



KMA CLIMATE CHARACTERISTICS BRIEFING

(6 pages total)

Division	Meteorological Resources Division
Contact	Yong-Han Leem
Phone/email	+82-2-2181-0882/ yonghan@korea.kr
Release	7 June 2010

May and Spring (Mar.-May) 2010 Weather Data Analysis

- ◇ **May 2010:** The mean temperature was similar to normal and the precipitation amount was above normal;
- ◇ **Spring 2010:** The average number of rainfall days was the highest on record since 1973 and the average sunshine duration was 77% of the normal value (the lowest since 1973).

- Climate characteristics of May and spring 2010 (March through May) and their long-term trends are analyzed based on data from 60 meteorological stations in Korea (national values) for the period of 1973-2010 (1908-2010 for Seoul).
- **The climatological characteristics of May 2010 were as follows:**
 - o For Korea (national values):
 - The mean temperature (17.0°C) and minimum temperature (11.5°C) were 0.1°C and 0.3°C higher than normal, respectively. The mean maximum temperature (22.9°C) was identical to normal. The precipitation amount (124.0 mm) was 19% higher than normal, and the average number of rainfall days (9.0 days) increased by 0.5 day compared to normal. The average number of sunshine duration (207.0 hours) decreased by 24.0 hours compared to normal.
 - o For Seoul:
 - The mean temperature (17.2°C) and the mean maximum temperature (22.0°C) were 0.2°C and 0.8°C lower than normal, respectively, while the mean minimum temperature (13.0°C) was 0.4°C higher than normal.
 - The precipitation amount (124.0 mm) was 21% higher than normal.
 - The average number of rainfall days (12.0 days) was 3.2 days higher than normal.
 - The average sunshine duration (166.3 hours) decreased by 58.0 hours from the normal value.

□ The climatological characteristics of spring 2010 were as follows:

○ For Korea:

- The mean temperature (10.8°C) was 0.7°C lower than normal, making it the second highest value on record since 1973 (the highest value of 10.6°C was recorded in 1996), and the mean maximum temperature (16.1°C) was 1.4°C lower than normal, making it the lowest temperature on record since 1973. The mean minimum temperature (5.7°C) was similar to normal.
- The precipitation amount (325.2 mm) was 25% higher than normal, and the average number of rainfall days (34.7 days) increased by 9.9 days compared to normal, making it the highest on record since 1973.
- The average sunshine duration (508.7 hours) was 77% of the normal value, making it the lowest on record since 1973.

○ For Seoul:

- The mean temperature (10.3°C), maximum temperature (14.7°C) and minimum temperature (6.4°C) were 1.3°C, 2.2°C and 0.6°C lower than normal, respectively.
- The precipitation amount (269.3 mm) was 20% higher than normal.
- The average number of rainfall days (35 days) increased by 11.4 days compared to normal, making it the third highest on record since 1908 (the highest value of 37 days was recorded in 1916 and 1938).
- The average sunshine duration (477.8 hours) was 76% of the normal value, making it the lowest on record since 1908.

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

- o The mean temperature for May and spring 2010 in Korea exhibits an upward trend. 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 2010 is continuously rising. The minimum temperature for the 2000s was 3.7°C, i.e., 3.6°C higher compared with the 1970s.

※ Normal: 30-year (1971-2000) average.

※ National average: Average of values collected from 60 meteorological stations since 1973.

※ The analyzed data for Seoul date back to 1908.

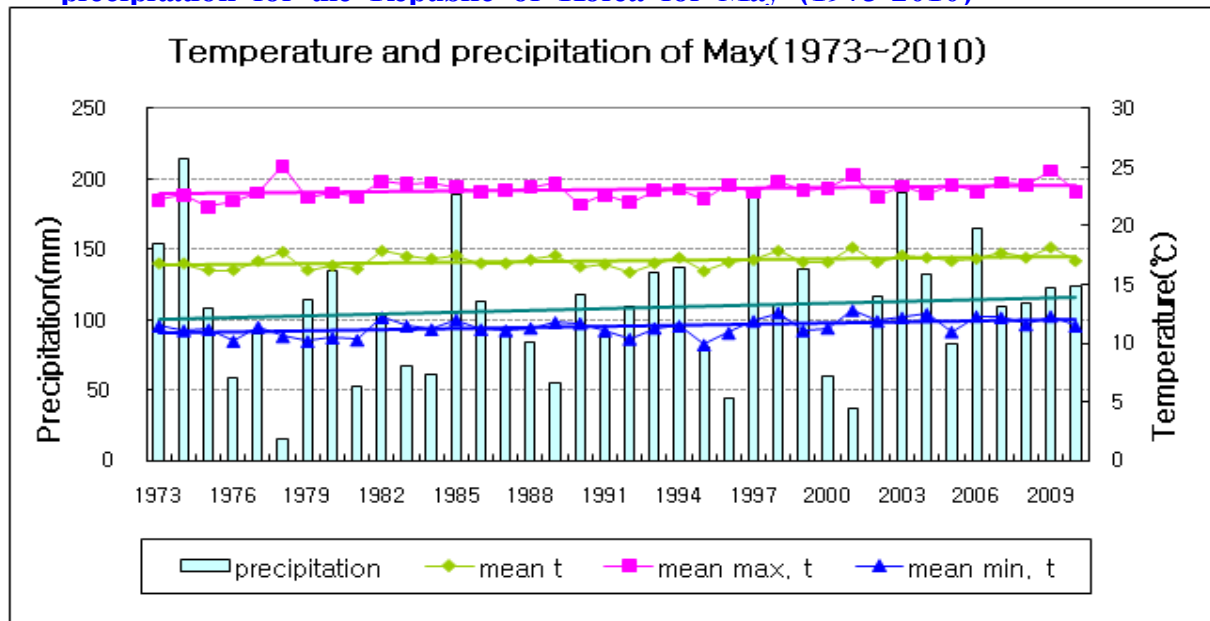
※ 1920s: Average from 1921 to 1930

※ 1970s: Average from 1973 to 1980

※ 2000s: Average from 2001 to 2009

Appendix 1. May Climate Trends

Fig. 1. Temperatures (mean, mean maximum, and mean minimum) and precipitation for the Republic of Korea for May (1973-2010)



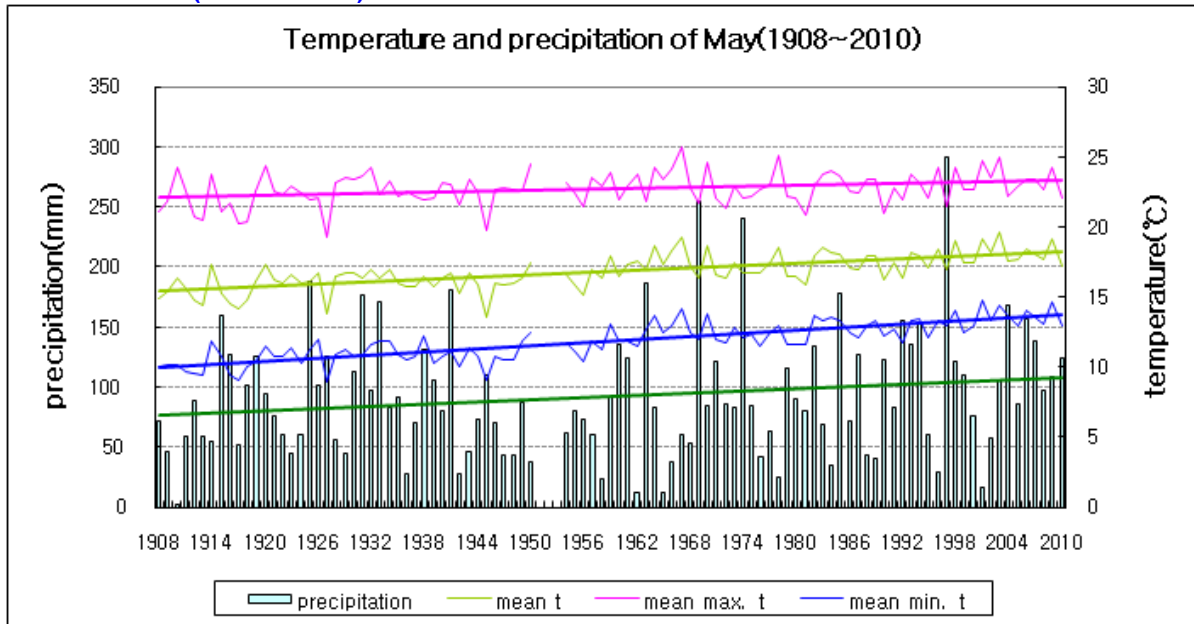
□ Average values of meteorological elements for Korea (1973-2010)

Elements (national values)	May 2010 (a)	Normals for May (1971-2000) (b)	a-b	Rank since 1973 (~5th place only)
Mean temperature (°C)	17.0	16.9	0.1	-
Mean maximum t. (°C)	22.9	22.9	0.0	-
Mean minimum t. (°C)	11.5	11.2	0.3	-
Precipitation amount (mm)	124.0	104.1	19.9 (119.1%)	-
Rainfall days	9.0	8.5	0.5	-
Sunshine duration(hr)	207.0	231.0	-24.0 (89.6%)	-
Asian Dust (day)	0.8	0.9	-0.1	-

□ May average of meteorological elements for Korea by decade (1973-2010)

Decade	Mean t (°C)	Mean max. t. (°C)	Mean min. t. (°C)	PPT (mm)	Rainfall days	Sunshine duration (hr)	Asian Dust (day)
1973-1980(a)	16.7	22.7	10.8	111.1	8.4	241.8	0.8
1981-1990(b)	17.1	23.2	11.4	93.3	8.2	230.5	1.1
1991-2000(c)	16.9	22.9	11.2	108.8	8.9	222.8	1.0
2001-2010(d)	17.4	23.4	12.0	119.1	9.3	208.1	1.0
d-a	0.7	0.7	1.2	8.0	0.9	-33.7	0.2
d-b	0.3	0.2	0.6	25.8	1.1	-22.4	-0.1
d-c	0.5	0.5	0.8	10.3	0.4	-14.7	0.0

Fig. 2. Temperatures (mean, mean maximum, and mean minimum) and precipitation for Seoul (1908-2010)



□ May average of meteorological elements for Seoul (1908-2010)

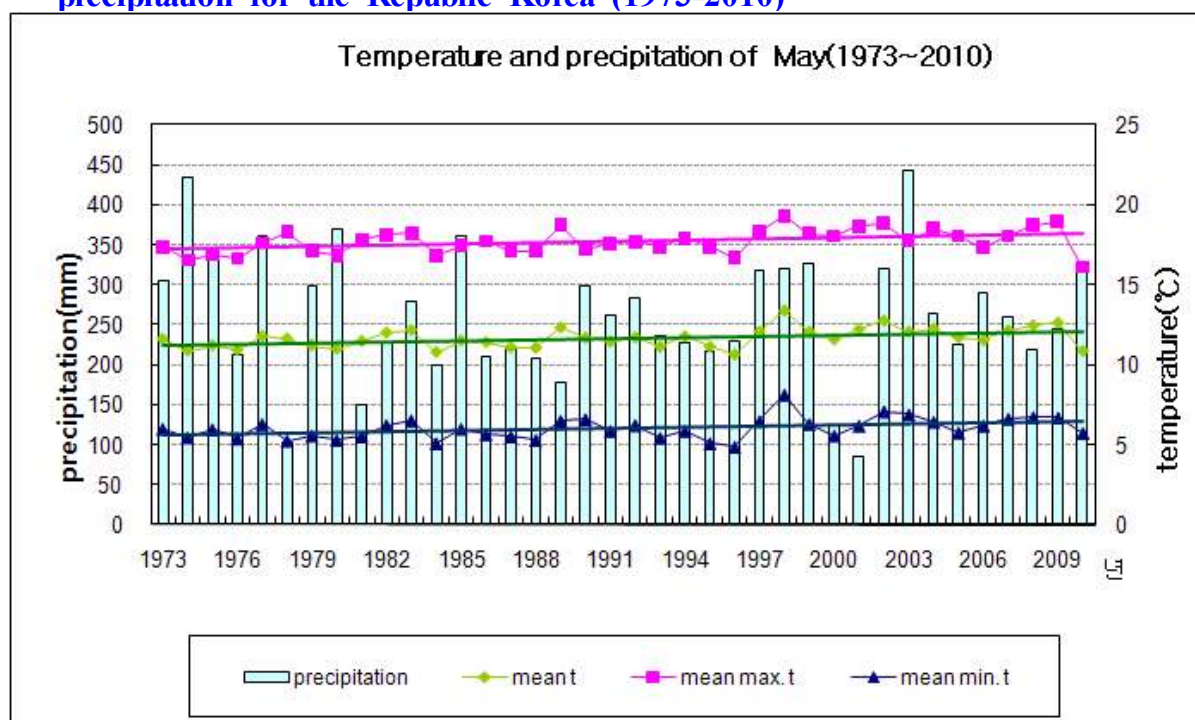
Seoul	May 2010 (a)	Normals of May (1971-2000) (b)	a-b	Rank since 1973 (~5th place only)
Mean temperature (°C)	17.2	17.4	-0.2	-
Mean maximum t (°C)	22.0	22.8	-0.8	-
Mean minimum t (°C)	13.0	12.6	0.4	-
Precipitation amount (mm)	124.0	102.2	21.8 (121.3%)	-
Rainfall days	12.0	8.8	3.2	-
Sunshine duration (hr)	166.3	224.3	-58.0 (74.1%)	5th lowest
Asian Dust (day)	2.0	1.2	0.8	-

□ May average of meteorological elements for Seoul by decade (1911-2010)

Decade	Mean t. (°C)	Mean max. t. (°C)	Mean min. t. (°C)	PPT (mm)	Rainfall days	Sunshine duration (hr)	Asian Dust (day)
1911-1920(a)	15.4	21.8	10.1	92.0	9.4	248.1	-
1921-1930	16.1	22.4	10.8	86.8	11.0	235.1	-
1931-1940	16.3	22.8	11.2	103.3	9.7	264.7	-
1941-1950(b)	16.0	22.5	10.8	72.0	8.4	266.0	-
1954-1960	16.5	22.7	11.6	75.1	8.4	239.2	-
1961-1970	17.8	23.5	12.8	90.7	7.3	226.5	0.7
1971-1980(c)	16.9	22.6	12.1	95.0	8.1	233.6	0.6
1981-1990	17.5	22.8	12.8	90.2	9.3	226.9	1.6
1991-2000	17.7	22.9	12.9	121.4	9.0	218.1	1.4
2001-2010(d)	18.3	23.4	13.8	105.9	8.8	196.9	1.3
d-a	2.9	1.6	3.7	13.9	-0.6	-51.2	-
d-b	2.3	0.9	3.0	33.9	0.4	-69.1	-
d-c	1.4	0.8	1.7	10.9	0.7	-36.7	0.7

Appendix 2. Spring Climate Trends

Fig. 1. Spring temperatures (mean, mean maximum, and mean minimum) and precipitation for the Republic Korea (1973-2010)



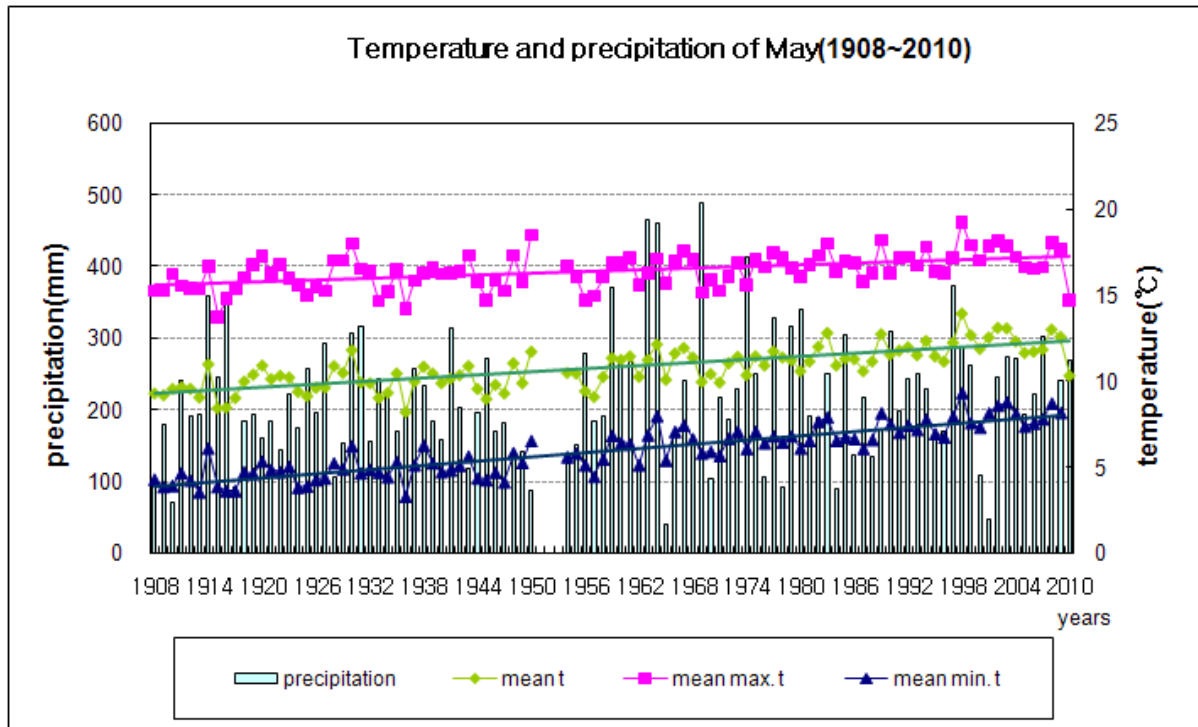
□ Average values of meteorological elements for the spring season (1973-2009)

Elements (national values)	May 2010 (a)	Spring normals (1971-2000) (b)	a-b	Rank since 1973 (~5th place only)
Mean temperature (°C)	10.8	11.5	-0.7	2nd lowest
Mean maximum t (°C)	16.1	17.5	-1.4	Lowest
Mean minimum t (°C)	5.7	5.8	-0.1	-
Precipitation amount (mm)	325.2	260.7	64.5(124.7%)	-
Rainfall days	34.7	24.8	9.9	Highest
Sunshine duration (hr)	508.7	662.3	153.6(76.8%)	Lowest
Asian Dust(day)	6.5	3.5	3.0	-

□ National spring average of meteorological elements by decade (1973-2010)

Decade	Mean t (°C)	Mean max. t. (°C)	Mean min. t. (°C)	PPT (mm)	Rainfall days	Sunshine duration (hr)	Asian Dust (day)
1973-1980(a)	11.3	17.2	5.7	301.8	25.1	659.6	3.0
1981-1990(b)	11.5	17.6	5.9	232.9	24.9	646.4	2.9
1991-2000(c)	11.7	17.8	6.0	254.4	24.4	623.5	4.9
2001-2010(d)	12.1	18.1	6.4	267.2	26.1	601.8	7.4
d-a	0.8	0.9	0.7	-34.6	1.0	-57.8	4.4
d-b	0.6	0.5	0.5	34.3	1.2	-44.6	4.5
d-c	0.4	0.3	0.4	12.8	1.7	-21.7	2.5

Fig. 2. Spring temperatures (mean, mean maximum, and mean minimum) and precipitation for Seoul (1908-2010)



□ Spring average values of meteorological elements for Seoul (1908-2010)

Elements (Seoul)	May 2010 (a)	Spring normals (1971-2000) (b)	a-b	Rank since 1973 (~5th place only)
Mean t. (°C)	10.3	11.6	-1.3	-
Mean max. t.(°C)	14.7	16.9	-2.2	4th lowest
Mean min. t.(°C)	6.4	7.0	-0.6	-
PPT (mm)	269.3	225.0	44.3 (119.7%)	-
Rainfall days	35.0	23.6	11.4	3rd highest
Sunshine dur.(hr)	477.8	632.5	154.7 (75.5%)	4th lowest
Asian Dust (day)	7.0	4.4	2.6	-

□ Spring average of meteorological elements by decade for Seoul (1911-2010)

Decade	Mean t (°C)	Mean max. t. (°C)	Mean min. t. (°C)	PPT (mm)	Rainfall days	Sunshine duration (hr)	Asian Dust (day)
1911-1920(a)	9.8	15.7	4.4	220.8	26.7	696.5	-
1921-1930	10.2	16.2	4.7	203.5	26.1	673.3	-
1931-1940	9.9	15.8	4.9	213.4	26.0	705.3	-
1941-1950(b)	10.2	16.3	5.1	180.9	24.1	728.3	-
1954-1960	10.3	16.0	5.7	223.9	25.9	636.6	-
1961-1970	11.1	16.4	6.5	250.4	23.2	631.8	2.1
1971-1980(c)	11.0	16.5	6.5	247.5	23.5	619.4	2.5
1981-1990	11.6	16.9	7.0	199.1	23.8	657.8	3.9
1991-2000	12.1	17.3	7.5	228.5	23.6	600.1	6.8
2001-2010(d)	12.2	17.1	8.0	225.0	25.5	543.3	9.2
d-a	2.4	1.4	3.6	4.2	-1.2	-153.2	-
d-b	2.0	0.8	2.9	44.1	1.4	-185.0	-
d-c	1.2	0.6	1.5	-22.5	2.0	-76.1	6.7