

NEWS & RELEASE

For further inquiry please contact:

Xymax Real Estate Institute

Phone: +81 3-5544-6640 FAX: +81 3-5544-6641

info-rei@xymax.co.jp

Electric Power Consumption by Office Tenants (December 2013)

Average Consumption for 2013: Over 10% lower than before the earthquake for three years in a row

Xymax Real Estate Institute has been studying the electric power consumption by tenants in office buildings in Japan and releasing the results on regular basis since June 2013. This is an update report for December 2013 and comparison with the period before the Great East Japan Earthquake.

- Previous report: Electric Power Consumption by Office Tenants (released on December 24, 2013) <http://www.xymax.co.jp/english/research/release/131224.html>
- Monthly data (January 2010 – December 2013) is available at the end of this report.

Definition of Electric Power Consumption by Office Tenants

The electric power per *tsubo* (3.3 sq m) consumed by tenants in office buildings in one month.

Key Findings The areas covered by Tokyo Electric Power Company (TEPCO)

- **Consumption by office tenants in autumn 2013 (October - December) was 36.1 kWh/tsubo, over 10% lower level than before the earthquake for three years in a row.**
- **Average consumption for 2013 was 39.6 kWh/tsubo, also maintained the over 10% lower level than before the earthquake for three years in a row.**

Outline

Period January 2010 – December 2013 (monthly data)

Subject data Of the office-use tenants occupying the office buildings in Japan under management by Xymax Group, the valid data (roughly 300 buildings, 3,000 tenants) was used as the sample data for this study.

Calculation Method

- 1) Calculate the monthly electric power consumption in kilowatt-hour (kWh) by tenant.
- 2) Adjust the outcome in 1) based on the ordinary business days of the week (Monday-Friday).
- 3) Calculate the electric power consumption per tsubo (approx. 3.3 sq m) by dividing the outcome in 2) by the rentable area of the tenant space.
- 4) Average the outcome in 3) by the areas covered by each electric power company.

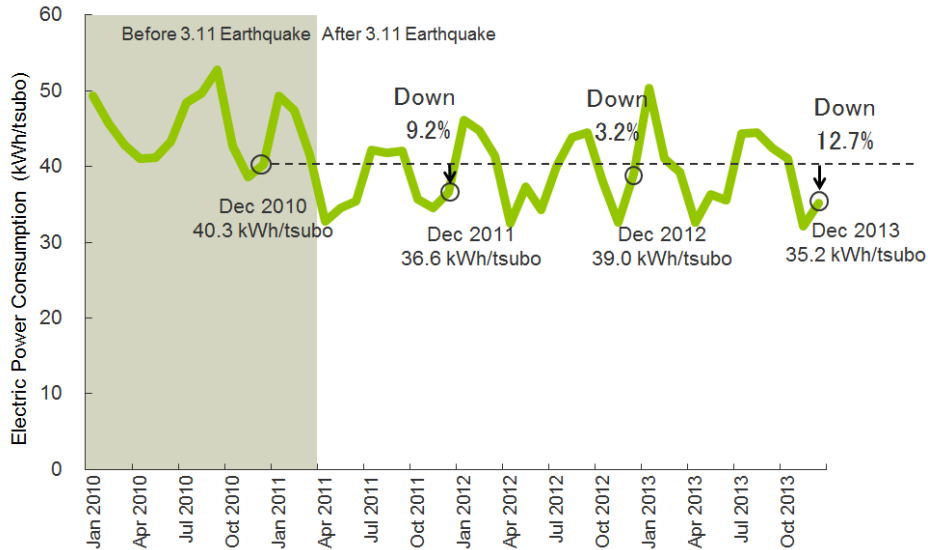
Notes

- Use other than office use, such as retail, warehouse, and computer room are excluded from the subject data.
- Tenants in buildings with central air conditioning or gas heat pump where separate calculation of the energy use by tenant is impossible are excluded from the subject data.
- The month represents the month the electric power meter is read, usually on 20th of each month.
- Extraordinary amounts (too high, too low) are identified as outlier and excluded from the subject data.
- The number of subject tenants varies every month as tenants move in and out.

Electric Power Consumption by Office Tenants

Figure 1 shows the changes in electric power consumption from January 2010 to December 2013 by tenants in office buildings in the areas covered by TEPCO. The amounts were 41.1 kWh/tsubo in October 2013, followed by 32.1 kWh/tsubo in November and 35.2 kWh/tsubo in December.

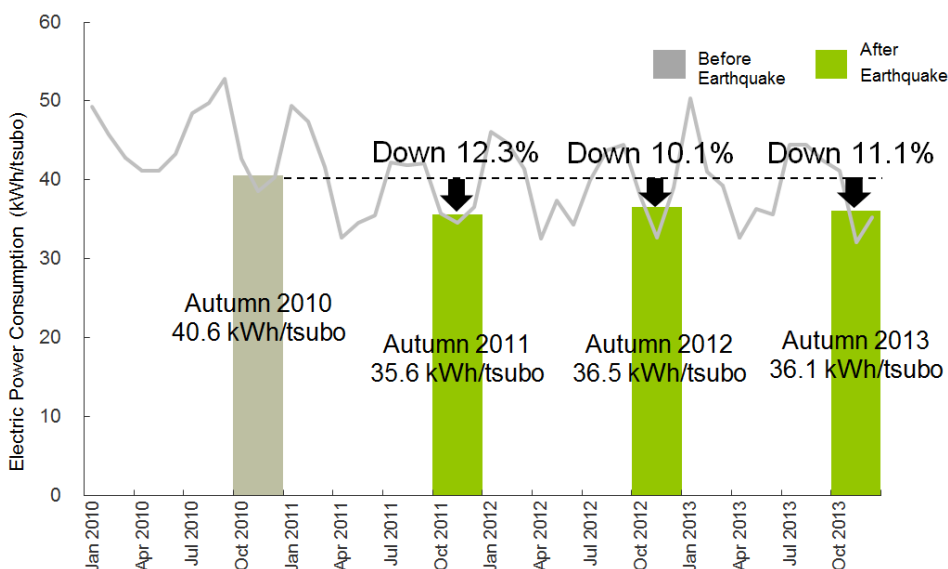
Figure 1: Electric Power Consumption by Office Tenants (January 2010 – December 2013)



Autumn Average 2013: Over 10% lower level than before the earthquake for three years in a row

The electric power consumed by office tenants in autumn (the October–December average) shows decrease of over 10% from the autumn average before the earthquake for three years in a row; 40.6 kWh/tsubo in 2010 (before the earthquake), 35.6 kWh/tsubo in 2011 (down 12.3% from 2010), 36.5 kWh/tsubo in 2012 (down 10.1% from 2010), 36.1 kWh/tsubo in 2013 (down 11.1% from 2010) (see Figure 2).

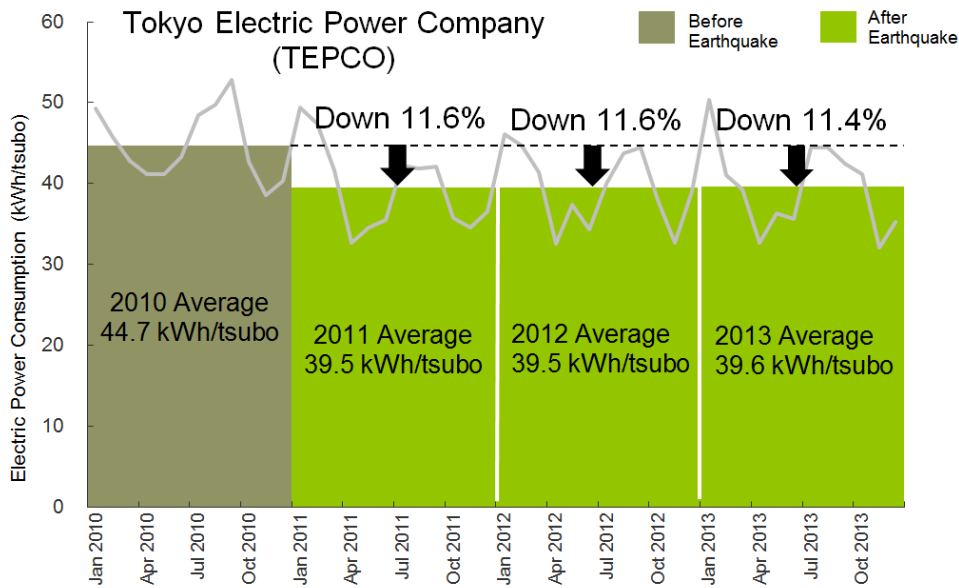
Figure 2: Electric Power Consumption in Autumn by Office Tenants (October - December Average)



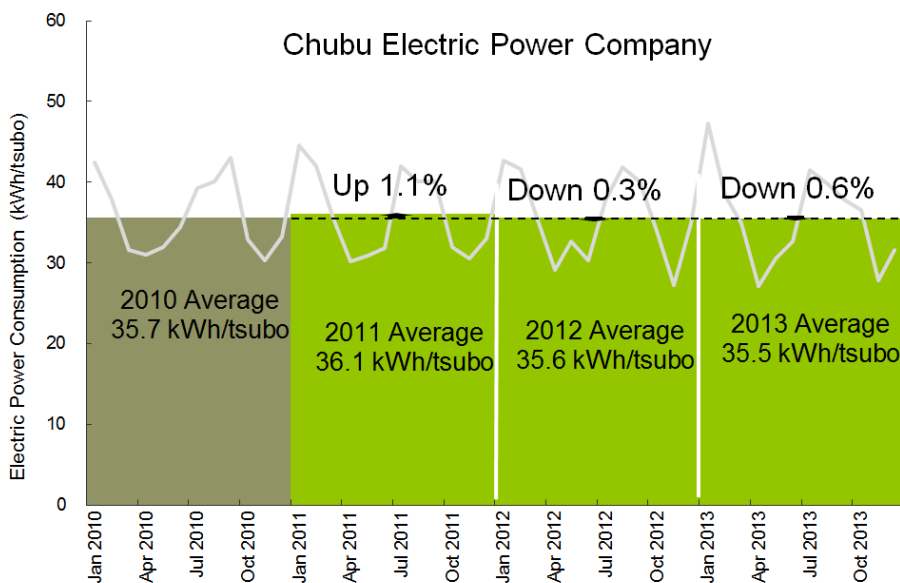
Annual Average 2013: Also over 10% lower level than before the earthquake for three years in a row

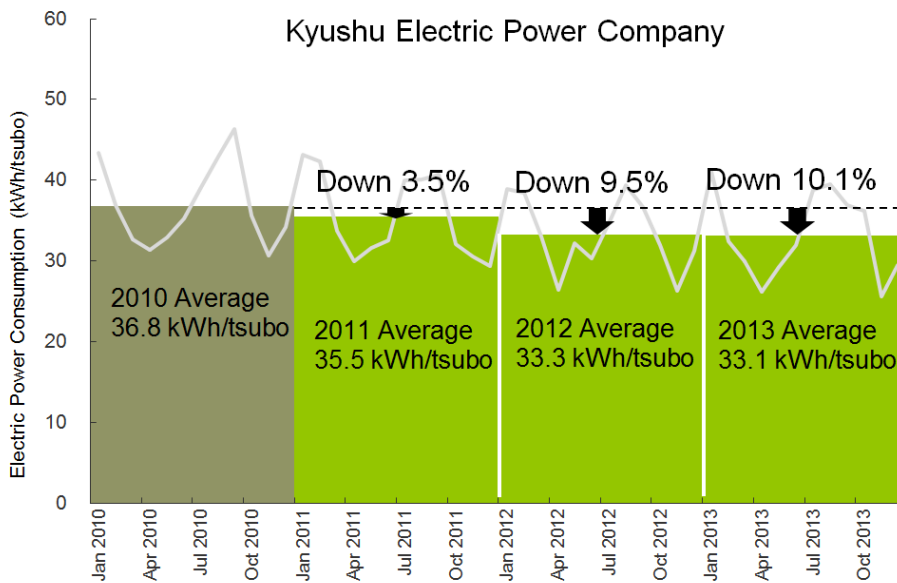
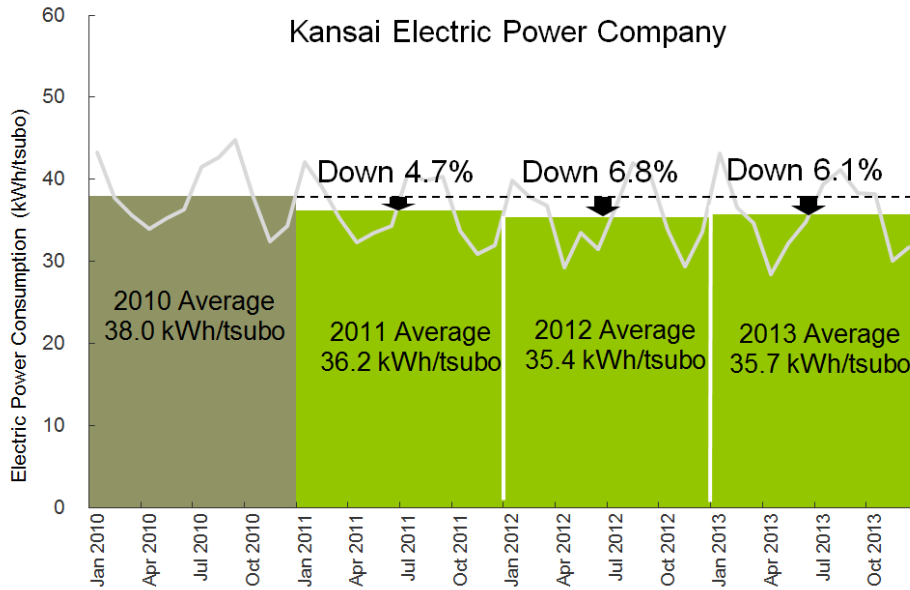
The average electric power consumed by office tenants in 2013 also shows decrease of over 10% from the annual average before the earthquake for three years in a row; 44.7 kWh/tsubo in 2010 (before the earthquake), 39.5 kWh/tsubo in 2011 (down 11.6% from 2010), 39.5 kWh/tsubo in 2012 (down 11.6% from 2010), 39.6 kWh/tsubo in 2013 (down 11.4% from 2010) (see Figure 3).

Figure 3: Average Electric Power consumed by Office Tenants 2010-2013 (Areas covered by TEPCO)



Reference: Average Electric Power consumed by Office Tenants 2010-2013 (Areas covered by Chubu, Kansai and Kyushu Electric Power Company)





Monthly Electric Power Consumption by Office Tenants and Temperature (Jan. 2010 – Dec. 2013)

Electric Power Company	Hokkaido			Sapporo			Tohoku			Sendai			Tokyo			Tokyo			Hokuriku			Kanazawa			Chubu			Nagoya		
	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C			
Jan 2010	49.0	116	-2.0	29.8	117	2.8	49.3	110	7.0	25.9	105	4.4	42.4	119	4.6															
Feb 2010	46.8	110	-3.2	26.4	104	2.1	45.8	102	6.5	25.9	105	4.8	37.8	106	7.0															
Mar 2010	43.1	102	-0.1	28.0	110	4.4	42.8	96	9.1	24.3	99	6.8	31.6	89	9.1															
Apr 2010	40.7	96	5.5	25.2	99	8.2	41.1	92	12.4	24.9	101	10.7	31.0	87	13.3															
May 2010	40.6	96	12.2	25.6	101	14.7	41.2	92	19.0	24.8	101	16.5	31.9	89	18.7															
Jun 2010	38.9	92	19.2	24.8	97	20.4	43.3	97	23.6	24.6	100	21.9	34.4	97	23.9															
Jul 2010	43.1	102	22.1	24.7	97	25.3	48.5	109	28.0	23.9	97	26.5	39.3	110	27.8															
Aug 2010	43.6	103	24.8	23.1	91	27.2	49.7	111	29.6	23.6	96	29.3	40.1	112	29.4															
Sep 2010	43.5	103	20.0	25.2	99	21.7	52.8	118	25.1	24.5	99	24.5	43.0	120	26.1															
Oct 2010	39.7	94	12.2	24.5	96	16.2	42.7	96	18.9	24.6	99	18.0	32.9	92	19.4															
Nov 2010	37.8	89	5.9	24.0	94	10.1	38.6	86	13.5	24.2	98	11.3	30.3	85	12.1															
Dec 2010	41.6	98	0.6	23.9	94	5.7	40.3	90	9.9	25.1	102	7.0	33.2	93	7.9															
Jan 2011	49.7	117	-3.8	26.6	105	0.5	49.4	111	5.1	28.7	116	1.5	44.6	125	2.8															
Feb 2011	44.6	105	-1.1	25.0	98	3.2	47.4	106	7.0	27.6	112	4.5	42.0	118	6.6															
Mar 2011	42.0	99	0.7	24.2	95	3.8	41.6	93	8.1	24.6	100	5.4	35.5	100	7.5															
Apr 2011	34.3	81	6.9	22.8	90	10.0	32.7	73	14.5	23.3	94	11.5	30.2	85	13.3															
May 2011	37.2	88	11.1	22.8	90	15.6	34.6	77	18.5	24.0	97	17.4	30.9	87	19.0															
Jun 2011	38.9	92	17.3	22.2	87	20.6	35.5	80	22.8	24.1	98	22.7	31.8	89	23.8															
Jul 2011	39.3	93	21.8	22.2	87	24.8	42.2	95	27.3	23.6	95	27.2	42.0	118	27.5															
Aug 2011	37.9	90	23.6	21.8	86	24.9	41.8	94	27.5	23.2	94	27.5	40.1	113	28.3															
Sep 2011	39.1	92	19.2	22.3	88	22.1	42.1	94	25.1	23.4	95	23.8	40.1	112	25.1															
Oct 2011	35.6	84	12.1	21.4	84	15.9	35.7	80	19.5	23.2	94	17.5	32.0	90	18.8															
Nov 2011	36.4	86	6.0	21.8	86	10.5	34.6	78	14.9	23.7	96	13.3	30.5	85	13.9															
Dec 2011	39.9	94	-2.0	21.4	84	3.4	36.6	82	7.5	23.0	93	5.3	33.0	93	6.7															
Jan 2012	47.9	113	-4.5	25.2	99	0.4	46.1	103	4.8	28.1	114	2.9	42.7	120	4.2															
Feb 2012	44.5	105	-4.4	22.5	88	0.3	44.7	100	5.4	27.2	110	2.6	41.6	117	4.1															
Mar 2012	40.3	95	0.1	23.5	92	4.5	41.4	93	8.8	25.9	105	7.0	35.3	99	8.3															
Apr 2012	37.3	88	7.0	21.0	82	9.8	32.5	73	14.5	22.2	90	12.7	29.1	82	14.2															
May 2012	37.8	89	13.0	23.6	93	15.9	37.4	84	19.6	26.4	107	17.1	32.6	91	19.2															
Jun 2012	35.2	83	17.1	21.5	85	18.2	34.3	77	21.4	24.3	99	21.3	30.3	85	22.3															
Jul 2012	39.6	93	21.8	24.1	95	22.8	40.0	90	26.4	24.4	99	26.8	37.7	106	26.9															
Aug 2012	38.1	90	23.4	24.3	96	26.2	43.8	98	29.1	27.1	110	28.9	41.8	117	28.4															
Sep 2012	39.0	92	22.4	26.1	102	23.9	44.5	100	26.2	27.2	110	25.2	40.1	112	25.8															
Oct 2012	35.9	85	13.0	20.8	82	16.6	38.0	85	19.4	25.9	105	18.1	33.9	95	19.0															
Nov 2012	33.8	80	5.5	22.0	86	9.7	32.6	73	12.7	23.0	93	10.5	27.2	76	11.3															
Dec 2012	40.0	94	-2.3	26.0	102	3.3	39.0	87	7.3	24.8	101	4.7	34.9	98	5.3															
Jan 2013	53.7	127	-4.7	32.1	126	0.7	50.4	113	5.5	29.0	117	3.0	47.3	133	4.0															
Feb 2013	43.1	102	-4.0	29.8	117	1.1	41.0	92	6.2	26.2	106	3.1	38.3	107	4.6															
Mar 2013	40.8	96	0.0	28.5	112	5.8	39.3	88	12.1	23.4	95	8.3	34.9	98	10.5															
Apr 2013	35.1	83	6.3	22.0	86	10.2	32.6	73	15.2	22.5	91	11.4	27.1	76	13.8															
May 2013	35.9	85	11.3	22.5	88	14.4	36.3	81	19.8	23.3	94	17.2	30.5	86	19.4															
Jun 2013	34.8	82	17.6	21.1	83	19.0	35.6	80	22.9	23.8	96	22.9	32.6	91	23.6															
Jul 2013	35.4	84	22.5	23.7	93	22.2	44.4	99	27.3	29.9	121	27.2	41.5	116	28.1															
Aug 2013	33.2	78	23.1	23.8	94	25.6	44.5	100	29.2	27.8	113	28.2	39.9	112	29.3															
Sep 2013	31.9	75	18.8	24.3	96	21.9	42.5	95	25.2	25.9	105	23.0	37.9	106	24.9															
Oct 2013	28.6	68	12.9	23.9	94	16.7	41.1	92	19.8	26.9	109	18.9	36.5	102	20.2															
Nov 2013	27.2	64	6.3	22.8	90	9.6	32.1	72	13.5	23.0	93	10.9	27.8	78	11.5															
Dec 2013	28.7	68	0.8	25.3	99	4.7	35.2	79	8.3	26.1	106	6.3	31.6	89	6.4															

Electric Power Company	Kansai		Osaka	Chugoku		Hiroshima	Shikoku		Takamatsu	Kyushu		Fukuoka
	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C	kWh / tsubo	2010 Average = 100	°C
Jan 2010	43.3	114	6.1	44.4	127	5.2	49.6	125	5.9	43.4	118	6.6
Feb 2010	37.7	99	7.8	40.7	117	7.6	44.5	112	7.4	36.9	100	9.4
Mar 2010	35.6	94	9.6	34.1	97	9.1	40.0	101	9.3	32.7	89	10.9
Apr 2010	34.0	89	13.6	29.7	85	13.0	36.1	91	13.2	31.4	85	13.8
May 2010	35.2	93	18.8	27.7	79	18.5	32.8	83	18.8	32.9	90	19.2
Jun 2010	36.3	96	23.9	28.0	80	23.3	33.8	85	23.9	35.3	96	23.5
Jul 2010	41.5	109	27.9	33.6	96	27.2	44.5	112	27.8	39.1	106	27.7
Aug 2010	42.7	112	30.5	39.6	113	30.3	46.5	117	30.4	42.9	117	30.3
Sep 2010	44.8	118	26.7	47.5	136	26.2	53.0	134	26.7	46.3	126	26.3
Oct 2010	38.1	100	19.9	34.0	97	19.2	34.9	88	19.8	35.6	97	20.0
Nov 2010	32.4	85	13.2	27.3	78	12.0	26.5	67	12.7	30.6	83	13.2
Dec 2010	34.3	90	9.0	33.1	95	7.3	33.1	84	8.3	34.2	93	8.8
Jan 2011	42.1	111	4.4	44.3	127	2.9	43.2	109	4.1	43.1	117	3.8
Feb 2011	39.0	103	7.4	44.7	128	6.6	41.7	105	6.6	42.3	115	8.2
Mar 2011	35.3	93	8.1	36.4	104	7.2	36.1	91	7.9	33.7	92	8.8
Apr 2011	32.3	85	13.8	30.5	87	13.4	30.6	77	13.6	29.9	81	14.7
May 2011	33.5	88	19.6	28.9	82	19.5	25.4	64	19.6	31.6	86	19.8
Jun 2011	34.3	90	24.2	29.9	86	23.6	26.9	68	24.0	32.5	88	23.9
Jul 2011	40.8	107	27.8	39.3	112	27.6	35.1	89	27.3	40.0	109	27.9
Aug 2011	39.8	105	28.9	40.6	116	28.2	34.9	88	28.6	40.1	109	28.5
Sep 2011	40.3	106	25.2	40.4	115	24.9	37.3	94	25.1	40.7	111	25.2
Oct 2011	33.7	89	19.5	29.6	85	18.5	27.8	70	19.2	32.1	87	19.7
Nov 2011	30.9	81	15.2	26.4	76	14.7	23.9	60	15.0	30.5	83	16.3
Dec 2011	32.0	84	8.1	30.3	87	6.9	28.5	72	7.9	29.4	80	8.5
Jan 2012	39.9	105	5.6	42.0	120	4.7	36.6	93	5.2	38.9	106	6.3
Feb 2012	37.9	100	5.1	42.8	122	4.3	36.2	91	4.7	38.4	104	5.7
Mar 2012	36.8	97	9.1	36.5	104	8.7	31.0	78	8.9	33.0	90	10.7
Apr 2012	29.2	77	15.2	27.9	80	15.0	26.1	66	15.0	26.4	72	16.2
May 2012	33.5	88	19.6	30.2	86	19.6	24.6	62	19.4	32.2	88	20.1
Jun 2012	31.5	83	23.0	29.9	86	23.2	24.3	61	22.8	30.3	82	23.1
Jul 2012	36.5	96	27.8	36.2	104	27.4	27.8	70	27.7	34.7	94	28.0
Aug 2012	42.0	111	29.4	43.9	126	29.5	34.3	87	29.3	39.4	107	29.1
Sep 2012	40.5	107	26.0	41.8	120	25.6	31.9	81	25.2	36.7	100	24.5
Oct 2012	33.8	89	19.3	30.1	86	18.9	26.8	68	18.9	31.9	87	19.2
Nov 2012	29.3	77	12.4	24.9	71	11.7	21.5	54	12.3	26.3	72	12.9
Dec 2012	33.6	88	6.6	35.5	102	5.5	26.2	66	6.3	31.2	85	7.6
Jan 2013	43.1	113	5.2	46.9	134	4.4	34.1	86	4.7	41.0	111	6.1
Feb 2013	36.5	96	5.6	39.9	114	6.0	31.1	79	5.8	32.4	88	7.8
Mar 2013	34.7	91	10.7	34.3	98	10.7	27.7	70	10.4	29.9	81	12.3
Apr 2013	28.4	75	14.3	25.6	73	13.5	22.3	56	13.6	26.2	71	14.7
May 2013	32.2	85	19.8	27.4	78	19.7	23.0	58	19.9	29.2	79	20.3
Jun 2013	34.8	92	24.3	32.7	93	24.0	25.3	64	24.2	32.0	87	23.7
Jul 2013	39.4	104	28.5	39.7	114	28.3	28.9	73	29.0	38.8	105	30.0
Aug 2013	41.2	108	30.0	43.1	123	29.5	31.7	80	29.8	39.5	107	30.0
Sep 2013	38.3	101	25.1	36.4	104	24.6	29.2	74	24.5	36.9	100	25.2
Oct 2013	38.2	101	20.8	35.4	101	19.9	27.2	69	20.3	36.2	98	20.7
Nov 2013	30.1	79	12.9	25.5	73	11.9	21.7	55	12.5	25.6	70	13.4
Dec 2013	31.7	83	7.8	32.8	94	6.5	25.4	64	7.4	29.5	80	8.1

Average temperature: Website of the Meteorological Agency (<http://www.data.jma.go.jp/obd/stats/etrn/index.php>)