



# MONTHLY CLIMATE REVIEW OVER KOREA (total 8 pages)

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## November and Fall(September-November) 2014 Climate Summary

- ◇ The nationwide mean temperature in November 2014 was 8.8 °C, 1.2 °C above normal and the nationally-averaged precipitation (56.8 mm) was 124.6% of normal.
- ◇ The nationwide mean temperature in Fall 2014 was 14.9 °C, 0.8 °C above normal and the nationally-averaged precipitation (293.1 mm) was 114.1% of normal.
- Climate features and long-term trends in November(Fall) 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 November 2014**
  - o Korea (as a whole),
    - The mean temperature (8.8 °C), the mean maximum temperature (14.5 °C) and the mean minimum temperature (4.1 °C) were 1.2 °C, 0.9 °C, 1.6 °C above normal, respectively.
    - The nationally-averaged precipitation was 56.8 mm, which was 124.6 % of normal. The number of rainy days was 8.3, which was 1.2 days more than normal.
    - The total number of hours of sunshine was 177.7, which was 106.0 % of normal.
  - o Seoul,
    - The mean temperature (9.0 °C), the mean maximum temperature (13.8 °C), the mean minimum temperature (4.9 °C) were 1.8 °C, 2.2 °C, 1.7 °C above normal, respectively.
    - The amount of precipitation was 41.5 mm, which was 79.0 % of normal.
    - The number of rainy days was 9.0, which was 0.3 days more than normal.
    - The total number of hours of sunshine was 194.1, which was 126.7 % of normal.

## □ Long-term<sup>1)</sup> trend in November 2014 climate

### o Korea (as a whole),

- The national mean temperatures in November in the 2000s (2001-2010) was 0.7 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in November in the 2000s was 7.4 mm less than that of in the 1970s.
- The number of rainy days in November in the 2000s was 1.3 days less than that of in the 1970s.
- The total sunshine hours in November in the 2000s was 2.5 hours more than that of in the 1970s.

### o Seoul,

- The mean temperatures in November in the 2000s (2001-2010) was 0.8 °C above that of in the 1970s (1971-1980).
- The precipitation in November in the 2000s was 1.5 mm less than that of in the 1970s.
- The number of rainy days in November in the 2000s was 1.0 days less than that of in the 1970s.
- The total sunshine hours in November in the 2000s was 6.0 hours more than that of in the 1970s.

## □ The climatic characteristics in Fall 2014

### o Korea (as a whole),

- The mean temperature (14.9 °C), the mean maximum temperature (20.7 °C) and the mean minimum temperature (10.0 °C) were 0.8 °C, 0.6 °C, 0.8 °C above normal, respectively.
- The nationally-averaged precipitation was 293.1 mm, which was 114.1 % of normal. The number of rainy days was 21.9, which was 0.1 days more than normal.
- The total number of hours of sunshine was 605.9, which was 112.5 % of normal.

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

o Seoul,

- The mean temperature (15.6 °C), the mean maximum temperature (20.7 °C), the mean minimum temperature (11.2 °C) were 1.2 °C, 1.6 °C, 0.9 °C above normal, respectively.
- The amount of precipitation was 181.8 mm, which was 66.4 % of normal.
- The number of rainy days was 22.0, which was 2.1 days less than normal.
- The total number of hours of sunshine was 648.2, which was 122.7 % of normal.

□ **Long-term<sup>2)</sup> trend in Fall 2014 climate**

o Korea (as a whole),

- The national mean temperatures in Fall in the 2000s (2001-2010) was 0.7 °C above that of in the 1970s (1973-1980).
- The nationally-averaged precipitation in Fall in the 2000s was 33.7 mm more than that of in the 1970s.
- The number of rainy days in Fall in the 2000s was 0.5 days less than that of in the 1970s.
- The total sunshine hours in Fall in the 2000s was 27.1 hours less than that of in the 1970s.

o Seoul,

- The mean temperatures in Fall in the 2000s (2001-2010) was 1.0 °C above that of in the 1970s (1971-1980).
- The precipitation in Fall in the 2000s was 100.8 mm more than that of in the 1970s.
- The number of rainy days in Fall in the 2000s was 0.7 days less than that of in the 1970s.
- The total sunshine hours in Fall in the 2000s was 24.0 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 November 2014 (Nationwide)

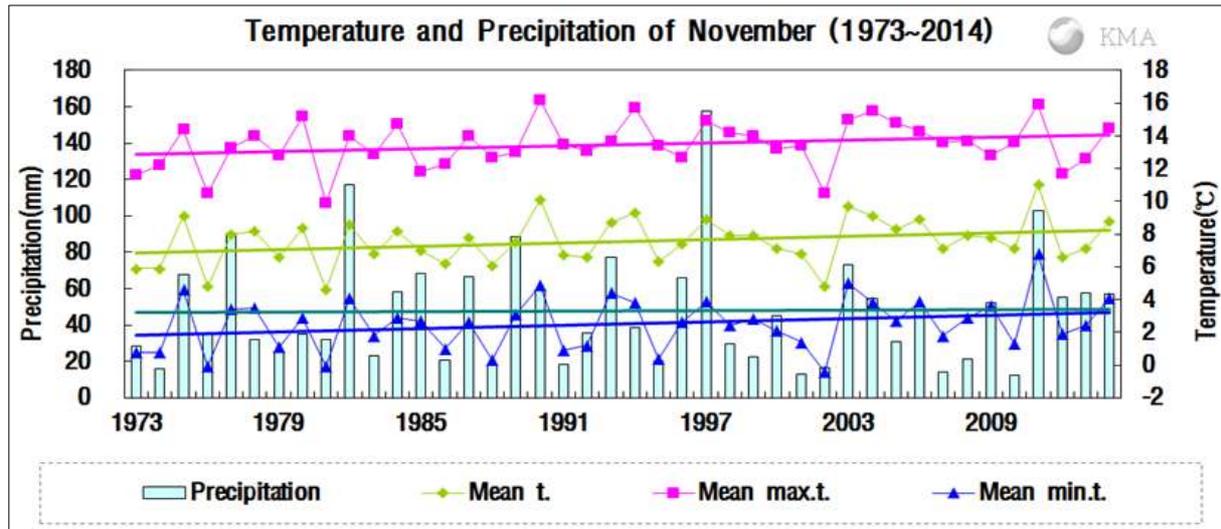


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during November (1973~2014).

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

Elements (whole country)	Nov. 2014(a)	Nov. 2013(b)	Normals of Nov. (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	8.8	7.1	7.6	1.7	1.2	
Mean maximum temp. (°C)	14.5	12.6	13.6	1.9	0.9	
Mean minimum temp. (°C)	4.1	2.4	2.5	1.7	1.6	
Precipitation (mm)	56.8	57.5	46.7	-0.7 (124.9%)	10.1 (124.6%)	
Days of rain (day)	8.3	10.8	7.1	-2.5	1.2	
Sunshine duration (hour)	177.7	194.3	167.6	-16.6 (91.5%)	10.1 (106.0%)	
Mean cloud amount (1/10)	4.6	4.0	4.1	0.6	0.5	
Days of minimum temperature less than 0°C (day)	5.7	9.9	9.7	-4.2	-4.0	the fourth smallest
Days of daily temperature range greater than 10°C (day)	15.6	15.1	17.5	0.5	-1.9	
Days of snow (day)	0.6	3.8	1.2	-3.2	-0.6	

### □ The nationwide average value of meteorological element during November 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 0°C (day)	Days of daily temperature range greater than 10°C (day)	Days of snow (day)
1973-1980(a)	7.1	13.0	2.1	41.3	7.5	167.5	4.2	10.7	16.9	1.6
1981-1990(b)	7.3	13.1	2.3	55.1	7.8	165.8	4.4	10.3	16.6	1.2
1991-2000(c)	7.7	13.8	2.5	51.2	7.3	166.9	4.0	9.6	18.2	1.3
2001-2010(d)	7.8	13.7	2.6	33.9	6.2	170.0	3.9	9.3	17.7	1.1
2014(e)	8.8	14.5	4.1	56.8	8.3	177.7	4.6	5.7	15.6	0.6
d-a	0.7	0.7	0.5	-7.4	-1.3	2.5	-0.3	-1.4	0.8	-0.5
d-b	0.5	0.6	0.3	-21.2	-1.6	4.2	-0.5	-1.0	1.1	-0.1
d-c	0.1	-0.1	0.1	-17.3	-1.1	3.1	-0.1	-0.3	-0.5	-0.2
e-d	1.0	0.8	1.5	22.9	2.1	7.7	0.7	-3.6	-2.1	-0.5

## Appendix 2 Climate features of November 2014 (Seoul)

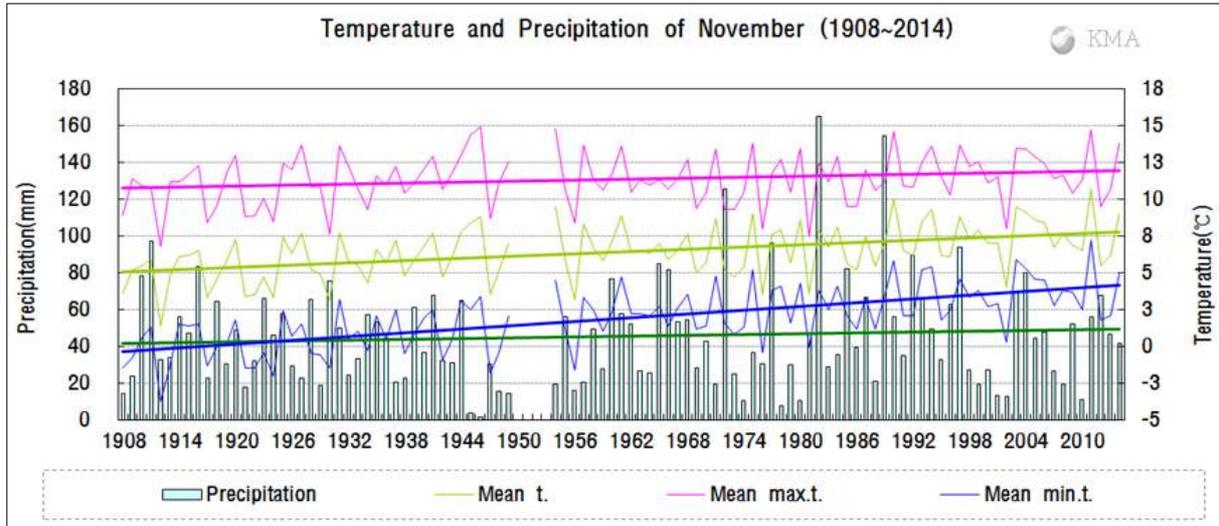


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during November (1908-2014).

### The average value of meteorological element during November in Seoul (1908-2014)

Elements (Seoul)	Nov. 2014(a)	Nov. 2013(b)	Normals of Nov. (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	9.0	6.2	7.2	2.8	1.8	
Mean maximum temp. (°C)	13.8	10.7	11.6	3.1	2.2	
Mean minimum temp. (°C)	4.9	2.1	3.2	2.8	1.7	
Precipitation (mm)	41.5	46.8	52.5	-5.3 (88.7%)	-11.0 (79.0%)	
Days of rain (day)	9.0	12.0	8.7	-3.0	0.3	
Sunshine duration (hour)	194.1	188.0	153.2	6.1 (103.2%)	40.9 (126.7%)	
Mean cloud amount (1/10)	4.3	3.9	4.1	0.4	0.2	
Days of minimum temperature less than 0°C (day)	5.0	14.0	7.3	-9.0	-2.3	
Days of daily temperature range greater than 10°C (day)	11.0	9.0	8.4	2.0	2.6	
Days of snow (day)	1.0	4.0	2.1	-3.0	-1.1	

### The average value of meteorological element during November 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 0°C (day)	Days of daily temperature range greater than 10°C (day)	Days of snow (day)
1911-1920(a)	5.2	10.7	0.1	51.7	8.8	179.8	4.5	15.6	16.9	2.4
1921-1930	5.0	10.4	-0.3	43.2	9.6	176.6	4.3	16.0	16.5	3.5
1931-1940(b)	6.0	11.4	1.2	40.2	9.4	176.9	4.4	11.8	16.1	2.1
1941-1949	6.6	12.2	1.2	29.0	7.0	200.0	4.1	11.6	18.0	1.7
1954-1960	6.6	11.6	1.9	38.1	6.7	159.5	4.2	9.3	13.7	1.4
1961-1970	6.6	11.2	2.4	50.7	10.3	153.9	4.9	9.7	10.0	2.7
1971-1980(c)	6.6	11.3	2.7	39.1	9.1	141.8	4.5	9.9	8.8	2.4
1981-1990	6.7	11.2	2.7	69.6	9.6	156.9	4.4	8.6	8.5	1.9
1991-2000	7.4	11.9	3.3	50.4	8.3	155.1	4.0	6.5	10.6	2.2
2001-2010(d)	7.4	11.7	3.6	37.6	8.1	147.8	3.9	6.8	6.2	2.1
2014(e)	9.0	13.8	4.9	41.5	9.0	194.1	4.3	5.0	11.0	1.0
d-a	2.2	1.0	3.5	-14.1	-0.7	-32.0	-0.6	-8.8	-10.7	-0.3
d-b	1.4	0.3	2.4	-2.6	-1.3	-29.1	-0.5	-5.0	-9.9	0.0
d-c	0.8	0.4	0.9	-1.5	-1.0	6.0	-0.6	-3.1	-2.6	-0.3
e-d	1.6	2.1	1.3	3.9	0.9	46.3	0.4	-1.8	4.8	-1.1

## Appendix 3 Climate features of Fall 2014 (Nationwide)

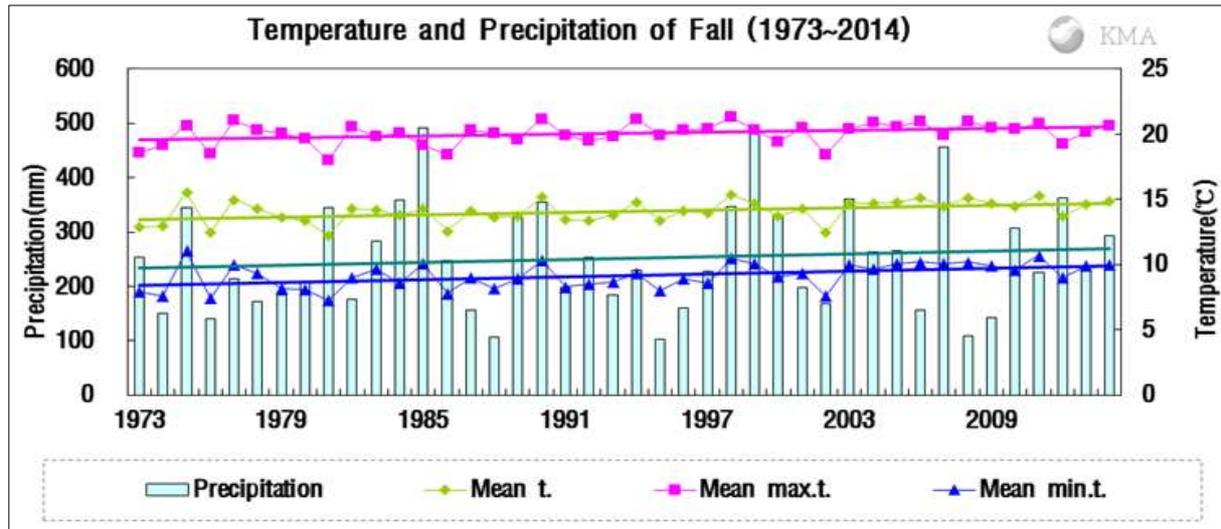


Fig 1. Temperatures (mean, mean maximum and mean minimum) and precipitation in South Korea during Fall (1973–2014).

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

Elements (whole country)	Fall 2014(a)	Fall 2013(b)	Normals of Fall (1981-2010)(c)	a-b	a-c	Rank since 1973 (within 5th)
Mean temperature (°C)	14.9	14.6	14.1	0.3	0.8	
Mean maximum temp. (°C)	20.7	20.2	20.1	0.5	0.6	
Mean minimum temp. (°C)	10.0	9.9	9.2	0.1	0.8	
Precipitation (mm)	293.1	231.2	259.7	61.9 (130.5%)	33.4 (114.1%)	
Days of rain (day)	21.9	26.5	21.8	-4.6	0.1	
Sunshine duration (hour)	605.9	605.9	538.5	0.0 (100.0%)	67.4 (112.5%)	the longest
Mean cloud amount (1/10)	4.5	4.4	4.6	0.1	-0.1	
Days of minimum temperature less than 0°C (day)	6.0	10.1	10.7	-4.1	-4.7	the fifth smallest
Days of daily temperature range greater than 10°C (day)	51.3	49.3	52.9	2.0	-1.6	
Days of snow (day)	0.6	3.8	1.2	-3.2	-0.6	

### □ The nationwide average value of meteorological element during Fall 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 0°C (day)	Days of daily temperature range greater than 10°C (day)	Days of snow (day)
1973-1980(a)	13.8	19.8	8.7	208.9	22.5	549.3	4.7	11.9	53.9	1.7
1981-1990(b)	13.8	19.8	8.9	284.6	22.8	544.3	4.8	11.5	52.2	1.3
1991-2000(c)	14.1	20.2	9.0	251.9	20.7	548.8	4.4	10.5	55.3	1.3
2001-2010(d)	14.5	20.4	9.7	242.6	22.0	522.2	4.6	10.0	51.1	1.1
2014(e)	14.9	20.7	10.0	293.1	21.9	605.9	4.5	6.0	51.3	0.6
d-a	0.7	0.6	1.0	33.7	-0.5	-27.1	-0.1	-1.9	-2.8	-0.6
d-b	0.7	0.6	0.8	-42.0	-0.8	-22.1	-0.2	-1.5	-1.1	-0.2
d-c	0.4	0.2	0.7	-9.3	1.3	-26.6	0.2	-0.5	-4.2	-0.2
e-d	0.4	0.3	0.3	50.5	-0.1	83.7	-0.1	-4.0	0.2	-0.5

## Appendix 4 Climate features of Fall 2014 (Seoul)

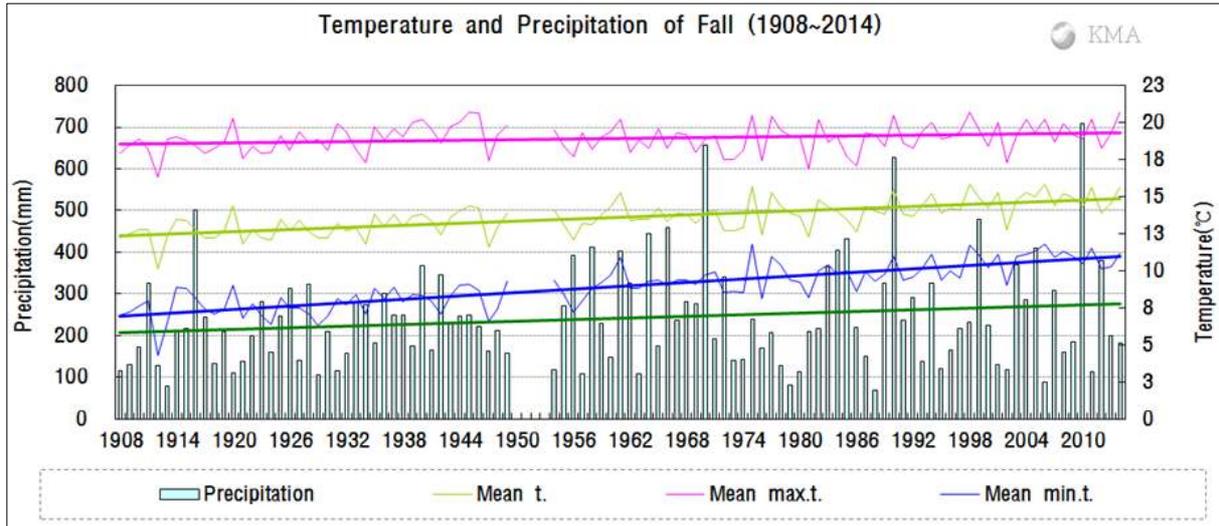


Fig 2. Temperatures (mean, mean maximum and mean minimum) and precipitation in Seoul during Fall (1908–2014).

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

Elements (Seoul)	Fall 2014(a)	Fall 2013(b)	Normals of Fall (1981-2010)(c)	a-b	a-c	Rank since 1908 (within 5th)
Mean temperature (°C)	15.6	14.6	14.4	1.0	1.2	the fourth highest
Mean maximum temp. (°C)	20.7	19.3	19.1	1.4	1.6	the highest
Mean minimum temp. (°C)	11.2	10.3	10.3	0.9	0.9	
Precipitation (mm)	181.8	198.8	273.6	-17.0 (91.4%)	-91.8 (66.4%)	
Days of rain (day)	22.0	25.0	24.1	-3.0	-2.1	
Sunshine duration (hour)	648.2	628.9	528.3	19.3 (103.1%)	119.9 (122.7%)	
Mean cloud amount (1/10)	4.2	4.1	4.4	0.1	-0.2	
Days of minimum temperature less than 0°C(day)	5.0	14.0	7.5	-9.0	-2.5	
Days of daily temperature range greater than 10°C(day)	44.0	37.0	32.9	7.0	11.1	
Days of snow (day)	1.0	4.0	2.1	-3.0	-1.1	

### □ The average value of meteorological element during Fall 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 0°C(day)	Days of daily temperature range greater than 10°C(day)	Days of snow (day)
1911-1920(a)	12.7	18.5	7.6	215.9	26.3	625.7	5.0	16.9	56.3	2.4
1921-1930	12.6	18.4	7.2	211.6	24.7	619.5	4.7	17.7	58.0	3.5
1931-1940(b)	13.2	19.2	8.2	235.5	25.6	630.1	4.8	12.8	58.1	2.3
1941-1949	13.4	19.5	8.2	221.4	24.1	646.5	4.6	12.3	61.2	1.7
1954-1960	13.4	18.8	8.7	239.7	23.4	561.4	4.7	9.7	48.7	1.4
1961-1970	13.8	18.9	9.4	337.0	27.0	537.3	4.9	9.7	42.3	2.8
1971-1980(c)	13.8	18.8	9.5	175.5	24.8	510.7	4.7	10.1	38.7	2.5
1981-1990	13.9	18.7	9.7	301.8	23.7	556.4	4.8	8.9	35.4	2.0
1991-2000	14.4	19.2	10.2	242.6	24.4	541.7	4.3	6.7	37.2	2.3
2001-2010(d)	14.8	19.3	10.9	276.3	24.1	486.7	4.3	6.9	26.1	2.1
2014(e)	15.6	20.7	11.2	181.8	22.0	648.2	4.2	5.0	44.0	1.0
d-a	2.1	0.8	3.3	60.4	-2.2	-139.0	-0.7	-10.0	-30.2	-0.3
d-b	1.6	0.1	2.7	40.8	-1.5	-143.4	-0.5	-5.9	-32.0	-0.2
d-c	1.0	0.5	1.4	100.8	-0.7	-24.0	-0.4	-3.2	-12.6	-0.4
e-d	0.8	1.4	0.3	-94.5	-2.1	161.5	-0.1	-1.9	17.9	-1.1

