the climate is extremely cold and humidity is proportionately high; but all moisture takes the form of ice and the amount of evaporation from the surface of the ice is very small. At Tomsk in western Siberia the total monthly evaporation for January (measured in the shade) is barely 1.2 mm; at Barnaul 3.4 mm; at Borovia Ozera 5.0 mm; and at Nerchinski-Zavod in the Transbaikal region it is less than 1 mm. No data is available on evaporation at other places, but it is thought to be approximately the same. In summer,

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

when the temperature is high, humidity is somewhat less and evaporation proportionately higher. The monthly evaporation for Tomsk in July is 53 mm; at Barnaul 110 mm; at Borovia Ozera 191 mm; at Omsk 100 mm; and at Nerchinski-Zavod, 57 mm. With the exception of Tomsk, evaporation exceeds the volume of rainfall.

During the winter, places at high latitudes have extremely short days and long nights. In the summer the reverse is true. As already described, during the summer the dusk merges with the dawn, giving rise to the phenomenon known as the "white night." At the period of the winter solstice, the sun does not rise at all on the Arctic Ocean coastal regions and all summer solstice it does not sink below the horizon, but continues to circle around the sky. The following tables gives several examples of the hours of sunshine and sunshine ratio during January and July.

Place Name	January		July	
	Hours of Sunshine	Insolation (%)	Hours of Sunshine	Insolation (%)
Staro-Sidorovo	62	33	276	63
Zyryanovski Rudnik	72	38	248	61
Golous Knoye	110	56	254	58
Chita	144	67	259	56
Krasnoyarsk	19	13	326	72

Thus it follows from the above that there is a great deal more sunshine in summer than in winter. In western Siberia there is more sky cover and a greater number of cloudy days in winter than in summer, so that insolation in winter is much less than in summer. Chita, in the Transbaikal region, however, has an extremely dry climate in winter and a succession of fine days, so that insolation in this region is greater in winter than summer.

Although Siberia has an extremely cold climate in winter and the temperature rises considerably in summer, the climate of the area round Lake Baikal and of the far eastern region is affected by the lake water and ocean respectively, which temper the heat and the cold. The rise and fall of temperature in spring and autumn are much less abrupt there and the annual difference in temperature less pronounced. The climatic conditions of these particular areas can be more clearly understood if one compares the temperature of Mysovaya on the edge of Lake Baikal with that of Chita in the Outer Baikal region or that of Nikolayevsk or Okhotsk on the Pacific Ocean with that of Kerbino or Yakutsk within the continent. Below is a comparative table of the temperatures for these places.

(Chart on page 6 of Annex)

Place Name Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Year Difference

a. Mysovaya
b. Chita
c. Nikolayevsk
d. Kerbino
e. Okhotsk
f. Yakutsk

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

2. Distribution of Atmospheric Pressure and Prevailing Wind

Siberia has a continental climate and in winter is extremely cold, but the huge thermal capacity of the surrounding oceans prevents the temperature from falling as low as it otherwise would. The result is a high pressure area stretching from the Aleutian Islands to Kamchatka. Cold, warm winds blow clockwise from this high pressure area to the low pressure areas of the Aleutians and the Indian Ocean. It is this prevailing wind that determines the winter climate of Far Eastern Asia. In summer the continent is flooded with strong sunshine and becomes extremely hot, but the temperature of the surface of the sea does not rise to any great extent, with the continent becoming a vast low pressure area and the North Pacific a large high pressure area. Thus in the summer a warm moist wind blows off the sea over the continent. This is the wind that determines the summer climate of Far Eastern Asia. Thus, as explained above, the atmospheric pressure in Siberia is highest in winter (January and February) and lowest in summer (July). In winter, however, Kamchatka is adjacent to the low pressure area of the Aleutians and has its lowest atmospheric pressure in December and highest in June. This is because at this time the Sea of Okhotsk high pressure area extends over both the Sea of Okhotsk and Kamchatka and as July approaches, the Okhotsk Sea high pressure area disappears and the Kamchatka area becomes the route for the continental low pressure area. The atmospheric pressure then decreases slightly, but rises again in August. The shores of the Okhotsk Sea and the Karafuto /Sakhalin/ area lie on the dividing line between the two atmospheric pressure systems. They do not experience a marked change of climate during the year and the nature of their climate is somewhat complicated, as these areas have two high pressure peaks in spring and autumn and two low pressure peaks in summer and winter.

In winter the wind velocity is generally low, from 2 to 4 meters per second. It is particularly light, from 1 to 2 meters per second, in the mountainous regions to the south, in Irkutsk province, in the Transbaikal area, and in the Amur and Yakutsk areas, where there is a large proportion of days of calm weather. These areas have an extremely cold temperature of between -20° and -30°, but it is a comparatively bearable cold owing to the stillness of the air. The following figures give the frequency for calm weather in January: Irkutsk 50%; Chita 58%; Nerchinsk 65%; Blagoveshchensk Priisk 76%; Olekminsk 68%; Yakutsk 40%; Verkhoyansk 44%. It can be seen from these figures that over half of each month is windless. The coastal area of Far East Asia has a greater wind velocity, 5 to 8 meters per second, owing to the proximity of the high pressure area.

The conditions at the beginning of spring and autumn are different, with greater wind velocities. In the Amur river basin and the coastal area the wind reaches its highest velocity in April and May, during the transit of the continental low pressure area. In addition, the wind velocity reaches a second peak in October during the transition of the continental low pressure area.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for p 7, annex)

Wind Velocity (m/sec)

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Entire Year	Period Covered by Statistics

(Place Names as follows:)

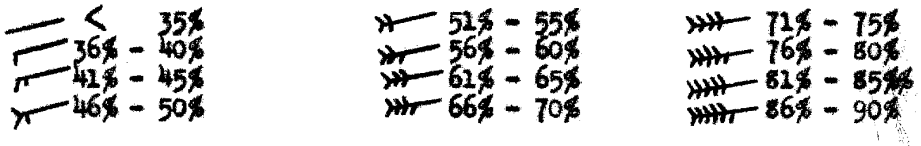
a. Obdorsk
b. Surgut
c. Tobolsk
d. Omsk
e. Akmolinsk
f. Gishiga
g. Turkhansk
h. Yeniseisk
i. Tomsk
j. Barnaul
k. Semipalatinsk
l. Minusinsk
m. Kirensk
n. Irkutsk
o. Chita
p. Kazachiye
q. Russkoye Ustye
r. Nizhne Kolimsk
s. Verkhoyansk
t. Vilyuysk
u. Yakutsk
v. Olekminsk
w. Blagoveshchensk
x. Khabarovsk
y. Vladivostok
z. Nikolaevsk
aa. Okhotsk
bb. Novo-Marinskiy Post
cc. Petropavlosk
dd. Alexandrovsk
ee. Nikolsk (Bering Island)

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

In Maps No 1 to 13, which show the distribution of atmospheric pressure and principal wind directions for each month, the arrows indicate the frequency of wind direction according to the following system:



The maps give the atmospheric pressure figures and the distribution of the prevailing winds and show their seasonal changes.

The continental high pressure reaches its peak in January and February and shows a reading of 775 mm or over at its center in Mongolia. The whole of the continent of Asia is covered by this high pressure area. The winds blow out to sea in a clockwise direction. In the regions surrounding Lake Baikal the southwestern wind of the Western Siberian Plains is modified by blowing over the lake water which is much warmer than the surrounding country and has a tendency to blow towards the middle of the lake. The prevailing wind of the Transbaikal and Amur Regions is northwest; that of the Maritime Province is north or northwest; that of Kamchatka and the coasts of the Bering Sea is northwest or north; and that of the coasts of the Arctic Ocean is southwest or south.

In March the area of high atmospheric pressure is in the same position as in the previous month. It shows a diminished reading of 771 mm at its center and part of it shifts towards the southwest. The prevailing wind directions remain much the same.

In April the center of the high pressure area has a further diminished reading of 766 mm. It moves towards the northwest and at this date is located in the northern part of Central Asia. The Aleutians' low pressure area begins to move towards the Maritime Province and Manchuria and although there is no great change in the direction of the prevailing winds they are somewhat less frequent. On the shores of the Sea of Japan, however, the wind shifts west to south and the prevailing summer wind begins to set in.

In May the high pressure decreases to 762 and until its dissolution remains over an area stretching from the northern part of Central Asia to the southern part of European Russia and the area of low pressure begins to move in from Mongolia towards Manchuria and the Lena river basin. In Western Siberia the prevailing wind is for the most part westerly. In the Transbaikal area it blows northwest towards the low pressure area of Manchuria. In the coastal area of the Maritime Province the summer prevailing winds begin to blow south or southeast in contrast to Japan and South Central China where winter conditions still continue.

In June the high pressure area that continued during May over the northern part of Central Asia loses its form and all high pressure over the continent disappears. The low pressure area spreads out over

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Mongolia and Manchuria and over the Lena and Yenisei river basins and the pressure gradually drops to 754 mm in Mongolia, Manchuria and the Transbaikal area. In Western and Central Siberia the prevailing wind is from the west; in the Transbaikal Region, from the northwest; in the Amur Region, from the north or northeast; in the coastal area of the Maritime Province, from the south to southeast; and in the coastal area of the Arctic Ocean, from the northeast. All these winds blow toward the interior of the continent.

In July the pressure reading is 753 mm or lower over the larger part of Siberia. The summer prevailing wind reaches its maximum velocity, blowing from the sea towards the interior of the continent and the low pressure area of Mongolia. It blows south or southeast in the coastal areas of the Maritime Province; east or northeast in the Arctic Ocean coastal areas; due west in western Siberia; and north or northeast in the Transbaikal region.

In August the location of low pressure areas and prevailing winds are much the same as in July and atmospheric pressure is low everywhere.

In September, when winter begins, the low pressure area begins to break up. The high atmospheric pressure of the European area moves in towards Mongolia; soon a high pressure area is formed over the continent and a low pressure area is formed from Manchuria over the Sea of Okhotsk and the Kamchatka area. In a short while the winter prevailing wind sets in over China, but in the interior of Siberia and in the coastal areas of the Maritime Province the prevailing wind direction does not change yet, as would be expected from the position of the atmospheric pressure at this time. For the rest of the year the wind direction does not change greatly over most of Western Siberia and the southern part of the mountainous regions. It blows from the land towards the sea; that is, south or southwest over the Yamal and Taimyr Peninsulas on the Arctic coast, west in the vicinity of the Lena river mouth which lies east of the above peninsulas, and north over the coasts of the Sea of Okhotsk.

In October the high pressure area of the winter is fully formed and has a reading of 768 mm at its center, which is at a position near the borders of Siberia and Northern Mongolia. The prevailing winds are those of winter; the southwesterly summer wind which had continued to blow over the coasts of the Sea of Japan until September has shifted to the northwest and the prevailing wind over the coastal areas of the Arctic Ocean is now southwest.

In November and December the location of atmospheric pressure is much the same as in January, the centers of high pressure being 773 mm and 774 mm respectively at a position over Mongolia. The prevailing winds are the same as in January and February.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

3. Temperature

With the exception of the coastal area of the Maritime provinces and the Lake Baikal area, Siberia has a remarkably continental climate. It has an annual variation in temperature of 40° to 60° C, which is remarkably large compared to the 22.6°C variation experienced at Tokyo. The solar radiation at high latitudes in winter is extremely weak. The nights are long, evaporation is very slight, and the solar radiation provides little warmth. Verkhoyansk is believed to be the coldest place in the world with an average temperature in January of -50.1°C and a minimum recorded temperature of -67.8°C. We will give here several possible reasons for the exceptionally low winter temperatures of the Lena River, the Yana River and the Indigirka basin, which are near Verkhoyansk:

1. Location at a high latitude and the fact that the ground freezes rapidly.

2. In winter there is little snow or humidity or evaporation in this area. There are continuous periods of fine weather which causes a large loss of heat by radial cooling and consequent extremely low temperatures.

3. The snow cover over this whole area is very slight, about 20 to 30 cm. The snow cover does not hold in the heat of the earth's surface, which fact contributes to the extremely low temperatures.

4. The moist air from the sea does not reach these areas, as in Europe or Western Siberia.

5. The atmosphere is for the most part still and windless and the cold air of the earth's surface does not mix with the warmer air currents of the upper strata.

These are the main reasons for the low temperatures in the regions around Verkhoyansk.

The mean January temperatures for all parts of Siberia are between -25°C and -40°C and the mean temperatures in July are 10°C to 20°C. In the coldest place, Verkhoyansk, the average July temperature is 15°C and compares with the same temperature for Shikuka in Karafuto /Sakhalin/ in August. The most characteristic feature of this climate, apart from the fact that it is a most perfect example of a continental climate, is the great variation in winter temperatures from year to year. It will be seen from the examples given below of mean January temperatures between 1895 and 1905 that the difference between the highest and lowest average January temperatures is as much as 10°C to 15°C within a short period, which is an extremely great variation, considering that the margin in Tokyo is from 3°C to 5°C. If this variation took place in Japan it would have a drastic effect, but in Siberia everything is frozen and all living creatures go into hibernation so the effect of the variation is not felt. In the Maritime regions of the Far East the heat and cold is greatly mitigated by the proximity of the

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

sea and Lake Baikal has a similar effect on its surroundings. As already described the temperature undergoes swift changes in spring and autumn, winter making an abrupt transition into summer and summer into winter.

(Chart p 10) **Mean January Temperatures**

1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905

a. Tomsk
b. Yeniseisk
c. Yakutsk
d. Verkhoyansk
e. Surgut

Maps 14 to 27 give the monthly distribution of temperature reckoned at sea level.

January is the coldest month of the year. The temperature falls to -50°C in the Verkhoyansk area, which is enclosed by the innermost isotherm. As one proceeds outwards from this area the temperature rises. The Siberian continent east of the Urals is within the -20°C or below range; the Lake Baikal region and the Maritime province, where the climate is tempered by the proximity of the lake water and ocean respectively are mild compared with the interior of the continent.

In February the isotherms remain much the same as in January, but the temperature is slightly higher.

In March the wintry conditions begin to disappear to a very small extent in the Verkhoyansk area and the isotherms are almost parallel to the lines of latitudes. The whole of Siberia still has temperatures of under -10°C.

In April the isotherms are almost parallel to the lines of latitude, and the isotherm 0°C stretches from east to west along the latitude 52° north. The temperatures on the Arctic coast are below -20°C.

In May the temperature is steadily rising in all places, and the isotherm 0°C now lies along the latitude 67° north. About this time the influence of the sea and of Lake Baikal begins to be felt. Isotherms run more or less straight from east to west, but near the seacoasts they make a sudden curve southwards and in the Far Eastern coastal areas they follow the line of the sea coasts. The temperature of Lake Baikal is lower than that of the surrounding country.

In June the temperature of the continent rises continually, but there is no increase in the temperature of the seas or of Lake Baikal, so that the effect they have on the climate in these areas is now very marked and in the far eastern coastal regions the isotherms now run absolutely parallel to the seacoasts. The seacoasts and Lake Baikal are several degrees cooler than the interior of the continent and the surrounding land respectively. The isotherm 0°C has shifted to the far north and now runs from the shores of the Bering Sea along the Arctic coastline. This is the Siberian summer season and gradually

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

all its rivers thaw and become ice-free.

July is the hottest month of the year and the isotherms run for the most part east and west. The temperature is 20°C in Southern Siberia and 5°C on the Arctic coast. As in July, the isotherms run parallel to the coastline in the Far Eastern coastal districts and the temperature of Lake Baikal is extremely low.

In August the temperature of the interior of the continent is 2°C to 4°C lower than in July, but it rises on the coasts of the Sea of Japan and in the southern part of Kamchatka where the temperature now reaches its maximum for the year. The influence of the sea and lake water is still evident and the coastal areas are considerably cooler than the interior of the continent.

September is the month of transition into winter. The temperatures of land and sea are about equal; the isotherms no longer follow the curves of the coastline, but run east and west parallel to the lines of latitude and register 0°C on the Arctic coast and 12°C along latitude 50° north.

By October the temperature falls considerably and is zero north of latitude 55° N. Again, the mitigating effect of the sea and lake water is apparent and the isotherms curve from south to north and run parallel to the coastline. The coastal area is warmer than the interior of the continent and the Lake Baikal area is warmer than the surrounding country.

In November the temperature drops still lower, reaching -35°C at its lowest point in the Verkhoyansk area, and all of Siberia east of the Urals is in the -10°C temperature range. The effect of the sea and lake water is increasingly marked. The isotherms follow the line of the coast in the Far East and Lake Baikal is a great deal warmer than the surrounding territory.

The temperature distribution in December is much the same as the previous month, but individual temperatures are somewhat lower. It is -45°C at its lowest point round Verkhoyansk and the rest of Siberia is below -20°C.

The next set of maps, No 28 to 39, show the dates in spring and autumn when temperatures become -15°C, -10°C, -5°C, 0°C, 5°C, 10°C and 15°C. Owing to the effect of the ocean and lake water the isotherms are generally retarded on the Far Eastern coastline and in the Lake Baikal area. In the middle of April the 0°C isotherm is found to lie in the vicinity of 50° latitude north. It moves gradually northwards and by the middle of June it lies along the Arctic coast. In Autumn, in the middle of September, it is seen to be on the Arctic coast and subsequently moves southward at a rate of 70 km a day.

By the middle of October it has reached the 50° latitude north zone at the extreme south of Siberia. In Spring the thawing of the rivers of Siberia follows the course of these lines. They start to

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

thaw in the south and are generally ice free about 10 days after the isogeotherm 0°C has moved on northwards. In autumn the rivers freeze about 20 to 30 days after it has moved southwards. (The term freezing indicates that the river is covered with ice from bank to bank.)

The next set of maps, No 40 - 45, shows the number of days per year when the temperatures are -15°C, -10°C and -5°C and 0°C or over, respectively.

As shown in the maps, there are less than 180 days in the year when the temperature on the Arctic coast is lower than -15°C and about 90 when it is above zero, so that for the greater part of the year this area is icebound and summer has only a short ice-free period. There is a larger proportion of mild days in the Far Eastern coastal area and the Lake Baikal area on account of the ameliorating influence of the ocean and lake water.

Maps No 46 and 47 show the number of days with maximum temperature below zero and the number of days with minimum temperature below zero respectively. The former is the number of days with no thaw and the latter the number of days when the temperature falls below zero. There are few such days near Lake Baikal, but there is a large number of such days in the mountainous regions of Transbaikal having a minimum temperature zero or below.

4. Humidity and Vapor Pressure

On account of the coldness of the Siberian winter humidity is generally about 80%, but vapor pressure is extremely low, about 1 mm, because of the low temperatures. In spring the temperature in the interior rises rapidly, but there is no corresponding increase of moisture, so that humidity diminishes and reaches its minimum in May or June. In autumn the temperature drops rapidly and humidity slowly increases and reaches its maximum in November or December. In the Far Eastern coastal area, however, where the climate is tempered by the prevailing winds and proximity of the sea, the winter is short and the summer long and vapor pressure increases and diminishes with the temperature, reaching its minimum in January and maximum in July. The following table gives humidity and vapor pressure figures for a number of different places:

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Table, p 12 of app)

Humidity and Vapor Pressure

(The top figures give humidity in percentage; the lower figures give vapor pressure in millimeters.)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
a. Obdursk													
b. Tobolsk													
c. Barnaul													
d. Tomsk													
e. Akmolinsk													
f. Yeniseisk													
g. Turkhansk													
h. Blagoveshchenskiy Priisk													
i. Yakutsk													
j. Russkoye Ustye													
k. Verkhoyansk													
l. Kirensk													
m. Irkutsk													
n. Chita													
o. Okhotsk													
p. Nikolayevsk													
q. Alexandrovskiy Post													

There is little humidity in the course of the year over the area between Mongolia, Sinkiang and Turkistan. These regions form vast tracts of arid land with a number of scattered deserts, principally the Gobi Desert. Humidity is much the same from November to March and is high in western and central Siberia. It is slight over the area that includes Transbaikal, the Amur Oblast, the west coast of the Sea of Okhotsk, the Kolyma River, the Indigirka River and the upper reaches of the Lena River, just as if this were an extension of the arid lands of Mongolia. The center of the low humidity area is Verkhoyansk and, it is thought, the fact that cold air of this region (see maps on distribution of temperature and winds) flows into the comparatively mild areas of the shores of the Sea of Okhotsk, the Transbaikal and Amur areas is the reason for the lack of humidity. This can also be applied to the distribution of snowfall and rainfall and the effect can be seen clearly in the maps that deal with snowfall and rainfall. In western and central Siberia, humidity, snowfall and rainfall are comparatively heavy, owing to the flow of the moist air from Europe into the cold Siberian plain.

The following gives a month-by-month survey of the distribution of humidity, as depicted in maps No 48 to 60:

In January, western and central Siberia have a high humidity rate of 80%; it is 70%-75% in the Outer Baikal region, the Amur region, the coasts of the Sea of Okhotsk, the Korima River, and the upper reaches of the Indigirka River; 80% on the coasts of the

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Arctic Ocean; and 81% at Ata Alma in the Kazakk region.

In February the distribution appears to be much the same, but somewhat lower at various places in the Transbaikal region and in the Amur region and the coasts of the Sea of Okhotsk.

As the temperature of the continent rises in March the humidity of western and central Siberia decreases to 75% and increases slightly in the Yakutsk area. It remains still low, between 65% and 70%, in the Transbaikal and Amur regions and in the Indigirka River and the upper reaches of the Yana River.

As the temperature rises in April there is a general decrease in humidity: 65% to 70% in western and central Siberia, 50% to 60% in the Transbaikal and Amur regions, and 60% or less in the Verkhoyansk area. There is no great change of humidity on the coasts of the Arctic Ocean and the Far Eastern coastline, which register 75% and 80% respectively.

Humidity continues to drop in May, when it reaches its yearly minimum in central Siberia with a reading of 60% to 65%. It is 55% in the Verkhoyansk area and is even lower, less than 45%, in the dry zone stretching from Mongolia to Central Asia. It rises to 85% at some places on the Arctic coast and to 80% in the Far East Maritime area. Humidity tends to be low on the continent and high over the sea.

In June humidity is much the same as in the previous month, but the moist summer winds set in and blow from the sea over the Far Eastern coastal areas. Here humidity is generally higher, being over 80% on the coastline, in Kamchatka, and on the Arctic coast.

The temperature of the continent reaches its maximum in July and is also at its highest in the Arctic and Far Eastern coastal areas. At this time the summer prevailing wind is in full force and blows from the sea toward the land. As a result, humidity in the Arctic and Far Eastern coastal areas and Kamchatka is over 80%. Likewise the summer wind has the effect of producing approximately 80% humidity in the Amur River area. The cool moist sea wind blows over the continent, but as the temperature is high humidity is not particularly great. In central Yakutsk the temperature is fairly high, but the area is cut off from the moist summer wind by the intervening Stanovoi and Yablonovy Mountain ranges so that humidity is generally low. In Verkhoyansk it is 60%; in Mongolia and Turkistan it is extremely dry, about 40%, as in the previous month.

In August the temperature of the continent diminishes slightly and the humidity rises accordingly. It is 80% in the Far Eastern and Arctic Coastal areas, 75% to 80% in western and central Siberia, and 70% in the Verkhoyansk area. There is no change in Mongolia and Turkistan which remain as arid as before.

September is the season of transition to winter. The summer prevailing wind falls off and the winter prevailing wind sets in. The temperature of the continent drops rapidly and humidity, on the

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

contrary, increases. It becomes 85% on the Arctic coast, about 80% in Western and Central Siberia, and 75% near the Indigirka and upper reaches of the Yana river. On the Far Eastern coast it is somewhat less than in August.

In October the humidity is over 80% in western and central Siberia and owing to the effect of the winter wind it is dryer (75%) in the Far East coastal area. It is particularly low, 70% or less, in the Okhotsk region.

In November the humidity rises to 80% or 85% in western and central Siberia, but decreases in the lower reaches of the Yenisei River. On the Far Eastern coast the cold air from the interior blows over the mild coastal regions with a resulting decrease in humidity. From the east coast of Korea to Vladivostok it is 60% and 61% at Okhotsk on the west coast of the Sea of Okhotsk. It is approximately 75% in the Outer Baikal and Amur regions and 80% to 85% on the coasts of the Bering Sea and Arctic Ocean. As winter approaches there is a slight increase of humidity in Mongolia and Turkistan, but these regions do not lose their characteristic aridity. Mongolia has a humidity of 55% or less and Turkistan has 65%, a remarkable increase compared with its summer rate.

Humidity is much the same in December as in November, but rises to 70% in Turkistan which is fairly moist in winter.

5. Sky Cover

In winter sky cover is extremely light over Northern China, Mongolia, Manchuria, Transbaikal, Amur, the western shores of the Sea of Okhotsk, the Yana River and the Indigirka river basin. These regions have a large proportion of fine days in winter, as precipitation is extremely slight owing to the dry climate. The distribution of humidity and rainfall can be clearly seen in the attached maps. Sky cover is heavy, however, in western and central Siberia and Turkistan.

When the moist sea winds start to blow in summer, sky cover increases over the eastern coasts, the coast of Kamchatka and the Arctic coastal region; but though it increases somewhat over Mongolia, it is still light, having a value of 5 or under, as the summer winds are obstructed by the Tai-Ts'ing-an Mountain range and do not reach the area. It is also slight over the upper reaches of the Indigirka and Konma Rivers and the Aldan river basin, as these areas are cut off from the sea wind by the Stanovoi mountain range. The sky cover over Turkistan is 2 or less and its dry summer is in strong contrast to its wet winter.

The following is a month-by-month survey of rainfall distribution, as shown in Maps No 61 to 73.

In January sky cover is slight over an area extending from Mongolia to Manchuria, Transbaikal, Amur, the west coast of the Sea of Okhotsk and Verkhoyansk, and has a value of 2 or 3. It is heavy, 6 to 7, in western and central Siberia and 5 or 6 in Turkistan which is heavy compared with its summer cover of 1 or 2. It is light, 5 or below, in the interior of the Kamchatka Peninsula

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

and 7 on its coastline. In the Arctic coast area it is 4 or 5.

There is practically no change in February, with the exception of a slight decrease in Turkistan.

There is no change in western and central Siberia in March. It increases to 3 or 4 in Transbaikal and Amur and on the west coast of the Sea of Okhotsk and decreases to 4 or 5 in Turkistan.

In western and central Siberia it is still between 5 and 6 in April, but it decreases as one proceeds north and is 4 or below on the Arctic coast. On the Far Eastern coastline it increases to 5 or 6. In the Kamchatka peninsula it is slight in the interior, but 7 or 8 on the coast. Transbaikal and Amur have a value of 4 or 5 and Mongolia and Turkistan have 4 or less.

In May sky cover is generally increasing all over Siberia. It is 6 or 7 in western and central Siberia; 5 or 6 in the south of Tobolsk Oblast and in Tomsk Oblast, Transbaikal and Amur; and it decreases as one proceeds south, being 5 or below in Mongolia and 4 or below in Turkistan. When the summer wind sets in it increases to 7 or over in the coastal areas of the Far East. However, it is only 4.4 in the Aldan river basin and Ust-Maya.

June is much the same as May, with the exception that sky cover further decreases in Turkistan to 1 or 2. It also decreases in the Aldan river basin and Ust-Maya is 3.4.

In July there is little change in western and central Siberia. Turkistan registers 2 or below and the Aldan river basin is 5 or less. This is because the summer wind loses half of its moisture when passing over the Stanovoi mountains.

Sky cover is much the same in August as in July, but the wind becomes weaker and consequently sky cover on the Far Eastern coast diminishes to a certain extent, and becomes 6 or 7.

The prevailing wind of winter starts to blow in September with a consequent decrease of sky cover over Transbaikal, Amur, Manchuria and the Far Eastern region. It has a value of about 5 in Transbaikal and 5 or 6 in Amur, the coasts of the Sea of Japan, and the west coastal area of the Sea of Okhotsk. In increases in western and central Siberia and in the Far Eastern coastal area. It is 8 or more on the Arctic coast and, decreasing to the south, it stands at 6 or 7 in western and central Siberia and is much less in Mongolia and Turkistan which have a value of 3 or 4 and 2 or under respectively. It is slight at Petropavlovsk on the east coast of the Kamchatka peninsula and heavy on the west coast.

There is a slight increase in sky cover in October over central and western Siberia and in the Lake Baikal area and Transbaikal. It decreases somewhat on the Far Eastern coast and is approximately 4 in the Vladivostok area. It increases to 2 or 3 in Turkistan and decreases to 2 or 3 in Mongolia. From the center to the eastern coast

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

of Kamchatka it is 5 or 6 and is heavier, about 8, on the west coast.

In November sky cover is heavier in western and central Siberia with a value of 7 or 8, but it is slight over an extensive area that includes Turkistan, Mongolia, Manchuria, Transbaikal, Amur, Yakutsk and the Far Eastern coastal area, which have the following values:

Turkistan 3 or 4; Mongolia 3 or above; Manchuria 3 or 4; Mongolia 3 or above; Manchuria 3 or 4; Transbaikal and Amur about 4; the Far Eastern coastal area and Yakutsk about 5. It decreases on the Arctic coast to about 6.

With the exception of Turkistan, sky cover decreases everywhere in December. In western and central Siberia it is 6 or 7 and 2 or 4 over Mongolia, Manchuria and the Far Eastern coast. In Turkistan it increases to 5 or 6.

(Mask for Table on page 16 of app)

Sky Cover

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
a. Obdorsk													
b. Tobolsk													
c. Barnaul													
d. Tomsk													
e. Akmolinsk													
f. Yeniseisk													
g. Turkhansk													
h. Blagoveshchenskiy Priisk													
i. Yakutsk													
j. Russkoye Ustye													
k. Verhoyansk													
l. Kirensk													
m. Irkutsk													
n. Chita													
o. Okhotsk													
p. Nikolayevsk													
q. Vladivostok Harbour													
r. Alexandrovskiy Post													
s. Petropavlovsk													

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

6. Number of Cloudy Days

The number of cloudy days depends on the average sky cover. Whether the day is fine or cloudy at any particular place can be determined by assessing the sky cover, but to make it more clear and comprehensible we have attached a set of maps (No 74 to 86) showing the distribution of cloudy days. For the sake of clarity let us take a brief look at the distribution of cloudy days in winter (January) and summer (July).

In January western and central Siberia have 10 to 12 days of cloud; Turkistan has 10 days; and the area that includes Mongolia, Transbaikal, Amur, the Aldan River and the Indigirka river basin has only 3 days or less. The eastern coastal area has 5 days, the interior of the Kamchatka peninsula barely 10, and its coastal areas 10 or 15 or more. November, December, February and March are much the same as January.

In July the eastern coasts and Manchuria have 10 to 15 days and the Kamchatka Peninsula has 15 to 20. The Aldan river basin and the upper reaches of the Indigirka river have comparatively few, Ust-Maya having only 3 or 4. The reason for this is the proximity of the Stanovoi mountains. Kamchatka has 15 to 20 days or more; the Arctic coasts has about 14; and western and central Siberia have fewer than in winter. There are 5 to 10 in the upper reaches of the Obi and Yenisei Rivers. The Lake Baikal area, the Angara, Isunguska and Lena River basins have about 10. The Turkistan area is extremely dry and has barely 1 day of cloud. There is no data available for the Mongolian area, but it is thought that it has about 5 days. June and August are about the same as July. April, May, September and October are the periods of transition between winter and summer.

In the course of a year there are 120 or more days of cloud in western and central Siberia and in the Arctic coast, the Bering Sea, Kamchatka and the Sea of Okhotsk. Turkistan, Mongolia, Manchuria, Transbaikal, Amur, the Aldan River basin, the west coast of the Sea of Okhotsk, and the Sea of Japan have between 50 and 60 days.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Table on p 17 of app)

Number of Cloudy and Fine Days*

**(Upper figures show number of cloudy days; lower figures, number of fine days.)

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
a. Obdorsk													
b. Tobolsk													
c. Barnaul													
d. Tomsk													
e. Akmolinsk													
f. Yeniseisk													
g. Turkhansk													
h. Blagoveshchenskiy Priisk													
i. Yakutsk													
j. Russkoye-Ustye													
k. Verkhoyansk													
l. Irkutsk													
m. Chita													
n. Okhotsk													
o. Nikolayevsk													
p. Vladivostok Harbor													
q. Alexandrovskiy Post													
r. Petropavlovsk													

* In Siberia a day is termed cloudy when the total sky cover for the three daily observation periods is 25 or over. This approximates to the usage in Japan, where a day is termed cloudy if the average sky cover for the day is 7.5. A fine day is one on which the total cloud cover for the three daily readings is 5 or below. In Japan, a day is termed fine when the average cloud cover is 2.5 or below.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

7. **Precipitation**

Precipitation is Siberia is slight in winter and over half the yearly amount falls in the summer. An area of high pressure covers the continent in winter and cold dry air blows off the land towards the sea, which produces fine weather. Consequently, Mongolia, Manchuria, Transbaikal, Amur, the Maritime provinces and the Arctic coast are all very dry and have a monthly precipitation of 5 mm or less; western Siberia has a comparatively heavy precipitation of 10 to 20 mm, on account of its proximity to the moisture-laden westerly winds of Europe and also to the low-pressure area of Europe. In summer the continent forms a low pressure area and moist air is carried off the sea by the summer prevailing wind into the middle of Siberia. Hence, precipitation is everywhere heavier in summer, especially in the Far Eastern regions of Manchuria and the Maritime provinces. It is also heavy in the zone lying between 50° and 60° north, which has a yearly total of 300 to 500 mm. It is also heavy in the zone lying between 50° and 60° north, which have a yearly total of 300 to 500 mm. It is lighter further south. On the Arctic coast and in Mongolia it is 200 mm or less and in Manchuria and the Maritime Provinces it is 400 to 600 mm. Turkistan, however, has a winter precipitation of 10 to 30 mm a month and a summer precipitation of 10 mm or less a month. Some places are extremely dry, with 0 to 1 mm, and hence there are a number of deserts at various places in the region stretching between Turkistan and Mongolia.

Kamchatka peninsula projects into the Pacific with the Bering Sea to the east and the Sea of Okhotsk to the west; thus in summer it is exposed to moist air currents on all sides so that its yearly precipitation is very heavy, particularly on both coasts which are mountainous. Precipitation is less in the interior which is tableland. Petropavlovsk has a yearly total of 1000 mm. Precipitation is surprisingly heavy also in the zone lying between 50° and 60° north and there are 10 to 20 rainy days between May and September. This is because in summer vapor pressure is 12 to 13 mm; there is a large amount of sunshine and the ground surface is warmed. In Mongolia and Turkistan there is also a large amount of sunshine and the earth's crust is hot, but the air has little moisture content and accordingly thunderstorms are very rare.

The following is a brief account of the precipitation month-by-month (maps No 87-99).

In January and February precipitation takes the form of snow. It is extremely slight, 5 mm or less, over a wide area that includes Mongolia, Manchuria, Transbaikal, Amur, the west coast of the Sea of Okhotsk, the Verkhoyansk area, and the eastern coastal region. The coasts of the Sea of Japan have 10 mm; the east coast of Kamchatka Peninsula has 50 mm and the west coast 20 mm or less. Western Siberia and the Ob and Yenisei Rivers and the Upper Reaches of the Lena River have a comparatively heavy fall of 10 to 20 mm. It is heavy in Turkistan in winter; Kazalinsk has a fall of 10 mm, Tashkent 44 mm and Ashyabad 26 mm.

Precipitation is much the same in March as in January and February, but it increases in Turkistan to 12 mm at Kazalinsk, 62

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

mm at Tashkent and 45 mm at Ashyuhabad.

In April precipitation is somewhat heavier in Manchuria and the Far Eastern coastal region, but it is lighter in Mongolia and on the Arctic coast where it is 5 mm or less. It is 10 mm to 20 mm in western Siberia and 20 to 40 mm in the Tomsk and Semipalatinsk areas and in Turkistan there is little change from the previous month.

In May the summer wind from the south begins to blow on the Far Eastern coast and the shores of the Sea of Japan have a rainfall of 50 to 80 mm. Western Siberia has 30 to 50 mm, the Arctic coast 10 mm or less, and Mongolia 20 mm or less. Rain is less in Turkistan, where the Turan Plain has a fall of 10 mm or less.

In June precipitation on the eastern coasts increases gradually to 70 to 100 mm and in western Siberia to 100 mm. The northeastern corner of Lake Baikal has less than the surrounding country, with a reading of 30 mm. The Kolyma and Indigirka Rivers and the Aldan River basin all have a slight fall of 30 mm or below, as the summer wind from the sea cannot penetrate the area on account of the intervening Stanovoi mountain. Turkistan has 10 mm or less.

In July and August the summer seasonal wind reaches its peak and the zone 50° to 60° north, from the eastern coast to central and western Siberia, has a heavy rainfall. In the Maritime provinces it is 70 to 100 mm, about 70 mm in central and western Siberia, and north of latitude 60° north generally 50 mm or less. North of latitude 70° N on the Arctic coast it is less than 30 mm. Turkistan now reaches its driest period of the year and has less than 5 mm and in some places it has a precipitation of only 1 mm. The Bering Sea coast of Kamchatka has over 50 mm and Petropavlovsk has 100 mm.

The summer wind falls off in September and when the winter wind sets in precipitation decreases suddenly all over the continent, with the exception of the shores of the Sea of Japan where the summer wind continues to blow and where there is a rainfall of over 100 mm. There is 30 to 50 mm in western Siberia, Irkutsk Oblast, Transbaikal and Amur; less than 200 mm [sic] on the Arctic coast; and less than 3 mm in Turkistan. In Kamchatka there is no change from the volume in August.

In October there is 30 to 50 mm in western Siberia; 30 to 50 mm on the Far Eastern coasts; 10 to 20 mm in the Lake Baikal area; 20 mm in the Amur region; 10 to 20 mm in the Lena, Yana, Indigirka and Korima river basins; less than 10 mm in Turkistan and Mongolia; 30 to 50 mm in Kamchatka and over 100 mm at Petropavlovsk.

In November precipitation decreases everywhere. It is less than 10 mm in the area from Mongolia, Transbaikal, Amur, the Aldan, Yana and Indigirka river basins up to the Arctic coast; 20 to 30 mm in western Siberia; and 10 to 20 mm in the Lena river basin and the Lake Baikal area. It increases at some places in Turkistan to about 10 mm.

Precipitation in December is largely the same as in January.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

8. Number of Days of Precipitation

The number of days of precipitation corresponds roughly to the volume of precipitation. However, in western Siberia the volume of precipitation is small and number of days of precipitation unproportionately large, since the volume of each fall of snow and showers of rain is small. The precipitation of western Siberia and of the Far Eastern area is governed by different factors. Western Siberia is affected by the air currents from Europe which have not discharged their moisture and the weather of the Far Eastern regions is controlled by the winter and summer seasonal winds. Generally speaking, the middle and upper reaches of the Ob and Yenisei Rivers of western Siberia have their maximum number of wet days in November and December, 15 days or more per month, and their minimum number in April.

The Far East, however, has its minimum number of wet days, from 3 to 5, in December and January and its maximum, from 10 to 15 days, when the summer seasonal wind is at its height in July and August. In the Siberian plain in July there are generally over 10 days of rainfall, which falls rather evenly from East to West. The figures for the yearly number of days of precipitation read as follows: western Siberia and the eastern Siberian plateau, 140 to 160; Turkistan, 30 to 60; Mongolia, 50; Outer Baikal, Amur, the West Shores of the Sea of Okhotsk and the Arudan River basin, 80 to 100; the shores of the Sea of Japan, 100; Kamchatka Peninsula, 120 to 160.

The following is a brief survey of the number of days of rainfall month by month:

In January there are 15 days of rainfall in the Omsk and Tomsk areas of western Siberia and 10 to 15 elsewhere. The vast area that extends over Mongolia, Outer Baikal, Amur, Manchuria, and the shores of the Sea of Japan have only 3 to 5. The Arctic coast and Petropavlovsk in Kamchatka, which is protected from the northwesterly wind, have less than 10. Elsewhere, there is over 10 days. Turkistan area has 5 - 10 days.

February is the same as January, with the exception of the Omsk and Tomsk areas in western Siberia which have a decrease of about 10 days.

In March the Tobol, Ishim and Iruchishiyv River basins in western Siberia have less than 10 days. The Yenisei River basin has over 10; the shores of the Sea of Japan have 5 to 10; Lake Baikal, Amur, the West Coast of the Sea of Okhotsk and the Aldan River basin, 3 to 5; Turkistan, 4 to 8; and the Mongolia area less than 3.

In April the west Siberian plain and the Central Siberian plateau have fewer days of rainfall. The Ob river basin and its tributaries have about 6 and the middle reaches of the Yenisei River have 10. The Far East has 5 to 10 days, the eastern coast of Kamchatka over 10, and the western coast less than 10.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

In May the Transbaikal and Amur areas and the Lena and Indigirka river basins and Arctic coast have less than 10 days; western Siberia to Yeninseisk Province and the shores of the Sea of Japan and the lower reaches of the Amur River have over 10. Petropavlovsk and Ozernaya on the southern tip of Kamchatka have over 10 days and the rest of Kamchatka has less than 10. The Turan plain of Turkistan has less than 3 days and Mongolia less than 5.

In June western and central Siberia and the eastern coasts and Kamchatka have over 10 days; the Aldan, Indigirka, Kolyma and Anadyr river basins all have 7 or 8. These areas have comparatively few wet days, as cloud and rainfall is affected by the Stanovoi mountains. Turkistan is still drier, with 1 or 2 wet days.

In July and August the Aldan and Indigirka river basins and the Verkhoyansk area have under 10, less than in the previous months. Most places have over 10. Turkistan has one wet day, or none. Mongolia is wet compared with winter, with 5 days of rainfall, as the summer wind is broken by the Hsing-an Ling and Yin-shan mountains.

The winter wind starts to blow early in September on the Far Eastern coasts, with the result that there are fewer days of rainfall. Okhotsk and Ayan on the west coast of the sea of Okhotsk, however, is wetter than in August and has over 10 days of precipitation. From this region to the Amur River and Manchuria there are over 10 days. Between the Transbaikal area and the Ardan river basin there are 7 to 8. In western and eastern Siberia and in Turkistan there is no change from the previous month. Petropavlovsk has less than 10 days and the rest of Kamchatka has over 10 days.

In October the winter wind blows everywhere and east of the Transbaikal area to the Far Eastern coastal regions precipitation decreases to 6 to 8 days a month. There are over 10 in the area between the Kolyma river and Kanchatka; 10 to 15 in eastern and western Siberia; and 1 to 3 in Turkistan where there is no great change at this time.

In November precipitation again decreases to 4 to 6 days in the region between Transbaikal and the Far Eastern coastal regions. In contrast it reaches its yearly maximum of over 15 days in western and eastern Siberia. Turkistan has 2 to 4 days and Kamchatka Peninsula, with the exception of the Petropavlovsk area, has 10 or more days.

December is largely the same as November, except that precipitation increases slightly to 3 to 5 days in Turkistan.

9. Snowfall

In Siberia precipitatition in winter is almost always in the form of snow on account of the extremely cold climate. Thus the

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

distribution of the number of days of snowfall in winter corresponds roughly to the distributors of the number of days of precipitation. (See Map No 113, Number of Days of Snowfall.)

Annual snowfall figures show that the Arctic coast often has 100 or more days of snowfall, as the snowy season is long; it is possible to have snow there almost all the year round. Western and central Siberia and Kamchatka have over 80 days; the Transbaikal and Amur areas, Manchuria, the eastern coastal regions and the Aldan river basin have a smaller number, 20 to 40. Snowfall is light and snow cover rarely exceeds 1 meter in depth. The falling snow is cold and does not melt, but accumulates; snow cover reaches its maximum depth at the beginning or middle of March in the Arctic regions and at the beginning or middle of April elsewhere. Map No 114 gives the distribution of snow cover at its maximum and shows that it is generally heavy over western Siberia and Kamchatka and slight over Transbaikal, Manchuria, and the Aldan and Yana river basins. Thus the lower reaches of the Yenisei river have a cover of 100 cm; western and central Siberia 60 to 80 cm; and Kamchatka 100 cm. Outer Baikal has barely 10 to 20 cm and the Aldan and Yana River basins have 20 to 30 cm. This snow cover helps retain the low temperature of the earth's surface, thus having a vital relation to the phenomena of the permanently frozen soil and also a certain effect on the temperature in these regions. The southern limits of these permamently frozen layers of soil, where the snow cover is deep, is in the vicinity of Turansk and Berezovo in Siberia. In the east the area with a thin snow cover extends far to the south to Transbaikal and the Aldan River.

The next maps, No 115 and 116, show the first and last dates of snowfall for the various areas. It will be seen that the Arctic coast has its first snow at the beginning of July and its last at the end of June, so that in these regions it frequently shows all the year round. The isochronic lines for the first snowfall generally run parallel to lines of latitude, but farther south in southern Siberia they become complicated owing to the influence of Lake Baikal upon the climate and also to the existence of mountain peaks. Here the first snows fall at the beginning of October. Around the latitude 50° north the last snow fall occurs in the middle of May; further north, at latitude 60°N in the latter part of May; and at latitude 70° N, about the middle of June.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

The table below shows dates of first and last snowfall

Place Name	First Snowfall	Last Snowfall	Place Name	First Snowfall	Last Snowfall
a. Obdorsk	Nov 2	Jun 15	k. Russkoye Ustye	Jul 6	Jun 13
b. Tobolsk	Nov 20	May 15	l. Verkhoyansk	Aug 24	Jun 8
c. Tomsk	Nov 30	May 18	m. Kirensk	Sep 23	May 22
d. Barnaul	Oct 2	May 9	n. Irkutsk	Sep 7	May 27
e. Akmolinsk	Oct 6	May 21	o. Chita	Sep 28	May 23
f. Yeniseisk	Sep 23	May 18	p. Nikolayevsk	Oct 10	May 21
g. Semipalatinsk	Oct 11	Apr 30	q. Vladivostok	Nov 3	Apr 8
h. Turkhansk	Nov 8	Jun 19	r. Alexandrovskiy Post	Oct 18	May 17
i. Blagoveshchenskiy Priisk	Nov 6	May 25	s. Petropavlovsk	Oct 25	Jun 9
j. Yakutsk	Nov 18	May 13			

10. Fog

There is a great deal of fog on the eastern and Arctic coasts and on the coasts of Kamchatka, but little within the continent. The total number of days of fog on the Pacific coast is 40 to 60 and at the Yamal and Taimyr Peninsulas on the Arctic coast it is over 100. Irkutsk, Transbaikal, Amur and Yakutsk have 15 to 20 days and the southern parts of western Siberia have between 10 and 20. There is practically none in the Yeniseisk, Turkhansk and Surgut areas. In the summer, in July and August, it is much greater on the Pacific and Arctic coasts and in Transbaikal and Irkutsk. The mid-reaches of the Ob River and the Tobolsk area of western Siberia are most foggy in October; the southern parts of western Siberia, the Omsk, Barnaul and Minusinsk areas are most foggy about January and February; Yakutsk and Olekminsk, about January.

The fogs of the Far Eastern coastal regions are caused by the summer prevailing wind. This starts to blow in May and brings with it a great deal of fog, which is heaviest in July and August. The moist air from the south meeting the cliffs of the sea coast rises and mixes with the comparatively cool air of the coastal regions and turns to fog. Vladivostok and the south coasts of Kamchatka are muffled in fog for over half the months of July and August, which causes serious disruption of shipping. On the Yamal peninsula on the Arctic coast and in the Kara area it is thick in summer and fairly thick in winter. In summer the cold northeast wind blows off the Arctic Ocean and mixes with warm moist air of the area and in winter the low pressure area of Scandinavia often extends over these regions.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for Table on p 23 of App)

Number of Days of Fog

Place Name	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yearly
a. Obdorsk													
b. Tobolsk													
c. Barnaul													
d. Tomsk													
e. Akmolinsk													
f. Yeniseisk													
g. Turkhansk													
h. Blagoveshchenskiy Priisk													
i. Yakutsk													
j. Russkoye-Ustye													
k. Verkhoyansk													
l. Kirensk													
m. Irkutsk													
n. Chita													
o. Okhotsk													
p. Nikolayevsk													
q. Vladivostok Harbor													
r. Alexandrovskiy Post													
s. Petropavlovsk													

11. Freezing and Thawing

As winter is extremely cold in Siberia, its rivers and lakes, harbors and soil all become frozen. Sheet or floating ice on the sea is a great hindrance to shipping and the presence or absence of floating ice on the sea of Okhotsk and around Kamchatka effects the weather of Japan. On the Arctic coast rivers freeze at the beginning of October and the ice-up moves gradually southward until by the end of November the rivers and lakes of the continent are all frozen. Lake Baikal, however, has a high thermal content and does not freeze until late December. The thaw starts in late April in the region of 50° north; by the middle of May it has reached 60° north; and by the middle of June it has reached the mouths of the rivers that flow into the Arctic Ocean. Rivers and lakes become completely ice-free 10 days after the ice begins to break up. Lake Baikal is not ice-free until late in May. Maps No 117 to 119 show the dates of freezing, thawing and complete disappearance of ice.

The following chart shows the dates of freezing and thawing of the main rivers and will serve as a supplement to the information given in Part I of this document:

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for p 25 of App)

Name of River	Observation Post	Thaw	Freeze	Completely Ice Free
f. Ob	1. Alexandrovo			
"	2. Barnaul			
"	3. Obdorsk			
"	4. Kamen			
g. Irtysh	5. Semipalatinsk			
"	6. Omsk			
"	7. Tara			
"	8. Tobolsk			
"	9. Samarovo			
h. Ishim	10. Akmolinsk			
"	11. Petropavlovsk			
"	12. Ishim			
i. Tobol	13. Zverino Golovskoye			
"	14. Iyevlevo			
"	15. Verkhne-Berkhtert			
j. Chulym	16. Tutalskoye			
"	17. Achinsk			
k. Yenisei	18. Krasnoyarsk			
"	19. Nazimovo			
"	20. Tolstiy Nos			
l. Angara	21. Irkutsk			
"	22. Bratskoye			
"	23. Vladimirova			
m. Lena	24. Kirensk			
"	25. Olekminsk			
"	26. Markh			
n. Aldan	27. Ust-Maya			
o. Kolyma	28. Rodcheva			
"	29. Sredne Kolymsk			
"	30. Nizhne Kolymsk			
p. Yana	31. Verkhoyansk			
"	32. Kazachye			
q. Indigirka	33. Russkoye Ustye			
r. Vilyui	34. Vilyuisk			

NOTE: The day on which a river is said to be frozen is that day when there is a sheet of ice stretching from one bank to the other, regardless of thickness, or when the flow of the river is completely stopped by drift ice. The day on which a river is said to have thawed is that day when the sheet ice thaws or when the drift ice starts to move with the current of the river.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

The Arctic Ocean is frozen for a large part of the year and there is only a very short period in some places when it is ice-free. Bering Sea, the Sea of Okhotsk and the Sea of Japan are also ice-bound, but the period when they are ice-bound varies each year. However, the coasts of Bering Sea start to freeze as a rule between the middle of November and the middle of January and gradually thaw towards June. The northern parts of the Bering Sea Straits, however, are only ice-free from late July until early August. The east coast of Kamchatka thaws earlier and Petropavlovsk is ice-free by the end of March. However, Petropavlovsk is rarely completely ice-bound and even in winter shipping is not usually interrupted. The shores of the Sea of Okhotsk freeze about the beginning of November and Okhotsk and Ayan thaw in the middle or at the end of May. Further north at Kidiga Bay the freeze-up is a little later and the thaw takes place about the end of April. Amur Bay begins to freeze at the end of October and is ice-free from the end of May until the end of June. Mamiya Straits /Straits of Tartary/ freeze about the end of November and thaw at the beginning of May. The shores of the Sea of Japan freeze in the middle of December, and sometimes earlier in the middle of November, and are ice-free about the middle of April. Vladivostok harbor is rarely completely frozen and shipping is never interrupted. (See the information in Part II on freezing and thawing of places on the Pacific coast.)

On account of the cold climate of Siberia the ground is frozen hard and in the north there is an area of 600,000 sq kilometers with a permanently frozen stratum of soil. The earth's surface thaws slightly in summer but the sub-soil remains frozen. This factor affects animal and plant life, from the point of view of both agriculture and engineering enterprises. Map No 120 gives the extent of the frozen areas. On the Far Eastern regions snow cover is slight in winter, but on account of the extremely cold atmosphere there is a permanently frozen stratum of soil which stretches southwards as far as latitude 50° N. In western Siberia the deep winter snow cover preserves the warmth of the earth and in addition the temperature is higher than in the Far East so that the southern limit of the permanently frozen soil stratum is in the region of 65° north. The following table shows the distribution of the frozen areas (as in Map No 120) and also gives earth temperatures for references. The shading used on the map is to be interpreted as follows:

1. Southern extremity of the permanently frozen soil strata.

2. Geographically adjacent frozen areas.

3. Frozen areas with scattered zones that do not freeze.

4. Zones which do not freeze but which include scattered frozen areas.

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

(Mask for p 26 of App)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Yearly Difference

a. Bomnak b.(Lat 54° 43' N. Long 128° 52' E. Elevation 352 m.

c. Mean Temperature (meters)
d. Soil Temperature
" " 1.5
" " 2.0
" " 2.8
" " 5.0

e. Barnaul f.(Lat 52° 20' N. Long 83° 47' E. Elevation 162 m.

g. Mean Temperature (meters)
h. Soil Temperature
" " 0.0
" " 0.4
" " 0.8
" " 1.6
" " 3.6

i. Tomsk j.(Lat 56° 30' N. Long 84° 58' E. Elevation 124.9m.

k. Mean Temperature (meters)
l. Soil Temperature
" " 0.0
" " 0.4
" " 0.8
" " 1.6
" " 3.2

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

Source Material and Bibliography

1. Annales des L'Observatoire Physique Central Nicolas (Russie) I, II. (Annals of the Central Geographical Observatory Nicolas (Russia) I, II)

2. Resumes Mensuels et Annuels des Observations des Stations Hydro-Meteorologiques Polaires en 1913-1925. (Monthly and Yearly Summaries of Observations of the Polar Hydro-Meteorological Stations, 1913-1925)

3. Precipitation in the Maritime Province Vladivostok 1925.

4. State of Ice on the Seas of the USSR. (Russian text)

5. Foreign Countries Meteorological Tables. Ditto, continued.

6. Observations des Stations Meteorologiques du Reseau de L'Observatoire Meteorologiques de Vladivostok. (Observations of Meteorological Stations within the Network of the Vladivostok Meteorological Observatory)

7. Klima de Union der Sozialistischen Sowiet-Republiken. Atlas (Climate of the USSR. Atlas)

8. Teil II Luftdruck und Wind in der USSR (Vol II Atmospheric Pressure and Wind in the USSR)

9. Lieferung 1. Luftdruck in der USSR Nach Monatsmitteln von A. Kaminsky. (Part 1. Average Monthly Atmospheric Pressure Figures for USSR by A. Kaminsky)

10. Observations de L'Observatoire Magnetique et Meteorologique D'Irkoutsk et des Stations Meteorologique de Son Reseau. (Observations of the Magnetic and Meteorological Station of Irkutsk and of the Meteorological Stations within its Network)

11. General Report on the Study of the Meteorology of Siberia, Central Meteorological Observatory (Japan).

12. General Outline of Russian Meteorology (Japan).

13. World Geography Vol 8 Siberia. (Japan)

14. The Ever-Frozen Soil within the Boundaries of the USSR, M. Soumgin. (Russian text)

[End of Document Number 273908]

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

MAPS

1.	Map No 1	Atmospheric Pressure and Wind Direction	January
	a.	" " " " " January	
2.	Map No 2	Atmospheric Pressure and Wind Direction	February
	a.	" " " " " February	
3.	Map No 3	Atmospheric Pressure and Wind Direction	March
	a.	" " " " " March	
4.	Map No 4	Atmospheric Pressure and Wind Direction	April
	a.	" " " " " April	
5.	Map No 5	Atmospheric Pressure and Wind Direction	May
	a.	" " " " " May	
6.	Map No 6	Atmospheric Pressure and Wind Direction	June
	a.	" " " " " June	
7.	Map No 7	Atmospheric Pressure and Wind Direction	July
	a.	" " " " " July	
8.	Map No 8	Atmospheric Pressure and Wind Direction	August
	a.	" " " " " August	
9.	Map No 9	Atmospheric Pressure and Wind Direction	September
	a.	" " " " " September	
10.	Map No 10	Atmospheric Pressure and Wind Direction	October
	a.	" " " " " October	
11.	Map No 11	Atmospheric Pressure and Wind Direction	November
	a.	" " " " " November	

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

12.	Map No 12	Atmospheric Pressure and Wind Direction		December	
	a.	" " " " "			
		December			
13.	Map No 13	Atmospheric Pressure and Wind Direction		Entire Year	
	a.	" " " " "			
		Entire Year			
14.	Map No 14	Temperature (Sea level)		January	1881-1915
	a.	" " "			
		January 1881-1915			
15.	Map No 15	Temperature (Sea level)		February	1881-1915
	a.	" " "			
		February 1881-1915			
16.	Map No 16	Temperature (Sea level)		March	1881-1915
	a.	" " "			
		March 1881-1915			
17.	Map No 17	Temperature (Sea level)		April	1881-1915
	a.	" " "			
		April 1881-1915			
18.	Map No 18	Temperature (Sea level)		May	1881-1915
	a.	" " "			
		May 1881-1915			
19.	Map No 19	Temperature (Sea level)		June	1881-1915
	a.	" " "			
		June 1881-1915			
20.	Map No 20	Temperature (Sea level)		July	1881-1915
	a.	" " "			
21.	Map No 21	Temperature (Sea level)		August	1881-1915
	a.	" " "			
		August 1881-1915			
22.	Map No 22	Temperature (Sea level)		September	1881-1915
	a.	" " "			
		September 1881-1915			
23.	Map No 23	Temperature (Sea level)		October	1881-1915
	a.	" " "			
		October 1881-1915			

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

24. Map No 24 Temperature (Sea level) November 1881-1915

a. " " "
November 1881-1915

25. Map No 25 Temperature (Sea level) December 1881-1915

a. " " "
December 1881-1915

26. Map No 26 Temperature (Sea level) Yearly Averages 1881-1915

a. " " "
Yearly Averages 1881-1915

27. Map No 27 Maximum Amplitude of Temperature Variations (Monthly Averages (Sea level) 1881-1915

a. " " " " "
Monthly Averages (Sea level) 1881-1915

28. Map No 28 Isotherms of Average Temperature -15°C in Spring

29. Map No 29 Isotherms of Average Temperature -15°C in Autumn

30. Map No 30 Isotherms of Average Temperature -10°C in Spring

31. Map No 31 Isotherms of Average Temperature -10°C in Autumn

32. Map No 32 Isotherms of Average Temperature - 5°C in Spring

33. Map No 33 Isotherms of Average Temperature - 5°C in Autumn

34. Map No 34 Isotherms of Average Temperature 0°C in Spring

35. Map No 35 Isotherms of Average Temperature 0°C in Autumn

36. Map No 36 Isotherms of Average Temperature 5°C in Spring

37. Map No 37 Isotherms of Average Temperature 5°C in Autumn

38. Map No 38 Isotherms of Average Temperature 10°C in Spring

39. Map No 39 Isotherms of Average Temperature 10°C in Autumn

40. Map No 40 Number of Days with Daily Average Temperature -15°C or over

41. Map No 41 Number of Days with Daily Average Temperature -10°C or over

42. Map No 42 Number of Days with Daily Average Temperature -5°C or over

43. Map No 43 Number of Days with Daily Average Temperature 0°C or over

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

44.	Map No 44	Number of Days with Daily Average Temperature 5°C or over	
45.	Map No 45	Number of Days with Daily Average Temperature 10°C or over	
46.	Map No 46	Number of Days with Maximum Temperature equal to or less than 0°C	
47.	Map No 47	Number of Days with Minimum Temperature equal to or less than 0°C	
48.	Map No 48	Average Humidity	January
49.	Map No 49	Average Humidity	February
50.	Map No 50	Average Humidity	March
51.	Map No 51	Average Humidity	April
52.	Map No 52	Average Humidity	May
53.	Map No 53	Average Humidity	June
54.	Map No 54	Average Humidity	July
55.	Map No 55	Average Humidity	August
56.	Map No 56	Average Humidity	September
57.	Map No 57	Average Humidity	October
58.	Map No 58	Average Humidity	November
59.	Map No 59	Average Humidity	December
60.	Map No 60	Average Humidity	Entire Year
61.	Map No 61	Sky Cover	January
62.	Map No 62	Sky Cover	February
63.	Map No 63	Sky Cover	March
64.	Map No 64	Sky Cover	April
65.	Map No 65	Sky Cover	May
66.	Map No 66	Sky Cover	June
67.	Map No 67	Sky Cover	July
68.	Map No 68	Sky Cover	August
69.	Map No 69	Sky Cover	September
70.	Map No 70	Sky Cover	October

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

71.	Map No 71 Sky Cover	November
72.	Map No 72 Sky Cover	December
73.	Map No 73 Sky Cover	Entire Year
74.	Map No 74 Number of Days of Overcast	January
75.	Map No 75 Number of Days of Overcast	February
76.	Map No 76 Number of Days of Overcast	March
77.	Map No 77 Number of Days of Overcast	April
78.	Map No 78 Number of Days of Overcast	May
79.	Map No 79 Number of Days of Overcast	June
80.	Map No 80 Number of Days of Overcast	July
81.	Map No 81 Number of Days of Overcast	August
82.	Map No 82. Number of Days of Overcast	September
83.	Map No 83 Number of Days of Overcast	October
84.	Map No 84 Number of Days of Overcast	November
85.	Map No 85 Number of Days of Overcast	December
86.	Map No 86 Number of Days of Overcast	Entire Year
87.	Map No 87 Precipitation (mm)	January
88.	Map No 88 Precipitation (mm)	February
89.	Map No 89 Precipitation (mm)	March
90.	Map No 90 Precipitation (mm)	April
91.	Map No 91 Precipitation (mm)	May
92.	Map No 92 Precipitation (mm)	June
93.	Map No 93 Precipitation (mm)	July
94.	Map No 94 Precipitation (mm)	August
95.	Map No 95 Precipitation (mm)	September
96.	Map No 96 Precipitation (mm)	October
97.	Map No 97 Precipitation (mm)	November
98.	Map No 98 Precipitation (mm)	December
99.	Map No 99 Precipitation (mm)	Entire Year

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

CPYRGHT

100.	Map No 100	Number of Days of Precipitation	January
101.	Map No 101	Number of Days of Precipitation	February
102.	Map No 102	Number of Days of Precipitation	March
103.	Map No 103	Number of Days of Precipitation	April
104.	Map No 104	Number of Days of Precipitation	May
105.	Map No 105	Number of Days of Precipitation	June
106.	Map No 106	Number of Days of Precipitation	July
107.	Map No 107	Number of Days of Precipitation	August
108.	Map No 108	Number of Days of Precipitation	September
109.	Map No 109	Number of Days of Precipitation	October
110.	Map No 110	Number of Days of Precipitation	November
111.	Map No 111	Number of Days of Precipitation	December
112.	Map No 112	Number of Days of Precipitation	Entire Year
113.	Map No 113	Number of Days of Snowfall	Entire Year
114.	Map No 114	Snow Cover (cm) (at time of maximum depth)	
115.	Map No 115	First Snow	
116.	Map No 116	Last Snow	
117.	Map No 117	Isogram of Equal Freezing Dates	
118.	Map No 118	Isotac	
119.	Map No 119	Isogram of Disappearance of Ice	
120.	Map No 120	Distribution of Permanently-Frozen Strata	

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1

SECRET

JUN 9 2 06 PM '47

Approved For Release 1999/08/25 : CIA-RDP78-03109A000500010003-1