



KMA CLIMATE CHARACTERISTICS BRIEFING

(4 pages total)

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Monthly (September 2011) Climate Summary

◇ The temperature was above-normal (0.6 °C), while the monthly amount of precipitation (71.4 mm) was below-normal (43%) for September 2011.

- Climate features of September 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 September 2011 were as follows:**
 - o Korea (whole nation)
 - The mean temperature (21.1 °C), the mean maximum temperature (26.4 °C) and the mean minimum temperature (16.8 °C) were 0.6 °C, 0.5 °C and 0.7 °C above-normal, respectively.
 - The value of daily range higher than 10 °C in this September (14.1 days) was 0.6 days smaller than that of the normal.
 - The monthly average amount of precipitation (71.4 mm) was 43% of normal.
 - The monthly average of rainy days (7.8 days) was 1.2 days smaller than that of the normal.
 - The value of heavy precipitation more than 30 mm/hour (0.1 day) was 0.1 day smaller than that of the normal.
 - The monthly average of sunshine duration (180.0 hours) was 105% of normal.
 - o Seoul
 - The mean temperature (21.8 °C), the mean maximum temperature (26.6 °C) and the mean minimum temperature (17.7 °C) were 0.6 °C, 0.8 °C and 0.5 °C above-normal, respectively.
 - The value with daily range higher than 10 °C in this month (11.0 days) was 0.8 days more than that of normal.
 - The monthly amount of precipitation (25.6 mm) was 15% less than that of normal.
 - The number of rainy days (4.0 days) was 5.1 days smaller than that of normal.
 - The total of sunshine duration (180.4 hours) was 102% of normal.

□ Long-term climate trend for September

- o The mean temperature for September 2000's in Korea was 0.8°C higher compared with the 1970's. The minimum temperature for the 2000's was 1.4°C higher compared with the corresponding values for the 1970's, as shown slightly increasing trend.
- o The precipitation amounts for September 2000's in Korea was 55% higher 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. September Climate Trends

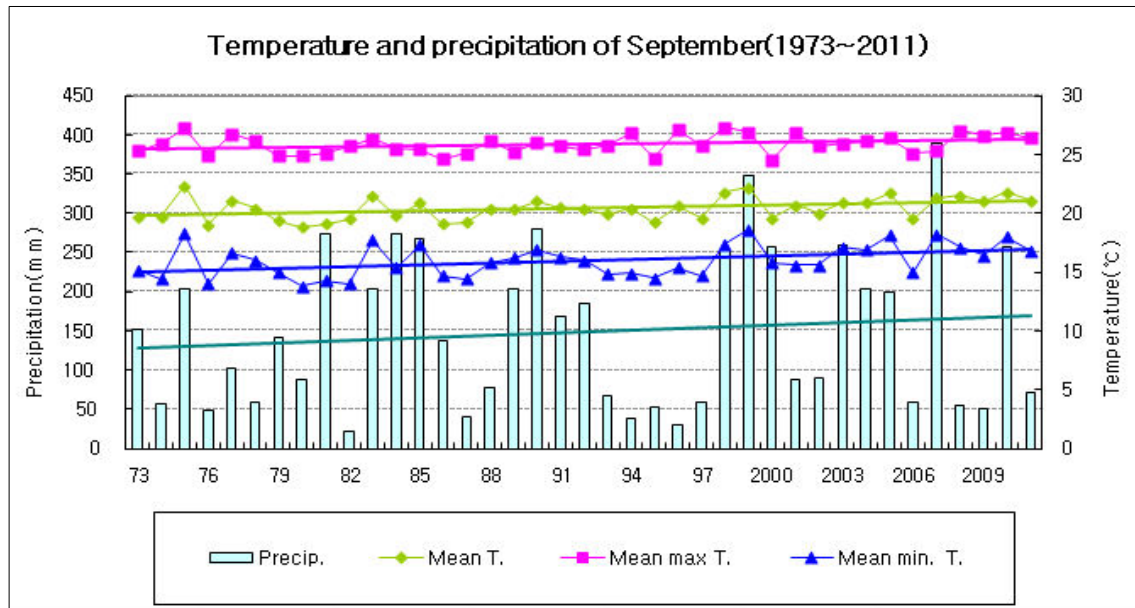


Fig. 1. Temperatures (mean, mean maximum, and mean minimum) and precipitation for the Republic of Korea for September (1973-2011)

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

statistics for climate elements (national)	September 2010	September 2011(a)	normals of September (1981-2010)(b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	21.8	21.1	20.5	0.6	-
mean maximum t (°C)	26.9	26.4	25.9	0.5	-
mean minimum t (°C)	18.0	16.8	16.1	0.7	-
range of daily temperature ($\geq 10^{\circ}\text{C}$)	12.1	14.1	14.7	-0.6	-
amount of precipitation (mm)	257.6	71.4	162.8	-91.4(43%)	-
days of rainy	12.6	7.8	9.0	-1.2	-
days with precipitation (> 30 mm/hour)	0.6	0.1	0.2	-0.1	-
Sunshine duration (hr)	159.3	180.0	171.6	8.4(105%)	-

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

Decade	Mean temp. (°C)	Mean max. temp (°C)	Mean min. temp. (°C)	range of daily temp. ($\geq 10^{\circ}\text{C}$)	Precip. (mm)	Rainfall days	Days with precip. $\geq 30\text{mm/h}$	Sunshine duration (hr)
1973-1980 (a)	20.1	25.7	15.4	16.1	106.6	8.3	0.1	185.6
1981-1990 (b)	20.1	25.5	15.7	14.8	177.6	9.0	0.3	176.5
1991-2000 (c)	20.4	26.0	15.9	15.8	145.7	7.9	0.1	182.1
2001-2010 (d)	20.9	26.2	16.8	13.4	165.1	10.1	0.2	156.1
d - a	0.8	0.5	1.4	-2.7	58.5	1.8	0.1	-29.5
d - b	0.8	0.7	1.1	-1.4	-12.5	1.1	-0.1	-20.4
d - c	0.5	0.2	0.9	-2.4	19.4	2.2	0.1	-26.0

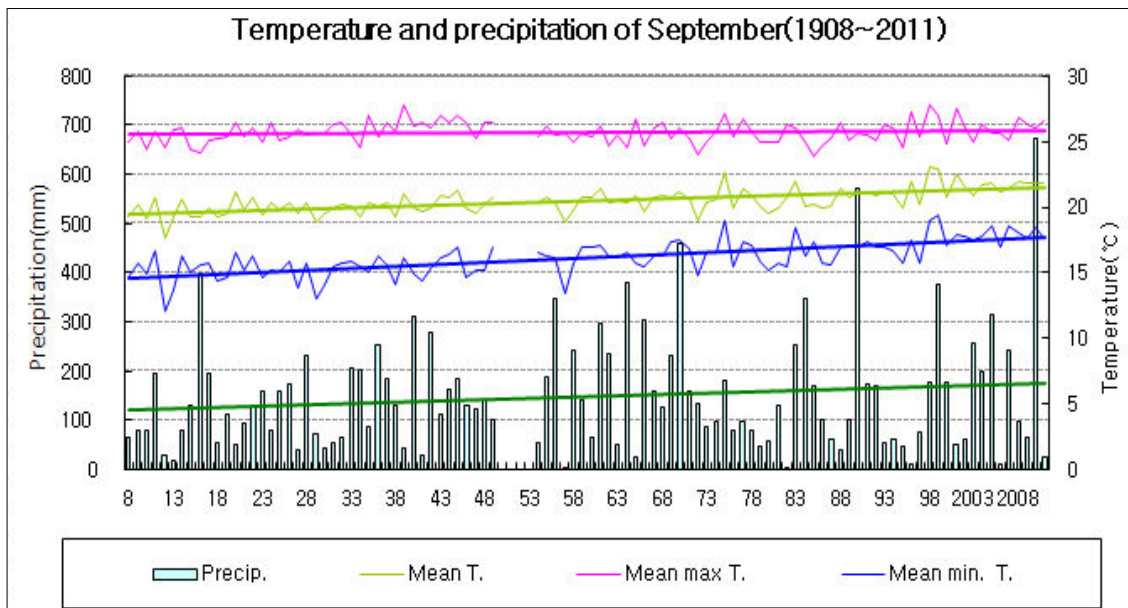


Fig. 2. Temperatures (mean, mean maximum, and mean minimum) and precipitation for Seoul (1908-2011)

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

statistics for climate elements (Seoul)	September 2010	September 2011(a)	normals of September (1981-2010)(b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	21.8	21.8	21.2	0.6	-
mean maximum t (°C)	26.0	26.6	25.8	0.8	-
mean minimum t (°C)	18.5	17.7	17.2	0.5	-
range of daily temperature (≥10°C)	6.0	11.0	10.2	0.8	-
amount of precipitation (mm)	671.5	25.6	169.3	-143.7(15%)	-
days of rainy	13.0	4.0	9.1	-5.1	-
days with precipitation (> 30 mm/hour)	3.0	-	0.4	-0.4	-
Sunshine duration (hr)	146.4	180.4	176.2	4.2(102%)	-

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

Decade	Mean temp. (°C)	Mean max. temp (°C)	Mean min. temp (°C)	range of daily temp. (≥10°C)	Precip. (mm)	Rainfall days	Days with precip. ≥ 30mm/h	Sunshine duration (hr)
1911-1920 (a)	19.7	25.3	15.1	16.3	125.6	10.1		211.2
1921-1930	19.9	25.6	14.9	18.4	118.1	8.5		217.8
1931-1940	20.1	26.1	15.5	19.0	153.3	8.8	0.1	220.9
1941-1949	20.3	26.4	15.7	18.7	140.2	10.3	0.1	207.5
1954-1960	20.2	25.5	16.0	14.4	148.7	9.6	0.3	183.2
1961-1970 (b)	20.7	25.6	16.5	12.8	226.6	10.7	0.5	172.2
1971-1980	20.5	25.5	16.5	12.0	102.0	8.6	-	174.6
1981-1990	20.6	25.4	16.6	11.3	178.0	8.1	0.5	192.0
1991-2000	21.3	26	17.2	11.6	132.9	9.4	0.3	187.0
2001-2010 (c)	21.7	26.1	17.9	7.8	196.9	9.9	0.5	149.5
c - a	2.0	0.8	2.8	-8.5	71.3	-0.2	0.5	-61.7
c - b	1.0	0.5	1.4	-5.0	-29.7	-0.8	0.0	-22.7