



MONTHLY CLIMATE REVIEW OVER KOREA (total 9 pages)

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August and Summer(June-August) 2014 Climate Summary

- ◇ The nationwide mean temperature in August 2014 was 23.8 °C, 1.3 °C below normal and the nationally-averaged precipitation (369.0 mm) was 138.4% of normal.
 - The mean maximum temperature was the fourth lowest and the number of rainy days was the second highest on record since 1973.
- ◇ The nationwide mean temperature (23.6 °C) in Summer 2014 was same normal and the nationally-averaged precipitation (599.8 mm) was 83.6% of normal.
- Climate features and long-term trends in August(Summer) 2014 were analyzed with the data collected at the 45 meteorological stations throughout Korea (national average) from 1973 to 2014 (1908-2014 for Seoul).

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

□ The climatic characteristics in August 2014

- o Korea (as a whole),
 - The mean temperature (23.8 °C), the mean maximum temperature (27.7 °C) and the mean minimum temperature (20.8 °C) were 1.3 °C, 2.1 °C, 0.7 °C below normal, respectively.
 - The mean maximum temperature was the fourth lowest on record since 1973.
 - The nationally-averaged precipitation was 369.0 mm, which was 138.4 % of normal.
 - The number of rainy days was 18.2, which was 5.0 days more than normal.
 - The number of rainy days was the second highest on record since 1973.
 - The total number of hours of sunshine was 127.9, which was 73.6 % of normal.

o Seoul,

- The mean temperature (25.2 °C), the mean maximum temperature (29.0 °C) and the mean minimum temperature (22.1 °C) were 0.5 °C, 0.6 °C, 0.3 °C below normal, respectively.
- The amount of precipitation was 172.8 mm, which was 47.4 % of normal.
- The number of rainy days was 16.0, which was 1.4 days more than normal.
- The total number of hours of sunshine was 150.7, which was 98.8 % of normal.

□ **Long-term¹⁾ trend in August 2014 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.

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

□ **The climatic characteristics in Summer 2014**

o Korea (as a whole),

- The mean temperature (23.6 °C) was same normal, the mean maximum temperature was 28.1 °C, 0.3 °C below normal and the mean minimum temperature (20.1 °C) was 0.4 °C above normal.
- The nationally-averaged precipitation was 599.8 mm, which was 83.6 % of normal.
- The number of rainy days was 43.9, which was 6.6 days more than normal.
- The total number of hours of sunshine was 482.1, which was 95.8 % of normal.

o Seoul,

- The mean temperature (24.8 °C), the mean maximum temperature (29.1 °C) and the mean minimum temperature (21.6 °C) were 0.5 °C, 0.7 °C, 0.8 °C above normal, respectively.
- The amount of precipitation was 478.8 mm, which was 53.7 % of normal.
- The number of rainy days was 39.0, which was 1.8 days less than normal.
- The total number of hours of sunshine was 508.3, which was 111.8 % of normal.

□ **Long-term²⁾ trend of Summer 2014 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 more 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.

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

- 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.

Appendix 1 Climate features of August 2014 (Nationwide)

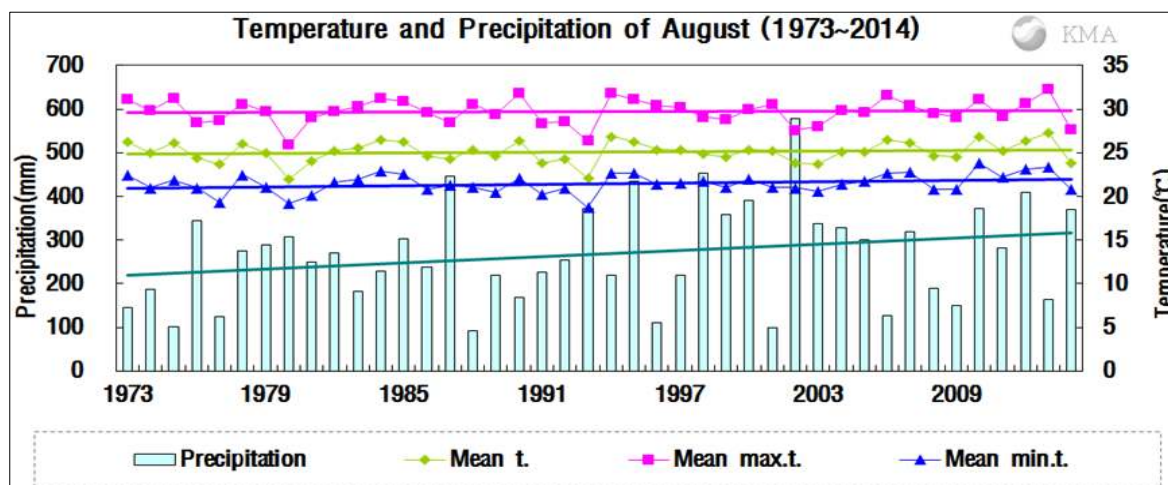


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during August (1973-2014).

□ The nationwide average value of meteorological element during August (1973-2014)

Elements (whole country)	August 2014(a)	August 2013(b)	Normal of August (1981-2010) (c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	23.8	27.3	25.1	-3.5	-1.3	
Mean maximum temp. (°C)	27.7	32.3	29.8	-4.6	-2.1	the fourth lowest
Mean minimum temp. (°C)	20.8	23.4	21.5	-2.6	-0.7	
Precipitation (mm)	369.0	164.0	274.9	205.0 (282.3%)	94.1 (138.4%)	
Days of rain (day)	18.2	10.6	13.2	7.6	5.0	the second highest
Sunshine duration (hour)	127.9	246.3	173.7	-118.4 (51.9%)	-45.8 (73.6%)	
Mean cloud amount (1/10)	7.8	5.1	6.2	2.7	1.6	the second highest
Precipitation more than 80mm/day(day)	0.8	0.3	0.7	0.5	0.1	
Days of maximum temperature more than 33°C(day)	1.0	13.0	5.3	-12.0	-4.3	the fourth lowest

□ 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	6.2	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
2014(e)	23.8	27.7	20.8	369.0	18.2	127.9	7.8	0.8	1.0
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	0.1	-0.2	1.1
e-d	-1.4	-2.0	-0.9	88.6	4.1	-29.0	1.5	0.1	-4.7

Appendix 2 Climate features of August 2014 (Seoul)

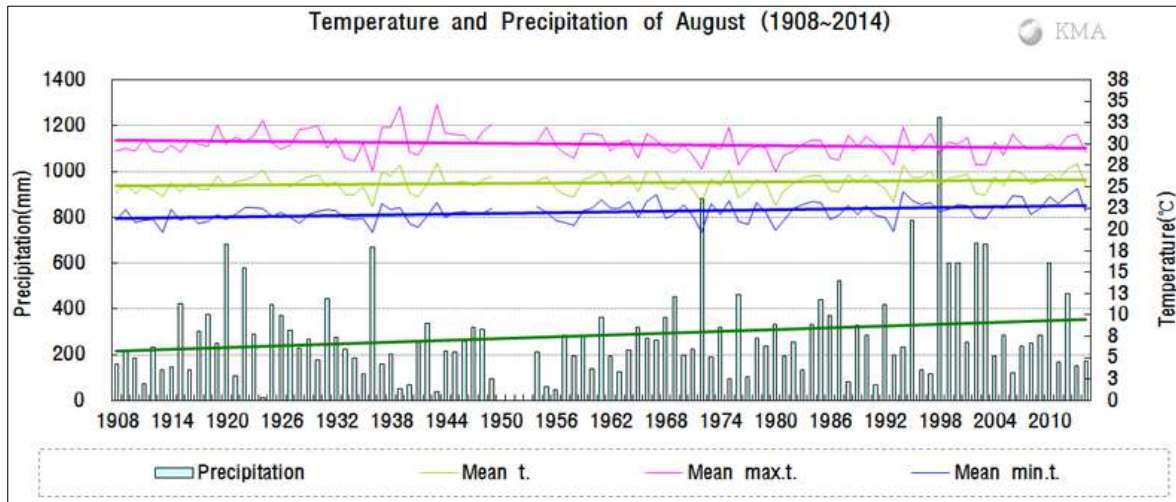


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during August (1908-2014).

□ The average value of meteorological element during August in Seoul(1908-2014)

Elements (Seoul)	August 2014(a)	August 2013(b)	Normal of August (1981-2010) (c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	25.2	27.7	25.7	-2.5	-0.5	
Mean maximum temp. (°C)	29.0	31.1	29.6	-2.1	-0.6	
Mean minimum temp. (°C)	22.1	24.8	22.4	-2.7	-0.3	
Precipitation (mm)	172.8	148.6	364.2	24.2 (116.3%)	-191.4 (47.4%)	
Days of rain (day)	16.0	12.0	14.6	4.0	1.4	
Sunshine duration (hour)	150.7	217.9	152.5	-67.2 (69.2%)	-1.8 (98.8%)	
Mean cloud amount (1/10)	7.1	6.2	6.4	0.9	0.7	
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)	2.0	2.0	4.0	0.0	-2.0	

□ 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
2014(e)	25.2	29.0	22.1	172.8	16.0	150.7	7.1	0.0	2.0
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	-0.5	-0.5	-0.5	-186.9	0.2	22.5	0.7	-1.1	-1.2

Appendix 3 Climate features of Summer 2014 (Nationwide)

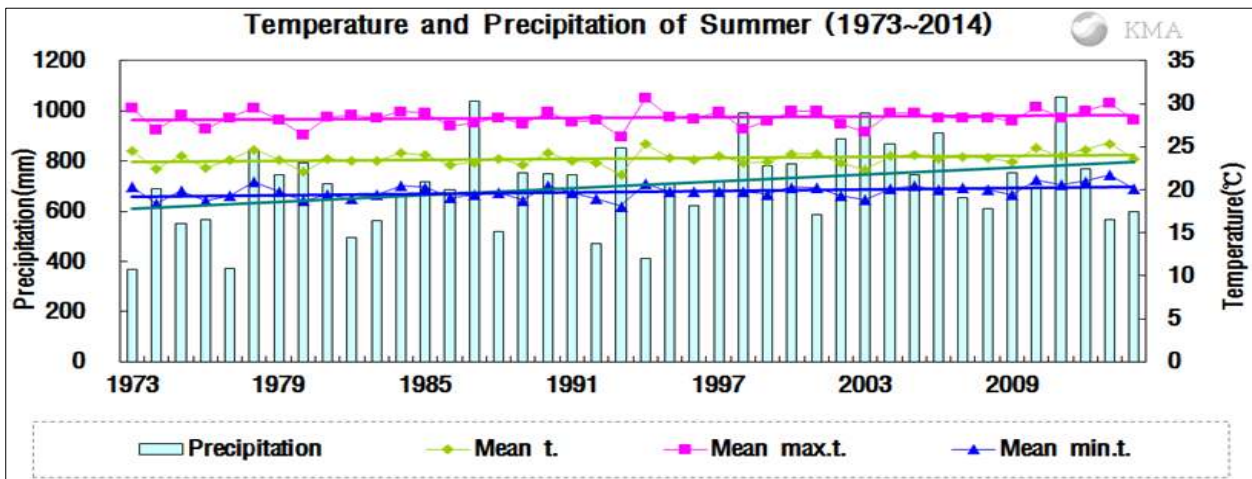


Fig 3. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during Summer (1973-2014).

□ The nationwide average value of meteorological element during Summer (1973-2014)

Elements (whole country)	Summer 2014(a)	Summer 2013(b)	Normals of Summer (1981-2010) (c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	23.6	25.4	23.6	-1.8	0	
Mean maximum temp. (°C)	28.1	30.1	28.4	-2.0	-0.3	
Mean minimum temp. (°C)	20.1	21.7	19.7	-1.6	0.4	
Precipitation (mm)	599.8	567.5	723.2	32.3 (120.3%)	-123.4 (83.6%)	
Days of rain (day)	43.9	37.1	37.3	6.8	6.6	
Sunshine duration (hour)	482.1	586.1	503.0	-104 (82.3%)	-20.9 (95.8%)	
Mean cloud amount (1/10)	7.2	6.3	6.5	0.9	0.7	the fifth highest
Precipitation more than 80mm/day(day)	0.8	1.2	1.7	-0.4	-0.9	the third lowest
Days of maximum temperature more than 33°C(day)	6.1	18.2	9.8	-12.1	-3.7	

□ 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	6.5	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
2014(e)	23.6	28.1	20.1	599.8	43.9	482.1	7.2	0.8	6.1
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	0.1	0.1	-0.2
e-d	-0.1	-0.3	0.1	-170.4	4.1	28.4	0.6	-1.1	-3.7

Appendix 4 Climate features of Summer 2014 (Seoul)

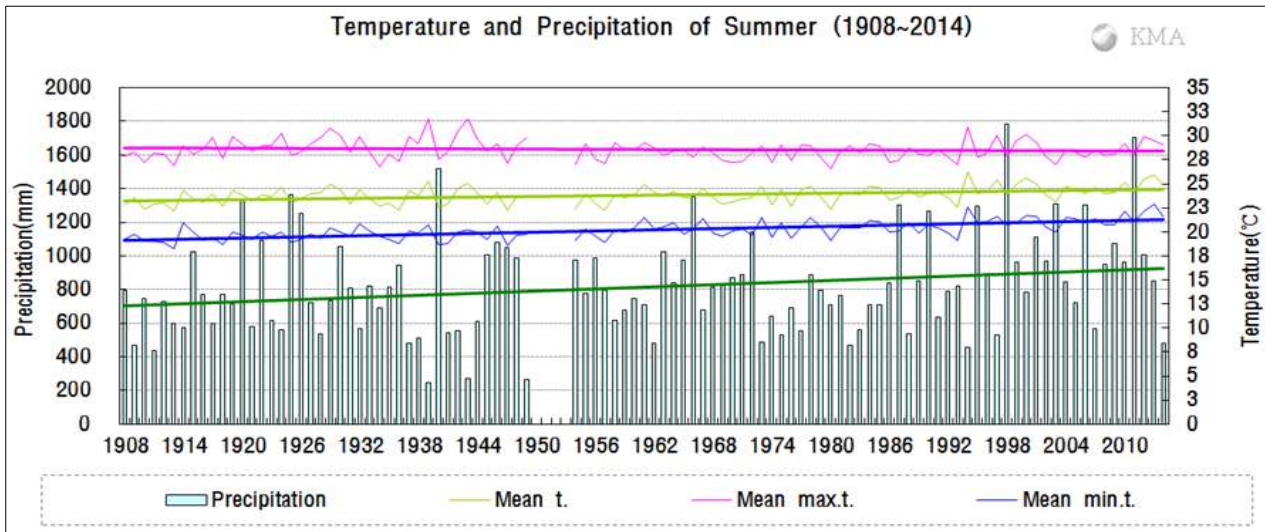


Fig 4. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during Summer (1908–2014).

□ The average value of meteorological element during Summer in Seoul(1908-2014)

Elements (Seoul)	Summer 2014(a)	Summer 2013(b)	Normals of Summer (1981-2010) (c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	24.8	25.9	24.3	-1.1	0.5	
Mean maximum temp. (°C)	29.1	29.5	28.4	-0.4	0.7	
Mean minimum temp. (°C)	21.6	22.9	20.8	-1.3	0.8	
Precipitation (mm)	478.8	853.1	892.1	-374.3 (56.1%)	-413.3 (53.7%)	
Days of rain (day)	39.0	46.0	40.8	-7.0	-1.8	
Sunshine duration (hour)	508.3	542.9	454.6	-34.6 (93.6%)	53.7 (111.8%)	
Mean cloud amount (1/10)	6.9	6.7	6.6	0.2	0.3	
Precipitation more than 80mm/day(day)	0.0	2.0	2.6	-2.0	-2.6	
Days of maximum temperature more than 33°C(day)	9.0	2.0	6.6	7.0	2.4	

□ 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
2014(e)	24.8	29.1	21.6	478.8	39.0	508.3	6.9	0.0	9.0
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	0.5	0.8	0.5	-502.4	-5.0	142.9	0.2	-3.0	4.7

Appendix 5 Meteorological observation network

