|  | $\begin{gathered} \text { KMA'S BRIEFING ON } \\ \text { CLIMATE CHARACTERISTICS } \end{gathered}$ | Division | Meteorological Resources Division |
| :---: | :---: | :---: | :---: |
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## April, 2010 climate

The mean temperature for April was the lowest on record since 1973. The mean precipitation for April was equal to normal.
$\square$ Climate characteristics of April 2010 and its long-term trends are analyzed based on 60 meteorological stations across Korea (national average) for the period of 1973-2010 (1908-2010 for Seoul).
$\square$ The climatological characteristics in April 2010 can be described as follows:
o For Korea (whole nation),

- The mean temperature $\left(9.9^{\circ} \mathrm{C}\right)$, mean maximum $\left(15.4^{\circ} \mathrm{C}\right)$, and mean minimum (4. $5^{\circ} \mathrm{C}$ ) temperatures were $2.1^{\circ} \mathrm{C}, 2.9^{\circ} \mathrm{C}$, and $1.5^{\circ} \mathrm{C}$ lower than normal, respectively.
- The mean, mean maximum temperature was the highest on record since 1973
- The amount of precipitation ( 101.7 mm ) was similar to normal.
- The average number of rainy days (11.4 days) had 3.1 more day compared to normal.
- The amount of sunshine duration (176.5 hours) was $82 \%$ of normal.
o For Seoul,
- The mean temperature $\left(9.5^{\circ} \mathrm{C}\right)$ and mean minimum temperature $\left(5.6^{\circ} \mathrm{C}\right)$ were $2.6^{\circ} \mathrm{C}$ and $1.7^{\circ} \mathrm{C}$ lower than normal, respectively, and the mean maximum temperature $\left(14.0^{\circ} \mathrm{C}\right)$ was $3.6^{\circ} \mathrm{C}$ lower than normal, making it the lowest temperature on record since 1908.
- The amount of precipitation ( 62.8 mm ) was $82 \%$ of normal.
- The number of rainy days ( 11 days) had 3.0 more day compared to normal.
- The amount of sunshine duration (166.3 hours) was $79 \%$ of normal
- The asian dust days (1 day) was 1.5 less day compared to normal.


## Long-term trend of APRIL 2010 climate

o Korea's mean, mean maximum, and mean minimum temperatures from 2001 to 2010 were $0.5^{\circ} \mathrm{C}, 0.9^{\circ} \mathrm{C}$, and $0.2^{\circ} \mathrm{C}$ higher than those of the 1970 s , respectively.
o The amount of precipitation, the amount of sunshine duration and the number of rainy days both for Korea and for Seoul during 2000s decreased than those of the 1970s.
※ 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.
※ 1930s: average from 1931 to 1940
※ 1970s: average from 1973 to 1980
※ 2000s: average from 2001 to 2010

## Appendix April, 2010 climate

Fig. 1. Temperatures (mean, mean maximum, and mean minimum), and precipitation across South Korea during April (1973-2010)

$\square$ Average values of meteorological elements across Korea (1973-2010)

| Elements (National) average | April 2010 <br> (a) | Normals of April <br> (1971-2000) <br> (b) | a-b | rank since 1973 <br> (within 5th) |
| :---: | :---: | :---: | :---: | :---: |
| mean temperature ( $\left.{ }^{\circ} \mathrm{C}\right)$ | 9.9 | 12.0 | -2.1 | lowest |
| mean maximum t $\left({ }^{\circ} \mathrm{C}\right)$ | 15.4 | 18.3 | -2.9 | lowest |
| mean minimum t $\left({ }^{\circ} \mathrm{C}\right)$ | 4.5 | 6.0 | -1.5 | second lowest |
| amount of precipitation (mm) | 101.7 | 95.5 | $6.2(106.5 \%)$ | - |
| rainy days | 11.4 | 8.3 | 3.1 | third highest |
| sunshine duration (hours) | 176.5 | 215.0 | $-38.5(82.0 \%)$ | fourth lowest |
| asian dust days | 0.9 | 1.9 | -1.0 | - |

$\square$ Average values of meteorological elements across Korea for each decade (1973-2010)

| Year | Mean t <br> $\left({ }^{\circ} \mathrm{C}\right)$ | Mean <br> Maximum <br> $\mathrm{t}\left({ }^{\circ} \mathrm{C}\right)$ | Mean <br> Minimum <br> $\left({ }^{\circ} \mathrm{C}\right)$ | Precipitation <br> $(\mathrm{mm})$ | rainy days | sunshine <br> duration <br> (hours) | asian dust <br> days |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1973-1980(\mathrm{a})$ | 11.8 | 17.7 | 6.1 | 137.1 | 9.3 | 210.7 | 1.5 |
| $1981-1990(\mathrm{~b})$ | 12.0 | 18.4 | 5.9 | 79.3 | 8.3 | 217.4 | 1.4 |
| $1991-2000(\mathrm{c})$ | 12.2 | 18.7 | 6.1 | 80.5 | 7.6 | 214.9 | 2.9 |
| $2001-2010$ (d) | 12.3 | 18.6 | 6.3 | 91.4 | 8.2 | 202.7 | 2.7 |
| d-a | 0.5 | 0.9 | 0.2 | -45.7 | -1.1 | -8.0 | 1.2 |
| d-b | 0.3 | 0.2 | 0.4 | 12.1 | -0.1 | -14.7 | 1.3 |
| d-c | 0.1 | -0.1 | 0.2 | 10.9 | 0.6 | -12.2 | -0.2 |

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


Average values of meteorological elements across Seoul during April (1908-2010)

| Elements (Seoul) average | April 2010 <br> (a) | Normals of April <br> (1971-2000) <br> (b) | a-b | rank since 1973 <br> (within 5th) |
| :---: | :---: | :---: | :---: | :---: |
| mean temperature $\left({ }^{\circ} \mathrm{C}\right)$ | 9.5 | 12.1 | -2.6 | - |
| mean maximum t $\left({ }^{\circ} \mathrm{C}\right)$ | 14.0 | 17.6 | -3.6 | lowest |
| mean minimum t $\left({ }^{\circ} \mathrm{C}\right)$ | 5.6 | 7.3 | -1.7 | - |
| amount of precipitation (mm) | 62.8 | 77.0 | $-14.2(81.6 \%)$ | - |
| rainy days | 11 | 8.0 | 3 | - |
| sunshine duration (hours) | 166.3 | 210.7 | $-44.4(78.9 \%)$ | - |
| asian dust days | 1 | 2.5 | -1.5 | - |Meteorological elements across Seoul during April for each decade (1911-2010)


| Year | Mean t <br> $\left({ }^{\circ} \mathrm{C}\right)$ | Mean <br> Maximum <br> $\mathrm{t}\left({ }^{\circ} \mathrm{C}\right)$ | Mean <br> Minimum t <br> $\left({ }^{\circ} \mathrm{C}\right)$ | Precipitation <br> $(\mathrm{mm})$ | rainy days | sunshine <br> duration <br> (hours) | asian dust <br> days |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1911-1920$ | 10.2 | 16.5 | 4.8 | 84.6 | 9.7 | 232.1 | - |
| $1921-1930$ | 10.9 | 17.4 | 5.1 | 74.9 | 7.5 | 227.8 | - |
| $1931-1940$ (a) | 10.1 | 16.3 | 5.0 | 76.1 | 7.6 | 226.2 | - |
| $1941-1950$ | 10.8 | 17.3 | 5.4 | 50.9 | 7.2 | 244.2 | - |
| $1954-1960$ | 10.6 | 16.4 | 5.9 | 80.3 | 8.9 | 207.3 | - |
| $1961-1970$ | 11.7 | 17.1 | 6.9 | 116.5 | 9.2 | 196.9 | - |
| $1971-1980$ (b) | 11.6 | 17.0 | 6.9 | 111.2 | 9.1 | 196.1 | 1.4 |
| $1981-1990$ | 12.1 | 17.8 | 7.2 | 53.2 | 7.2 | 222.8 | 1.6 |
| $1991-2000$ | 12.7 | 18.1 | 7.9 | 66.6 | 7.8 | 213.1 | 4.5 |
| $2001-2010$ (c) | 12.6 | 17.6 | 8.2 | 73.7 | 8.5 | 179.3 | 3.9 |
| c-a | 2.5 | 1.3 | 3.2 | -2.4 | 0.9 | -46.9 | - |
| c-b | 1.0 | 0.6 | 1.3 | -37.5 | -0.6 | -16.8 | 2.5 |

