



MONTHLY CLIMATE REVIEW OVER KOREA (total 7 pages)

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Monthly (February) 2014 and Seasonal (Winter : December-February) 2013 Climate Summary

- ◇ The mean temperature (2.5 °C) in February 2014 nationwide is above normal and the monthly precipitation (28.7 mm) is below normal.
 - ◇ The mean temperature (1.5 °C) in Winter 2013 nationwide is above normal and the precipitation (59.7 mm) is below normal
- Climate features and long-term trends in February 2014 and Winter 2013 have been analyzed with the data collected at the 45 meteorological stations throughout Korea (national average) from 1973 to 2013 (1908-2013 for Seoul).
※ Normal : Average value of climatic element data collected from 1981 to 2010
- **The climatic characteristics in February 2014 are described as follows:**
- o For Korea (whole country),
 - The mean temperature (2.5 °C), the mean maximum temperature (7.9 °C) and the mean minimum temperature (-2.1 °C) were 1.4 °C, 1.1 °C, 1.7 °C above normals, respectively.
 - The low pressure brought the warm weather continued on for several days and the development of the high pressure affected temperature dropped during the first ten days of the month. The east wind moved in peninsular during the middle ten days and the high pressure brought the clear and dry weather continued on the last ten days.
 - The nationally-averaged precipitation was 28.7 mm, which was 75.4% of normal. The number of the days of rain was 6.5 days.
 - The total number of the hours of sunshine was 145.0 hours, which was 84.4% of normal.
 - o For Seoul,
 - The mean temperature (1.9 °C), the mean maximum temperature (6.6 °C), the mean minimum temperature (-1.8 °C) were 1.5 °C, 1.9 °C, 1.6 °C above normals, respectively.
 - The amount of precipitation was 16.2 mm, which was 64.8% of normal.
 - The number of the days of rain was 5.0 days, which is 0.8 days less than normal.
 - The total number of the hours of sunshine was 163.9 hours, which was 100.4% of normal.

□ **The climatic characteristics in Winter 2013 are described as follows:**

- o For Korea (whole country),
 - The mean temperature (1.5 °C), the mean maximum temperature (6.9 °C) and the mean minimum temperature (-3.3 °C) were 0.9 °C, 0.8 °C and 0.8 °C above normals, respectively.
 - The nationally-averaged precipitation was 59.7 mm, which was 64.5% of normal. The number of the days of rain was 17.9 days, which was 1.9 days less than normal.
 - The total number of the hours of sunshine was 530.0 hours, which was 103.2% of normal.
- o For Seoul,
 - The mean temperature (0.3 °C), the mean maximum temperature (4.5 °C) and the mean minimum temperature (-3.4 °C) were 0.7 °C, 0.9 °C, 0.7 °C above normals, respectively.
 - The amount of precipitation was 53.9 mm, which was 79.4% of normal, which was nearly normal. The number of the days of rain was 19.0 days, which is 0.7 days less than normal.
 - The total number of the hours of sunshine was 532.7 hours, which was 112.1% of normal.

□ **Long-term trend in February 2014 and Winter 2013 climate**

- o For Korea (whole country),
 - The national mean temperatures in February and Winter 2000s (2001-2010) are 1.6 °C, 1.2 °C above those of the same month and season of 1970s.
 - The nationally-averaged precipitation in February 2000s (2001-2010) are 1.6 mm more than that of the same month of 1970s and that in Winter 2000s (2001-2010) are 2.4 mm less than that of the same season of 1970s.
 - The number of the days of rain in February and Winter 2000s are 0.6 days, 1.8 days less than those of the same month and season of 1970s.
 - The total sunshine in February and Winter 2000s (2001-2010) are 3.4 hours, 11.4 hour less than that of the same month season of 1970s.
- o For Seoul,
 - The mean temperatures in February and Winter 2000s (2001-2010) are 2.1 °C, 1.1 °C above those of the same month and season of 1970s.
 - The precipitation in February 2000s (2001-2010) are 4.3 mm more than that of the same month of 1970s and that in Winter 2000s (2001-2010) are 11.9 mm less than that of the same season of 1970s.
 - The number of the days of rain in February and Winter 2000s are 0.8 days, 2.6 days less than that of the same month and the same season of 1970s, respectively.
 - The total sunshine in February 2000s (2001-2010) is same that of the same month and that in Winter 2000s are 23.3 hours more than that of the same season of 1970s, respectively.

Appendix 1 Climate features in February 2014 (Nationwide)

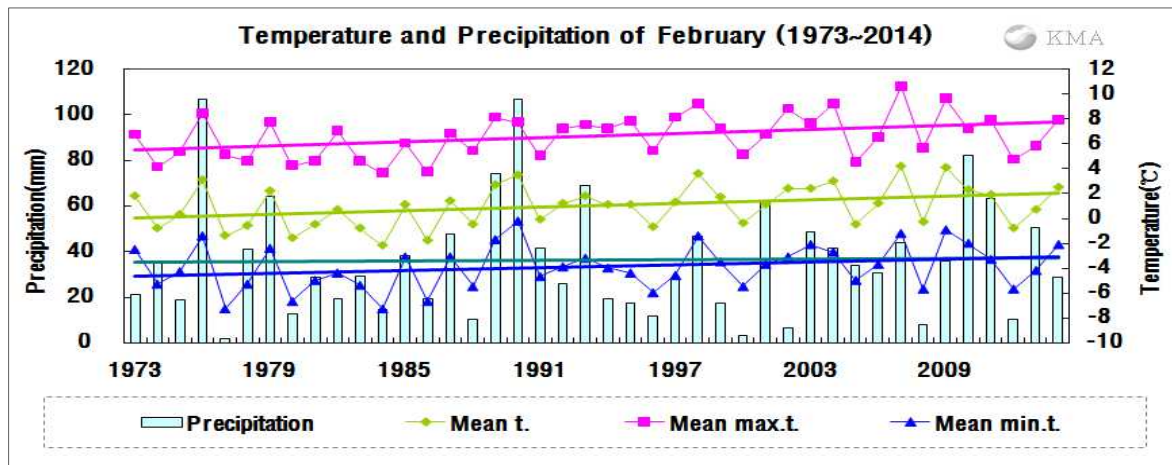


Fig 1. Temperatures (mean, mean maximum, and mean minimum) and precipitation in South Korea during February (1973–2014).

□ Average values of meteorological elements across Korea during February (1973-2014)

Elements (whole country)	Feb. 2014(a)	Feb. 2013(b)	Normals of Feb. (1981-2010) (c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	2.5	0.7	1.1	1.8	1.4	
Mean maximum temp. (°C)	7.9	5.8	6.8	2.1	1.1	
Mean minimum temp. (°C)	-2.1	-4.2	-3.8	2.1	1.7	
Precipitation (mm)	28.7	50.4	35.5	-21.7(106.6%)	-6.8(75.4%)	
Days of rain (day)	6.5	8.1	6.5	-1.6	0.0	
Sunshine duration (hour)	145.0	179.4	171.9	-34.4(80.8%)	-26.9(84.4%)	
Mean cloud amount (1/10)	5.4	5.5	4.7	-0.1	0.7	
Days of minimum temperature less than 0°C(day)	5.3	4.7	4.2	0.6	1.1	fifth largest
Days of daily temperature range greater than 10°C(day)	0.5	2.9	2.8	-2.4	-2.3	third least
Days of snow (day)	1.0	2.3	1.8	-1.3	-0.8	

□ Average values of meteorological elements across Korea during February for 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 0°C(day)	Days of daily temperature range greater than 10°C(day)	Days of snow (day)
1973-1980(a)	0.4	5.8	-4.4	37.7	6.8	170.8	5.1	4.4	4.0	4.0
1981-1990(b)	0.4	5.7	-4.2	38.9	7.4	167.0	5.4	4.7	3.7	2.9
1991-2000(c)	1.1	7.0	-4.1	28.1	5.8	181.4	4.8	3.7	2.7	1.2
2001-2010(d)	2.0	7.6	-3.0	39.3	6.2	167.4	3.9	4.2	1.9	1.2
2014(e)	2.5	7.9	-2.1	28.7	6.5	145.0	5.4	5.3	0.5	1.0
d-a	1.6	1.8	1.4	1.6	-0.6	-3.4	-1.2	-0.2	-2.1	-2.8
d-b	1.6	1.9	1.2	0.4	-1.2	0.4	-1.5	-0.5	-1.8	-1.7
d-c	0.9	0.6	1.1	11.2	0.4	-14.0	-0.9	0.5	-0.8	0.0
e-d	0.5	0.3	0.9	-10.6	0.3	-22.4	1.5	1.1	-1.4	-0.2

Appendix 2 Climate features in February 2014 (Seoul)

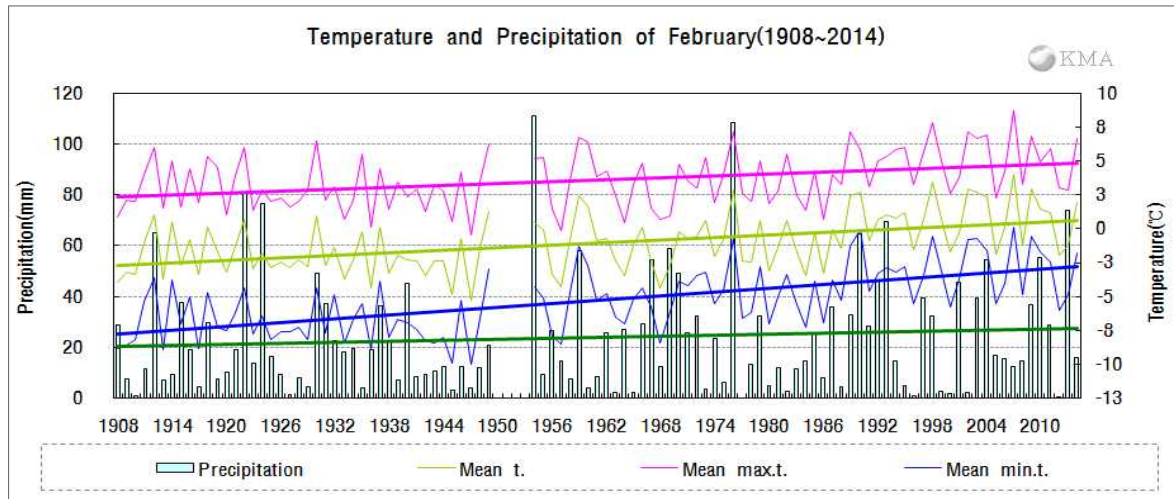


Fig 2. Temperatures (mean, mean maximum, and mean minimum) and precipitation in Seoul during February (1908–2014).

□ Average values of meteorological elements in Seoul during February (1908-2014)

Elements (Seoul)	Feb. 2014(a)	Feb. 2013(b)	Normals of Feb. (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	1.9	-1.2	0.4	3.1	1.5	
Mean maximum temp. (°C)	6.6	2.8	4.7	3.8	1.9	
Mean minimum temp. (°C)	-1.8	-4.9	-3.4	3.1	1.6	
Precipitation (mm)	16.2	74.1	25.0	-57.9(21.9%)	-8.8(64.8%)	
Days of rain (day)	5.0	8.0	5.8	-3.0	-0.8	
Sunshine duration (hour)	163.9	187.2	163.3	-23.3(87.6%)	0.6(100.4%)	
Mean cloud amount (1/10)	5.0	10.0	5.2	-5.0	-0.2	
Days of minimum temperature less than 0°C(day)	4.0	4.7	4.0	-0.7	0.0	
Days of daily temperature range greater than 10°C(day)	1.0	4.0	1.8	-3.0	-0.8	
Days of snow (day)	1.0	7.0	4.2	-6.0	-3.2	

□ Average values of meteorological elements in Seoul during February for 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 0°C(day)	Days of daily temperature range greater than 10°C(day)	Days of snow (day)
1911-1920(a)	-1.5	3.5	-6.2	20.3	6.6	182.2	7.3	4.5	5.2	6.3
1921-1930	-1.8	3.1	-6.8	28.0	6.1	181.0	6.3	4.4	7.9	7.5
1931-1940(b)	-2.2	2.5	-6.7	23.3	6.0	182.0	9.0	4.3	6.8	8.0
1941-1949	-2.4	2.6	-7.4	10.5	5.1	194.4	6.0	3.8	9.3	8.4
1954-1960	-0.6	4.0	-4.9	33.1	6.1	166.9	5.7	4.4	4.6	5.3
1961-1970	-1.8	2.7	-5.7	27.2	5.8	176.6	7.5	4.3	5.6	7.9
1971-1980(c)	-0.8	3.6	-4.4	25.2	6.5	151.5	6.8	4.5	3.3	6.2
1981-1990	-0.6	3.7	-4.3	21.4	6.0	167.1	5.7	4.5	3.4	6.2
1991-2000	0.4	4.9	-3.5	24.2	5.6	171.2	5.5	3.4	1.1	2.5
2001-2010(d)	1.3	5.4	-2.3	29.5	5.7	151.5	4.3	4.0	1.0	4.0
2014(e)	1.9	6.6	-1.8	16.2	5.0	163.9	5.0	4.0	1.0	1.0
d-a	2.8	1.9	3.9	9.2	-0.9	-30.7	-3.0	-0.5	-4.2	-2.3
d-b	3.5	2.9	4.4	6.2	-0.3	-30.5	-4.7	-0.3	-5.8	-4.0
d-c	2.1	1.8	2.1	4.3	-0.8	0.0	-2.5	-0.5	-2.3	-2.2
e-d	0.6	1.2	0.5	-13.3	-0.7	12.4	0.7	0.0	0.0	-3.0

Appendix 3 Climate features in Winter 2013 (Nationwide)

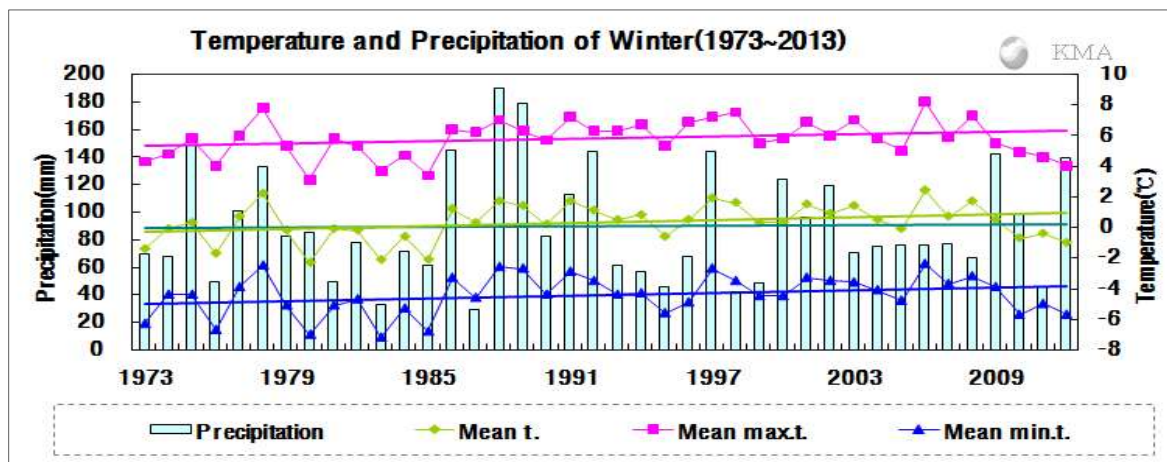


Fig 3. Temperatures (mean, mean maximum, and mean minimum) and precipitation in South Korea during Winter (1973-2013).

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

Elements (whole country)	Winter 2013(a)	Winter 2012(b)	Normals of Winter (1981-2010) (c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	1.5	-1.0	0.6	2.5	0.9	
Mean maximum temp. (°C)	6.9	4.0	6.1	2.9	0.8	
Mean minimum temp. (°C)	-3.3	-5.7	-4.1	2.4	0.8	
Precipitation (mm)	59.7	139.3	88.5	-79.6(45.7%)	-28.8(64.5%)	
Days of rain (day)	17.9	25.5	19.8	-7.6	-1.9	
Sunshine duration (hour)	530.0	535.6	513.4	-5.6(99.0%)	16.6(103.2%)	
Mean cloud amount (1/10)	16.5	21.4	16.3	-4.9	0.2	
Days of minimum temperature less than 0°C(day)	4.2	4.3	4.0	-0.1	0.2	
Days of daily temperature range greater than 10°C(day)	5.2	18.4	10.6	-13.2	-5.4	second least
Days of snow (day)	4.6	17.0	8.4	-12.4	-3.8	fifth least

□ Average values of meteorological elements across Korea during Winter for 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 0°C(day)	Days of daily temperature range greater than 10°C(day)	Days of snow (day)
1973-1980(a)	-0.3	5.1	-5.0	92.2	20.8	521.6	18.2	4.1	15.5	14.1
1981-1990(b)	0.0	5.5	-4.7	91.9	21.5	518.7	17.6	4.2	13.4	11.6
1991-2000(c)	0.8	6.5	-4.1	84.7	18.6	515.2	16.0	3.8	9.4	6.3
2001-2010(d)	0.9	6.3	-3.8	89.8	19.0	510.2	15.7	4.0	9.8	8.4
2013(e)	1.5	6.9	-3.3	59.7	17.9	530.0	16.5	4.2	5.2	4.6
d-a	1.2	1.2	1.2	-2.4	-1.8	-11.4	-2.5	-0.1	-5.7	-5.7
d-b	0.9	0.8	0.9	-2.1	-2.5	-8.5	-1.9	-0.2	-3.6	-3.2
d-c	0.1	-0.2	0.3	5.1	0.4	-5.0	-0.3	0.2	0.4	2.1
e-d	0.6	0.6	0.5	-30.1	-1.1	19.8	0.8	0.2	-4.6	-3.8

Appendix 4 Climate features in Winter 2013 (Seoul)

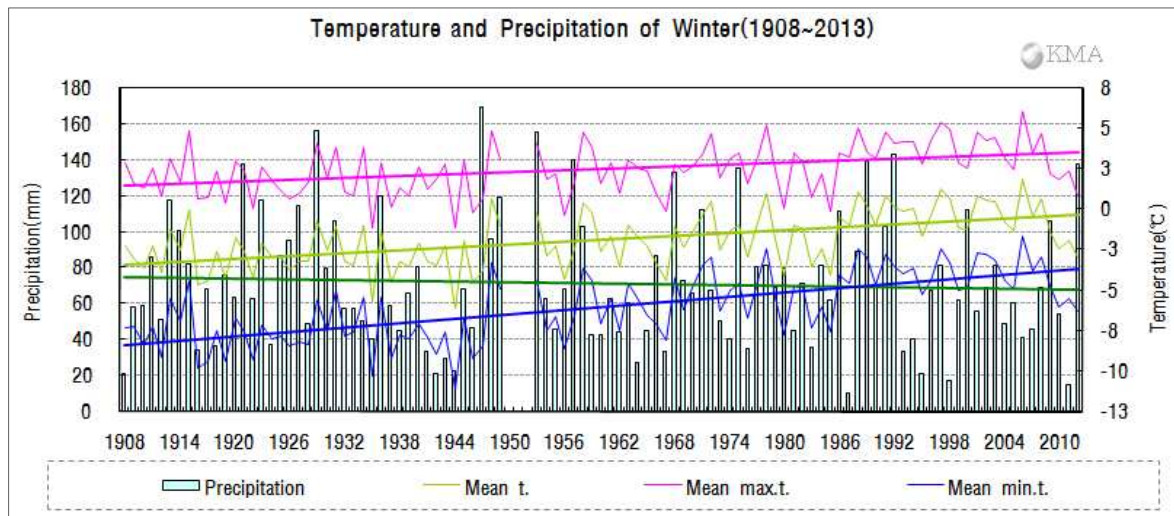


Fig 4. Temperatures (mean, mean maximum, and mean minimum) and precipitation in Seoul during Winter (1908-2013).

□ Average values of meteorological elements in Seoul during Winter (1908-2013)

Elements (Seoul)	Winter 2013(a)	Winter 2012(b)	Normals of Winter (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	0.3	-2.9	-0.4	3.2	0.7	
Mean maximum temp. (°C)	4.5	0.9	3.6	3.6	0.9	
Mean minimum temp. (°C)	-3.4	-6.3	-4.1	2.9	0.7	
Precipitation (mm)	53.9	137.6	67.9	-83.7(39.2%)	-14.0(79.4%)	
Days of rain (day)	19.0	25.0	19.7	-6.0	-0.7	
Sunshine duration (hour)	532.7	548.5	475.4	-15.8(97.1%)	57.3(112.1%)	
Mean cloud amount (1/10)	19.0	27.0	19.1	-8.0	-0.1	
Days of minimum temperature less than 0°C(day)	3.8	4.2	3.9	-0.4	-0.1	
Days of daily temperature range greater than 10°C(day)	3.0	26.0	9.4	-23.0	-6.4	
Days of snow (day)	11.0	36.0	20.1	-25.0	-9.1	

□ Average values of meteorological elements in Seoul during Winter for 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 0°C(day)	Days of daily temperature range greater than 10°C(day)	Days of snow (day)
1911-1920(a)	-2.7	2.1	-7.6	71.4	21.9	539.2	25.1	4.3	27.2	29.5
1921-1930	-2.8	1.8	-7.8	93.5	22.7	498.2	24.1	4.5	31.7	30.7
1931-1940(b)	-2.9	1.7	-7.3	68.0	20.9	532.3	23.8	4.1	29.1	32.0
1941-1949	-2.8	1.8	-7.5	67.2	21.0	556.6	23.4	3.9	32.3	32.9
1954-1960	-2.0	2.3	-6.3	72.0	21.0	479.4	25.0	4.2	23.1	30.0
1961-1970	-2.2	2.1	-6.0	62.8	18.5	485.5	26.5	4.2	20.4	29.3
1971-1980(c)	-1.3	3.0	-4.9	74.9	21.2	454.1	23.3	4.3	13.3	24.2
1981-1990	-1.3	2.8	-4.9	71.4	20.7	490.2	22.1	4.2	14.9	25.2
1991-2000	-0.1	4.0	-3.9	68.0	19.6	465.4	20.1	3.7	6.3	15.4
2001-2010(d)	-0.2	3.8	-3.7	63.0	18.6	477.4	14.9	3.7	8.7	21.8
2013(e)	0.3	4.5	-3.4	53.9	19.0	532.7	19.0	3.8	3.0	11.0
d-a	2.5	1.7	3.9	-8.4	-3.3	-61.8	-10.2	-0.6	-18.5	-7.7
d-b	2.7	2.1	3.6	-5.0	-2.3	-54.9	-8.9	-0.4	-20.4	-10.2
d-c	1.1	0.8	1.2	-11.9	-2.6	23.3	-8.4	-0.6	-4.6	-2.4
e-d	0.5	0.7	0.3	-9.1	0.4	55.3	4.1	0.1	-5.7	-10.8

Appendix 5 Meteorological observation network

