

Meteorological Data of The Sugadaira Montane Research Center University of Tsukuba

1. Location

Sugadaira Montane Research Center, University of Tsukuba, Sanada, Nagano Prefecture, Japan (latitude 36°31'13"N, longitude 138°21'03"E, altitude 1,320m above sea level). The instrument screen is set on short grass field of *Zoysia japonica*.

2. Instruments

Air temperature (°C): Thermister is set at a height of 120cm above ground surface in the instrument screen.

Soil temperature (°C): Platinum resistance thermometers are buried at depths of 5, 10 and 30cm in the grass field and at depths of 5 and 30cm in the deciduous broad-leaved forest floor.

Precipitation (mm): Tipping bucket rain gauge (20cm in diameter) with 0.5mm minimum measuring unit is set at a height of 10.2m above the ground surface of building.

Global radiation (MJ/m²): 39-couple-thermopile type pyranometer of 40mm in diameter is set at the same height as rain gauge.

Recorder: Self-balancing analog chart recorder is used for a dot every 30 seconds for each observational element.

3. Symbols

Max: maximum value

Min: minimum value

Mean: mean value

blank: without observation

—: missing observation

1990

Annual mean air temperature:	8.0°C
Maximum air temperature:	29.2°C (July 31)
Minimum air temperature:	-18.8°C (January 27)
Total precipitation:	1140.8mm
Total solar radiation:	5011.44 MJ/m ²

1990

Daily Maximum Air Temperature (°C)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-2.6	-2.7	1.9	9.9	6.4	16.8	17.8	25.8	26.7	17.4	15.4	15.4
2	1.6	1.6	2.0	11.4	12.2	—	18.9	27.7	25.5	16.8	14.3	7.3
3	-1.9	0.3	4.3	18.6	16.9	—	18.0	28.2	23.3	18.4	15.3	4.8
4	-4.0	4.1	1.5	11.5	12.1	—	20.3	27.8	23.0	18.6	11.4	4.4
5	2.0	-1.3	2.5	-0.4	12.2	13.1	18.4	26.7	22.7	20.1	13.1	7.7
6	0.8	-0.1	1.8	2.7	18.9	19.4	19.4	27.1	23.5	17.3	18.0	9.9
7	-5.2	—	2.5	8.0	15.1	22.6	22.7	27.2	16.9	13.1	15.1	10.9
8	3.7	—	-3.4	7.8	19.0	21.0	25.6	26.8	19.0	13.3	9.0	13.0
9	7.6	-3.5	7.9	12.4	19.2	17.7	25.2	25.4	21.4	11.9	11.2	12.7
10	8.1	4.0	5.8	13.2	24.2	22.5	24.7	20.3	24.7	10.1	9.7	10.4
11	2.1	6.5	10.4	16.1	21.7	25.4	25.0	27.1	27.9	16.9	8.6	10.8
12	6.6	3.4	4.6	18.4	20.4	25.3	25.4	26.1	26.7	15.2	11.4	0.1
13	0.0	-1.2	-4.2	9.6	22.5	22.6	22.3	27.9	20.5	13.8	15.4	0.6
14	-0.9	2.3	9.5	13.7	15.8	25.1	26.3	26.7	17.8	21.0	14.5	6.3
15	-3.0	4.3	9.1	8.8	11.5	18.3	25.5	27.6	20.0	14.8	11.7	2.0
16	-4.3	0.1	2.6	6.5	8.8	20.8	26.9	27.5	17.2	17.9	13.0	1.1
17	-2.8	-0.6	2.0	5.0	17.0	20.0	27.7	24.3	19.7	17.9	11.6	-2.3
18	4.1	3.5	2.2	4.0	18.1	23.8	28.2	23.6	22.8	12.0	15.4	1.8
19	2.9	4.0	3.9	7.8	13.1	27.3	27.2	25.1	23.8	13.9	12.0	-2.8
20	-2.1	6.7	8.2	13.0	21.0	19.3	25.0	28.0	17.5	13.8	11.4	4.1
21	1.3	4.0	1.3	12.1	17.0	24.3	27.0	27.9	19.8	13.5	6.6	7.9
22	2.5	12.3	9.1	16.6	14.8	24.9	28.3	25.9	21.3	14.2	8.0	7.3
23	-6.0	7.1	13.2	13.4	12.1	25.9	26.3	26.6	23.3	12.6	1.2	2.0
24	-4.7	6.8	10.9	8.2	13.5	27.0	27.7	26.2	22.0	11.9	11.2	0.1
25	-7.2	3.7	-1.1	13.2	11.9	20.8	23.1	23.9	18.2	13.7	10.0	2.3
26	-6.9	0.4	-1.3	16.0	16.0	17.7	24.9	23.3	13.3	13.8	9.1	4.4
27	-6.3	-1.2	4.9	18.8	20.2	23.9	26.6	19.4	16.9	6.3	13.1	-5.1
28	-5.9	1.5	7.5	18.5	21.9	18.6	26.2	21.3	16.8	9.9	7.5	-2.3
29	3.5	3.1	11.3	16.9	19.6	19.6	26.0	23.1	18.8	13.2	8.4	-2.1
30	1.9	8.0	7.5	21.9	16.4	25.1	26.3	13.9	6.7	12.3	-1.8	-1.8
31	-4.8	6.9	18.0	18.0	24.2	27.0	27.0	12.0	12.0	12.0	7.2	7.2
M. MEAN	-0.6	2.5	4.4	11.1	16.5	21.5	24.4	25.7	20.8	14.3	11.5	4.5
M. MAX	8.1	12.3	13.2	18.8	24.2	27.3	28.3	28.2	27.9	21.0	18.0	15.4
M. MIN	-7.2	-3.5	-4.2	-0.4	6.4	13.1	17.8	19.4	13.3	6.3	1.2	-5.1

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1990

Daily Maximum Air Temperature (°C)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-13.2	-13.1	-4.9	1.1	-1.8	10.5	9.4	15.5	15.4	9.7	-1.2	5.3
2	-12.1	-12.2	0.4	-1.0	-1.1	—	9.3	14.5	12.8	6.9	1.1	-2.0
3	-9.9	-10.2	-1.1	-0.9	0.5	—	13.7	12.2	14.8	4.8	0.8	-4.4
4	-11.9	-6.7	-4.6	-2.1	6.6	—	14.0	12.3	13.6	13.2	7.3	-5.0
5	-15.0	-4.1	-4.8	-6.0	3.8	8.1	13.0	16.9	15.1	14.7	2.8	-6.4
6	-8.9	-11.0	-7.1	-4.9	0.4	5.8	10.9	16.1	14.6	9.3	0.9	-5.2
7	-9.2	—	-6.8	-6.3	4.5	7.6	11.0	17.1	12.9	8.0	2.2	-5.8
8	-10.2	—	-7.7	-0.8	7.1	11.6	13.5	15.3	7.4	7.1	0.4	-3.4
9	-8.8	-12.6	-5.9	-2.3	7.0	10.3	16.7	18.4	6.4	4.0	0.7	-3.5
10	2.9	-13.2	-7.8	-0.7	7.3	13.8	13.8	17.2	9.6	9.6	-3.1	-1.6
11	-5.8	0.7	-4.4	-0.4	9.8	11.0	11.3	16.2	13.1	-0.9	-4.8	-3.0
12	-5.0	-5.0	-6.4	1.5	8.4	11.4	13.8	18.2	17.2	1.8	-3.0	-6.4
13	-9.9	-6.3	-7.6	5.0	6.9	14.2	13.4	17.8	13.8	8.3	-2.0	-8.8
14	-15.1	-7.8	-10.1	4.1	9.3	13.3	14.8	18.1	13.9	10.8	-1.2	-4.6
15	-7.9	-3.5	-3.0	1.1	3.2	12.4	17.5	17.9	13.2	9.6	-0.1	-4.2
16	-11.0	-3.8	-5.3	0.9	1.2	10.8	18.3	16.8	12.4	5.8	-1.2	-6.0
17	-12.9	-5.7	-6.6	-0.1	-0.5	10.1	17.7	14.0	13.6	5.2	0.0	-10.6
18	-10.0	-5.5	-6.7	-3.6	5.8	7.9	16.8	13.0	14.7	5.7	0.5	-8.4
19	-4.0	-0.3	-5.3	-2.9	7.0	13.1	16.6	13.9	12.6	1.5	4.0	-5.1
20	-17.8	0.1	-3.9	-3.0	4.0	15.8	15.5	15.7	7.7	1.2	6.6	-11.4
21	-4.9	-0.6	-8.2	3.0	4.4	15.9	15.6	15.6	6.6	1.3	-6.5	-4.8
22	-8.4	-3.7	-7.7	3.0	2.8	11.8	16.1	20.2	5.8	-0.7	-6.9	-5.9
23	-10.0	2.5	-1.8	0.2	3.3	11.1	14.4	19.4	9.3	1.5	-3.9	-9.7
24	-12.9	0.9	-1.9	-3.1	2.1	13.1	15.0	16.3	11.3	1.2	-4.0	-9.9
25	-16.3	-0.5	-7.0	-5.9	2.3	15.1	15.8	10.4	13.1	0.8	-3.0	-8.9
26	-18.4	-1.2	-8.4	2.8	-0.9	14.5	14.7	13.3	11.1	2.7	2.3	-6.0
27	-18.8	-5.3	-8.4	2.0	2.6	13.9	13.9	11.4	8.2	2.0	-1.6	-9.6
28	-16.4	-6.6	-1.7	3.4	6.0	12.0	16.1	10.5	8.4	0.4	4.1	-12.1
29	-10.0	—	0.1	-0.8	5.8	10.2	16.8	12.9	9.7	-1.0	5.1	-9.7
30	-8.2	—	0.2	-0.7	4.9	9.8	15.7	14.0	12.0	4.8	6.1	-8.1
31	-8.1	—	1.3	—	9.2	—	17.3	15.8	—	1.0	—	-11.6
M. MEAN	-10.6	-5.2	-4.9	-0.6	4.3	11.7	14.6	15.4	11.7	4.8	0.1	-6.3
M. MAX	2.9	2.5	1.3	5.0	9.8	15.9	18.3	20.2	17.2	14.7	7.3	5.3
M. MIN	-18.8	-13.2	-10.1	-6.3	-1.8	5.8	9.3	10.4	5.8	-1.0	-6.9	-12.1

1990

Daily Mean Soil Temperature, 5cm Depth (°C)

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	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.2	—	—	5.8	6.5	13.9	19.5	24.2	22.5	15.0	7.8	8.4
2	2.1	—	—	6.3	7.8	—	19.5	23.9	22.0	16.2	8.3	6.0
3	2.1	—	—	6.1	9.5	—	19.1	23.4	21.1	14.6	8.5	4.3
4	2.1	—	—	6.6	9.8	—	19.4	23.0	20.8	15.9	9.2	3.4
5	2.1	—	—	5.0	9.8	15.1	20.4	23.0	21.3	17.3	10.3	2.6
6	2.1	—	—	3.4	11.3	16.1	20.2	22.9	21.8	16.1	9.0	2.2
7	2.1	—	—	2.0	11.3	17.3	20.8	24.4	20.2	14.5	8.7	2.0
8	2.1	—	—	2.8	12.9	17.9	22.0	24.2	20.1	13.8	8.0	1.9
9	2.2	—	—	4.7	14.0	16.1	22.8	23.6	19.4	13.7	7.8	1.8
10	2.3	—	—	5.4	15.2	17.9	22.9	21.1	20.1	13.4	8.6	2.4
11	2.2	—	—	6.2	14.9	19.0	22.3	21.9	20.7	11.9	6.3	2.3
12	2.2	—	—	7.3	15.6	18.9	23.2	24.0	20.9	12.0	6.1	2.4
13	2.2	—	—	7.2	15.0	19.4	22.1	24.6	20.0	12.9	6.7	2.3
14	2.2	—	0.8	8.1	13.9	19.9	22.6	23.8	18.8	14.2	6.6	2.3
15	2.3	—	0.8	7.5	13.6	18.8	22.3	24.0	18.4	15.0	6.7	2.3
16	2.2	—	0.8	6.8	12.0	18.0	22.9	24.1	18.0	15.7	6.3	2.3
17	2.2	—	0.8	6.2	12.8	18.9	24.1	23.0	17.8	14.0	6.3	2.2
18	2.2	—	0.7	5.2	13.3	19.1	23.9	21.7	19.1	13.9	6.7	2.2
19	2.2	—	0.7	6.6	12.7	20.3	23.8	23.1	18.7	13.2	7.4	2.2
20	2.2	—	0.7	6.5	14.0	19.1	24.4	23.2	17.0	12.1	8.0	2.2
21	2.2	—	0.7	8.7	14.5	20.0	25.0	23.4	16.8	12.1	7.9	2.1
22	2.2	—	0.6	9.5	14.2	20.8	25.0	22.3	17.2	11.2	4.3	2.1
23	2.2	—	0.4	10.2	14.2	21.4	24.4	23.0	18.0	11.0	3.5	2.0
24	2.2	—	0.4	8.2	13.6	22.2	23.9	23.7	18.0	10.3	3.7	2.0
25	2.1	—	0.3	8.1	14.5	20.7	22.4	23.2	18.5	9.9	3.0	2.0
26	2.1	—	0.4	9.7	13.5	19.3	22.8	22.7	16.7	—	4.3	2.0
27	2.1	—	0.7	10.1	14.6	20.3	23.1	21.1	16.5	8.7	5.4	2.0
28	2.1	—	1.8	10.7	15.5	21.2	24.5	20.3	15.9	8.7	6.1	2.0
29	2.0	—	1.7	10.0	14.3	21.8	24.4	20.9	16.3	9.0	7.3	2.0
30	2.1	—	3.0	7.7	14.9	19.8	24.4	21.4	15.0	9.9	7.3	2.0
31	2.1	—	4.1	—	14.9	—	24.5	21.6	—	9.0	—	2.0
M. MEAN	2.1	—	1.1	6.9	13.0	19.0	22.6	22.9	18.9	12.8	6.9	2.6
M. MAX	2.3	—	4.1	10.7	15.6	22.2	25.0	24.6	22.5	17.3	10.3	8.4
M. MIN	2.0	—	0.3	2.0	6.5	13.9	19.1	20.3	15.0	8.7	3.0	1.8

1990

Daily Daily Mean Soil Temperature, 10cm Depth (°C)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.1	—	—	4.6	7.7	14.5	19.4	23.3	21.8	15.6	9.1	8.3
2	3.1	—	—	5.3	7.7	—	19.1	23.2	21.6	16.1	9.1	7.7
3	3.1	—	—	5.4	8.6	—	19.8	23.0	21.4	15.6	9.4	6.9
4	3.0	—	—	6.1	9.6	—	19.2	22.6	20.9	15.7	9.7	5.4
5	3.1	—	—	5.6	9.6	15.5	19.7	22.5	21.1	17.0	10.4	4.6
6	3.0	—	—	4.2	10.3	15.1	19.7	22.5	21.3	17.0	9.8	4.1
7	3.0	—	—	3.0	11.1	16.1	20.0	23.2	21.2	15.9	9.6	3.9
8	3.0	—	—	2.8	11.7	16.8	20.9	23.3	20.1	14.8	9.2	3.5
9	3.1	—	—	3.8	15.6	16.4	21.4	23.1	19.5	14.2	9.2	3.3
10	3.1	—	—	4.8	13.6	16.5	21.9	22.0	19.6	14.1	9.5	3.5
11	3.1	—	—	5.5	14.0	17.5	21.5	21.3	20.2	13.0	8.3	3.7
12	3.1	—	—	6.3	14.2	17.9	22.1	22.9	20.6	13.1	7.3	3.7
13	3.0	—	—	7.1	14.3	17.9	21.6	23.6	20.5	13.5	7.3	3.6
14	3.0	—	1.1	7.2	14.1	18.8	21.9	23.4	19.6	14.2	7.9	3.6
15	3.0	—	1.1	7.3	13.4	18.2	21.7	23.4	19.1	15.1	7.4	3.5
16	3.0	—	1.1	6.8	12.6	17.8	22.0	23.4	18.5	14.9	7.2	3.5
17	3.1	—	1.1	6.5	12.3	18.1	22.9	23.4	18.4	14.6	7.2	3.5
18	3.1	—	1.0	5.9	12.7	19.0	23.1	21.9	18.9	14.5	7.9	3.3
19	3.0	—	1.1	6.0	13.1	19.6	23.0	22.4	18.9	14.1	7.9	3.3
20	3.0	—	1.1	6.3	13.1	19.4	23.3	22.8	18.4	13.1	8.6	3.3
21	3.0	—	1.1	7.6	13.9	19.1	23.7	22.9	17.3	12.9	8.6	3.3
22	3.0	—	1.0	8.6	13.6	19.7	24.0	22.7	17.7	12.4	6.9	3.2
23	3.0	—	1.0	9.4	13.6	20.3	23.7	22.4	18.0	12.0	5.6	3.1
24	3.0	—	0.8	8.4	13.2	21.0	22.6	22.9	17.7	11.9	5.0	3.1
25	3.0	—	0.9	7.8	13.8	20.6	22.1	22.8	18.8	11.2	5.0	3.0
26	2.9	—	0.8	8.7	13.2	20.0	22.3	22.5	17.9	—	5.3	3.0
27	2.9	—	0.9	9.0	13.7	19.9	22.4	21.8	16.9	10.8	6.1	3.0
28	2.9	—	1.5	9.9	14.4	20.3	23.2	20.9	17.4	9.8	6.7	3.0
29	2.9	—	1.8	10.2	14.4	21.3	23.7	20.8	16.6	10.0	6.9	3.0
30	2.9	—	2.3	8.2	14.1	20.4	23.6	21.1	16.2	9.9	7.1	3.0
31	2.8	—	3.5	—	14.2	—	23.6	21.2	—	9.7	—	3.0
M. MEAN	3.0	—	1.3	6.6	12.6	18.4	21.9	22.5	19.2	13.5	7.8	3.9
M. MAX	3.1	—	3.5	10.2	15.6	21.3	24.0	23.6	21.8	17.0	10.4	8.3
M. MIN	2.8	—	0.8	2.8	7.7	14.5	19.1	20.8	16.2	9.7	5.0	3.0

1990

Daily Mean Soil Temperature, 30cm Depth (°C)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.0	—	—	2.8	7.8	12.5	18.1	21.0	20.1	16.3	11.2	8.2
2	4.8	—	—	3.4	7.4	—	17.9	21.0	20.2	16.2	11.0	8.4
3	4.9	—	—	3.9	7.4	—	17.7	21.0	20.4	16.3	11.0	8.2
4	4.9	—	—	4.3	7.8	—	17.6	20.9	20.2	16.2	11.0	7.9
5	4.8	—	—	4.6	8.3	13.1	17.6	20.8	20.0	16.3	11.0	7.4
6	4.8	—	—	4.6	8.5	13.0	17.7	20.7	20.0	16.7	11.1	7.1
7	4.7	—	—	4.1	8.9	13.2	17.9	20.6	20.1	16.8	11.0	6.8
8	4.7	—	—	3.6	9.1	13.8	18.0	20.8	19.9	16.2	11.0	6.3
9	4.6	—	—	3.2	9.8	14.1	18.3	21.0	19.6	15.6	10.8	6.1
10	4.7	—	—	3.7	10.3	13.9	18.7	21.0	19.4	15.3	10.6	6.0
11	4.7	—	—	4.2	10.9	14.3	19.0	20.7	19.1	15.1	10.4	6.0
12	4.5	—	—	4.4	11.2	14.7	19.1	20.8	19.4	14.8	10.0	6.0
13	4.6	—	—	5.1	11.4	14.9	19.2	21.2	19.5	14.6	9.7	5.8
14	4.6	—	1.9	5.3	11.8	15.2	19.1	21.4	19.5	14.5	9.5	5.7
15	4.6	—	2.0	5.8	11.8	15.7	19.3	21.5	19.1	14.6	9.4	5.6
16	4.5	—	1.9	6.0	11.7	15.7	19.3	21.5	19.0	15.0	9.2	5.5
17	4.6	—	1.9	6.0	11.3	15.7	19.6	21.6	18.6	15.0	9.1	5.5
18	4.4	—	1.9	5.9	11.2	15.9	20.0	21.4	18.4	15.0	9.0	5.4
19	4.3	—	1.9	5.5	11.3	16.1	20.1	21.0	18.6	15.0	9.0	5.4
20	4.3	—	1.9	5.7	11.1	16.6	20.3	21.1	18.5	14.8	9.1	5.2
21	4.4	—	1.9	5.9	11.7	16.5	20.5	21.1	18.3	14.4	9.4	5.2
22	4.3	—	1.8	6.4	11.9	16.7	20.8	21.2	17.9	14.1	9.2	5.2
23	4.3	—	1.7	7.0	12.0	17.0	20.9	21.0	17.9	13.9	8.7	5.1
24	4.3	—	1.4	7.4	12.0	18.1	20.9	21.0	17.9	13.6	8.2	5.0
25	4.3	—	1.1	7.3	12.1	18.7	20.8	21.1	18.0	13.2	7.9	5.0
26	4.2	—	1.1	7.2	12.0	18.5	20.5	21.1	18.0	—	7.6	5.0
27	4.2	—	1.1	7.4	11.9	18.1	20.3	21.1	17.7	12.7	7.5	4.9
28	4.1	—	1.3	7.9	12.1	18.1	20.5	20.8	17.4	12.2	7.7	4.9
29	4.0	—	1.7	8.2	12.3	18.1	20.8	20.3	17.4	11.9	7.9	4.9
30	4.1	—	1.9	8.2	12.4	18.2	21.0	20.1	16.9	11.8	8.1	4.9
31	4.1	—	2.2	—	12.5	—	21.0	20.1	—	11.4	—	4.9
M. MEAN	4.5	—	1.7	5.5	10.7	15.8	19.4	20.9	18.9	14.6	9.5	5.9
M. MAX	5.0	—	2.2	8.2	12.5	18.7	21.0	21.6	20.4	16.8	11.2	8.4
M. MIN	4.0	—	1.1	2.8	7.4	12.5	17.6	20.1	16.9	11.4	7.5	4.9

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Daily Mean Soil Temperature, 5cm Depth, Forest (°C)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.4	—	—	3.1	4.4	10.0	12.6	16.6	16.7	12.8	7.3	6.5
2	2.4	—	—	3.9	4.4	—	12.5	16.8	16.4	12.4	7.3	6.3
3	2.4	—	—	4.0	6.0	—	12.9	16.5	16.1	11.8	7.5	5.2
4	2.2	—	—	4.7	6.7	—	13.3	16.4	15.7	13.0	8.2	4.3
5	2.2	—	—	3.4	7.3	10.7	13.7	16.9	15.7	13.7	8.6	3.7
6	2.2	—	—	1.9	7.6	10.5	13.4	17.2	15.8	13.5	8.2	3.4
7	2.2	—	—	1.3	8.1	10.5	13.5	17.5	15.5	12.5	8.3	3.2
8	2.2	—	—	1.8	9.0	11.5	14.3	17.3	14.5	11.6	7.7	3.1
9	2.2	—	—	2.6	9.5	11.3	14.8	17.1	13.7	10.7	7.4	3.1
10	2.2	—	—	3.4	10.4	12.2	15.2	17.1	14.1	9.9	8.0	3.6
11	2.1	—	—	4.0	10.9	12.5	14.8	17.5	15.0	9.4	6.6	3.6
12	2.1	—	—	4.8	11.1	12.7	15.2	17.8	15.8	9.4	6.0	3.6
13	2.1	—	—	5.3	10.6	13.0	14.7	17.8	15.9	10.1	6.1	3.3
14	2.1	—	0.5	5.6	10.7	13.3	15.2	17.7	15.1	11.3	6.3	3.3
15	2.1	—	0.5	5.3	10.0	13.3	15.6	17.9	15.2	11.9	6.0	3.2
16	2.1	—	0.6	4.3	8.9	13.7	16.3	17.7	14.8	11.4	5.8	3.1
17	2.1	—	0.6	4.1	9.1	13.4	16.6	17.4	14.7	11.1	5.9	3.1
18	2.1	—	0.6	3.4	9.2	12.7	16.8	16.6	15.3	11.0	6.3	3.0
19	2.1	—	0.6	3.5	9.5	13.5	17.0	16.6	15.4	10.3	6.8	3.0
20	2.1	—	0.6	3.8	9.8	13.7	16.7	17.1	15.2	9.5	7.3	3.0
21	2.1	—	0.7	5.0	10.4	14.2	17.0	17.4	13.6	9.8	6.8	3.0
22	2.1	—	0.7	5.8	9.7	14.5	16.9	17.5	13.5	8.8	5.4	2.8
23	2.1	—	0.7	6.8	9.3	14.4	16.5	17.7	13.6	8.7	4.6	2.8
24	2.1	—	0.7	5.7	8.5	15.1	16.2	17.7	14.1	8.6	4.1	2.8
25	2.1	—	0.6	5.0	8.6	15.0	16.3	16.6	14.5	8.5	4.3	2.7
26	2.1	—	0.6	5.8	8.2	14.5	16.3	16.5	13.7	—	5.0	2.6
27	2.1	—	0.6	6.5	8.8	14.7	16.7	15.7	13.0	7.7	5.3	2.5
28	2.0	—	0.5	7.1	9.8	14.5	16.9	15.2	12.7	7.4	5.7	2.5
29	2.0	—	0.5	6.8	9.6	13.7	16.8	15.5	13.1	7.5	6.3	2.6
30	2.0	—	0.5	5.1	9.7	13.1	16.8	16.0	12.7	7.6	6.6	2.6
31	2.0	—	1.8	—	10.2	—	16.8	16.4	—	7.8	—	2.5
M. MEAN	2.1	—	0.7	4.5	8.9	13.0	15.4	16.9	14.7	10.3	6.5	3.3
M. MAX	2.4	—	1.8	7.1	11.1	15.1	17.0	17.9	16.7	13.7	8.6	6.5
M. MIN	2.0	—	0.5	1.3	4.4	10.0	12.5	15.2	12.7	7.4	4.1	2.5

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Daily Mean Soil Temperature, 30cm Depth, Forest (°C)

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	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.9	—	—	1.9	5.3	9.0	12.2	14.6	15.0	13.0	9.0	7.0
2	3.9	—	—	2.6	4.5	—	12.0	14.6	15.0	13.1	9.0	7.0
3	3.9	—	—	2.8	5.0	—	12.1	14.7	15.0	12.9	9.0	7.1
4	3.9	—	—	3.2	5.3	—	12.1	14.6	15.0	12.8	9.0	7.0
5	3.8	—	—	3.3	5.8	9.3	12.0	14.6	14.9	12.9	9.0	6.6
6	3.8	—	—	2.8	6.0	9.4	12.1	14.8	14.9	13.1	9.0	6.3
7	3.7	—	—	2.4	6.2	9.4	12.1	14.8	14.9	13.1	9.0	6.1
8	3.7	—	—	2.0	6.6	9.6	12.1	15.0	14.7	12.9	9.0	5.9
9	3.7	—	—	2.1	6.9	9.8	12.3	15.0	14.3	12.1	9.0	5.8
10	3.7	—	—	2.7	7.2	9.9	12.7	15.2	14.1	12.1	8.9	5.7
11	3.7	—	—	3.0	7.8	10.0	12.8	15.3	14.0	11.8	8.8	5.7
12	3.6	—	—	3.7	8.1	10.2	12.9	15.4	14.1	11.4	8.5	5.5
13	3.6	—	—	4.1	8.4	10.6	13.1	15.6	14.3	11.2	8.2	5.5
14	3.6	—	1.8	4.1	8.7	10.8	13.0	15.7	14.3	11.2	8.0	5.5
15	3.6	—	1.8	4.4	8.9	10.9	13.0	15.8	14.3	11.6	8.0	5.3
16	3.6	—	1.8	4.2	8.7	11.0	13.2	15.7	14.5	11.6	7.9	5.2
17	3.6	—	1.8	3.9	8.4	11.1	13.5	15.8	14.3	11.7	7.8	5.2
18	3.6	—	1.8	3.8	8.3	10.1	13.8	15.8	14.2	11.6	7.7	5.1
19	3.6	—	1.8	3.4	8.4	10.1	13.9	15.4	14.2	11.5	7.7	5.0
20	3.6	—	1.8	3.5	8.3	11.3	14.1	15.4	14.5	11.2	7.8	5.0
21	3.6	—	1.8	3.9	8.6	11.5	14.2	15.4	14.3	11.0	8.0	5.0
22	3.5	—	1.8	4.2	8.9	11.8	14.3	15.4	14.0	10.9	7.8	4.9
23	3.5	—	1.7	4.8	8.9	12.0	14.3	15.5	13.9	10.7	7.5	4.8
24	3.5	—	1.7	5.1	8.7	12.2	14.3	15.8	13.8	10.5	7.1	4.8
25	3.5	—	1.6	4.9	8.6	12.7	14.3	15.8	13.9	10.2	7.0	4.7
26	3.5	—	1.5	4.8	8.5	12.8	14.3	15.5	13.9	—	6.8	4.6
27	3.4	—	1.5	5.0	8.3	12.8	14.3	15.4	13.7	9.9	6.8	4.6
28	3.4	—	1.5	5.2	8.5	12.8	14.4	15.1	13.5	9.7	6.9	4.5
29	3.4	—	1.5	5.6	8.7	12.6	14.5	15.0	13.1	9.5	7.0	4.5
30	3.4	—	1.5	5.7	8.9	12.3	14.6	14.9	13.0	9.3	7.1	4.5
31	3.4	—	1.5	—	8.9	—	14.6	14.9	—	9.1	—	4.4
M. MEAN	3.6	—	1.7	3.8	7.7	10.9	13.3	15.2	14.2	11.4	8.1	5.4
M. MAX	3.9	—	1.8	5.7	8.9	12.8	14.6	15.8	15.0	13.1	9.0	7.1
M. MIN	3.4	—	1.5	1.9	4.5	9.0	12.0	14.6	13.0	9.1	6.8	4.4

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Daily Precipitation (mm)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.6	20.4			1.0	1.0	2.0					
2						4.0						
3	1.1						7.0					
4	4.0	1.0		2.0	1.5	2.0	2.0				8.5	
5		0.8	4.8		21.0	4.5	0.5			3.5		
6			12.1	14.5						37.5		
7	5.8				1.5				14.0	0.5		
8			13.1	14.0	4.5					34.0		
9			3.0			1.0		6.0			0.5	
10								74.0			18.0	
11					0.5							27.5
12						10.0		5.5				47.8
13	18.4			0.5			9.0		16.5	0.5		3.5
14	3.8			0.5	5.5				6.5	1.0		
15	3.5	1.9	1.3		7.5	3.0	0.5		20.5		4.5	3.5
16	3.1	7.1	2.6	0.5		12.0	13.0		0.5			0.9
17	6.2	5.2	7.9	9.0			0.5	10.5	4.0			17.6
18			34.5						3.0			
19	6.2		7.5		7.0				21.5			15.0
20	11.8			1.5		5.5			25.0		5.5	
21	0.9			2.0		2.0						
22				5.5								
23	9.7		1.4	7.0			3.5				1.0	
24						50.5	12.0		4.5			
25	15.8		14.2			7.5	1.0		5.0			
26	4.3					9.5			18.5	16.0	2.0	
27		0.7							0.5	7.5		15.6
28	0.2		11.8	1.5							3.5	6.2
29	5.5		2.0	10.5								1.0
30	6.6								46.5	13.0	17.0	0.9
31	4.5											
M. MEAN	109.0	37.1	116.2	69.0	50.0	112.5	51.0	96.0	186.5	113.5	60.5	139.5
M. MAX	18.4	20.4	34.5	14.5	21.0	50.5	13.0	74.0	46.5	37.5	18.0	47.8

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Daily Mean Air Temperature (°C)

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	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-7.9	-7.9	-1.5	5.5	2.3	13.7	13.6	20.7	21.1	13.6	7.1	10.4
2	-5.3	-5.3	1.2	5.2	5.6	—	14.1	21.1	19.2	11.9	7.7	2.7
3	-5.9	-4.9	1.6	8.9	8.7	—	15.9	20.2	19.1	11.6	8.1	0.2
4	-8.0	-1.3	-1.6	4.7	9.4	—	17.2	20.1	18.3	15.9	9.4	-0.3
5	-6.5	-2.7	-1.2	-3.2	8.0	10.6	15.7	21.8	18.9	17.4	7.9	0.7
6	-4.1	-5.6	-2.7	-1.1	9.6	12.6	15.2	21.6	19.1	13.3	9.5	2.4
7	-7.2	—	-2.2	0.9	9.8	15.1	16.9	22.2	14.9	10.6	8.7	2.6
8	-3.3	—	-5.6	3.5	13.1	16.3	19.6	21.1	13.2	10.2	4.7	4.8
9	-0.6	-8.1	1.0	5.1	13.1	14.0	21.0	21.9	13.9	8.0	5.9	4.6
10	5.5	-4.6	-1.0	6.3	15.8	18.2	19.3	18.8	17.2	9.9	3.3	4.4
11	-1.9	3.6	3.0	7.9	15.8	18.2	18.2	21.7	20.5	8.0	1.9	3.9
12	0.8	-0.8	-0.9	10.0	14.4	18.4	19.6	22.2	22.0	8.5	4.2	-3.2
13	-5.0	-3.8	-5.9	7.3	14.7	18.4	17.9	22.9	17.2	11.1	6.7	-4.1
14	-8.0	-2.8	-0.3	8.9	12.6	19.2	20.6	22.4	15.9	15.9	6.7	0.9
15	-5.5	0.4	3.1	5.0	7.3	5.4	21.5	22.8	16.6	12.2	5.8	-1.1
16	-7.7	-1.9	-1.4	3.7	5.0	15.8	22.6	22.2	14.8	11.9	5.9	-2.5
17	-7.9	-3.2	-2.3	2.5	8.3	15.1	22.7	19.2	16.7	11.6	5.8	-6.4
18	-3.0	-1.0	-2.3	0.2	12.0	15.9	22.5	18.3	18.8	8.9	8.0	-3.3
19	-0.6	1.9	-0.7	2.5	10.1	20.2	21.9	19.5	18.2	7.7	8.0	-4.0
20	-10.0	3.4	2.1	5.0	12.9	17.6	20.3	21.9	12.6	7.5	9.0	-3.7
21	-1.8	1.7	-3.5	7.6	10.7	20.1	21.3	21.8	13.2	7.4	0.0	1.6
22	-3.0	4.3	0.7	9.8	8.8	18.4	22.2	23.1	13.6	6.8	0.5	0.7
23	-8.0	4.8	5.7	6.8	7.7	18.5	20.4	23.0	16.3	7.1	-1.4	-3.8
24	-8.8	3.9	4.5	2.6	7.8	20.1	21.4	21.3	16.7	6.6	3.6	-4.9
25	-11.8	1.6	-4.1	3.6	7.1	18.0	19.5	17.2	15.7	7.3	3.5	-3.3
26	-12.7	-0.4	-4.9	9.4	7.6	16.1	19.8	18.3	12.2	8.3	5.7	-0.8
27	-12.6	-3.3	-1.8	10.4	11.4	18.9	20.3	15.4	12.6	4.2	5.8	-7.3
28	-11.3	-2.6	2.9	11.0	14.0	15.3	21.2	15.9	12.6	5.2	5.8	-7.2
29	-3.3		1.6	5.3	11.4	14.9	21.4	18.0	14.3	6.1	6.8	-5.9
30	-3.2		4.1	3.4	13.4	13.1	20.4	20.2	13.0	5.8	9.2	-5.0
31	-6.5		4.1		13.6		20.8	21.4		6.5		-2.2
M. MEAN	-5.6	-1.3	-0.2	5.3	10.4	16.6	19.5	20.6	16.3	9.6	5.8	-0.9
M. MAX	5.5	4.8	5.7	11.0	15.8	20.2	22.7	23.1	22.0	17.4	9.5	10.4
M. MIN	-12.7	-8.1	-5.9	-3.2	2.3	10.6	13.6	15.4	12.2	4.2	-1.4	-7.3

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Daily Total of Global Radiation (MJ/m²)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.92	4.62	8.93	14.33	14.52	10.76	13.67	25.13	21.58	10.93	13.99	9.49
2	9.28	14.87	4.02	22.64	13.98	7.16	20.19	21.75	20.42	17.97	13.62	10.67
3	9.70	10.68	12.39	21.66	21.18	28.32	12.23	25.33	14.04	12.81	11.55	10.73
4	8.36	5.13	14.69	7.40	5.40	20.17	12.69	24.64	17.60	7.08	2.72	17.90
5	11.52	8.76	15.52	13.46	3.95	4.69	15.34	15.88	12.54	7.42	11.19	10.52
6	4.50	9.03	19.20	12.52	27.37	28.13	21.14	16.38	15.77	2.73	12.77	10.37
7	5.66	13.15	10.09	13.71	10.60	26.79	23.56	24.16	5.51	4.06	9.88	10.60
8	11.70	12.74	12.74	5.98	16.47	19.78	24.28	24.33	17.94	2.27	12.27	10.29
9	10.39	9.47	19.94	23.37	26.36	6.46	22.08	15.61	22.18	11.01	4.25	6.72
10	2.92	13.41	19.74	18.06	26.03	20.77	25.53	4.75	15.70	15.95	7.43	9.42
11	8.89	2.25	17.29	19.03	12.72	23.29	23.69	16.70	19.04	16.04	12.47	7.51
12	8.13	11.84	5.39	22.19	21.53	22.66	23.51	23.07	15.71	10.95	12.48	6.99
13	5.45	15.49	7.48	5.80	20.53	23.73	18.11	18.90	5.83	6.26	12.26	10.65
14	10.01	7.48	18.25	9.18	7.16	24.35	21.90	17.33	5.90	10.63	12.19	9.35
15	10.20	9.12	9.19	12.55	19.29	7.93	12.73	19.78	3.77	7.55	8.86	6.29
16	3.58	5.50	19.05	8.74	14.51	8.97	17.24	23.07	6.09	15.27	12.06	7.21
17	11.72	9.52	19.44	7.02	27.91	27.41	23.86	11.56	5.93	13.28	10.80	8.33
18	9.82	12.92	8.67	20.95	15.10	26.89	20.60	16.95	11.26	9.10	9.72	7.82
19	3.00	6.33	21.29	25.54	4.19	26.14	19.70	22.64	10.04	15.22	4.57	7.17
20	6.99	4.78	20.39	17.01	25.31	5.25	24.27	22.42	2.97	15.45	3.62	9.78
21	12.86	11.90	22.10	17.50	12.71	15.04	26.63	23.42	20.18	13.84	6.52	6.70
22	11.20	16.85	19.47	19.47	26.19	21.77	25.67	10.50	17.88	14.79	11.64	9.94
23	8.46	6.24	18.42	6.20	20.55	28.25	18.51	15.55	17.55	13.83	6.38	7.32
24	8.71	4.54	8.59	19.22	23.73	24.83	21.28	22.82	13.71	5.70	11.55	8.03
25	8.65	3.02	14.99	25.25	26.95	10.04	11.53	23.52	6.81	9.50	6.63	10.46
26	13.17	3.33	19.21	19.51	24.58	5.80	19.23	18.63	2.49	8.19	3.51	5.52
27	13.75	4.04	21.99	21.32	25.50	14.19	20.09	16.38	18.47	2.42	10.07	2.43
28	11.18	18.08	11.88	18.58	23.19	23.75	25.43	15.23	6.35	14.68	2.59	7.97
29	3.25		5.06	7.90	12.84	24.52	25.53	16.11	9.68	13.29	4.25	7.56
30	6.92		15.13	25.39	20.88	14.77	24.35	17.47	2.33	2.30	1.42	10.51
31	4.03		7.75		14.29		23.84	16.74		9.01		8.22
M. MEAN	8.47	9.11	14.46	16.05	18.24	18.42	20.59	18.93	12.18	10.30	8.77	8.79
M. MAX	13.75	18.08	22.10	25.54	27.91	28.32	26.63	25.33	22.18	17.97	13.99	17.90
M. MIN	2.92	2.25	4.02	5.80	3.95	4.69	11.53	4.75	2.33	2.27	1.42	2.43
M. TOTAL	262.92	255.07	448.28	481.47	565.54	552.58	638.42	586.74	365.28	319.42	263.25	272.47