



KMA CLIMATE CHARACTERISTICS BRIEFING

(6 pages total)

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Monthly (May) and Seasonal (March-May) 2011 Climate Summary

- ◇ Normal temperature and above-normal precipitation for May 2011.
- ◇ Below-normal temperatures and the average sunshine duration was 101 % of normal for spring 2011

□ Climate summary to May and spring 2011 (March-May) are analyzed using 47 meteorological stations in Korea (national values) during 1973-2011 (1908-2011 for Seoul).

□ The climate summary for May 2011

○ Korea (national values)

- National mean temperature (17.3 °C) and the minimum temperature (12.3 °C) were 0.1 °C and 0.6 °C above-normal, respectively. The maximum temperature (22.7 °C) was 0.5 °C below-normal.
- Precipitation (121.9 mm) was 17 % higher than normal, and the average monthly days 10.8 days of rain had more (2.1 days) than in normal.
- The average monthly sunshine duration (176.5 hours) was 80% of normal (the lowest since 1973).
- The average monthly days of asian dust (5.5 day) was more than 4.5 days of normal.

○ Seoul

- The mean temperature (17.9 °C) and the minimum temperature (13.6 °C) were 0.1 °C and 0.4 °C above-normal, respectively. The maximum temperature (23.0 °C) was similar to normal.
- Precipitation (53.4 mm) was 50 % of normal and the average monthly days of rain (9 days) was equal to normal.
- The average monthly sunshine duration (180.4 hours) was 85 % of normal.
- The average monthly days of asian dust (6 day) had more than 4.6 days of normal.

□ The climate summary for spring 2011

○ Korea

- All temperatures of mean (11.1 °C), maximum (16.9 °C) and minimum (5.7 °C) were 0.7 °C and 1.0 °C and 0.5 °C below-normal, respectively.
- The precipitation amount (256.9 mm) was 106 % of normal and the average number of rainfall days (24.9 days) had more than 0.1 days of normal.
- The average sunshine duration (636.3 hours) was similar to normal.
- The average number of asian dust (8 days) had more than 2.9 days of normal.

○ Seoul

- All temperatures of mean (10.7 °C), maximum temperature (15.6 °C) and minimum (6.8 °C) were 1.3 °C, 1.5 °C and 0.7 °C lower than normal, respectively.
- Precipitation (178.1 mm) was 82 % of normal.
- The average number of rainfall days (22 days) had less than 2.2 days of normal.
- The average sunshine duration (622.7 hours) was similar to normal.
- The average number of asian dust (9 days) had more than 2.4 days of normal.

□ Long-term climate trend for May and spring (March-May)

- o The mean temperature sets for May and spring 2011 in Korea shows increasing in time. The minimum temperature for the 2000s was 1.2 °C higher compared with the 1970s. The average sunshine duration is declining.
- o For Seoul, the mean temperature for May and spring 2011 is continuously rising. The minimum temperature for the 2000s was 3.7 °C higher compared with the 1910s.

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

※ National average: Average of values collected from 47 meteorological stations since 1973.

※ The analyzed data for Seoul date back to 1908.

※ 1920s: Average from 1921 to 1930

※ 1970s: Average from 1973 to 1980

※ 2000s: Average from 2001 to 2010

Appendix 1. May Climate Trends

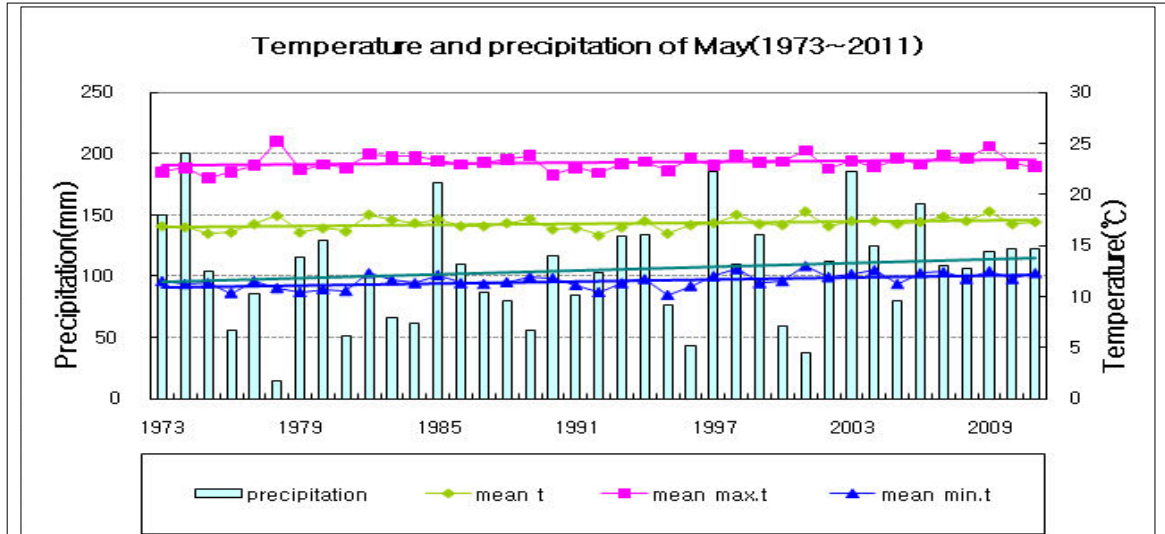


Fig. 1. Temperatures (mean, mean maximum, and mean minimum), and precipitation in South Korea during May(1973-2011)

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

statistics for climate elements (national)	May 2011 (a)	normals of May (1981-2010) (b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	17.3	17.2	0.1	-
mean maximum t (°C)	22.7	23.2	-0.5	-
mean minimum t (°C)	12.3	11.7	0.6	-
amount of precipitation (mm)	121.9	103.8	18.1(117%)	-
days of rain	10.8	8.7	2.1	-
hours of sunshine (hr)	176.5	220.4	-43.9(80%)	the lowest
days of asian dust	5.5	1.0	4.5	2th highest

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

year	mean temp (°C)	mean maximum temp. (°C)	mean minimum temp. (°C)	amount of rain (mm)	days of rain	hours of sunshine (hr)	days of asian dust
1973-1980 (a)	16.8	22.7	11.0	106.7	8.3	239.9	0.8
1981-1990 (b)	17.2	23.2	11.5	90.3	8.1	231.2	1.1
1991-2000 (c)	16.9	23.0	11.3	105.9	8.8	223.0	0.9
2001-2010 (d)	17.5	23.4	12.2	115.2	9.2	207.2	1.0
d-a	0.7	0.7	1.2	8.5	0.9	-32.7	0.2
d-b	0.3	0.2	0.7	24.9	1.1	-24.0	-0.1
d-c	0.6	0.4	0.9	9.3	0.4	-15.8	0.1

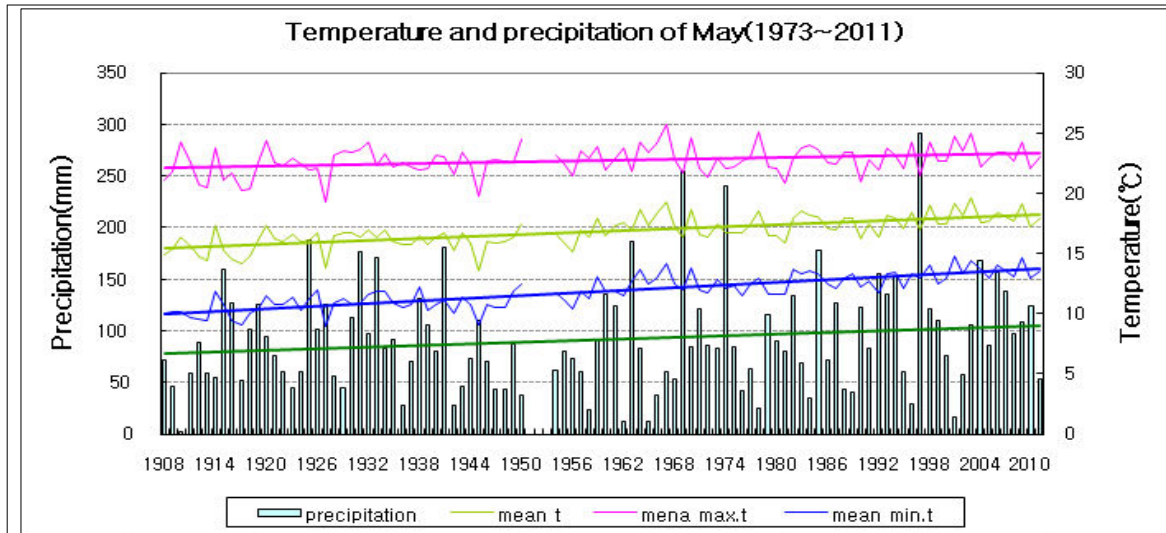


Fig. 2. Temperatures (mean, mean maximum, and mean minimum), and precipitation in Seoul during May 1908-2011

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

Elements (Seoul) average	May 2011 (a)	normals of May (1981-2010) (b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	17.9	17.8	0.1	-
mean maximum t (°C)	23.0	23.0	0	-
mean minimum t (°C)	13.6	13.2	0.4	-
amount of precipitation (mm)	53.4	105.9	-52.5(50%)	-
days of rain	9	9	0	-
hours of sunshine (hr)	180.4	213.0	-32.6(85%)	-
days of asian dust	6	1.4	4.6	3th highest

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

year	mean temp. (°C)	mean maximum temp. (°C)	mean minimum temp. (°C)	amount of rain (mm)	days of rain	hours of sunshine (hr)	days of asian dust
1911-1920년(a)	15.4	21.8	10.1	92.0	9.4	248.1	-
1921-1930년	16.1	22.4	10.8	86.8	11.0	235.5	-
1931-1940년	16.3	22.8	11.2	103.3	9.7	264.7	-
1941-1950년(b)	16.0	22.5	10.8	72.0	8.4	266.0	-
1954-1960년	16.5	22.7	11.6	75.1	8.4	239.2	-
1961-1970년	17.8	23.5	12.8	90.7	7.3	226.5	0.6
1971-1980년(c)	16.9	22.6	12.1	95.0	8.1	227.8	0.6
1981-1990년	17.5	22.8	12.8	90.2	9.3	226.9	1.6
1991-2000년	17.7	22.9	12.9	121.4	9.0	218.1	1.4
2001-2010년(d)	18.3	23.4	13.8	105.9	8.8	194.0	1.3
d-a	2.9	1.6	3.7	13.9	-0.6	-54.1	-
d-b	2.3	0.9	3.0	33.9	0.4	-72.0	-
d-c	1.4	0.8	1.7	10.9	0.7	-33.8	0.7

Appendix 2. Spring Climate Trends

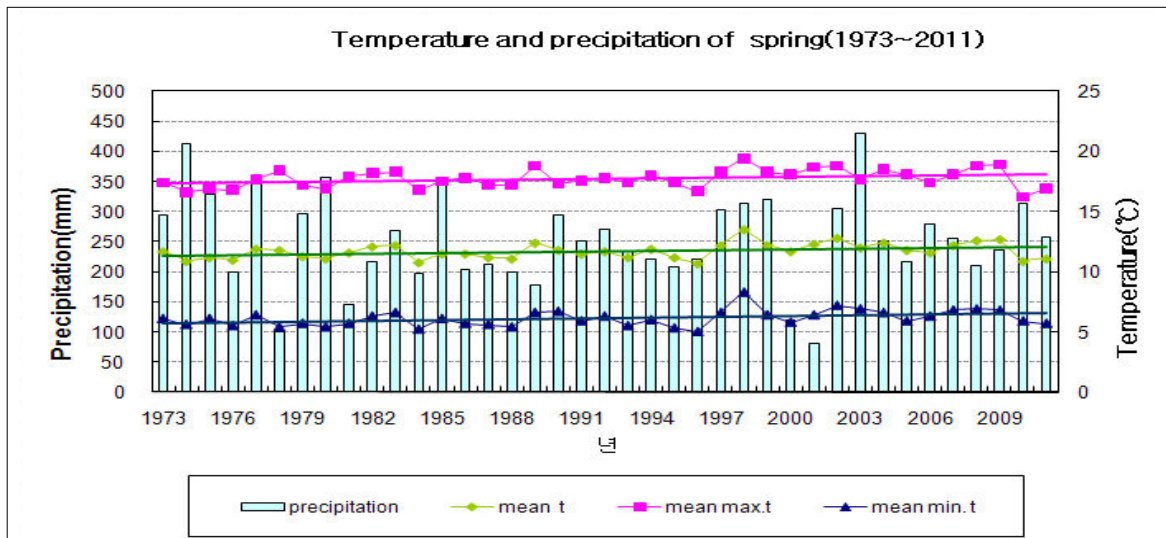


Fig. 3. Temperatures (mean, mean maximum, and mean minimum), and precipitation in South Korea during the spring seasons(1973-2011)

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

statistics for climate elements (national)	May 2011 (a)	normals of May (1981-2010) (b)	a-b	rank since 1973 (within 5th)
mean temperature (°C)	11.1	11.8	-0.7	
mean maximum t (°C)	16.9	17.9	-1.0	
mean minimum t (°C)	5.7	6.2	-0.5	
amount of precipitation (mm)	256.9	243.2	13.7(106%)	
days of rain	24.9	24.8	0.1	
hours of sunshine (hr)	636.3	623.6	12.7(102%)	
days of asian dust	8.0	5.1	2.9	

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

year	mean temp (°C)	mean maximum temp. (°C)	mean minimum temp. (°C)	amount of rain (mm)	days of rain	hours of sunshine (hr)	days of asian dust
1973-1980 (a)	11.4	17.2	5.8	292.4	24.8	659.6	3.0
1981-1990 (b)	11.6	17.7	6.0	225.5	24.6	646.4	2.9
1991-2000 (c)	11.8	17.9	6.1	246.1	24.2	623.5	4.8
2001-2010 (d)	12.1	18.1	6.6	258.1	25.8	598.8	7.4
d-a	0.7	0.9	0.8	-34.3	1.0	-60.8	4.4
d-b	0.5	0.4	0.6	32.6	1.2	-47.6	4.5
d-c	0.3	0.2	0.5	12.0	1.6	-24.7	2.6

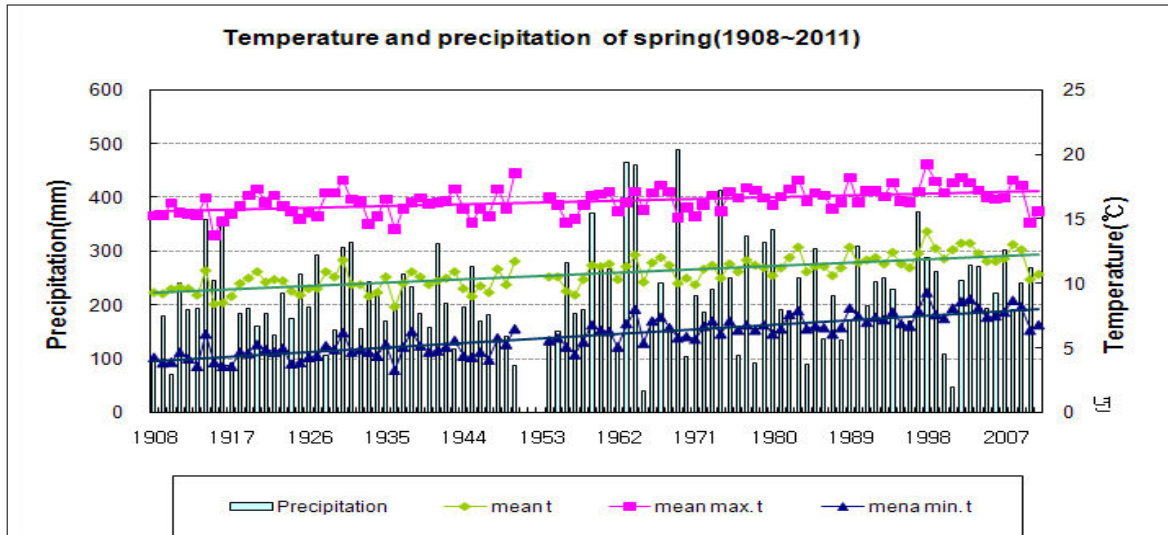


Fig. 4. Temperatures (mean, mean maximum, and mean minimum), and precipitation in Seoul during the Spring season(1908~2011)

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

statistics for climate elements (Seoul)	Spring 2011 (a)	normals of Spring (1981-2010) (b)	a-b	rank since 1908 (within 5th)
mean temperature (°C)	10.7	12.0	-1.3	
mean maximum t (°C)	15.6	17.1	-1.5	
mean minimum t (°C)	6.8	7.5	-0.7	
amount of precipitation (mm)	178.1	217.6	-39.5(82%)	
days of rain	22	24.2	-2.2	
hours of sunshine (hr)	622.7	607.0	15.7(103%)	
days of asian dust	9	6.6	2.4	

□ Average values of meteorological elements in Seoul during Spring season for each decade(1911-2010)

year	mean temp. (°C)	mean maximum temp. (°C)	mean minimum temp. (°C)	amount of rain (mm)	days of rain	hours of sunshine (hr)	days of asian dust
1911-1920년(a)	9.7	15.7	4.4	220.8	26.7	696.5	-
1921-1930년	10.2	16.2	4.7	203.5	26.1	673.3	-
1931-1940년	9.8	15.8	4.9	213.4	26.0	705.3	-
1941-1950년(b)	10.2	16.3	5.1	180.9	24.1	728.3	-
1954-1960년	10.4	16.0	5.7	223.9	25.9	636.6	-
1961-1970년	11.1	16.5	6.5	250.4	23.2	631.8	1.9
1971-1980년(c)	11.0	16.5	6.5	247.5	23.5	619.4	2.5
1981-1990년	11.6	16.9	7.0	199.1	23.8	657.8	3.9
1991-2000년	12.1	17.3	7.5	228.5	23.6	620.1	6.8
2001-2010년(d)	12.2	17.1	8.0	225.0	25.5	543.2	9.2
d-a	2.5	1.4	3.5	4.2	-1.2	-153.3	-
d-b	2.0	0.8	2.9	44.1	1.4	-185.1	-
d-c	1.2	0.6	1.5	-22.5	1.9	-76.2	6.7