



NATIONAL CLIMATE REVIEW

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Monthly (January) 2013 Climate Summary

- ◇ The mean temperature ($-2.1\text{ }^{\circ}\text{C}$) for January 2013 nationwide was lower than normal, but there was a drastic change in temperature patterns.
- ◇ The monthly amount of precipitation (28.5mm) was larger than normal and there was a very heavy snowfall in the East coastal areas.

- Climate features and long-term trends of January 2013 are analyzed by using 45 meteorological stations in Korea (the national average) from 1973 to 2013 (1908-2013 for Seoul).

※ Normal : average from 1981 to 2010.

- **The climatological characteristics in January 2013 can be described as follows:**

- o For Korea (whole nation),

- The mean temperature ($-2.1\text{ }^{\circ}\text{C}$) and the mean maximum temperature ($3.2\text{ }^{\circ}\text{C}$) and the mean minimum temperature ($-6.8\text{ }^{\circ}\text{C}$) were lower than normals, $1.1\text{ }^{\circ}\text{C}$, $1.1\text{ }^{\circ}\text{C}$, $1.2\text{ }^{\circ}\text{C}$, respectively. The days of daily minimum temperature less than $-10\text{ }^{\circ}\text{C}$ were 8.3 days, which were 2.6 days above normal. The days of daily maximum temperature less than $0\text{ }^{\circ}\text{C}$ were 7.1 days, which were 2.3 days above normal.
- The nationally-averaged precipitation was 28.5 mm, which was 103% above normal. The days of rain were 6.1 days, which were 0.7 days below normal.

※ Updated in daily maximum depth of snowfall extremes (5th ranked)

- Ulsan (1st, 30.2 cm, 17 January), Heuksando (1st, 15.2 cm, 3 January)

- Total hours of sunshine were 180.5 hours, which was 104% above normal.

- o For Seoul,

- The mean temperature ($-3.4\text{ }^{\circ}\text{C}$) and the mean maximum temperature ($0.3\text{ }^{\circ}\text{C}$) and the mean minimum temperature ($-6.6\text{ }^{\circ}\text{C}$) were lower than normals, $1.0\text{ }^{\circ}\text{C}$, $1.2\text{ }^{\circ}\text{C}$, $0.7\text{ }^{\circ}\text{C}$, respectively. The days of daily minimum temperature less than $-10\text{ }^{\circ}\text{C}$ were 9 days, which were 3.1 days above normal. The days of daily maximum temperature less than $0\text{ }^{\circ}\text{C}$ were 12 days, which were 1.3 days above normal.

- The nationally-averaged precipitation was 22.1 mm, which was 106% above normal. The days of rain were 7 days, which were 0.5 days above normal.
- Total hours of sunshine were 167.7 hours, which was 105% above normal.

□ **Long-term trend of January 2013 climate**

o For Korea (whole nation),

- National mean temperatures of January 2000s (2001-2010) were higher than 0.6 °C those of the 1970s. The days of daily minimum temperature less than -10 °C in January 2000s were less than 1.2 days those of the 1970s. The days of daily maximum temperature less than 0 °C in January 2000s were less than 1.3 days those of the 1970s.
- The Nationally-averaged precipitation in January 2000s were larger than 1.0 mm those of the 1970s. And the days of rain in January 2000s were less than 0.6 days those of 1970s.
- Total hours of sunshine in January 2000s were less than 6.0 hours those of the 1970s.

o For Seoul,

- National mean temperatures of January 2000s (2001-2010) were higher than 0.4 °C those of the 1970s. The days of daily minimum temperature less than -10 °C in January 2000s were less than 1.5 days those of the 1970s. The days of daily maximum temperature less than 0 °C in January 2000s were less than 0.4 days those of the 1970s.
- The Nationally-averaged precipitation in January 2000s were less than 2.4 mm those of the 1970s. And the days of rain in January 2000s were less than 1.6 days those of 1970s.
- Total hours of sunshine in January 2000s were larger than 5.6 hours those of the 1970s.

Appendix 1 Climate features in January 2013(Nation)

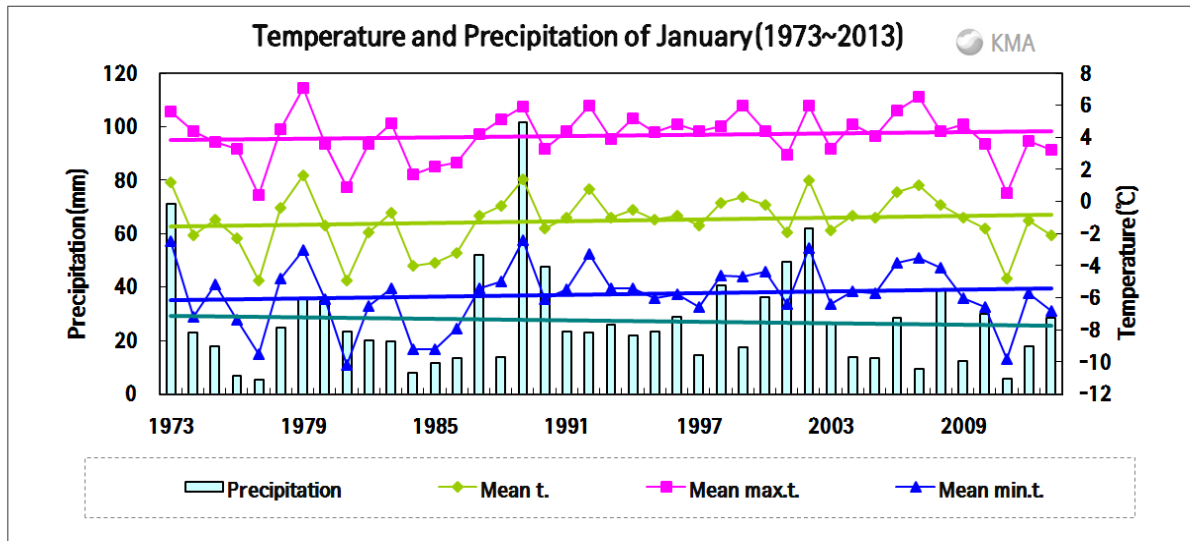


Fig 1. Temperatures (mean, mean maximum, and minimum), and precipitation in South Korea during January (1973–2013).

□ Average values of meteorological elements across Korea during January (1973~2013)

Elements (National) average	January 2013(a)	January 2012(b)	Normals of January (1981~2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	-2.1	-1.2	-1.0	-0.9	-1.1	-
Mean maximum temp. (°C)	3.2	3.8	4.3	-0.6	-1.1	-
Mean minimum temp. (°C)	-6.8	-5.7	-5.6	-1.1	-1.2	-
Amount of precipitation (mm)	28.5	17.7	28.3	10.8	0.2(103%)	-
Days of rain (day)	6.1	6.9	6.8	-0.8	-0.7	-
Sunshine duration (hour)	180.5	176.9	173.1	3.6	7.4(104%)	-
Mean cloud amount (1/10)	4.0	4.2	4.0	-0.2	0.0	-
Days of minimum temperature less than -10°C (day)	8.3	6.1	5.7	2.2	2.6	-
Days of maximum temperature less than 0°C (day)	7.1	4.8	4.8	2.3	2.3	-

□ Average values of meteorological elements across Korea during January for each decade (1973~2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Amount of precipitation (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)
1973-1980(a)	-1.2	4.1	-5.7	27.4	7.1	173.9	4.1	6.1	5.4
1981-1990(b)	-2.0	3.4	-6.7	31.1	7.0	181.4	3.9	7.7	6.9
1991-2000(c)	-0.5	4.8	-5.2	25.5	6.9	169.9	3.9	4.6	3.4
2001-2010(d)	-0.6	4.6	-5.1	28.4	6.5	167.9	4.0	4.9	4.1
2013(e)	-2.1	3.2	-6.8	28.5	6.1	180.5	4.0	8.3	7.1
d-a	0.6	0.5	0.6	1.0	-0.6	-6.0	-0.1	-1.2	-1.3
d-b	1.4	1.2	1.6	-2.7	-0.5	-13.6	0.1	-2.8	-2.8
d-c	0.0	-0.2	0.1	2.8	-0.3	-2.1	0.1	0.3	0.7
e-d	-1.5	-1.4	-1.7	0.1	-0.4	12.6	0.0	3.4	3.0

Appendix 2 Climate features in January 2013(Seoul)

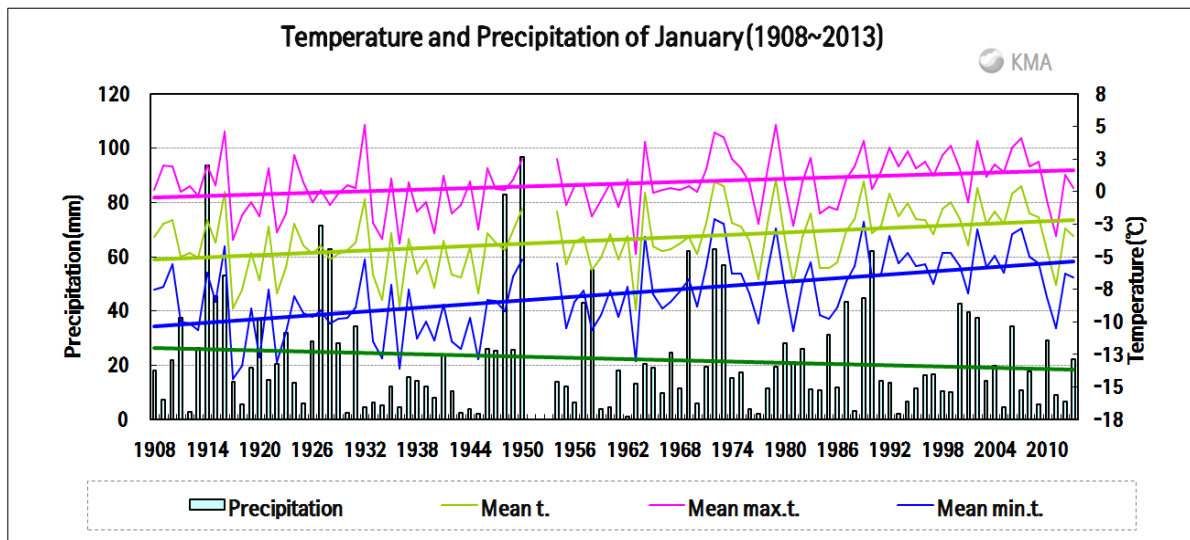


Fig 2. Temperatures (mean, mean maximum, and minimum), and prediction in Seoul during January (1908–2013).

□ Average values of meteorological elements across Seoul during January (1973~2013)

Elements (Seoul) average	January 2013(a)	January 2012(b)	Normals of January (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	-3.4	-2.8	-2.4	-0.6	-1.0	-
Mean maximum temp. (°C)	0.3	1.3	1.5	-1.0	-1.2	-
Mean minimum temp. (°C)	-6.6	-6.3	-5.9	-0.3	-0.7	-
Amount of precipitation (mm)	22.1	6.7	20.8	15.4	1.3(106%)	-
Days of rain (day)	7.0	6.0	6.5	1.0	0.5	-
Sunshine duration (hour)	167.7	190.5	160.3	-22.8	7.4(105%)	-
Mean cloud amount (1/10)	4.3	3.6	3.8	0.7	0.5	-
Days of minimum temperature less than -10°C (day)	9.0	5.0	5.9	4.0	3.1	-
Days of maximum temperature less than 0°C (day)	12.0	12.0	10.7	0.0	1.3	-

□ Average values of meteorological elements across Seoul during January for each decade (1911-2010)

Year	Mean temp. (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Amount of precipitation (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)
1911-1920(a)	-4.9	-0.1	-9.9	33.5	7.8	176.2	4.2	15.1	14.5
1921-1930	-4.6	-0.1	-9.7	28.0	7.0	173.4	4.2	15.4	14.4
1931-1940(b)	-5.4	-0.8	-9.9	11.7	6.6	185.0	3.6	17.0	17.3
1941-1949	-4.8	-0.1	-9.7	22.5	6.7	191.7	3.7	15.7	15.4
1954-1960	-4.1	0.1	-8.5	19.9	7.6	160.9	4.2	12.3	14.6
1961-1970	-4.3	-0.1	-8.2	18.6	6.4	174.6	3.8	11.0	14.1
1971-1980(c)	-2.2	2.0	-5.7	23.7	7.1	148.9	4.2	5.9	9.9
1981-1990	-3.7	0.4	-7.3	26.5	6.8	166.2	4.1	9.7	14.4
1991-2000	-1.7	2.3	-5.3	14.5	7.3	160.3	3.6	3.6	8.2
2001-2010(d)	-1.8	1.9	-5.2	21.3	5.5	154.6	3.6	4.4	9.5
2013(e)	-3.4	0.3	-6.6	22.1	7.0	167.7	4.3	9.0	12.0
d-a	3.1	2.0	4.7	-12.2	-2.3	-21.7	-0.5	-10.7	-5.0
d-b	3.5	2.7	4.7	9.6	-1.1	-30.5	0.0	-12.6	-7.8
d-c	0.4	-0.1	0.5	-2.4	-1.6	5.6	-0.6	-1.5	-0.4
e-d	-1.6	-1.6	-1.4	0.8	1.5	13.1	0.7	4.6	2.5