



# KMA CLIMATE CHARACTERISTICS BRIEFING

(4 pages total)

Division	Meteorological Resources Division
Contact	LEE Jae-Won
Phone/email	+82-2-2181-0890/ eykim200@korea.kr
Release	November 10, 2011

## Monthly (October 2011) Climate Summary

◇ The temperature was below-normal ( $-0.5\text{ }^{\circ}\text{C}$ ), while the monthly amount of precipitation (51.3 mm) was above-normal (10%) for October 2011.

- Climate features of October 2011 and their long-term trends are analyzed using 45 meteorological stations in Korea (average of the mainland) during 1973-2011 (1908-2011 for Seoul).
- **The climatological characteristics of October 2011 were as follows:**
  - o Korea (whole nation)
    - The mean temperature ( $13.8\text{ }^{\circ}\text{C}$ ), the mean maximum temperature ( $20.2\text{ }^{\circ}\text{C}$ ) and the mean minimum temperature ( $8.5\text{ }^{\circ}\text{C}$ ) were  $0.5\text{ }^{\circ}\text{C}$ ,  $0.6\text{ }^{\circ}\text{C}$  and  $0.5\text{ }^{\circ}\text{C}$  below-normal, respectively.
    - The value of daily range higher than  $10\text{ }^{\circ}\text{C}$  in this October (20.5 days) was 0.2 days smaller than that of the normal.
    - The monthly average amount of precipitation (51.3 mm) was 110% of normal.
    - The monthly average of rainy days (5.9 days) was 0.2 days more than that of the normal.
    - The monthly average of sunshine duration (201.5 hours) was 101% of normal.
  - o Seoul
    - The mean temperature ( $14.2\text{ }^{\circ}\text{C}$ ), the mean maximum temperature ( $19.3\text{ }^{\circ}\text{C}$ ) and the mean minimum temperature ( $9.7\text{ }^{\circ}\text{C}$ ) were  $0.6\text{ }^{\circ}\text{C}$ ,  $0.5\text{ }^{\circ}\text{C}$  and  $0.6\text{ }^{\circ}\text{C}$  below-normal, respectively.
    - The value with daily range higher than  $10\text{ }^{\circ}\text{C}$  in this month (14.0 days) was 0.2 days smaller than that of normal.
    - The monthly amount of precipitation (32.0 mm) was 38% less than that of normal.
    - The number of rainy days (5.0 days) was 1.3 days smaller than that of normal.
    - The total of sunshine duration (215.3 hours) was 108% of normal.

## □ Long-term climate trend for October

- o The mean temperature for October 2000's in Korea was 0.6°C higher compared with the 1970's. The minimum temperature for the 2000's was 1.0°C higher compared with the corresponding values for the 1970's, as shown slightly increasing trend.
- o The precipitation amounts for October 2000's in Korea was 29% less than the corresponding values for the 1970's.

※ Normal: 30-year (1981-2010) average.

※ National average: Average of values collected from 45 meteorological stations since 1973.

※ The analyzed data for Seoul date back to 1908.

※ 1920s: Average from 1921 to 1930

※ 1970s: Average from 1973 (1971 for Seoul) to 1980

※ 2000s: Average from 2001 to 2010

## Appendix 1. October Climate Trends

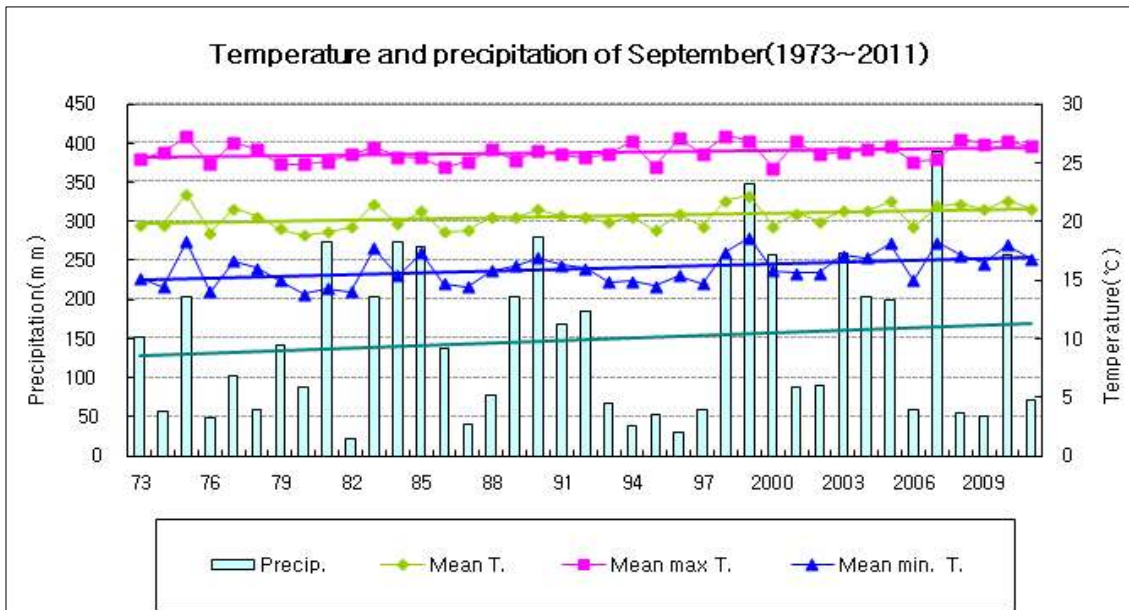


Fig. 1. Temperatures (mean, mean maximum, and mean minimum) and precipitation for the Republic of Korea for October(1973-2011)

### □ Average values of meteorological elements in Korea during October(1973-2011)

statistics for climate elements (national)	October 2010	October 2011(a)	normals of October(1981-2010)(b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	14.5	13.8	14.3	-0.5	-
mean maximum t (°C)	20.5	20.2	20.8	-0.6	-
mean minimum t (°C)	9.6	8.5	9.0	-0.5	-
range of daily temperature (≥10°C)	18.9	20.5	20.7	-0.2	-
amount of precipitation (mm)	37.8	51.3	50.2	1.1(110%)	-
days of rainy	6.4	5.9	5.7	0.2	-
Sunshine duration (hr)	18.3	201.5	199.3	2.2(101%)	-

### □ Average values of meteorological elements in Korea during October for each decade (1973-2010)

Decade	Mean temp. (°C)	Mean max. temp (°C)	Mean min. temp. (°C)	Days with daily temp. range (≥10°C)	Precip. (mm)	Rainfall days	Sunshine duration (hr)
1973-1980 (a)	14.2	20.6	8.6	20.8	61.1	6.7	196.2
1981-1990 (b)	14.0	20.6	8.6	20.8	51.8	5.9	202.0
1991-2000 (c)	14.2	20.7	8.7	21.2	55.0	5.5	199.7
2001-2010 (d)	14.8	21.2	9.6	20.1	43.7	5.7	196.1
d - a	0.6	0.6	1.0	-0.7	-17.4	-1.0	-0.1
d - b	0.8	0.6	1.0	-0.7	-8.1	-0.2	-5.9
d - c	0.6	0.5	0.9	-1.1	-11.3	0.2	-3.6

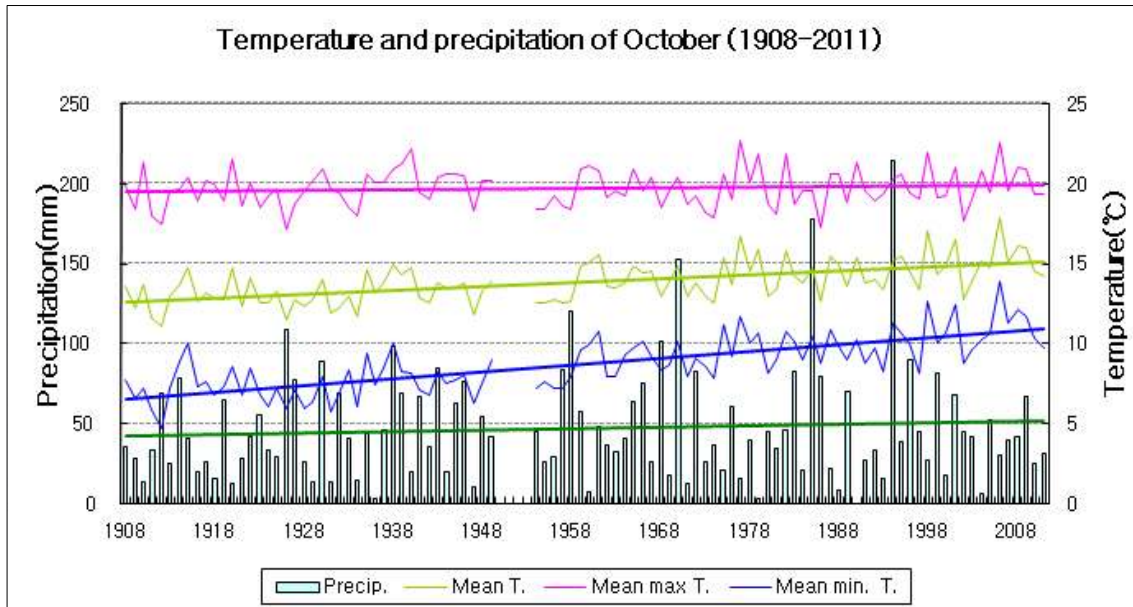


Fig. 2. Temperatures (mean, mean maximum, and mean minimum) and precipitation for Seoul (1908-2011)

□ Average values of meteorological elements in Seoul during October(1908-2011)

statistics for climate elements (Seoul)	October 2010	October 2011(a)	normals of October(1961-2010)(b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	14.5	14.2	14.8	-0.6	-
mean maximum t (°C)	19.3	19.3	19.8	-0.5	-
mean minimum t (°C)	10.4	9.7	10.3	-0.6	-
range of daily temperature (≥10°C)	11	14	14.2	-0.2	-
amount of precipitation (mm)	25.6	32.0	51.8	-19.8(62%)	-
days of rainy	5	5	6.3	-1.3	-
Sunshine duration (hr)	194.6	215.3	198.8	16.5(108%)	-

□ October averages of meteorological elements for Seoul by decade (1911-2010)

Decade	Mean temp. (°C)	Mean max. temp (°C)	Mean min. temp (°C)	Days with daily temp. range (≥10°C)	Precip. (mm)	Rainfall days	Sunshine duration (hr)
1911-1920 (a)	13.0	19.5	7.4	23.1	38.6	7.4	234.7
1921-1930	12.8	19.3	6.9	23.1	50.3	6.6	225.0
1931-1940	13.4	20.1	7.9	23.0	42.0	7.4	232.3
1941-1949	13.2	19.9	7.6	24.6	50.5	6.7	239.0
1954-1960	13.3	19.3	8.1	20.6	53.0	7.1	218.8
1961-1970 (b)	14.2	19.8	9.3	19.5	59.7	6.0	211.2
1971-1980	14.2	19.7	9.5	17.9	34.4	7.1	194.2
1981-1990	14.4	19.6	9.8	15.6	54.2	6.0	207.5
1991-2000	14.6	19.7	10.0	15.0	59.3	6.7	199.6
2001-2010 (c)	15.3	20.1	11.1	12.1	41.8	6.1	189.4
c - a	2.3	0.6	3.7	-11	3.2	-1.3	-45.3
c - b	1.1	0.3	1.8	-7.4	-17.9	0.1	-21.8