



KMA'S BRIEFING IN CLIMATE CHARACTERISTICS

(total 4 pages)

| | |
|--------------------|-------------------------------------|
| Division | Meteorological Resources Division |
| Contact | Jang-Keun Yoo |
| Phone/email | +82-2-2181-0885/ jangkn@korea.kr |
| release | November 6, 2009 |

October 2009, Climate

- ◇ October mean temperature for the national average is 1.2°C higher than normal.
- ◇ October precipitation for the national average is 77% relative to normal.

- Climate characteristics of October, and its long-term trends are analyzed based on 60 meteorological stations across the Korea (national average) for the period of 1973-2009 (1908-2009 in Seoul).
- October, 2009 climate is as follows:**
 - o For the national average,
 - the mean temperature (15.4°C) is 1.2°C higher than normal. The mean maximum temperature (22.2°C) is 1.6°C higher than normal, making it the fifth highest record since 1973. The mean minimum temperatures (9.9°C) is 1.1°C higher than normal.
 - the amount of precipitation (44.1mm) is 77% relative to normal.
 - the average rainy days (5.8 days) are 0.3 days less than normal.
 - o For Seoul,
 - the mean temperature (16.0°C) and the mean maximum temperatures (20.9°C) are 1.6°C and 1.2°C higher than normal, respectively. The mean minimum temperature (11.7°C) is 1.9°C higher than normal, making it the fifth highest record since 1908.
 - The amount of precipitation (66.9mm) is 136% relative to normal.
 - The average rainy days (8 days) are 1.4 day greater than normal.
- Long term trend of October climate**
 - o For the national average, mean, mean maximum, and mean minimum temperatures of October 2000s are 0.7°C, 0.7°C, and 1.0°C higher than those of the 1970s, respectively.

- o For Seoul, the mean minimum temperature of October 2000s is 4.3°C and 1.7°C higher than those of the 1920s and 1970s, respectively.
- o For the national average, precipitation and rainy days for 2000s decreased by 25%, and 1.2days compare to those of the 1970s, respectively.
- o Asian dust is first observed since 1928.

※ 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 1908.

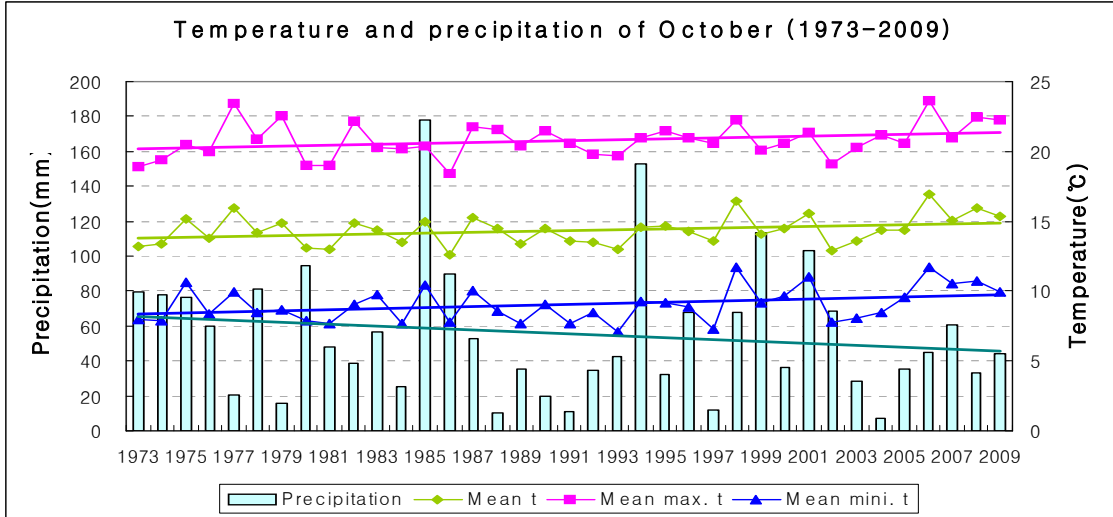
※ 1920s: average from 1921 to 1930

※ 1970s: average from 1973 to 1980

※ 2000s: average from 2001 to 2009

Appendix

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



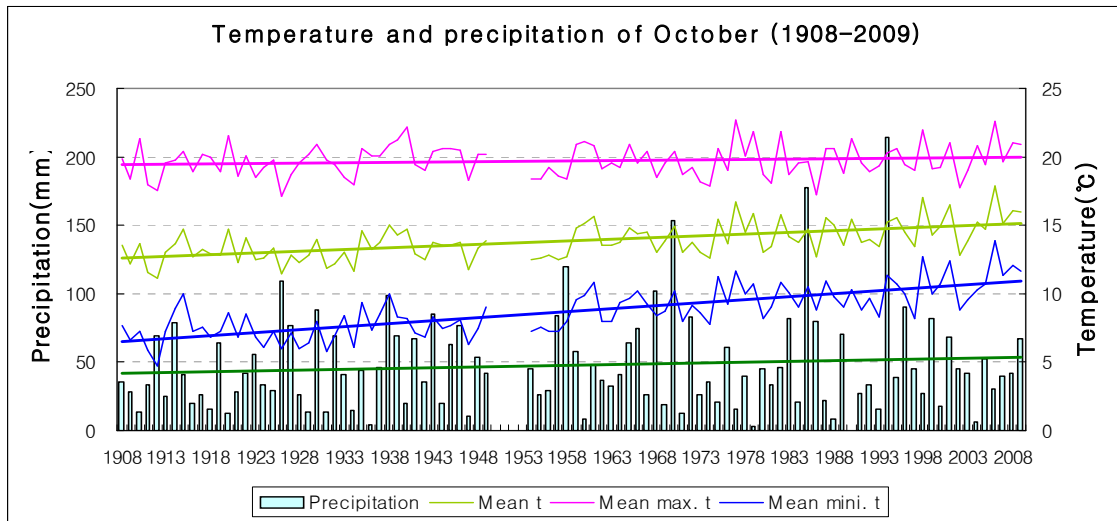
□ National average values of October meteorological elements (1973–2009).

| Elements (National average) | October 2009 (a) | Normals of October(1971-2000) (b) | a-b | rank since 1973 (within 5th) |
|------------------------------|------------------|-----------------------------------|--------------|------------------------------|
| mean temperature (°C) | 15.4 | 14.2 | 1.2 | - |
| mean maximum t (°C) | 22.2 | 20.6 | 1.6 | fifth highest |
| mean minimum t (°C) | 9.9 | 8.8 | 1.1 | - |
| amount of precipitation (mm) | 44.1 | 57.4 | -13.3(76.8%) | - |
| rainy days | 5.8 | 6.1 | -0.3 | - |
| foggy days | 3.4 | 3.5 | -0.1 | - |

□ National average values of October meteorological elements in each decade (1973–2009).

| Year | Mean t (°C) | Mean Maximum t (°C) | Mean Minimum t (°C) | Precipitation (mm) | rainy days | foggy days |
|---------------|-------------|---------------------|---------------------|--------------------|------------|------------|
| 1973-1980 (a) | 14.2 | 20.6 | 8.7 | 63.3 | 6.9 | 3.4 |
| 1981-1990 (b) | 14.1 | 20.6 | 8.8 | 55.5 | 6.0 | 3.8 |
| 1991-2000 (c) | 14.2 | 20.7 | 8.9 | 57.0 | 5.6 | 3.4 |
| 2001-2009 (d) | 14.9 | 21.3 | 9.7 | 47.3 | 5.7 | 3.2 |
| d-a | 0.7 | 0.7 | 1.0 | -16.0 | -1.2 | -0.2 |
| d-b | 0.8 | 0.7 | 0.9 | -8.2 | -0.3 | -0.6 |
| d-c | 0.7 | 0.6 | 0.8 | -9.7 | 0.1 | -0.2 |

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



□ Average values of October meteorological elements in Seoul (1908–2009).

| Elements (Seoul) average | October 2009 (a) | Normals of October (1971-2000) (b) | a-b | rank since 1908 (within 5th) |
|------------------------------|------------------|------------------------------------|--------------|------------------------------|
| mean temperature (°C) | 16.0 | 14.4 | 1.6 | - |
| mean maximum t (°C) | 20.9 | 19.7 | 1.2 | - |
| mean minimum t (°C) | 11.7 | 9.8 | 1.9 | fifth highest |
| amount of precipitation (mm) | 66.9 | 49.3 | 17.6(135.7%) | - |
| rainy days | 8 | 6.6 | 1.4 | - |
| foggy days | 0 | 1.5 | -1.5 | - |

□ October meteorological elements in Seoul in each decade (1911–2009).

| Year | Mean t (°C) | Mean Maximum t (°C) | Mean Minimum t (°C) | Precipitation (mm) | rainy days | foggy days |
|---------------|-------------|---------------------|---------------------|--------------------|------------|------------|
| 1911-1920 | 13.0 | 19.5 | 7.4 | 38.6 | 7.4 | - |
| 1921-1930(a) | 12.8 | 19.3 | 6.9 | 50.3 | 6.6 | - |
| 1931-1940 | 13.4 | 20.1 | 7.9 | 42.0 | 7.4 | - |
| 1941-1950 | 13.2 | 19.9 | 7.6 | 50.5 | 6.7 | - |
| 1954-1960 | 13.3 | 19.3 | 8.1 | 53.0 | 7.1 | - |
| 1961-1970 | 14.2 | 19.8 | 9.3 | 59.7 | 6.0 | 1.4 |
| 1971-1980 | 14.2 | 19.7 | 9.5 | 34.4 | 7.1 | 2.6 |
| 1981-1990 | 14.4 | 19.6 | 9.8 | 54.2 | 6.0 | 1.7 |
| 1991-2000 | 14.6 | 19.7 | 10.0 | 59.3 | 6.7 | 0.2 |
| 2001-2009 (b) | 15.4 | 20.2 | 11.2 | 43.6 | 6.2 | 0.3 |
| b-a | 2.6 | 0.9 | 4.3 | -6.7 | -0.4 | - |