



NATIONAL CLIMATE REVIEW

IN KMA

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Monthly (June) 2013 Climate Summary

- ◇ The mean temperature (22.6 °C) and the minimum temperature (18.6 °C) for June 2013 nationwide were the warmest on a record extending back to 1973. The maximum temperature (27.7 °C) was the fourth warmest.
- ◇ The monthly amount of precipitation (101.1 mm) was below normal.

- Climate features and long-term trends of June 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 of June 2013 are described as follows:

o For Korea (whole country),

- The mean temperature (22.6 °C), the mean maximum temperature (27.7 °C) and the mean minimum temperature (18.6 °C) were 1.4 °C, 1.2 °C and 1.9 °C above normals, respectively.
- The nationally-averaged precipitation was 101.1 mm, which was 65% of normal, which was below normal. The number of the days of rain was 10.2 days, which was 0.5 days more than normal.
- The total number of the hours of sunshine was 188.9 hours, which was 7.5 hours more than normal, which was nearly normal.

o For Seoul,

- The mean temperature (24.4 °C), the mean maximum temperature (29.2 °C) and the mean minimum temperature (20.5 °C) were 2.2 °C, 2.1 °C and 2.3 °C higher than normals, respectively.
- The amount of precipitation was 28.3 mm, which was 21% of normal.
- The number of the days of rain was 9.0 days, which is 0.9 days less than normal.
- The total number of the hours of sunshine was 224.0 hours, which was 123% of normal.

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

o For Korea (whole country),

- National mean temperatures of June 2000s (2001-2010) was 0.7 °C higher than that of the same month of 1970s.
- The Nationally-averaged precipitation in June 2000s was 15.7 mm less than that of the same month of 1970s.
- The number of the days of rain in June 2000s was 1.4 days less than that of the same month of 1970s.
- The total number of the hours of sunshine in June 2000s was 12.5 hours less than that of the same month of 1970s.

o For Seoul,

- The mean temperatures of June 2000s (2001-2010) was 0.9 °C above that of that of the same month of 1970s.
- The precipitation in June 2000s was 0.1 mm less than that of the same month of 1970s.
- The number of the days of rain in June 2000s was 0.3 days less than that of the same month of 1970s.
- The total number of the hours of sunshine in June 2000s was 17.4 hours less than that of the same month of 1970s.

Appendix 1 Climate features in June 2013(Nation)

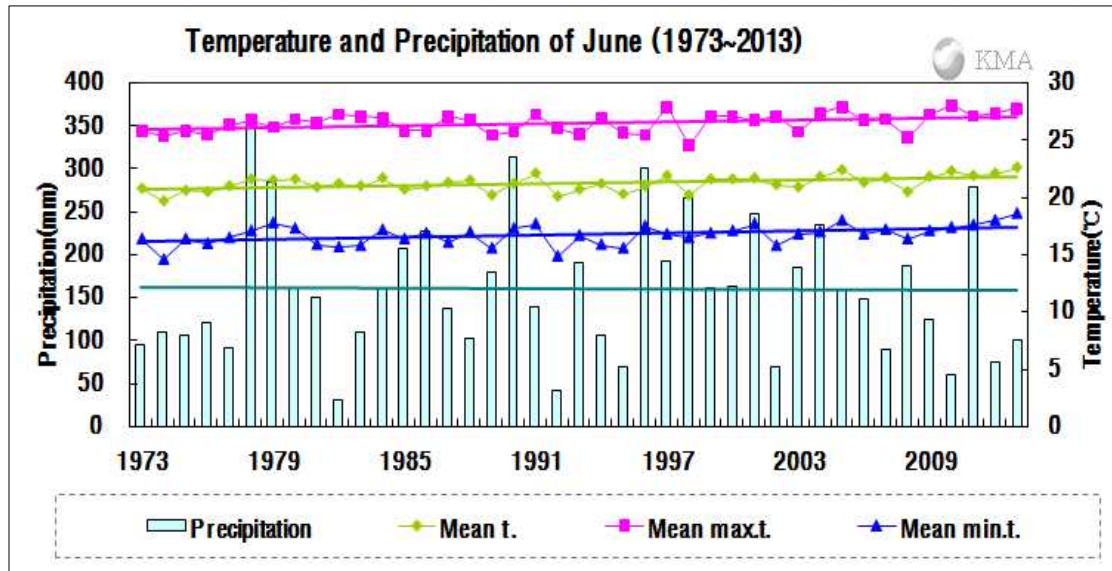


Fig 1. Temperatures (mean, mean maximum, and mean minimum), and prediction in South Korea during June (1973~2013).

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

Elements (whole country)	June 2013(a)	June 2012(b)	Normals of June (1981-2010) (c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	22.6	22.1	21.2	0.5	1.4	first warmest
Mean maximum temp. (°C)	27.7	27.3	26.5	0.4	1.2	fourth warmest
Mean minimum temp. (°C)	18.6	18.0	16.7	0.6	1.9	first warmest
Precipitation (mm)	101.1	74.7	158.6	26.4 (150)	-57.5 (65)	
Days of rain (day)	10.2	8.0	9.7	2.2	0.5	
Sunshine duration (hour)	188.9	185.2	181.4	3.7 (102)	7.5 (104)	
Mean cloud amount (1/10)	6.3	6.4	6.3	-0.1	0.0	
maximum temperature more than 30°C(day)	7.7	5.6	5.1	2.1	2.6	fourth largest
precipitation more than 80mm/day(day)	0.3	0.1	0.3	0.2	0.0	
precipitation more than 30mm/hour(day)	0.2	0.0	0.1	0.2	0.1	

□ Average values of meteorological elements across Korea during June 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)	max. t more than 30°C (day)	prep. more than 80mm/day (day)	prep. more than 80mm/hour (day)
1973-1980(a)	20.9	26.0	16.5	166.4	11.2	185.6	6.6	3.5	0.3	0.1
1981-1990(b)	21.1	26.4	16.4	162.0	9.6	193.6	6.4	4.8	0.3	0.1
1991-2000(c)	21.1	26.3	16.6	163.2	9.8	177.5	6.4	4.7	0.4	0.2
2001-2010(d)	21.6	26.9	17.0	150.7	9.8	173.1	6.1	5.8	0.3	0.2
2013(e)	22.6	27.7	18.6	101.1	10.2	188.9	6.3	7.7	0.3	0.2
d-a	0.7	0.9	0.5	-15.7	-1.4	-12.5	-0.5	2.3	0.0	0.1
d-b	0.5	0.5	0.6	-11.3	0.2	-20.5	-0.3	1.0	0.0	0.1
d-c	0.5	0.6	0.4	-12.5	0.0	-4.4	-0.3	1.1	-0.1	0.0
e-d	1.0	0.8	1.6	-49.6	0.4	15.8	0.2	1.9	0.0	0.0

Appendix 2 Climate features in June 2013(Seoul)

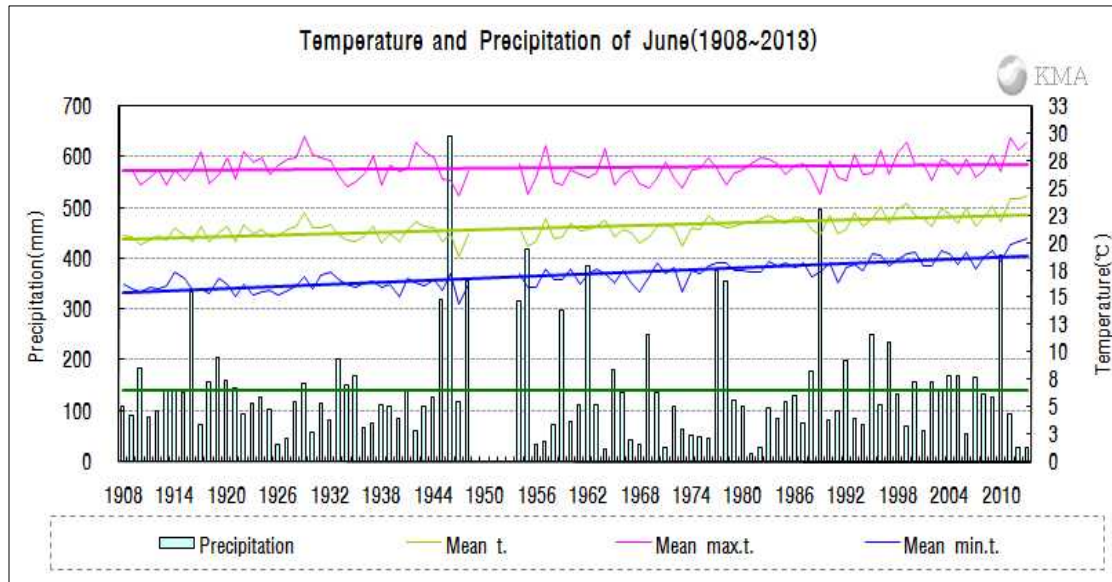


Fig 2. Temperatures (mean, mean maximum, and mean minimum), and prediction in Seoul during June (1908-2013).

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

Elements (Seoul)	June 2013(a)	June 2012(b)	Normals of June (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	24.4	24.1	22.2	0.3	2.2	first warmest
Mean maximum temp. (°C)	29.2	29.7	27.1	-0.5	2.1	fourth warmest
Mean minimum temp. (°C)	20.5	20.0	18.2	0.5	2.3	first warmest
Amount of precipitation (mm)	28.3	91.9	133.2	-63.6 (31)	-104.9 (21)	
Days of rain (day)	9.0	4.0	9.9	5.0	-0.9	
Sunshine duration (hour)	224.0	232.0	182.0	-8.0 (97)	42.0 (123)	
Mean cloud amount (1/10)	5.4	5.4	6.1	0.0	-0.7	
maximum temperature more than 30°C(day)	13.0	11.0	4.9	2.0	8.1	third largest
precipitation more than 80mm/day(day)	0.0	0.0	0.2	0.0	-0.2	
precipitation more than 30mm/hour(day)	0.0	0.0	0.2	0.0	-0.2	

□ Average values of meteorological elements across Seoul during June 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)	max. t more than 30°C (day)	prep. more than 80mm/day(day)	prep. more than 80mm/hour (day)
1911-1920(a)	20.8	26.6	16.2	152.7	11.7	228.3	7.0	3.5	0.2	0.0
1921-1930	21.2	27.7	15.8	98.3	8.1	258.8	6.3	7.2	0.2	0.0
1931-1940(b)	20.7	26.6	16.4	116.0	10.0	221.6	6.8	4.9	0.0	0.1
1941-1949	20.8	26.9	16.2	210.3	11.4	233.7	6.7	6.2	0.7	0.0
1954-1960	20.6	26.1	16.5	200.5	12.5	179.8	6.9	4.0	0.4	0.1
1961-1970	21.1	26.3	16.9	134.6	11.1	193.8	6.6	4.0	0.3	0.2
1971-1980(c)	21.5	26.5	17.5	133.0	10.9	171.8	6.6	2.7	0.1	0.0
1981-1990	21.9	26.9	17.7	133.9	9.6	205.1	6.2	3.6	0.3	0.1
1991-2000	22.4	27.3	18.2	132.9	9.5	186.6	6.0	5.6	0.2	0.1
2001-2010(d)	22.4	27.0	18.7	132.9	10.6	154.4	6.0	5.6	0.2	0.3
2013(e)	24.4	29.2	20.5	28.3	9.0	224.0	5.4	13.0	0.0	0.0
d-a	1.6	0.4	2.5	-19.8	-1.1	-73.9	-1.0	2.1	0.0	0.3
d-b	1.7	0.4	2.3	16.9	0.6	-67.2	-0.8	0.7	0.2	0.2
d-c	0.9	0.5	1.2	-0.1	-0.3	-17.4	-0.6	2.9	0.1	0.3
e-d	2.0	2.2	1.8	-104.6	-1.6	69.6	-0.6	7.4	-0.2	-0.3