



## MONTHLY CLIMATE REVIEW OVER KOREA (total 7 pages)

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### February 2015 and Winter(December-February) 2014 Climate Summary

- ◇ The nationwide mean temperature in February 2015 was 2.0 °C, 0.9 °C above normal and the nationally-averaged precipitation (25.5 mm) was 73.2% of normal.
- ◇ The nationwide mean temperature in Winter 2014 was 0.7 °C, 0.1 °C above normal and the nationally-averaged precipitation (76.7 mm) was 86.5% of normal.
- Climate features and long-term trends in February 2015 and Winter 2014 were analyzed with the data collected at the 45 meteorological stations throughout Korea (national average) from 1973 to 2015 (1908-2015 for Seoul).
  - ※ Normal : Average value of climatic element data collected from 1981 to 2010

#### □ The climatic characteristics in February 2015

- o Korea (as a whole),
  - The mean temperature (2.0 °C), the mean maximum temperature (7.3 °C) and the mean minimum temperature (-2.5 °C) were 0.9 °C, 0.5 °C, 1.3 °C above normal, respectively.
  - The nationally-averaged precipitation was 25.5 mm, which was 73.2 % of normal. The number of rainy days was 6.0, which was 0.5 days less than normal.
  - The total number of hours of sunshine was 178.7, which was 104.0 % of normal.
- o Seoul,
  - The mean temperature (1.0 °C), the mean maximum temperature (6.0 °C), the mean minimum temperature (-2.9 °C) were 0.6 °C, 1.3 °C, 0.5 °C above normal, respectively.
  - The amount of precipitation was 22.7 mm, which was 90.8 % of normal.
  - The number of rainy days was 7.0, which was 1.2 days more than normal.
  - The total number of hours of sunshine was 180.0, which was 110.2 % of normal.

## □ Long-term<sup>1)</sup> trend in February 2015 climate

### o Korea (as a whole),

- The national mean temperatures in February in the 2000s (2001-2010) was 1.6 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in February in the 2000s was 1.6 mm more than that of in the 1970s.
- The number of rainy days in February in the 2000s was 0.6 days less than that of in the 1970s.
- The total sunshine hours in February in the 2000s was 3.4 hours less than that of in the 1970s.

### o Seoul,

- The mean temperatures in February in the 2000s (2001-2010) was 2.1 °C above that of in the 1970s (1971-1980).
- The precipitation in February in the 2000s was 4.3 mm more than that of in the 1970s.
- The number of rainy days in February in the 2000s was 0.8 days less than that of in the 1970s.
- The total sunshine hours in February in the 2000s was same that of in the 1970s.

## □ The climatic characteristics in Winter 2014

### o Korea (as a whole),

- The mean temperature (0.7 °C) and the mean minimum temperature (-3.8 °C) were 0.1 °C, 0.3 °C above normal, respectively. The mean maximum temperature (5.7 °C) was 0.4 °C below normal.
- The nationally-averaged precipitation was 76.7 mm, which was 86.5 % of normal. The number of rainy days was 26.1, which was 6.3 days more than normal.
- The total number of hours of sunshine was 552.8, which was 107.7 % of normal.

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1) 2000s : 2001~2010 / 1970s of Korea(Seoul) : 1973~1980(1971~1980)

o Seoul,

- The mean temperature (-0.9 °C) and the mean minimum temperature (-4.8 °C) were 0.5 °C, 0.7 °C below normal, respectively. The mean maximum temperature (3.7 °C) was 0.1 °C above normal.
- The amount of precipitation was 51.9 mm, which was 76.4 % of normal.
- The number of rainy days was 24.0, which was 4.3 days more than normal.
- The total number of hours of sunshine was 568.9, which was 119.7 % of normal.

□ **Long-term<sup>2)</sup> trend in Winter 2014 climate**

o Korea (as a whole),

- The national mean temperatures in Winter in the 2000s (2001-2010) was 1.2 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in Winter in the 2000s was 2.4 mm less than that of in the 1970s.
- The number of rainy days in Winter in the 2000s was 1.8 days less than that of in the 1970s.
- The total sunshine hours in Winter in the 2000s was 11.4 hours less than that of in the 1970s.

o Seoul,

- The mean temperatures in Winter in the 2000s (2001-2010) was 1.1 °C above that of in the 1970s (1971-1980).
- The precipitation in Winter in the 2000s was 11.9 mm less than that of in the 1970s.
- The number of rainy days in Winter in the 2000s was 2.6 days less than that of in the 1970s.
- The total sunshine hours in Winter in the 2000s was 23.3 hours more than that of in the 1970s.

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2) 2000s : 2001~2010 / 1970s of Korea(Seoul) : 1973~1980(1971~1980)

## Appendix 1 Climate features of February 2015 (Nationwide)

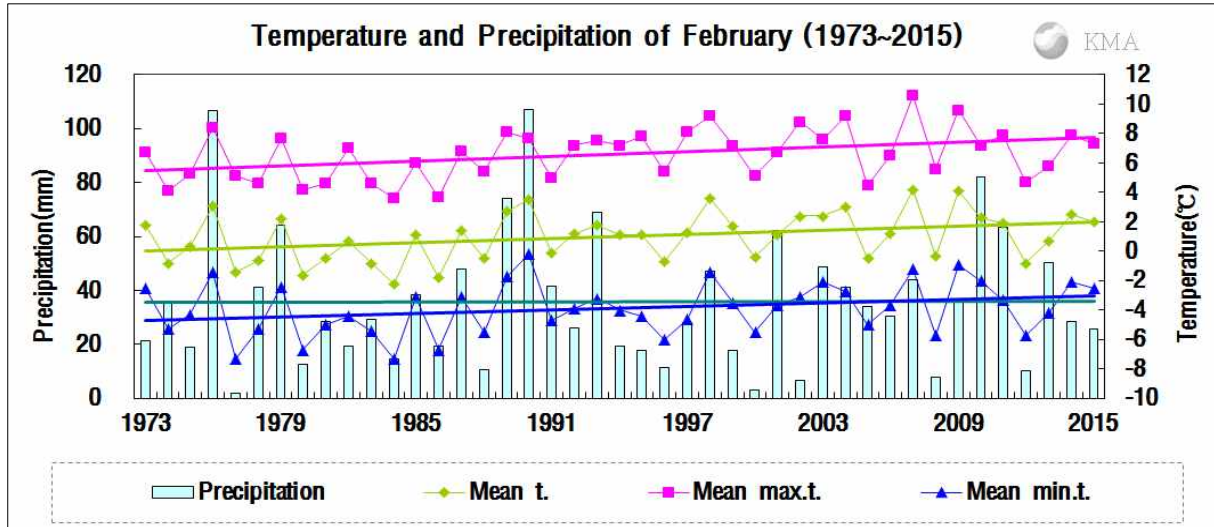


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during February (1973-2015).

### □ The nationwide average value of meteorological element during February (1973-2015)

Elements (whole country)	Feb. 2015(a)	Feb. 2014(b)	Normals of Feb. (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	2.0	2.5	1.1	-0.5	0.9	
Mean maximum temp. (°C)	7.3	7.9	6.8	-0.6	0.5	
Mean minimum temp. (°C)	-2.5	-2.1	-3.8	-0.4	1.3	
Precipitation (mm)	25.5	28.7	35.5	-3.2 (239.5%)	-10.0 (73.2%)	
Days of rain (day)	6.0	6.5	6.5	-0.5	-0.5	
Sunshine duration (hour)	178.7	145.0	171.9	33.7 (123.2%)	6.8 (104.0%)	
Mean cloud amount (1/10)	4.5	5.2	4.2	-0.7	0.3	
Days of minimum temperature less than -10°C(day)	1.4	0.5	2.8	0.9	-1.4	
Days of maximum temperature less than 0°C(day)	0.3	1.0	1.8	-0.7	-1.5	
Days of snow (day)	2.4	5.3	4.7	-2.9	-2.3	minimum days rank 4th
Asian dust days (day)	2.6	0.1	0.1	2.5	2.5	maximum days rank 2th

### □ The nationwide average value of meteorological element during February in each decade (1973-2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Prep. (mm)	Days of rain (day)	Sunshine duration (hour)	Mean cloud amount (1/10)	Days of minimum temperature less than -10°C(day)	Days of maximum temperature less than 0°C(day)	Days of snow (day)	Asian dust days (day)
1973-1980(a)	0.4	5.8	-4.4	37.7	6.8	170.8	4.4	4.0	4.0	5.2	0.4
1981-1990(b)	0.4	5.7	-4.2	38.9	7.4	167.0	4.7	3.7	2.9	5.4	0.0
1991-2000(c)	1.1	7.0	-4.1	28.1	5.8	181.4	3.7	2.7	1.2	4.9	0.0
2001-2010(d)	2.0	7.6	-3.0	39.3	6.2	167.4	4.2	1.9	1.2	3.8	0.4
2015(e)	2.0	7.3	-2.5	25.5	6.0	178.7	4.5	1.4	0.3	2.4	2.6
d-a	1.6	1.8	1.4	1.6	-0.6	-3.4	-0.2	-2.1	-2.8	-1.4	0.0
d-b	1.6	1.9	1.2	0.4	-1.2	0.4	-0.5	-1.8	-1.7	-1.6	0.4
d-c	0.9	0.6	1.1	11.2	0.4	-14.0	0.5	-0.8	0.0	-1.1	0.4
e-d	0.0	-0.3	0.5	-13.8	-0.2	11.3	0.3	-0.5	-0.9	-1.4	2.2

## Appendix 2 Climate features of February 2015 (Seoul)

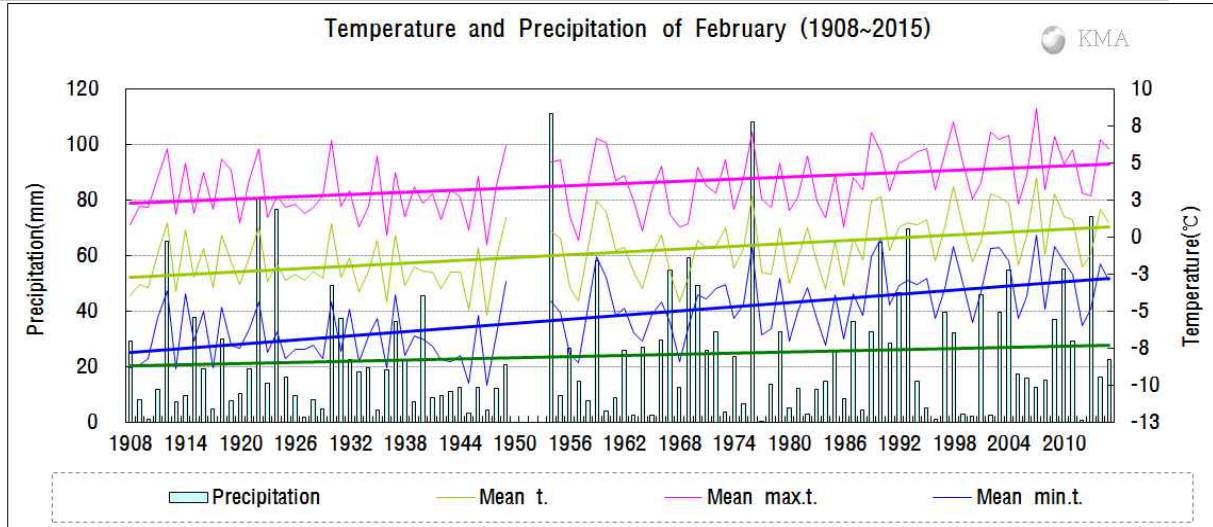


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during February (1908–2015).

### □ The average value of meteorological element during February in Seoul (1908-2015)

Elements (Seoul)	Feb. 2015(a)	Feb. 2014(b)	Normals of Feb. (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	1.0	1.9	0.4	-0.9	0.6	
Mean maximum temp. (°C)	6.0	6.6	4.7	-0.6	1.3	
Mean minimum temp. (°C)	-2.9	-1.8	-3.4	-1.1	0.5	
Precipitation (mm)	22.7	16.2	25.0	6.5 (140.1%)	-2.3 (90.8%)	
Days of rain (day)	7.0	5.0	5.8	2.0	1.2	
Sunshine duration (hour)	180.0	163.9	163.3	16.1 (109.8%)	16.7 (110.2%)	
Mean cloud amount (1/10)	4.5	4.0	0.2	0.5	4.3	
Days of minimum temperature less than -10°C (day)	2.0	1.0	5.2	1.0	-3.2	
Days of maximum temperature less than 0°C (day)	2.0	1.0	4.0	1.0	-2.0	
Days of snow (day)	2.0	5.0	5.2	-3.0	-3.2	minimum days rank 5th
Asian dust days (day)	4.0	1.0	0.2	3.0	3.8	maximum days rank 1st

### □ The average value of meteorological element during February in Seoul in each decade (1911-2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Prep. (mm)	Days of rain (day)	Sunshine duration (hour)	Mean cloud amount (1/10)	Days of minimum temperature less than -10°C (day)	Days of maximum temperature less than 0°C (day)	Days of snow (day)	Asian dust days (day)
1911-1920(a)	-1.5	3.5	-6.2	20.3	6.6	182.2	4.5	5.2	6.3	7.3	0.0
1921-1930	-1.8	3.1	-6.8	28.0	6.1	181.0	4.4	7.9	7.5	6.3	0.0
1931-1940(b)	-2.2	2.5	-6.7	23.3	6.0	182.0	4.3	6.8	8.0	9.0	0.0
1941-1949	-2.4	2.6	-7.4	10.5	5.1	194.4	3.8	9.3	8.4	6.0	0.0
1954-1960	-0.6	4.0	-4.9	33.1	6.1	166.9	4.4	4.6	5.3	5.7	0.0
1961-1970	-1.8	2.7	-5.7	27.2	5.8	176.6	4.3	5.6	7.9	7.5	0.1
1971-1980(c)	-0.8	3.6	-4.4	25.2	6.5	151.5	4.5	3.3	6.2	6.8	0.3
1981-1990	-0.6	3.7	-4.3	21.4	6.0	167.1	4.5	3.4	6.2	5.7	0.0
1991-2000	0.4	4.9	-3.5	24.2	5.6	171.2	3.4	1.1	2.5	5.5	0.1
2001-2010(d)	1.3	5.4	-2.3	29.5	5.7	151.5	4.0	1.0	4.0	4.3	0.4
2015(e)	1.0	6.0	-2.9	22.7	7.0	180.0	4.5	2.0	2.0	2.0	4.0
d-a	2.8	1.9	3.9	9.2	-0.9	-30.7	-0.5	-4.2	-2.3	-3.0	0.4
d-b	3.5	2.9	4.4	6.2	-0.3	-30.5	-0.3	-5.8	-4.0	-4.7	0.4
d-c	2.1	1.8	2.1	4.3	-0.8	0.0	-0.5	-2.3	-2.2	-2.5	0.1
e-d	-0.3	0.6	-0.6	-6.8	1.3	28.5	0.5	1.0	-2.0	-2.3	3.6

## Appendix 3 Climate features of Winter 2014 (Nationwide)

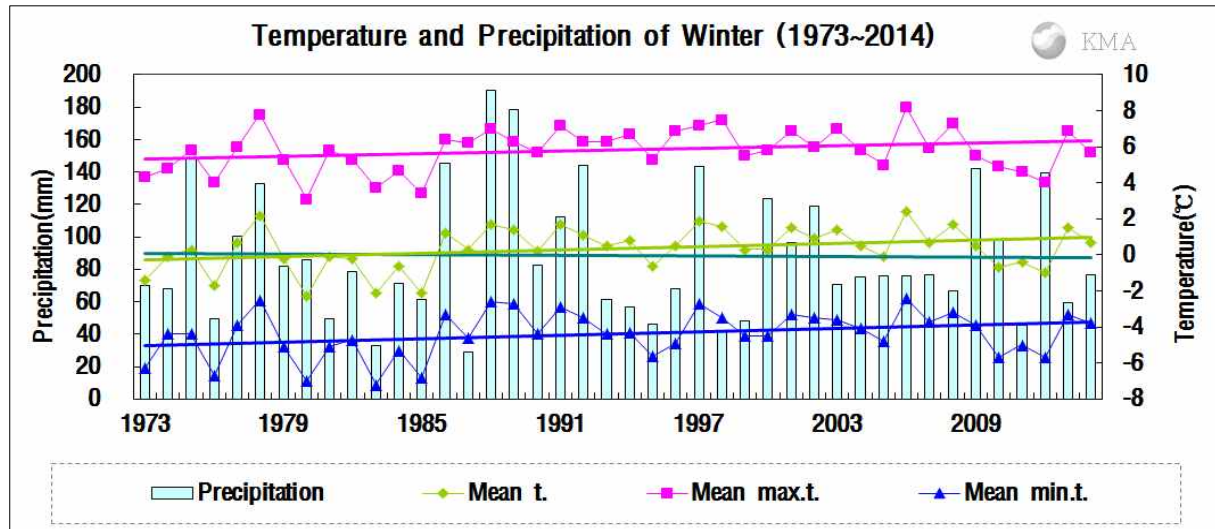


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during Winter (1973~2014).

### □ The nationwide average value of meteorological element during Winter (1973-2014)

Elements (whole country)	Winter 2014(a)	Winter 2013(b)	Normals of Winter (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	0.7	1.5	0.6	-0.8	0.1	
Mean maximum temp. (°C)	5.7	6.9	6.1	-1.2	-0.4	
Mean minimum temp. (°C)	-3.8	-3.3	-4.1	-0.5	0.3	
Precipitation (mm)	76.7	59.7	88.5	17.0 (189.3%)	-11.8 (86.5%)	
Days of rain (day)	26.1	18.0	19.8	8.1	6.3	maximum days rank 3rd
Sunshine duration (hour)	552.8	530.0	513.4	22.8 (104.3%)	39.4 (107.7%)	
Mean cloud amount (1/10)	4.2	4.1	4.0	0.1	0.2	
Days of minimum temperature less than -10°C(day)	6.9	5.2	10.6	1.7	-3.7	
Days of maximum temperature less than 0°C(day)	6.1	4.6	8.4	1.5	-2.3	
Days of snow (day)	17.4	16.4	16.6	1.0	0.8	
Asian dust days (day)	3.1	1.6	0.7	1.5	2.4	maximum days rank 4th

### □ The nationwide average value of meteorological element during Winter in each decade (1973-2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Prep. (mm)	Days of rain (day)	Sunshine duration (hour)	Mean cloud amount (1/10)	Days of minimum temperature less than -10°C(day)	Days of maximum temperature less than 0°C(day)	Days of snow (day)	Asian dust days (day)
1973-1980(a)	-0.3	5.1	-5.0	92.2	20.8	521.6	4.1	15.5	14.1	18.8	0.5
1981-1990(b)	0.0	5.5	-4.7	91.9	21.5	518.7	4.2	13.4	11.6	17.9	0.1
1991-2000(c)	0.8	6.5	-4.1	84.7	18.6	515.2	3.8	9.4	6.3	16.4	0.6
2001-2010(d)	0.9	6.3	-3.8	89.8	19.0	510.2	4.0	9.8	8.4	15.8	1.6
2014(e)	0.7	5.7	-3.8	76.7	26.1	552.8	4.2	6.9	6.1	17.4	3.1
d-a	1.2	1.2	1.2	-2.4	-1.8	-11.4	-0.1	-5.7	-5.7	-3.0	1.1
d-b	0.9	0.8	0.9	-2.1	-2.5	-8.5	-0.2	-3.6	-3.2	-2.1	1.5
d-c	0.1	-0.2	0.3	5.1	0.4	-5.0	0.2	0.4	2.1	-0.6	1.0
e-d	-0.2	-0.6	0.0	-13.1	7.1	42.6	0.2	-2.9	-2.3	1.6	1.5

## Appendix 4 Climate features of Winter 2014 (Seoul)

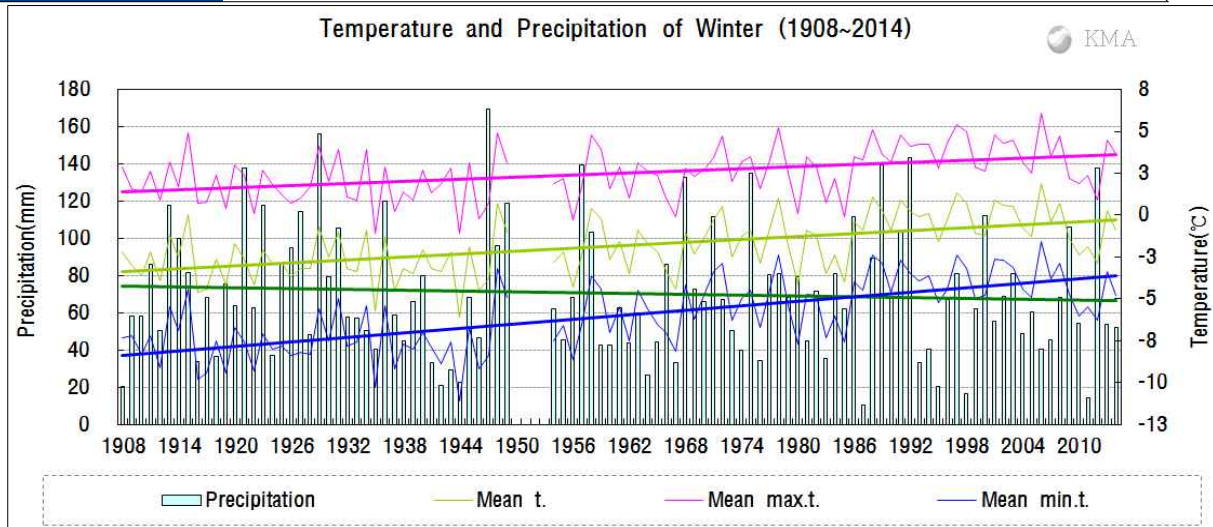


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during Winter (1908–2014).

### The average value of meteorological element during Winter in Seoul (1908-2014)

Elements (Seoul)	Winter 2014(a)	Winter 2013(b)	Normals of Winter (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	-0.9	0.3	-0.4	-1.2	-0.5	
Mean maximum temp. (°C)	3.7	4.5	3.6	-0.8	0.1	
Mean minimum temp. (°C)	-4.8	-3.4	-4.1	-1.4	-0.7	
Precipitation (mm)	51.9	53.9	67.9	-2.0 (96.3%)	-16.0 (76.4%)	
Days of rain (day)	24.0	19.0	19.7	5.0	4.3	
Sunshine duration (hour)	568.9	532.7	475.4	36.2 (106.8%)	93.5 (119.7%)	
Mean cloud amount (1/10)	3.9	3.8	3.9	0.1	0.0	
Days of minimum temperature less than -10°C (day)	5.0	3.0	9.4	2.0	-4.4	
Days of maximum temperature less than 0°C (day)	15.0	11.0	20.1	4.0	-5.1	
Days of snow (day)	19.0	19.0	19.1	0.0	-0.1	
Asian dust days (day)	6.0	2.0	0.9	4.0	5.1	maximum days rank 1st

### The average value of meteorological element during Winter in Seoul in each decade (1911-2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Prep. (mm)	Days of rain (day)	Sunshine duration (hour)	Mean cloud amount (1/10)	Days of minimum temperature less than -10°C (day)	Days of maximum temperature less than 0°C (day)	Days of snow (day)	Asian dust days (day)
1911-1920(a)	-2.7	2.1	-7.6	71.4	21.9	539.2	4.3	27.2	29.5	25.1	0.0
1921-1930	-2.8	1.8	-7.8	93.5	22.7	498.2	4.5	31.7	30.7	24.1	0.0
1931-1940(b)	-2.9	1.7	-7.3	68.0	20.9	532.3	4.1	29.1	32.0	23.8	0.0
1941-1949	-2.8	1.8	-7.5	67.2	21.0	556.6	3.9	32.3	32.9	23.4	0.0
1954-1960	-2.0	2.3	-6.3	72.0	21.0	479.4	4.2	23.1	30.0	25.0	0.0
1961-1970	-2.2	2.1	-6.0	62.8	18.5	485.5	4.2	20.4	29.3	26.5	0.2
1971-1980(c)	-1.3	3.0	-4.9	74.9	21.2	454.1	4.3	13.3	24.2	23.3	0.3
1981-1990	-1.3	2.8	-4.9	71.4	20.7	490.2	4.2	14.9	25.2	22.1	0.0
1991-2000	-0.1	4.0	-3.9	68.0	19.6	465.4	3.7	6.3	15.4	20.1	0.9
2001-2010(d)	-0.2	3.8	-3.7	63.0	18.6	477.4	3.7	8.7	21.8	14.9	2.0
2014(e)	-0.9	3.7	-4.8	51.9	24.0	568.9	3.9	5.0	15.0	19.0	6.0
d-a	2.5	1.7	3.9	-8.4	-3.3	-61.8	-0.6	-18.5	-7.7	-10.2	2.0
d-b	2.7	2.1	3.6	-5.0	-2.3	-54.9	-0.4	-20.4	-10.2	-8.9	2.0
d-c	1.1	0.8	1.2	-11.9	-2.6	23.3	-0.6	-4.6	-2.4	-8.4	1.7
e-d	-0.7	-0.1	-1.1	-11.1	5.4	91.5	0.2	-3.7	-6.8	4.1	4.0