

TABLE 2. AVERAGE MONTHLY AND YEARLY DEGREE-DAYS FOR CITIES IN THE UNITED STATES AND CANADA* b. c. (CONCLUDED)

STATE OR PROVINCE	STATION	YEARS	NO. OF SEASONS	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	YEARLY TOTAL
Texas	Palestine.....C			0	0	0	45	260	440	531	368	265	71	0	0	1980
	Port Arthur.....A			0	0	0	20	218	349	406	274	211	39	0	0	1517
	Port Arthur.....C			0	0	0	0	8	170	315	381	258	181	27	0	1340
	San Antonio.....A			0	0	0	25	201	374	462	293	190	34	0	0	1579
	Taylor.....A	01/02-40/41	40	0	0	0	56	234	462	494	375	214	64	0	0	1909
Utah	Modena.....A	00/01-45/46	46	0	0	11	156	499	832	1142	1190	944	816	567	338	97 6583
	Salt Lake City.....A			0	0	0	88	381	771	1039	1194	885	741	453	233	81 5856
	Salt Lake City.....C			0	0	0	61	330	714	995	1119	857	701	414	208	64 5463
Vt.	Burlington.....A			19	47	172	521	858	1308	1460	1313	1107	681	307	72	7865
	Northfield.....A	98/99-42/43	45	62	112	283	602	947	1389	1524	1384	1176	754	405	166	8804
Va.	Cape Henry.....C			0	0	0	120	366	648	698	636	512	267	60	0	3307
	Lynchburg.....A			0	0	0	49	236	531	809	840	722	584	289	82	5 4133
	Norfolk.....A			0	0	0	9	152	408	688	729	644	500	265	59	0 3454
	Norfolk.....C			0	0	0	5	118	354	636	679	602	464	220	41	0 3119
	Richmond.....A			0	0	0	33	210	498	791	828	708	550	271	61	0 3565
	Richmond.....C			0	0	0	31	181	456	750	787	675	529	254	57	0 3720
	Wytheville.....C	02/03-40/41	39	7	13	32	352	662	916	945	836	677	410	168	35	5103
Wash.	North Head L.H. Reservation.....C			239	205	234	341	486	636	704	585	598	492	406	285	5211
	Seattle.....C			49	45	134	329	540	679	753	602	558	366	246	107	4438
	Seattle-Tacoma.....A			75	70	192	412	633	781	862	675	636	477	307	155	5275
	Spokane.....A			17	28	205	508	879	1113	1243	988	834	561	330	146	6352
	Tacoma.....C			66	62	177	375	579	719	797	656	585	455	232	143	4565
W. Va.	Tatoosh Island.....C			295	258	315	408	528	648	713	610	629	635	437	330	5724
	Walla Walla.....C			0	0	83	308	575	890	1023	748	564	338	171	38	4648
	Yakima.....A			0	7	150	446	807	1066	1181	862	660	408	205	53	5845
	Elkins.....A			9	31	122	412	726	995	1017	910	797	477	224	53	5773
	Parkersburg.....C			0	0	56	272	600	896	949	826	672	347	119	13	4750
Wis.	Green Bay.....A			32	58	183	515	945	1392	1516	1336	1132	696	347	107	8259
	La Crosse.....A			11	20	152	447	921	1380	1528	1280	1035	552	260	74	7650
	Madison.....A			13	31	150	459	891	1302	1423	1207	1008	579	272	82	7417
	Madison.....C			10	30	137	419	864	1287	1417	1207	1011	573	266	79	7200
	Milwaukee.....A			20	32	194	428	831	1218	1335	1142	983	621	351	109	7205
	Milwaukee.....C			11	24	112	397	795	1184	1302	1117	961	606	335	100	6944
	Milwaukee.....C	15/16-40/41	26	36	58	216	568	982	1427	1594	1351	1147	680	315	100	8494
Wyo.	Wausau.....A			33	39	241	577	897	1125	1225	1044	1029	717	462	173	7562
	Cheyenne.....A			7	23	244	632	1050	1383	1494	1179	1045	687	396	163	8303
	Yellowstone Park.....A	04/05-40/41	37	125	173	424	759	1079	1386	1464	1252	1165	841	603	334	9605
Alta.	Calgary.....A	1921-50	30	110	170	410	710	1110	1430	1530	1350	1200	770	460	270	8520
	Edmonton.....A	1921-50	30	90	180	440	750	1220	1680	1780	1520	1280	760	410	220	10320
	Lethbridge.....A	1921-50	30	60	100	350	620	1030	1390	1450	1290	1120	690	400	210	8550
B.C.	Medicine Hat.....A	1921-50	30	20	50	300	600	1070	1440	1590	1380	1120	620	320	130	8550
	Prince George.....A	1921-50	30	180	440	730	1100	1450	1560	1290	1070	730	470	260	950	9500
	Prince Rupert.....A	1921-50	30	270	240	340	510	680	860	910	810	790	650	500	350	6910
Man.	Vancouver.....A	1921-45	25	60	100	410	620	790	850	710	650	460	290	130	530	5230
	Victoria.....A	1921-50	30	160	150	230	410	600	730	800	680	620	470	350	230	5410
	Brandon.....A	1921-50	30	60	100	350	730	1290	1810	2010	1730	1440	820	420	170	10630
N.B.	Churchill.....A	1926-50	25	310	370	650	1110	1750	2300	2520	2270	2150	1590	1100	690	10630
	Winnipeg.....A	1921-50	30	40	70	300	690	1250	1770	2000	1710	1440	810	400	150	8830
	Fredericton.....A	1921-50	30	50	70	250	600	940	1410	1570	1410	1180	680	420	210	8700
Nfld.	Moncton.....A	1939-50	12	40	80	240	580	830	1340	1510	1340	1180	630	350	250	8380
	Saint John.....A	1921-50	30	110	110	250	530	830	1250	1400	1270	1100	780	500	250	8380
	Corner Brook.....A	1921-50	30	90	140	320	640	890	1230	1410	1360	1240	900	640	350	9210
NWT.	Cander.....A	1937-50	14	130	160	320	660	920	1230	1430	1320	1270	970	650	380	9440
	Goose Bay.....A	1941-51	10	130	220	440	840	1220	1740	2020	1710	1530	1110	770	410	12140
	St. John's.....A	1921-50	19	170	160	320	580	820	1100	1270	1230	1160	910	680	350	8750
N.S.	Aklavik.....A	1926-50	25	280	460	800	1400	2040	2500	2580	2310	2280	1590	1050	430	16020
	Fort Norman.....A	1921-50	25	170	350	700	1220	1940	2460	2550	2190	2040	1390	730	210	7570
	Halifax.....A	1921-50	30	50	70	180	470	740	1120	1260	1180	1050	760	430	270	8220
Ont.	Sydney.....A	1921-50	30	60	80	220	510	780	1130	1310	1280	1160	850	570	270	7620
	Yarmouth.....A	1921-50	30	110	120	230	480	720	1040	1180	1100	1010	750	510	270	7620
	Fort William.....A	1921-50	30	90	120	350	690	1140	1590	1780	1560	1360	890	550	240	10350
P.E.I.	Hamilton.....A	1921-50	30	21	10	120	430	760	1130	1270	1160	1000	620	320	60	6690
	Kapuskasing.....A	1921-50	30	110	170	410	780	1270	1780	2060	1770	1570	1030	600	240	11790
	Kingston.....A	1921-50	30	30	40	160	500	820	1250	1420	1290	1110	710	380	100	7810
Que.	London.....A	1921-50	30	20	40	150	490	840	1200	1320	1210	1040	650	330	90	8380
	Ottawa.....A	1921-50	30	30	60	210	590	960	1480	1640	1480	1230	730	340	70	7020
	Toronto.....A	1921-50	30	20	30	140	460	770	1130	1260	1160	1020	640	320	70	8380
Sask.	Charlottetown.....A	1921-50	30	40	60	200	510	820	1230	1430	1340	1180	840	510	220	10440
	Arvida.....A	1931-50	20	60	110	330	690	1100	1670	1880	1660	1410	880	480	170	10440
	Montreal.....A	1921-50	30	10	40	180	530	890	1370	1540	1370	1160	700	300	100	9070
Y.T.	Quebec City.....A	1921-50	30	20	70	240	590	920	1400	1560	1410	1190	750	370	90	8610
	Sherbrooke.....A	1921-50	30	70	140	410	780	1350	1870	2060	1750	1500	850	440	210	11430
	Prince Albert.....A	1921-50	30	70	110	370	750	1290	1740	1940	1680	1420	790	420	190	10960
Dawson	Rexdale.....A	1921-50	30	60	110	380	760	1320	1790	1990	1710	1440	800	420	190	10960
	Saskatoon.....A	1921-50	30	50	90	340	680	1170	1550	1710	1490	1260	730	400	190	9560
	Swift Current.....A	1921-50	30	50	90	340	680	1170	1550	1710	1490	1260	730	400	190	9560
	Dawson.....A	1921-50	30	170	320	660	1170	1890	2410	2510	2160	1830	1100	570	250	15040

Estimating Fuel Consumption for Space Heating

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being prepared and must be found by surveying plans, by observation, or by measurement of the building. Values of U for use in this equation are the unit fuel consumptions per degree-day, obtained as a result of the collection of operating information and listed in Tables 4, 5 and 6. Attention is directed to the nature of these units in the next following sections.

Unit Fuel Consumptions per Degree-Day

The quantity of fuel used per degree-day in a given heating plant can be reduced to a unit basis in terms of quantity of fuel or steam per degree-day per thousand Btu hourly heat loss at design conditions. A less frequently used basis is quantity of fuel per (degree-day) (square foot of floor area). In fact any convenient unit can be used to relate the consumption to the degree-day and to the building.

The choice of these units requires explanation, and some discrimination and judgment. If the volume basis is used, the net heated space is preferable to the gross building cubage, since gross cubage includes outer walls and certain portions of attic and basement space which are usually unheated. In the absence of data on net heated volume, a figure of 80 per-

TABLE 3. CORRECTION FACTORS FOR OUTSIDE DESIGN TEMPERATURES*

OUTSIDE DESIGN TEMP F.....	-20	-10	0	+10	20
Correction Factor.....	0.778	0.875	1.000	1.167	1.400

* The multipliers in Table 3, which are high for mild climates and low for cold regions, are not in error as might appear. The unit figures in Tables 4, 5, and 6 are per square foot of radiator or thousand Btu heat loss per degree-day. For equivalent buildings and heating seasons, those in warm climates have lower design heat losses and smaller radiator quantities than those in cold cities. Consequently, the unit figure in quantity of fuel per (square foot of radiator) (degree-day), is larger for warm localities than for colder regions. Since the northern cities have more radiator surface per given building and a higher seasonal degree