



MONTHLY CLIMATE REVIEW OVER KOREA (total 4 pages)

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January 2016 Climate Summary

- ◇ The nationwide mean temperature (-0.9°C) in January 2016 was 0.1°C above normal.
- ◇ The nationally-averaged precipitation (25.1 mm) was 82.7 % of normal.

- Climate features and long-term trends in January 2016 were analyzed with the data collected at the 45 meteorological stations throughout Korea (national average) from 1973 to 2015 (1908-2015 for Seoul).

※ Normal : Average value of climatic element data collected from 1981 to 2010

□ The climatic characteristics in January 2016

o Korea (as a whole),

- The mean temperature (-0.9°C) and the mean minimum temperature (-5.1°C) were 0.1°C , 0.5°C above normal. The mean maximum temperature (3.7°C) was 0.6°C below normal.
- The nationally-averaged precipitation was 25.1 mm, which was 82.7 % of normal. The number of rainy days was 5.6, which was 1.2 days less than normal.
- The total number of hours of sunshine was 180.6, which was 104.3 % of normal.

o Seoul,

- The mean temperature (-3.2°C), the mean maximum temperature (1.1°C) and the mean minimum temperature (-6.8°C) were 0.8°C , 0.4°C , 0.9°C below normal, respectively.
- The amount of precipitation was 1.0 mm, which was 4.8 % of normal.
- The number of rainy days was 4.0, which was 2.5 days less than normal.
- The total number of hours of sunshine was 196.1, which was 122.3 % of normal.

□ **Long-term¹⁾ trend in January 2016 climate**

o Korea (as a whole),

- The national mean temperatures in January in the 2000s (2001-2010) was 0.6 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in January in the 2000s was 1.0 mm more than that of in the 1970s.
- The number of rainy days in January in the 2000s was 0.6 days less than that of in the 1970s.
- The total sunshine hours in January in the 2000s was 6.0 hours less than that of in the 1970s.

o Seoul,

- The mean temperatures in January in the 2000s (2001-2010) was 0.4 °C above that of in the 1970s (1971-1980).
- The precipitation in January in the 2000s was 2.4 mm less than that of in the 1970s.
- The number of rainy days in January in the 2000s was 1.6 days less than that of in the 1970s.
- The total sunshine hours in January in the 2000s was 5.7 hours more than that of in the 1970s.

1) 2000s : 2001~2010 / 1970s of Korea(Seoul) : 1973~1980(1971~1980)

Appendix 1 Climate features of January 2016 (Nationwide)

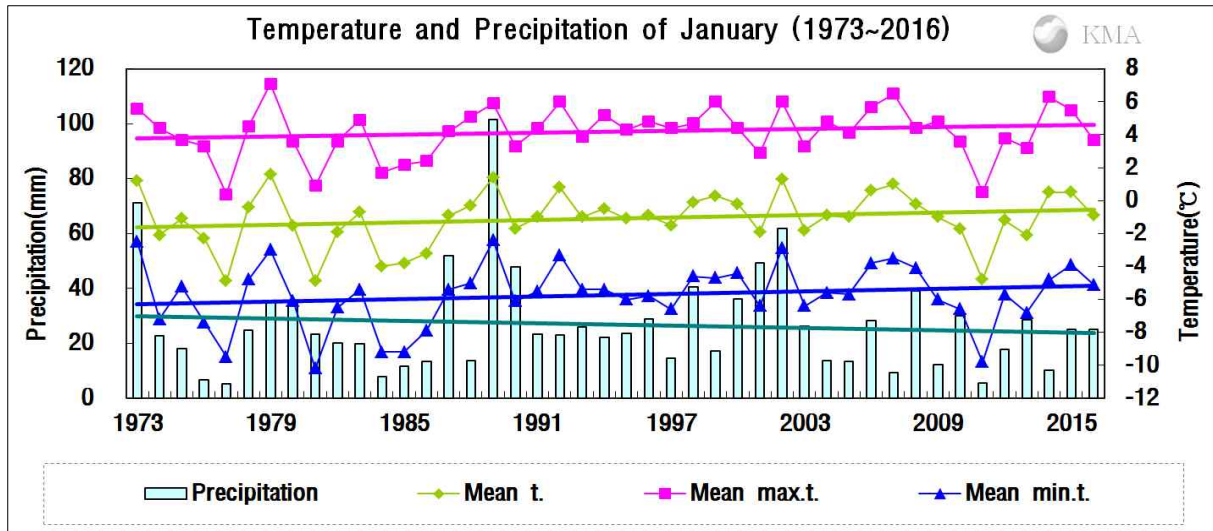


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during January (1973-2016).

□ The nationwide average value of meteorological element during January (1973-2016)

| Elements (whole country) | Dec. 2016(a) | Dec. 2015(b) | Normals of Dec. (1981-2010)(c) | a-b | a-c | Rank since 1973 (within 5th) |
|--|--------------|--------------|--------------------------------|--------------|--------------|------------------------------|
| Mean temperature (°C) | -0.9 | 0.5 | -1.0 | -1.4 | 0.1 | |
| Mean maximum temp. (°C) | 3.7 | 5.5 | 4.3 | -1.8 | -0.6 | |
| Mean minimum temp. (°C) | -5.1 | -3.9 | -5.6 | -1.2 | 0.5 | |
| Precipitation (mm) | 25.1 | 25.1 | 28.3 | 0.0 (88.3%) | -3.2 (82.7%) | |
| Days of rain (day) | 5.6 | 9.4 | 6.8 | -3.8 | -1.2 | |
| Sunshine duration (hour) | 180.6 | 183.8 | 173.1 | -3.2 (98.3%) | 7.5 (104.3%) | |
| Mean cloud amount (1/10) | 4.6 | 4.1 | 4.1 | 0.5 | 0.5 | |
| Days of minimum temperature less than -10°C(day) | 5.7 | 2.2 | 5.7 | 3.5 | 0.0 | |
| Days of maximum temperature less than 0°C(day) | 5.5 | 1.9 | 4.8 | 3.6 | 0.7 | |
| Days of snow (day) | 7.5 | 3.9 | 7.1 | 3.6 | 0.4 | |

□ The nationwide average value of meteorological element during January in each decade (1973-2010)

| Year | Mean temp. (°C) | Mean max. temp. (°C) | Mean min. temp. (°C) | Prep. (mm) | Days of rain (day) | Sunshine duration (hour) | Mean cloud amount (1/10) | Days of minimum temperature less than -10°C(day) | Days of maximum temperature less than 0°C(day) | Days of snow (day) |
|--------------|-----------------|----------------------|----------------------|------------|--------------------|--------------------------|--------------------------|--|--|--------------------|
| 1973-1980(a) | -1.2 | 4.1 | -5.7 | 27.4 | 7.1 | 173.9 | 4.2 | 6.1 | 5.4 | 7.2 |
| 1981-1990(b) | -2.0 | 3.4 | -6.7 | 31.1 | 7.0 | 181.4 | 4.1 | 7.7 | 6.9 | 7.5 |
| 1991-2000(c) | -0.5 | 4.8 | -5.2 | 25.5 | 6.9 | 169.9 | 4.0 | 4.6 | 3.4 | 6.8 |
| 2001-2010(d) | -0.6 | 4.6 | -5.1 | 28.4 | 6.5 | 167.9 | 4.1 | 4.9 | 4.1 | 6.9 |
| 2016(e) | -0.9 | 3.7 | -5.1 | 25.1 | 5.6 | 180.6 | 4.6 | 5.7 | 5.5 | 7.5 |
| d-a | 0.6 | 0.5 | 0.6 | 1.0 | -0.6 | -6.0 | -0.1 | -1.2 | -1.3 | -0.3 |
| d-b | 1.4 | 1.2 | 1.6 | -2.7 | -0.5 | -13.5 | 0.0 | -2.8 | -2.8 | -0.6 |
| d-c | -0.1 | -0.2 | 0.1 | 2.9 | -0.4 | -2.0 | 0.1 | 0.3 | 0.7 | 0.1 |
| e-d | -0.3 | -0.9 | 0.0 | -3.3 | -0.9 | 12.7 | 0.5 | 0.8 | 1.4 | 0.6 |

Appendix 2 Climate features of January 2016 (Seoul)

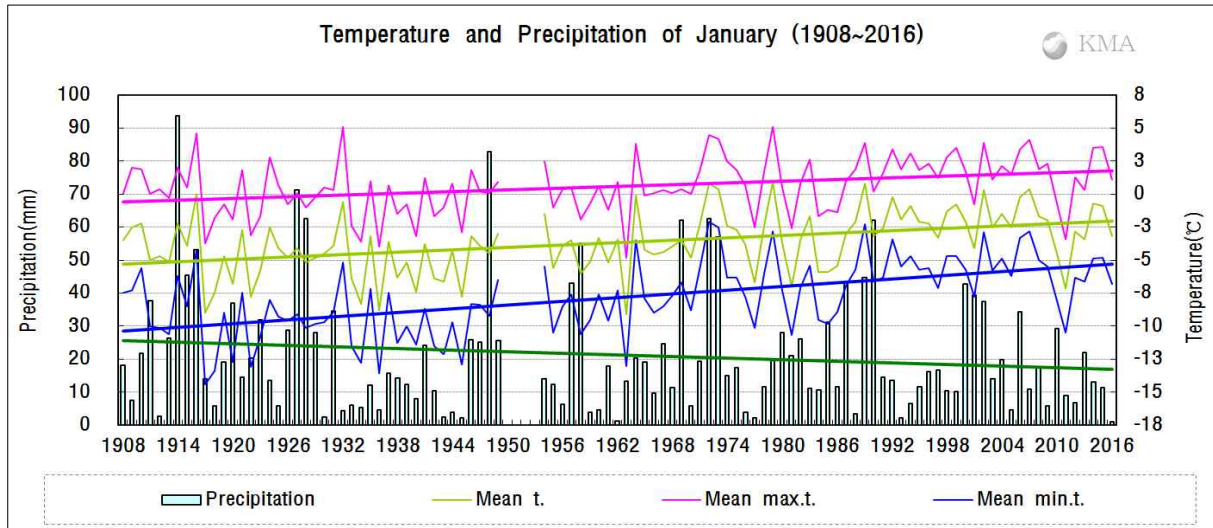


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during January (1908-2016).

□ The average value of meteorological element during January in Seoul(1908-2016)

| Elements (Seoul) | Jan. 2016(a) | Jan. 2015(b) | Normals of Jan. (1981-2010)(c) | a-b | a-c | Rank since 1908 (within 5th) |
|--|--------------|--------------|--------------------------------|--------------|---------------|------------------------------|
| Mean temperature (°C) | -3.2 | -0.9 | -2.4 | -2.3 | -0.8 | |
| Mean maximum temp. (°C) | 1.1 | 3.6 | 1.5 | -2.5 | -0.4 | |
| Mean minimum temp. (°C) | -6.8 | -4.8 | -5.9 | -2.0 | -0.9 | |
| Precipitation (mm) | 1.0 | 11.3 | 20.8 | -10.3 (8.8%) | -19.8 (4.8%) | the lowest |
| Days of rain (day) | 4.0 | 7.0 | 6.5 | -3.0 | -2.5 | |
| Sunshine duration (hour) | 196.1 | 193.3 | 160.3 | 2.8 (101.4%) | 35.8 (122.3%) | |
| Mean cloud amount (1/10) | 4.0 | 3.9 | 3.8 | 0.1 | 0.2 | |
| Days of minimum temperature less than -10°C(day) | 8.0 | 0.0 | 5.9 | 8.0 | 2.1 | |
| Days of maximum temperature less than 0°C(day) | 7.0 | 4.0 | 10.7 | 3.0 | -3.7 | |
| Days of snow (day) | 6.0 | 4.0 | 8.0 | 2.0 | -2.0 | |

□ The average value of meteorological element during January in Seoul in each decade (1911-2010)

| Year | Mean temp. (°C) | Mean max. temp. (°C) | Mean min. temp. (°C) | Prep. (mm) | Days of rain (day) | Sunshine duration (hour) | Mean cloud amount (1/10) | Days of minimum temperature less than -10°C(day) | Days of maximum temperature less than 0°C(day) | Days of snow (day) |
|--------------|-----------------|----------------------|----------------------|------------|--------------------|--------------------------|--------------------------|--|--|--------------------|
| 1911-1920(a) | -4.9 | -0.1 | -9.9 | 33.5 | 7.8 | 176.2 | 4.2 | 15.1 | 14.5 | 10.3 |
| 1921-1930 | -4.6 | -0.1 | -9.7 | 28.0 | 7.0 | 173.4 | 4.2 | 15.4 | 14.4 | 8.5 |
| 1931-1940(b) | -5.4 | -0.8 | -9.9 | 11.7 | 6.6 | 185.0 | 3.6 | 17.0 | 17.3 | 9.0 |
| 1941-1949 | -4.8 | -0.1 | -9.7 | 22.5 | 6.7 | 191.7 | 3.7 | 15.7 | 15.4 | 8.8 |
| 1954-1960 | -4.1 | 0.1 | -8.5 | 19.9 | 7.6 | 160.9 | 4.2 | 12.3 | 14.6 | 11.1 |
| 1961-1970 | -4.3 | 0.0 | -8.2 | 18.6 | 6.4 | 174.6 | 3.8 | 11.0 | 14.1 | 10.0 |
| 1971-1980(c) | -2.2 | 2.0 | -5.7 | 23.7 | 7.1 | 148.9 | 4.2 | 5.9 | 9.9 | 9.7 |
| 1981-1990 | -3.7 | 0.4 | -7.3 | 26.5 | 6.8 | 166.2 | 4.1 | 9.7 | 14.4 | 9.2 |
| 1991-2000 | -1.7 | 2.3 | -5.3 | 14.5 | 7.3 | 160.3 | 3.6 | 3.6 | 8.2 | 8.2 |
| 2001-2010(d) | -1.8 | 1.9 | -5.2 | 21.3 | 5.5 | 154.6 | 3.6 | 4.4 | 9.5 | 6.5 |
| 2016(e) | -3.2 | 1.1 | -6.8 | 1.0 | 4.0 | 196.1 | 4.0 | 8.0 | 7.0 | 6.0 |
| d-a | 3.1 | 2.0 | 4.7 | -12.2 | -2.3 | -21.6 | -0.6 | -10.7 | -5.0 | -3.8 |
| d-b | 3.6 | 2.7 | 4.7 | 9.6 | -1.1 | -30.4 | 0.0 | -12.6 | -7.8 | -2.5 |
| d-c | 0.4 | -0.1 | 0.5 | -2.4 | -1.6 | 5.7 | -0.6 | -1.5 | -0.4 | -3.2 |
| e-d | -1.4 | -0.8 | -1.6 | -20.3 | -1.5 | 41.5 | 0.4 | 3.6 | -2.5 | -0.5 |