



# MONTHLY CLIMATE REVIEW OVER KOREA (total 7 pages)

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## August and Summer(June–August) 2015 Climate Summary

- ◇ The nationwide mean temperature (25.2 °C) in August 2015 was 0.1 °C above normal and the nationally-averaged precipitation (111.1 mm) was 41.5 % of normal.
- ◇ The nationwide mean temperature (23.7°C) in Summer 2015 was 0.1 °C above normal and the nationally-averaged precipitation (388.0 mm) was 54.1 % of normal.
- Climate features and long-term trends in August and Summer 2015 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 August 2015

#### o Korea (as a whole),

- The mean temperature (25.2 °C) and the mean maximum temperature (30.2 °C) were 0.1 °C, 0.4 °C above normal. And the mean minimum temperature (21.4 °C) was 0.1 °C below normal.
- The nationally-averaged precipitation was 111.1 mm, which was 41.5 % of normal. The number of rainy days was 9.9, which was 3.3 days less than normal.
- The total number of hours of sunshine was 207.9, which was 119.7 % of normal.

#### o Seoul,

- The mean temperature (26.3 °C), the mean maximum temperature (30.8 °C) and the mean minimum temperature (22.8 °C) were 0.6 °C, 1.2 °C, 0.4 °C above normal, respectively.
- The amount of precipitation was 72.9 mm, which was 20.0 % of normal.

- The number of rainy days was 10.0, which was 4.6 days less than normal.
- The total number of hours of sunshine was 207.0, which was 135.7 % of normal.

#### □ Long-term<sup>1)</sup> trend in August 2015 climate

##### o Korea (as a whole),

- The national mean temperatures in August in the 2000s (2001-2010) was 0.4 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in August in the 2000s was 58.8 mm more than that of in the 1970s.
- The number of rainy days in August in the 2000s was 2.4 days more than that of in the 1970s.
- The total sunshine hours in August in the 2000s was 30.2 hours less than that of in the 1970s.

##### o Seoul,

- The mean temperatures in August in the 2000s (2001-2010) was 0.9 °C above that of in the 1970s (1971-1980).
- The precipitation in August in the 2000s was 48.5 mm more than that of in the 1970s.
- The number of rainy days in August in the 2000s was 2.4 days more than that of in the 1970s.
- The total sunshine hours in August in the 2000s was 8.5 hours less than that of in the 1970s.

#### □ The climatic characteristics in Summer 2015

##### o Korea (as a whole),

- The mean temperature (23.7 °C), the mean maximum temperature (28.7 °C) and the mean minimum temperature (19.8 °C) were 0.1 °C, 0.3 °C, 0.1 °C above normal, respectively.
- The nationally-averaged precipitation was 388.0 mm, which was 54.1 % of normal. The number of rainy days was 33.7, which was 3.6 days less than normal.

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

- The total number of hours of sunshine was 580.4, which was 115.4 % of normal.

o Seoul,

- The mean temperature (25.2 °C), the mean maximum temperature (30.1 °C) and the mean minimum temperature (21.4 °C) were 0.9 °C, 1.7°C, 0.6 °C above normal, respectively.
- The amount of precipitation was 397.9 mm, which was 44.6 % of normal.
- The number of rainy days was 35.0, which was 5.8 days less than normal.
- The total number of hours of sunshine was 641.2, which was 141.0 % of normal.

□ **Long-term<sup>2)</sup> trend in Summer 2015 climate**

o Korea (as a whole),

- The national mean temperatures in Summer in the 2000s (2001-2010) was 0.3 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in Summer in the 2000s was 154.2 mm less than that of in the 1970s.
- The number of rainy days in Summer in the 2000s was 3.3 days more than that of in the 1970s.
- The total sunshine hours in Summer in the 2000s was 84.3 hours less than that of in the 1970s.

o Seoul,

- The mean temperatures in Summer in the 2000s (2001-2010) was 0.6 °C above that of in the 1970s (1971-1980).
- The precipitation in Summer in the 2000s was 248.8 mm more than that of in the 1970s.
- The number of rainy days in Summer in the 2000s was 4.5 days more than that of in the 1970s.
- The total sunshine hours in Summer in the 2000s was 57.9 hours less than that of in the 1970s.

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2) 2000s : 2001~2010 / 1970s of Korea(Seoul) : 1973~1980(1971~1980)

## Appendix 1 Climate features of August 2015 (Nationwide)

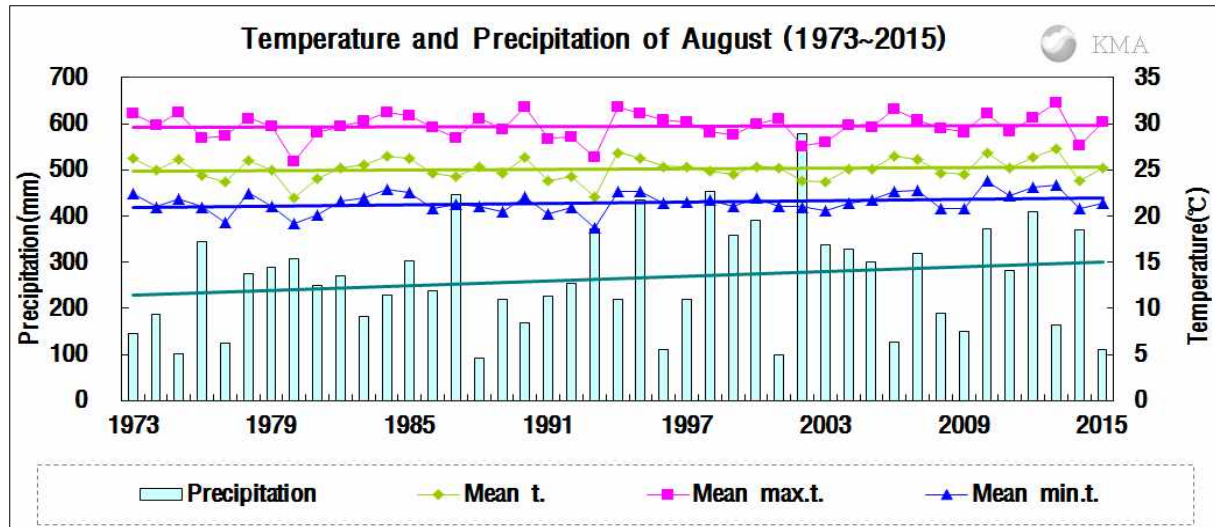


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during August (1973–2015).

### □ The nationwide average value of meteorological element during August (1973–2015)

Elements (whole country)	August 2015(a)	August 2014(b)	Normals of August (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	25.2	23.8	25.1	1.4	0.1	-
Mean maximum temp. (°C)	30.2	27.7	29.8	2.5	0.4	-
Mean minimum temp. (°C)	21.4	20.8	21.5	0.6	-0.1	-
Precipitation (mm)	111.1	369.0	274.9	-257.9 (32.5%)	-163.8 (41.5%)	the 5th lowest
Days of rain (day)	9.9	18.2	13.2	-8.3	-3.3	-
Sunshine duration (hour)	207.9	128.0	173.7	79.9 (162.4%)	34.2 (119.7%)	-
Mean cloud amount (1/10)	5.7	7.7	6.1	-2.0	-0.4	-
Precipitation more than 80mm/day(day)	0.2	0.8	0.7	-0.6	-0.5	minimum days rank 5th
Days of maximum temperature more than 33°C(day)	5.9	1.0	5.3	4.9	0.6	-

### □ The nationwide average value of meteorological element during August 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)	Precipitation more than 80mm/day (day)	Days of maximum temperature more than 33°C (day)
1973-1980(a)	24.8	29.5	21.0	221.6	11.7	187.1	6.1	0.5	4.1
1981-1990(b)	25.3	30.1	21.5	240.2	12.1	191.8	6.0	0.6	5.6
1991-2000(c)	24.9	29.5	21.3	303.9	13.4	172.3	6.1	0.9	4.6
2001-2010(d)	25.2	29.7	21.7	280.4	14.1	156.9	6.3	0.7	5.7
2015(e)	25.2	30.2	21.4	111.1	9.9	207.9	5.7	0.2	5.9
d-a	0.4	0.2	0.7	58.8	2.4	-30.2	0.2	0.2	1.6
d-b	-0.1	-0.4	0.2	40.2	2.0	-34.9	0.3	0.1	0.1
d-c	0.3	0.2	0.4	-23.5	0.7	-15.4	0.2	-0.2	1.1
e-d	0.0	0.5	-0.3	-169.3	-4.2	51.0	-0.6	-0.5	0.2

## Appendix 2 Climate features of August 2015 (Seoul)

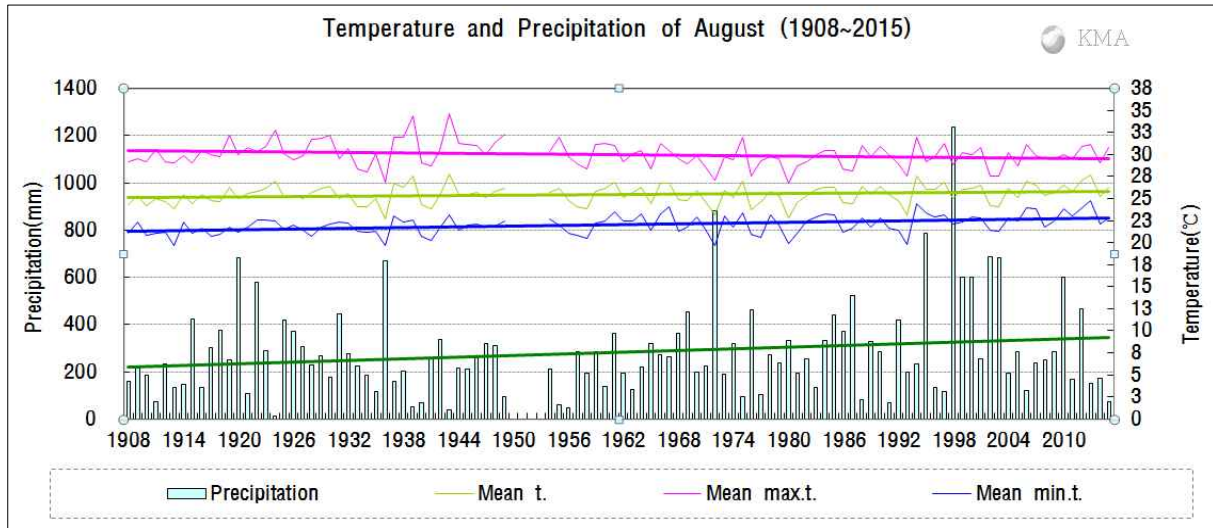


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during August (1908–2015).

### □ The average value of meteorological element during August in Seoul (1908–2015)

Elements (Seoul)	August 2015(a)	August 2014(b)	Normals of August (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	26.3	25.2	25.7	1.1	0.6	-
Mean maximum temp. (°C)	30.8	29.0	29.6	1.8	1.2	-
Mean minimum temp. (°C)	22.8	22.1	22.4	0.7	0.4	-
Precipitation (mm)	72.9	172.8	364.2	-99.9 (42.2%)	-291.3 (20.0%)	-
Days of rain (day)	10.0	16.0	14.6	-6.0	-4.6	-
Sunshine duration (hour)	207.0	150.7	152.5	56.3 (137.4%)	54.5 (135.7%)	-
Mean cloud amount (1/10)	5.6	7.1	6.4	-1.5	-0.8	-
Precipitation more than 80mm/day(day)	0.0	0.0	1.2	0.0	-1.2	-
Days of maximum temperature more than 33°C(day)	3.0	2.0	4.0	1.0	-1.0	-

### □ The average value of meteorological element during August 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)	Precipitation more than 80mm/day (day)	Days of maximum temperature more than 33°C(day)
1911-1920(a)	25.0	30.0	21.1	274.5	12.4	227.5	6.4	0.9	4.5
1921-1930	25.8	31.0	21.9	275.8	13.2	218.7	6.7	1.0	8.4
1931-1940(b)	25.1	30.1	21.7	239.5	15.0	186.8	7.5	0.5	6.7
1941-1949	25.6	31.2	21.8	226.7	12.6	230.8	6.5	0.7	10.0
1954-1960	25.2	30.2	21.7	174.0	11.0	188.5	6.4	0.3	6.6
1961-1970	25.7	29.9	22.6	276.8	14.9	145.0	7.1	0.5	3.5
1971-1980(c)	24.8	29.0	21.6	311.2	13.4	136.7	6.8	1.0	2.1
1981-1990	25.6	29.7	22.3	293.7	14.2	167.0	6.6	0.7	4.4
1991-2000	25.7	29.8	22.4	439.1	13.9	162.3	6.3	1.7	4.3
2001-2010(d)	25.7	29.5	22.6	359.7	15.8	128.2	6.4	1.1	3.2
2015(e)	26.3	30.8	22.8	72.9	10.0	207.0	5.6	0.0	3.0
d-a	0.7	-0.5	1.5	85.2	3.4	-99.3	0.0	0.2	-1.3
d-b	0.6	-0.6	0.9	120.2	0.8	-58.6	-1.1	0.6	-3.5
d-c	0.9	0.5	1.0	48.5	2.4	-8.5	-0.4	0.1	1.1
e-d	0.6	1.3	0.2	-286.8	-5.8	78.8	-0.8	-1.1	-0.2

## Appendix 1 Climate features of Summer 2015 (Nationwide)

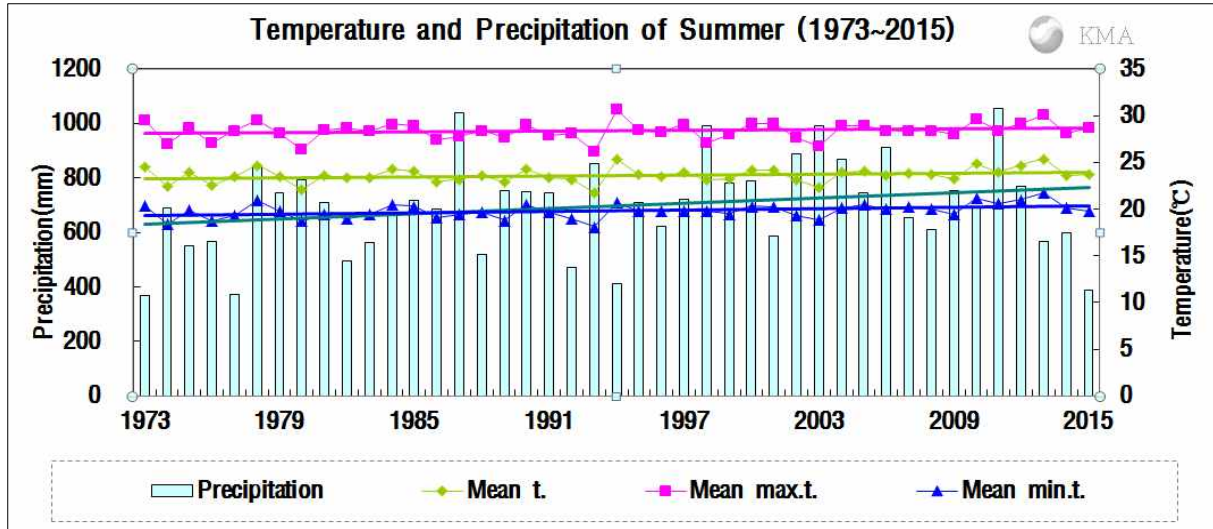


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during Summer (1973–2015).

### □ The nationwide average value of meteorological element during Summer (1973–2015)

Elements (whole country)	Summer 2015(a)	Summer 2014(b)	Normals of Summer (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	23.7	23.6	23.6	0.1	0.1	-
Mean maximum temp. (°C)	28.7	28.1	28.4	0.6	0.3	-
Mean minimum temp. (°C)	19.8	20.1	19.7	-0.3	0.1	-
Precipitation (mm)	388.0	599.8	723.2	-211.8 (68.0%)	-335.2 (54.1%)	the 3th lowest
Days of rain (day)	33.7	43.9	37.3	-10.2	-3.6	-
Sunshine duration (hour)	580.4	482.2	503.0	98.2 (120.4%)	77.4 (115.4%)	-
Mean cloud amount (1/10)	6.4	7.2	6.5	-0.8	-0.1	-
Precipitation more than 80mm/day(day)	0.6	0.8	1.7	-0.2	-1.1	minimum days rank 3th
Days of maximum temperature more than 33°C(day)	9.7	6.1	9.8	3.6	-0.1	-

### □ The nationwide average value of meteorological element during Summer 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)	Precipitation more than 80mm/day (day)	Days of maximum temperature more than 33°C (day)
1973-1980(a)	23.4	28.1	19.5	616.0	36.5	538.0	6.6	1.2	8.5
1981-1990(b)	23.6	28.4	19.6	689.7	36.1	542.4	6.5	1.5	9.7
1991-2000(c)	23.5	28.3	19.7	709.7	36.1	512.8	6.4	1.8	10.0
2001-2010(d)	23.7	28.4	20.0	770.2	39.8	453.7	6.6	1.9	9.8
2015(e)	23.7	28.7	19.8	388.0	33.7	580.4	6.4	0.6	9.7
d-a	0.3	0.3	0.5	154.2	3.3	-84.3	0.0	0.7	1.3
d-b	0.1	0.0	0.4	80.5	3.7	-88.7	0.1	0.4	0.1
d-c	0.2	0.1	0.3	60.5	3.7	-59.1	0.2	0.1	-0.2
e-d	0.0	0.3	-0.2	-382.2	-6.1	126.7	-0.2	-1.3	-0.1

## Appendix 2 Climate features of Summer 2015 (Seoul)

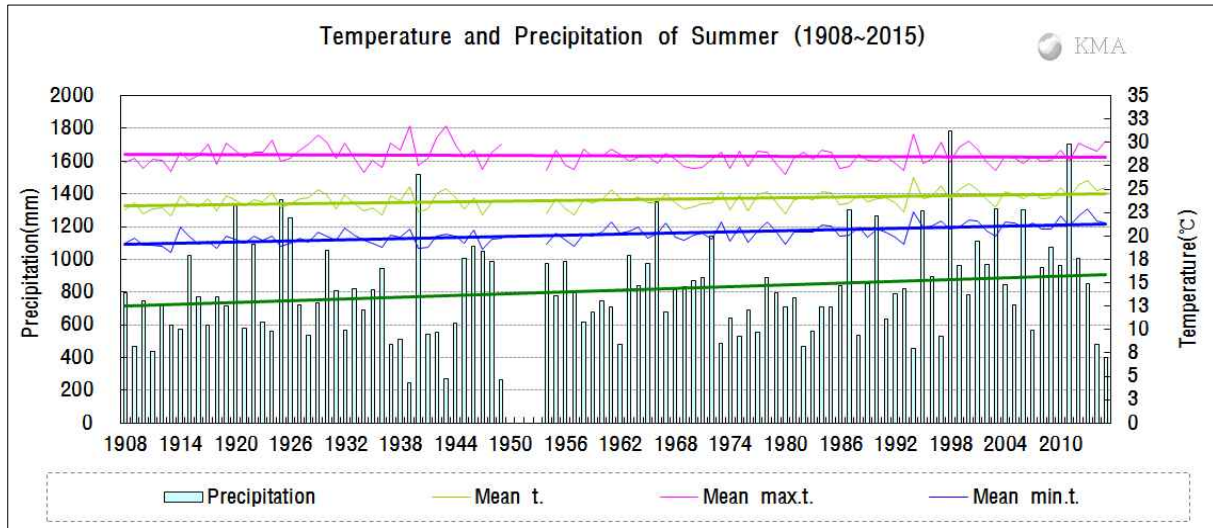


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during Summer (1908-2015).

### □ The average value of meteorological element during Summer in Seoul (1908-2015)

Elements (Seoul)	Summer 2015(a)	Summer 2014(b)	Normals of Summer (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	25.2	24.8	24.3	0.4	0.9	-
Mean maximum temp. (°C)	30.1	29.1	28.4	1.0	1.7	-
Mean minimum temp. (°C)	21.4	21.6	20.8	-0.2	0.6	-
Precipitation (mm)	397.9	478.8	892.1	-80.9 (83.1%)	-494.2 (44.6%)	the 4th lowest
Days of rain (day)	35.0	39.0	40.8	-4.0	-5.8	-
Sunshine duration (hour)	641.2	508.3	454.6	132.9 (126.1%)	186.6 (141.0%)	-
Mean cloud amount (1/10)	6.1	6.9	6.6	-0.8	-0.5	the 5th lowest
Precipitation more than 80mm/day(day)	1.0	0.0	2.6	1.0	-1.6	-
Days of maximum temperature more than 33°C(day)	8.0	9.0	6.6	-1.0	1.4	-

### □ The average value of meteorological element during summer 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)	Precipitation more than 80mm/day (day)	Days of maximum temperature more than 33°C(day)
1911-1920(a)	23.4	28.6	19.4	753.4	39.0	659.4	6.9	2.0	9.0
1921-1930	23.9	29.3	19.6	851.0	38.7	646.6	7.0	2.7	12.9
1931-1940(b)	23.5	28.7	19.7	740.6	41.3	590.6	7.4	1.6	11.8
1941-1949	23.7	29.3	19.6	706.9	39.9	674.9	6.9	1.6	16.3
1954-1960	23.3	28.2	19.8	796.4	42.1	507.0	7.1	1.7	9.6
1961-1970	23.8	28.2	20.4	857.7	44.1	452.8	7.3	2.2	6.6
1971-1980(c)	23.7	28.1	20.3	732.4	39.5	423.3	7.0	1.6	5.2
1981-1990	24.0	28.3	20.5	800.4	40.3	507.2	6.8	2.1	6.3
1991-2000	24.5	28.8	20.9	894.8	38.1	491.1	6.5	2.8	9.1
2001-2010(d)	24.3	28.3	21.1	981.2	44.0	365.4	6.7	3.0	4.3
2015(e)	25.2	30.1	21.4	397.9	35.0	641.2	6.1	1.0	8.0
d-a	0.9	-0.3	1.7	227.8	5.0	-294.0	-0.2	1.0	-4.7
d-b	0.8	-0.4	1.4	240.6	2.7	-225.2	-0.7	1.4	-7.5
d-c	0.6	0.2	0.8	248.8	4.5	-57.9	-0.3	1.4	-0.9
e-d	0.9	1.8	0.3	-583.3	-9.0	275.8	-0.6	-2.0	3.7