



KMA'S BRIEFING IN CLIMATE CHARACTERISTICS

[total 6 pages]

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March, 2009 Climate

- ◇ National Mean temperature is 1.5°C higher than normal, making it the fourth highest record since 1973.
- ◇ Precipitation for the national average is 98% relative to normal.

- Climate characteristics of March 2009, and their long-term trends are analyzed based on 60 Korean meteorological stations (national average) for the period 1973–2009 (1908–2009 in Seoul).
- March, 2009 climate is as follows:
 - For the national average,
 - the mean temperature (7.1°C) is 1.5°C higher than normal, making it the fourth highest record since 1973.
 - the mean maximum temperature (12.8°C) is 1.3°C higher than normal.
 - the mean minimum (1.5°C) temperature is 1.1°C higher than normal.
 - the amount of precipitation (59.8mm) is 97.7% relative to normal.
 - the average rainy days (8.8 days) are 0.8 day greater than normal.
 - the average precipitation intensity (amount of precipitation/rainy days) (6.8mm/day) is reduced 0.9mm/day compare to that of the normal.
 - the average duration of sunshine (193.8 hours) is 12.3 hours shorter than normal.
 - days with daily minimum temperature below 0°C (12.4 days) are 1.2 days greater than normal.
 - the number of asian dust days (2.2 days) is 1.5 days greater than normal.

- o For Seoul,
 - the mean (6.0°C), mean maximum (10.6°C), and mean minimum (1.8°C) temperatures are 0.8°C, 0.4°C, and 0.7°C higher than normal, respectively.
 - the amount of precipitation (63.9mm) is 140% relative to normal.
 - the average rainy days (8.0 days) are 2.0 days greater than normal.
 - the number of asian dust days (3.0 days) is 2.3 days greater than normal.
- For the national average, mean temperature of March 2000s is 1.2°C, 0.9°C, and 0.5°C higher than during the March of 1970s, 1980s, and 1990s respectively.

- ※ Normal: average from 1971 to 2000.
- ※ National average is used average values of 60 meteorological stations starting from 1973.
- ※ In Seoul, data are analyzed from 1909.
- ※ 1910s: average from 1911 to 1920
- ※ 1970s: average from 1973 to 1980
- ※ 2000s: average from 2001 to 2009

Appendix

Fig. 1. Time series of March temperatures (mean, mean maximum, and mean minimum), and precipitation across the South Korea for the period 1973–2009.

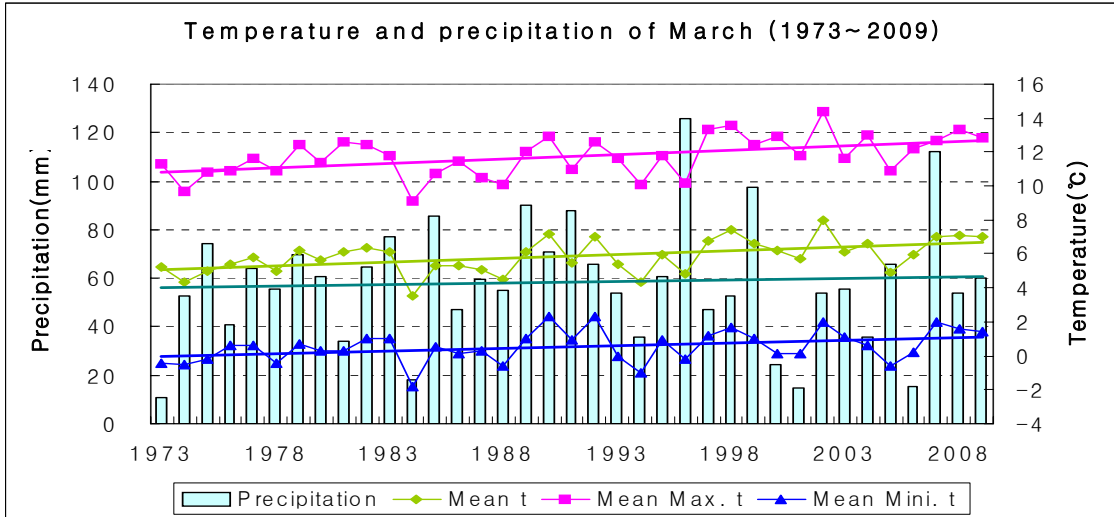


Fig. 2. Time series of March temperatures (mean, mean maximum, and mean minimum), and precipitation in Seoul for the period 1908–2009.

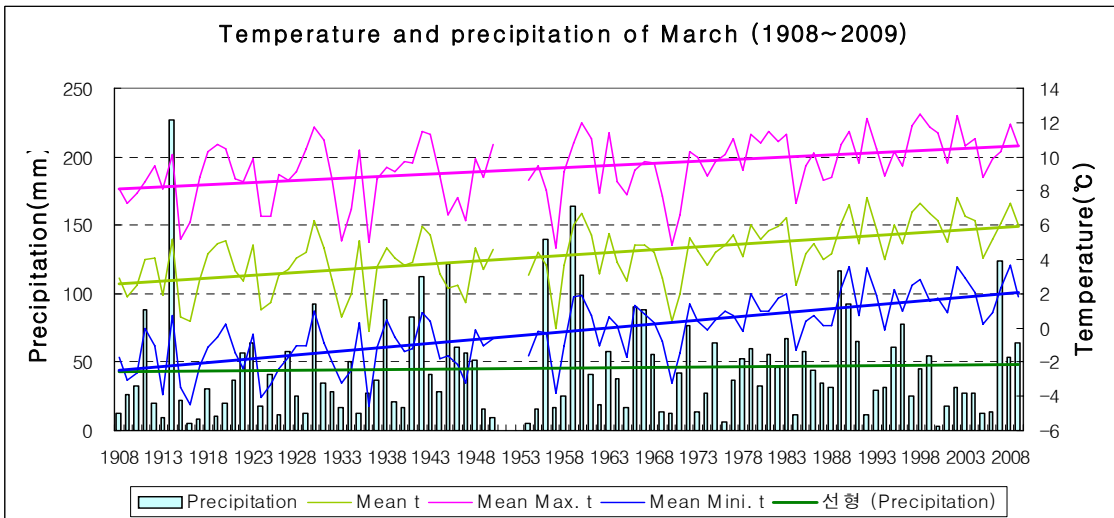


Fig. 3. National March temperature, precipitation, precipitation intensity, and asian dust days in each decade.

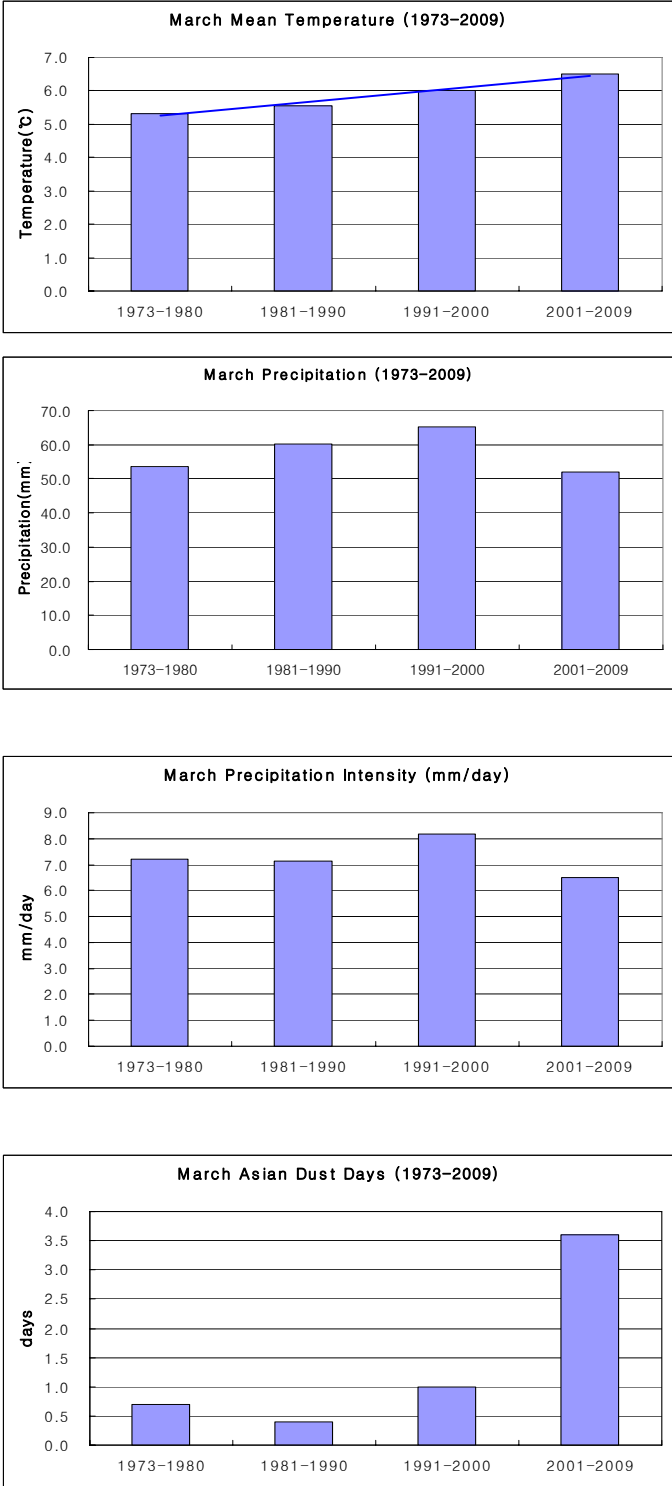


Table 1. National average values of March meteorological elements (1973–2009)

Elements (National average)	March 2009 (a)	Normals of March (1971-2000) (b)	a-b	rank since 1973 (within 5th)	March 1970s (1973-1980) (c)	March 2000s (2001-2009) (d)	d-c
mean temperature(°C)	7.1	5.6	1.5	4th highest	5.3	6.5	1.2
mean maximum t (°C)	12.8	11.5	1.3	-	11.1	12.5	1.4
mean minimum t(°C)	1.5	0.4	1.1	-	0.1	0.9	0.8
amount of precipitation (mm)	59.8	61.2	-1.4 (97.7%)	-	53.6	52.0	-1.6 (97%)
rainy days	8.8	8.0	0.8	-	7.4	8.0	0.6
precipitation intensity (mm/day)	6.8	7.7	-0.9	-	7.2	6.5	-0.7
diurnal temperature range (°C)	11.3	11.1	0.2	-	11.0	11.6	0.6
sunshine duration(hours)	193.8	206.1	-12.3 (94%)	-	207.1	198.4	-8.7 (96%)
cloud amounts (among 10)	4.9	4.9	0.0	-	4.8	4.5	-0.3
relative humidity(%)	57.8	65.1	-7.3 (89%)	-	66.3	58.2	-8.1 (88%)
days with daily minimum temperature below 0°C	12.4	11.2	1.2	-	15.5	13.2	-2.3
Asian dust days	2.2	0.7	1.5	-	0.7	3.6	2.9

Table 2. Average values of March meteorological elements in Seoul (1908-2009)

Elements (Seoul)	March 2009 (a)	Normals of March (1971-2000) (b)	a-b	rank since 1973 (within 5th)	March 1910s (1911-1920) (c)	March 1970s (1973-1980) (d)	March 2000s (2001-2009) (e)	e-c	e-d
mean temperature(°C)	6.0	5.2	0.8	-	3.3	4.8	6.0	2.7	1.2
mean maximum t (°C)	10.6	10.2	0.4	-	8.8	10.1	10.6	1.8	0.5
mean minimum t(°C)	1.8	1.1	0.7	-	-1.6	0.7	2.0	3.6	1.3
amount of precipitation (mm)	63.9	45.8	18.1 (140%)	-	44.2	36.8	41.3	-2.9 (93%)	4.5 (112%)
rainy days (days)	8.0	6.0	2.0	-	7.6	6.1	7.8	0.2	1.7
precipitation intensity (mm/day)	8.0	7.6	0.4	-	5.8	6.0	5.3	-0.5	-0.7
diurnal temperature range (°C)	8.8	9.1	-0.3	-	10.4	9.5	8.5	-1.9	-1.0
sunshine duration(hours)	202.7	197.5	5.2 (103%)	-	216.3	197.7	174.0	-42.3	-23.7
cloud amounts (among 10)	4.4	4.7	-0.3	-	5.2	4.7	4.4	-0.8	-0.3
relative humidity(%)	51.9	61.2	-9.3 (85%)	-	63.5	63.5	53.9	-9.6 (85%)	-9.6 (85%)
days with daily minimum temperature below 0°C	12.0	10.7	1.3	-	20.6	11.9	8.3	-12.3	-3.6
Asian dust days	3.0	0.7	2.3	-	-	0.6	4.0	-	3.4

Table 3. National average values of March meteorological elements in each decade (1973–2009)

Year	Mean t (°C)	Mean Maximum t (°C)	Mean Minimum t (°C)	Precipitation (mm)	rainy days	Precipitation intensity (mm/day)	days with minimum t below 0°C	asian dust days
1973-1980(a)	5.3	11.1	0.1	53.6	7.4	7.2	15.5	0.7
1981-1990(b)	5.6	11.4	0.4	60.2	8.5	7.1	14.4	0.4
1991-2000(c)	6.0	12.0	0.7	65.1	8.0	8.1	13.7	1.0
2001-2009(d)	6.5	12.5	0.9	52.0	8.0	6.5	13.2	3.6
d-a	1.2	1.4	0.8	-1.6	0.6	-0.7	-2.3	2.9
d-b	0.9	1.1	0.5	-8.2	-0.5	-0.6	-1.2	3.2
d-c	0.5	0.5	0.2	-13.1	0.0	-1.6	-0.5	2.6

Table 4. March meteorological elements in Seoul in each decade (1973–2009)

연도	Mean t (°C)	Mean Maxi. t (°C)	Mean Mini. t (°C)	Precipitation (mm)	rainy days ()	Precipitation intensity (mm/)	days with minimum t below 0°C	asian dust days
1911-1920(a)	3.3	8.8	-1.6	44.2	7.6	5.2	20.6	
1921-1930	3.5	8.9	-1.7	41.8	7.6	5.5	21.1	
1931-1940	3.1	8.4	-1.5	34.0	8.7	3.8	19.5	
1941-1950	3.7	9.1	-1.0	58.1	8.5	6.5	18.7	
1954-1960	3.9	9.0	-0.5	68.5	8.6	6.8	16.0	
1961-1970	3.8	8.8	-0.3	43.2	6.7	6.5	16.7	
1971-1980	4.6	9.8	0.5	41.3	6.3	6.7	12.4	0.5
1981-1990	5.1	10.0	1.1	55.7	7.3	8.1	11.4	0.7
1991-2000	6.0	10.8	1.8	40.5	6.8	6.1	8.3	0.9
2001-2009(b)	6.0	10.6	2.0	41.3	7.8	5.3	8.3	4.0
b-a	2.7	1.8	3.6	-2.9	0.2	0.1	-12.3	