



KMA'S BRIEFING ON CLIMATE CHARACTERISTICS

(total 6 pages)

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Monthly (February 2012) and Seasonal (winter 2011) Climate Summary

- ◇ **Significantly below normal in temperature and precipitation, near normal in sunshine duration for February 2012 nationwide.**
- ◇ **Below normal in temperature and significantly below normal in precipitation, near normal in sunshine duration for winter 2011 nationwide**

□ Climate characteristics of February 2012 and the winter 2011 (December 2011 through February 2012) and its long-term trends are analyzed using 45 meteorological stations in Korea (the national average) during 1973-2012 (1908-2012 for Seoul).

※ Normal: average from 1981 to 2010.

□ **The climatological characteristics in February 2012 can be described as follows:**

o For Korea (whole nation),

- The mean temperature (-0.8°C) was 1.9°C below-normal, making it the fifth lowest February value in a record extending back to 1973.
The mean maximum temperature (4.7°C) and the mean minimum temperature (-5.7°C) were 2.1°C and 1.9°C below-normal, respectively.
- The nationally averaged precipitation (10.4 mm) was 24% of normal, making it the fifth lowest February value since record keeping began in 1973.
- The average days of rainy (5.2 days) had 1.3 less days compared to normal.
- The mean sunshine duration ratio (108%) was near-normal.

o For Seoul,

- The mean temperature (-2.0°C), the mean maximum temperature (3.0°C), and the mean minimum (-6.0°C) were 2.4°C , 1.7°C and 2.6°C below-normal, respectively.
- The monthly amount of precipitation (0.8 mm) was 3.2% of normal, ranking the second lowest value since record keeping began in 1908.
- Days of rainy (4.0 days) had 1.8 less days compared to normal.

- The mean sunshine duration ratio (138%) was significantly above normal, which was the fourth highest since 1908.

□ The climatological characteristics in the winter 2011 (December 2011 through February 2012) can be described as follows:

o Korea (whole nation),

- The mean temperature (-0.4°C) and the mean maximum temperature (4.6°C) and the mean minimum temperature (-5.0°C) were 1.0°C and 1.5°C and 0.9°C below-normal, respectively.
- The nationally averaged precipitation (45.7 mm) was 47% of normal, ranking the fourth lowest value since record keeping began in 1973.
- The average days of rainy (18.4 days) had 1.4 less days compared to normal.
- The sunshine duration (535.2 hr) was 104% of normal.

o For Seoul,

- The mean temperature (-1.9°C), the mean maximum temperature (2.4°C), and mean minimum (-5.5°C) were 1.5°C , 1.2°C and 1.4°C below-normal, respectively.
- The rainfall total for the winter period(14.6mm) was 22% of normal, ranking the second lowest since record keeping began in 1908.
- The average days of rainy (16.0 days) had 3.7 less days compared to normal.
- The Sunshine duration(611.0hr) was 129% of normal, ranking the third highest seasonal(winter) value.

□ Long-term trend of February and the winter climate

- o National mean, mean maximum, and mean minimum temperatures of February 2000s (2001-2010) were 1.6°C , 1.8°C , and 1.4°C higher than those of the 1970s, respectively.
- o For Seoul, days with minimum temperature below -10°C (1.0 days), days with maximum temperature below 0°C (4.0 days) of the February 2000s (2001-2010) were 4.6 and 3.9 days less than those of the 1960s, respectively.
- o National mean, mean maximum, and mean minimum temperatures of winter 2000s (2001-2010) were 1.2°C higher than those of the 1970s
- o Nationally averaged precipitation (89.8 mm) of the winter 2000s (2001-2010) was 2.4mm less than those of the 1970s. for Seoul, the figures (63.0 cm) was 11.9 mm less than those of the 1970s.

Appendix 1. February, 2012 climate

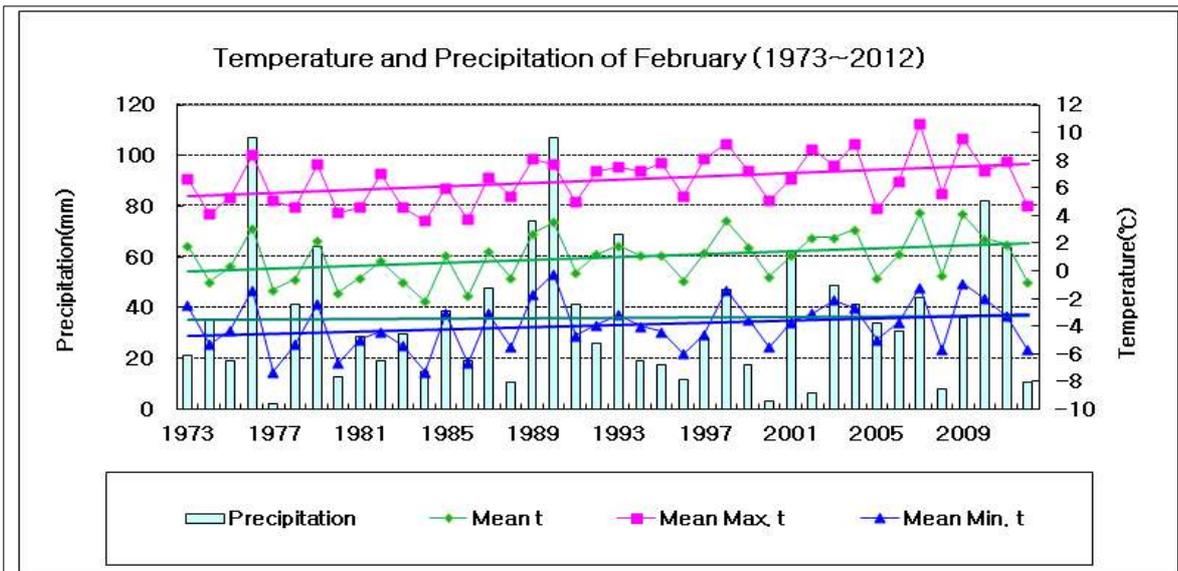


Fig. 1. Temperatures (mean, mean maximum, and mean minimum), and precipitation in South Korea during February 1973-2012.

□ Average values of meteorological elements across Korea (1973-2011)

Elements (National) average	February 2011	February 2012(a)	Normals of February (1981-2010) (b)	a-b	rank since 1973 (within 5th)
Mean temperature (°C)	1.9	-0.8	1.1	-1.9	5 th lowest
Mean maximum t (°C)	7.9	4.7	6.8	-2.1	-
Mean minimum t (°C)	-3.3	-5.7	-3.8	-1.9	-
Days with min. temp.(<-10°C)	1.2	5.7	2.8	2.9	-
Days with max. temp.< 0°C)	0.9	4.2	1.8	2.4	-
Amount of precipitation(mm)	63.5	10.4	35.5	-25.1(24%)	5 th lowest
Days of rainy	5.4	5.2	6.5	-1.3	-
Sunshine duration	165.6	185.6	171.9	13.7((108%))	

□ Average values of meteorological elements across Korea for each decade (1973-2010)

Year	Mean temp (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Days with min. temp. (<-10°C)	Days with max. temp. (< 0°C)	Amount of rain (mm)	Days of rainy
1973-1980 (a)	0.4	5.8	-4.4	4.0	4.0	38.1	7.1
1981-1990 (b)	0.4	5.7	-4.2	3.7	2.9	38.9	7.4
1991-2000 (c)	1.1	7.0	-4.1	2.7	1.2	28.4	5.9
2001-2010 (d)	2.0	7.6	-3.0	1.9	1.2	39.3	6.2
d-a	1.6	1.8	1.4	-2.1	-2.8	1.2	-0.9
d-b	1.6	1.9	1.2	-1.8	-1.7	0.4	-1.2
d-c	0.9	0.6	1.1	-0.8	0	10.9	0.3

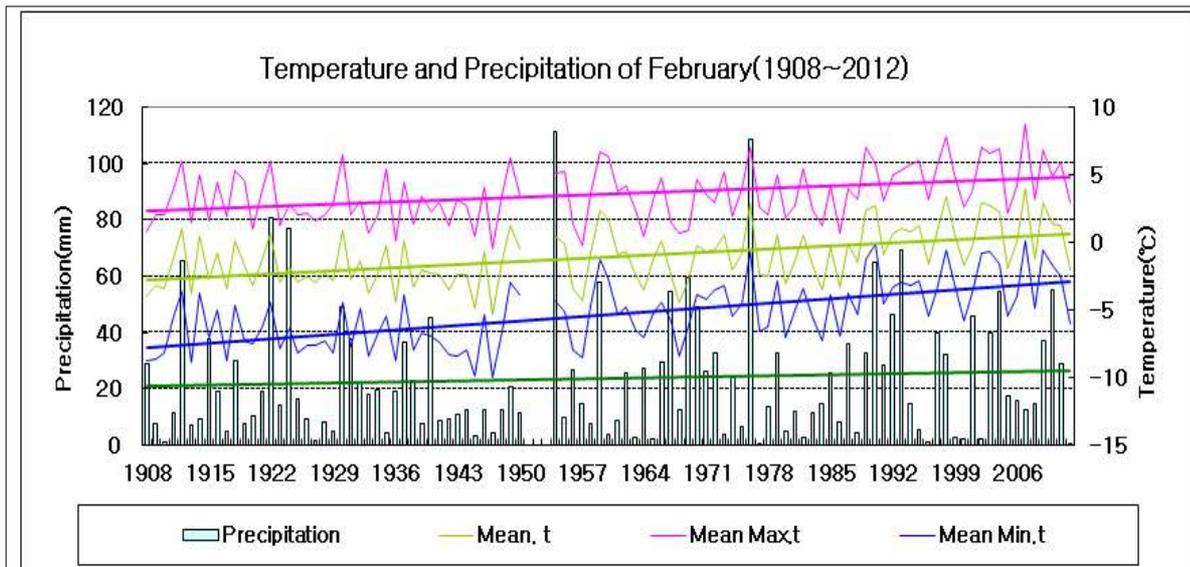


Fig. 2. Temperatures (mean, mean maximum, and mean minimum) and precipitation in Seoul during February 1908-2012

□ Meteorological elements across Seoul during February(1908-2012)

Elements (Seoul)	February 2011	February 2012(a)	Normals of February (1981-2010) (b)	a-b	rank since 1908 (within 5th)
Mean temperature (°C)	1.2	-2.0	0.4	-2.4	-
Mean maximum t (°C)	5.9	3.0	4.7	-1.7	-
Mean minimum t (°C)	-2.5	-6.0	-3.4	-2.6	-
Days with min. temp.(<-10°C)	0	5.0	1.8	3.2	-
Days with max. temp.< 0°C)	3.0	8.0	4.2	3.8	-
Amount of precipitation(mm)	29.1	0.8	25.0	-24.2(3.2%)	2 nd lowest
Days of rainy	3.0	4.0	5.8	-1.8	-
Sunshine duration	166.6	224.9	163.3	61.6(138%)	4 th highest

□ Meteorological elements across Seoul during February for each decade (1911-2010)

Year	Mean temp (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Days with min. temp. (<-10°C)	Days with max. temp. (< 0°C)	Amount of rain (mm)	Days of rainy
1911-1920년	-1.5	3.5	-6.2	5.2	6.3	20.3	6.6
1921-1930년	-1.8	3.1	-6.8	7.9	7.5	28	6.1
1931-1940년	-2.2	2.5	-6.7	6.8	8	23.3	6
1941-1949년	-2.4	2.6	-7.4	9.3	8.4	10.5	5.1
1954-1960년	-0.6	4	-4.9	4.6	5.3	33.1	6.1
1961-1970년(a)	-1.8	2.7	-5.7	5.6	7.9	27.2	5.8
1971-1980년	-0.8	3.6	-4.4	3.3	6.2	25.2	6.5
1981-1990년	-0.6	3.7	-4.3	3.4	6.2	21.4	6
1991-2000년	0.4	4.9	-3.5	1.1	2.5	24.2	5.6
2001-2010년(b)	1.3	5.4	-2.3	1	4	29.5	5.7
b-a	3.1	2.7	3.4	-4.6	-3.9	2.3	-0.1

Appendix 2. Winter, 2011 climate

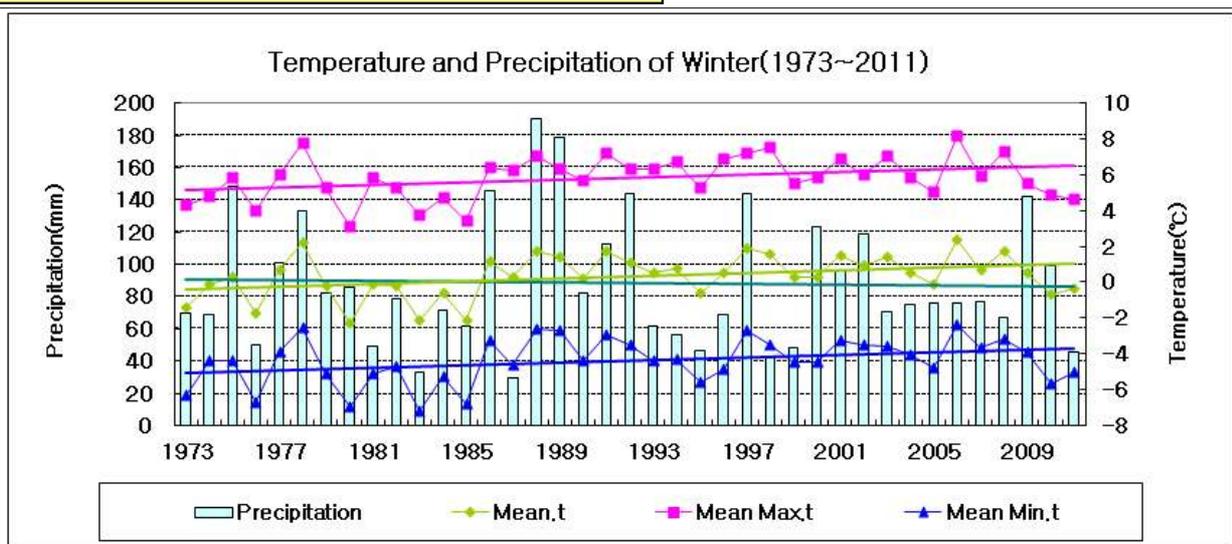


Fig. 1. Temperatures (mean, mean maximum, and mean minimum), and precipitation in South Korea during the winter seasons(1973-2011)

□ Average values of meteorological elements during the winter seasons (1973-2011)

Elements (National) average	Winter 2010	Winter 2011 (a)	Normals of Winter (1981-2010) (b)	a-b	rank since 1973 (within 5th)
Mean temperature (°C)	-0.7	-0.4	0.6	-1.0	-
Mean maximum t (°C)	4.9	4.6	6.1	-1.5	-
Mean minimum t (°C)	-5.7	-5.0	-4.1	-0.9	-
Amount of precipitation(mm)	98.7	45.7	88.5	-42.8(47%)	4 th lowest
Days of rainy	17.3	18.4	19.8	-1.4	-
Sunshine duration	550.8	535.2	513.5	21.7(104%)	

□ Average values of meteorological elements during the winter seasons for each decade (1973-2010)

Year	Mean temp (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Amount of rain (mm)	Days of rainy	Sunshine duration (hr)
1973-1980 (a)	-0.3	5.1	-5	92.2	20.8	542.1
1981-1990 (b)	0	5.5	-4.7	91.9	21.5	525.3
1991-2000 (c)	0.8	6.5	-4.1	84.7	18.6	514.4
2001-2010 (d)	0.9	6.3	-3.8	89.8	19.0	509.2
d-a	1.2	1.2	1.2	-2.4	-1.8	-32.9
d-b	0.9	0.8	0.9	-2.1	-2.5	-16.1
d-c	0.1	-0.2	0.3	5.1	0.4	-5.2

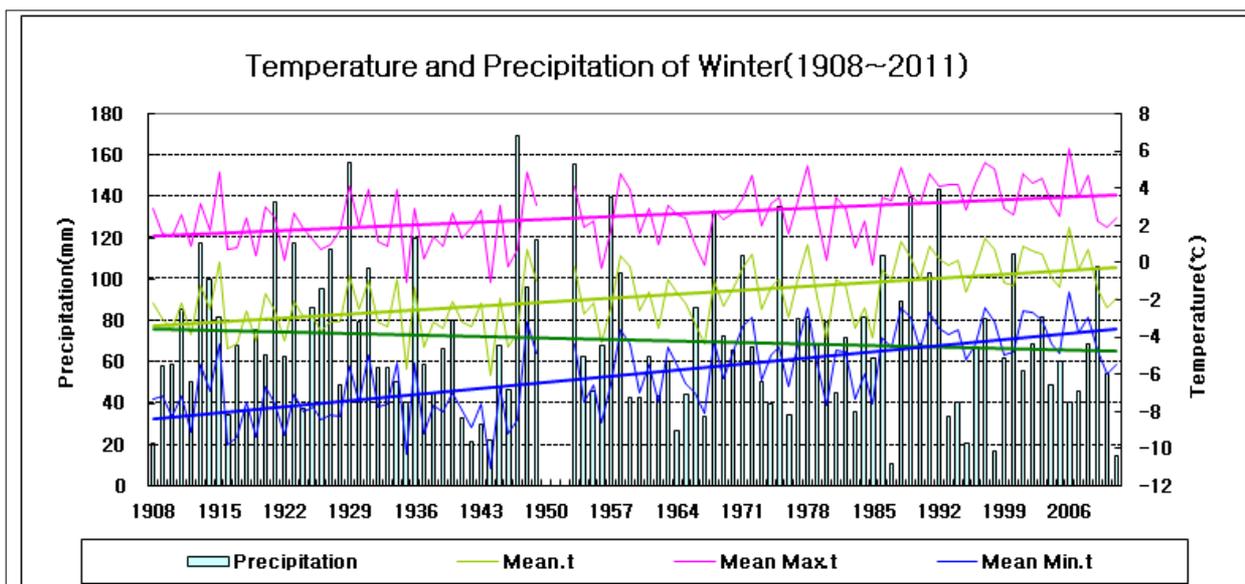


Fig. 1. Temperatures (mean, mean maximum, and mean minimum), and precipitation in Seoul during the winter seasons(1908-2011)

□ Meteorological elements during the winter seasons across Seoul (1908-2011)

Elements (Seoul)	Winter 2010	Winter 2011(a)	Normals of Winter (1981-2010) (b)	a-b	rank since 1908 (within 5th)
Mean temperature (°C)	-2.4	-1.9	-0.4	-1.5	
Mean maximum t (°C)	1.9	2.4	3.6	-1.2	
Mean minimum t (°C)	-6.0	-5.5	-4.1	-1.4	
Amount of precipitation(mm)	54.1	14.6	67.9	-53.3(22%)	2nd lowest
Days of rainy	17.0	16.0	19.7	-3.7	
Sunshine duration	542.6	611.0	475.4	135.6(129%)	3rd highest

□ Meteorological elements across Seoul for each decade (1911-2010)

Year	Mean temp (°C)	Mean max. temp. (°C)	Mean min. temp. (°C)	Amount of rain (mm)	Days of rainy	Sunshine duration (hr)
1911-1920년	-2.7	2.1	-7.6	71.4	21.9	539.2
1921-1930년	-2.8	1.8	-7.8	93.5	22.7	498.2
1931-1940년	-2.9	1.7	-7.3	68.0	20.9	532.3
1941-1949년	-2.8	1.8	-7.5	67.2	21.0	556.6
1954-1960년	-2.0	2.3	-6.3	72.0	21.0	479.4
1961-1970년(a)	-2.2	2.1	-6.0	62.8	18.5	485.5
1971-1980년	-1.3	3.0	-4.8	74.9	21.2	454.1
1981-1990년	-1.3	2.8	-4.9	71.4	20.7	490.2
1991-2000년	-0.1	4.0	-3.8	68.0	19.6	465.4
2001-2010년(b)	-0.2	3.8	-3.7	63.0	18.6	477.4
b-a	2.0	1.7	2.3	0.2	0.1	-8.1