

Table D.1k: Evapotranspiration Data - Lyndhurst
 Evapotranspiration - Calendar Year Evapotranspiration - Water Year

Year	150 mm	200 mm	250 mm	400 mm	150 mm	200 mm	250 mm	400 mm
1977	562	598	619	635				
1978	483	524	553	589	486	527	555	592
1979	603	620	629	636	591	609	618	624
1980	601	601	601	601	624	624	624	624
1981	610	610	610	610	610	610	610	610
1982	611	611	611	611	581	581	581	581
1983	507	547	574	615	526	565	592	633
1984	537	565	584	607	541	567	583	599
1985	593	601	602	602	585	595	600	606
1986	610	610	610	610	617	617	617	617
1987	629	639	645	649	628	638	644	648
1988	589	610	621	631	590	611	622	632
1989	595	609	618	620	590	605	614	616
1990	596	616	625	631	589	608	618	623
1991	593	628	648	663	592	627	648	663
1992	555	555	555	555	573	573	573	573
1993	597	605	610	610	593	601	606	606
1994	570	591	605	623	557	576	589	604
1995	583	608	625	642	586	612	630	651
1996	614	614	614	614	620	620	620	620
1997	587	587	587	587	588	588	588	588
1998	688	688	688	688	671	671	671	671

Avg	587	602	611	619	587	601	610	618
Min	483	524	553	555	486	527	555	573
Max	688	688	688	688	671	671	671	671
SD	42	33	30	28	39	30	27	26
Count	22	22	22	22	21	21	21	21
SE	9	7	6	6	8	7	6	6
SE%	2%	1%	1%	1%	1%	1%	1%	1%
Lower	569	587	598	608	571	588	598	607
Upper	605	616	623	631	604	614	621	629

Table D.11: Evapotranspiration Data - Mallorytown Landing
 Evapotranspiration - Calendar Year Evapotranspiration - Water Year

Year	150 mm	200 mm	250 mm	350 mm	400 mm	150 mm	200 mm	250 mm	350 mm	400 mm
1978	553	575	585	587	588					
1979	585	607	618	629	629	573.7	596.2	606.3	617.8	617.9
1980	598	599	599	599	599	621.1	622.7	622.7	622.7	622.7
1981	610	616	620	621	621	608.5	614.9	618.7	619.5	619.5
1982	609	615	616	616	616	578.8	583.9	585.3	585.3	585.3
1983	549	581	601	624	628	566.4	598.2	618.6	641.7	645.8
1984	573	591	603	618	620	577.6	592	600.9	611.2	612.1
1985	597	607	613	613	613	589.8	604.2	613	616.9	618.4
1986	615	615	615	615	615	621.5	621.5	621.5	621.5	621.5
1987	619	639	651	664	664	617.3	637.5	649.7	662.8	662.8
1988	554	587	610	628	633	556	589.3	612	630.4	635
1989	586	605	617	629	630	581.7	601	613.1	624.5	625.8
1990	625	632	635	637	637	616.7	624.1	627.2	629	629

Avg	590	605	614	622	623	592	607	616	624	625
Min	549	575	585	587	588	556	584	585	585	585
Max	625	639	651	664	664	622	638	650	663	663
SD	26	19	17	18	19	23	17	16	18	19
Count	13	13	13	13	13	12	12	12	12	12
SE	7	5	5	5	5	7	5	4	5	5
SE%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lower	576	595	605	611	612	579	598	607	613	614
Upper	605	616	623	632	633	606	617	625	634	635

Table D.1m: Evapotranspiration Data - Brockville
 Evapotranspiration - Calendar Year Evapotranspiration - Water Year

Year	150 mm	200 mm	250 mm	350 mm	400 mm	150 mm	200 mm	250 mm	350 mm	400 mm
1966	563	602	609	616	618					
1967	596	597	597	597	597	597	598	600	603	604
1968	619	619	619	619	619	619	619	619	619	619
1969	568	587	597	605	605	566	586	596	603	604
1970	627	627	627	627	627	616	616	616	616	616
1971	577	593	602	607	608	586	599	607	610	610
1972	558	558	558	558	558	583	585	587	589	590
1973	572	608	630	654	659	543	579	601	625	630
1974	554	565	572	572	572	579	590	596	597	597
1975	547	586	612	641	646	519	559	584	613	618
1976	579	579	579	579	579	611	611	611	611	611
1977	585	602	612	618	618	565	582	593	598	598
1978	481	521	544	566	573	490	530	553	575	582
1979	612	623	627	629	629	595	606	610	612	612
1980	591	597	598	598	598	616	622	623	623	623
1981	604	604	605	605	605	603	604	604	604	604
1982	599	599	600	600	600	570	571	571	571	571
1983	522	559	583	612	619	537	574	598	628	634
1984	526	556	576	601	608	533	559	576	597	602
1985	608	608	608	608	608	595	598	602	606	608
1986	607	607	607	607	607	614	614	614	614	614
1987	608	633	647	657	657	608	632	646	657	657
1988	568	593	608	625	630	570	595	609	627	632
1989	627	627	627	627	627	621	621	621	621	621
1990	622	626	627	627	627	616	620	621	621	621
1991	562	600	626	651	656	561	599	625	650	656
1992	567	567	567	567	567	583	583	583	583	583
1993	593	602	607	609	609	593	601	607	609	609
1994	601	615	621	626	626	587	597	602	604	604
1995	589	613	630	645	648	592	620	638	656	659
1996	622	622	622	622	622	627	627	627	627	627
1997	594	594	594	594	594	596	596	596	596	596
1998	700	700	700	700	700	683	683	683	683	683
1999	559	601	631	669	681	562	604	634	672	684
2000	590	590	590	590	590	605	605	605	605	605
2001	588	629	657	686	695	557	598	625	655	664
2002	577	619	642	655	657	607	649	672	686	688
2003	625	643	649	655	655	618	635	641	647	647
2004	633	633	633	633	633	632	632	632	632	632

Avg	588	603	611	619	621	588	603	611	620	621
Min	481	521	544	558	558	490	530	553	571	571
Max	700	700	700	700	700	683	683	683	686	688
SD	37	30	29	32	33	35	27	25	27	29
Count	39	39	39	39	39	38	38	38	38	38
SE	6	5	5	5	5	6	4	4	4	5
SE %	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Lower	576	593	602	609	611	577	594	603	611	612
Upper	599	612	620	630	632	600	611	619	628	631

Method	Precipitation	Temperature	Radiation	Vapor Pressure	Daylight	Sunshine	Latitude	Humidity	Wind Speed	Soil Heat	Elevation	Coefficients	Reference
Blaney-Criddle ^{Complex}		Yes			Yes	Yes		Yes	Yes				Maidment, 1993
Blaney-Criddle ^{Simple}		Yes			Yes							Yes	Weissman and Lewis, 1996
Hamon		Yes		Yes	Yes								
Hargreaves		Yes	Yes										Maidment, 1993
Jensen-Haise		Yes	Yes								Yes		Singh, 1993
Kimberly-Penman		Yes	Yes	Yes				Yes	Yes				Maidment, 1993
Penman		Yes	Yes	Yes				Yes	Yes				Maidment, 1993, Singh, 1993, Veissman and Lewis, 1996
Priestly-Taylor			Yes	Yes						Yes			Maidment, 1993
Thornthwaite-Mather	Yes	Yes			Yes		Yes						Thornthwaite and Mather, 1957, Singh, 1993
Thornthwaite-Holzman		Yes		Yes					Yes		Yes		Weissman and Lewis, 1996
TurcDaily		Yes	Yes					Yes					Maidment, 1993
TurcAnnual	Yes	Yes											Singh, 1993, CCL, 2001

Table D.2 - ET Methods

Appendix D-1 – Pan/Lake Evaporation

Table D-1.1: Pan Evaporation Data

Ottawa												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1962						164.8	156.3	124.3	78.7	42.3		
1963						186.3	194.1	126.8	103.2	81.8		
1964					171.7	200.8	191.6	148	92.9	49.5		
1965					175.5	199.5	200	139.4	90.8			
1966					133.3	191.8		133.7	109.5			
1967					146	165.5	161.1	144	115.3	50.4		
1968					148	149.6	204.2	177.5	113.7	56.7		
1969					130.5	166.5	224.6	163	92.1	56		
1970					133.7	198	174.7	167.6	93.4	60		
1971					155.7	207.4	191.4	157.7	83.9	61.1		
1972					165.7	128.7	175.9	137.7	104	47.4		
1973					85.6	148	187.9	149.7	107.2	61.8		
1974						158.3	192.6	147.7	89.2	38.4		
1975						185.4	222.4	185.8	86.6			
1976						184.7	159.7	162.6	87.7			
1977						145	193.9	136.3	90.5			
1978						180.6	197.1	169.1	109.1			
1979						164	199.8	121.6	103.4	42.5		
1980						172.1	173.2	164.8	108.6	45.2		
1981					126	164.4	175.2	138	94.6	52.4		
1982					159.6	165	213.4	156.6	92.8	62.4		
1983					118.4	191	204	165.6	129.8	66		
1984					129	192.1	171.8	148.2	95	61.1		
1985					163.1	154.5	194.3	163.7	110.5	60.4		
1986					147		158.2	129.7	80.5	51.7		
1987					135.1	164.6	163.5	170.1	90.7	46.8		
1988					155.7	193.4	172	138.2	93.1			
1989					124.9	142	215.5	158	100.5	67.3		
1990					134.9	146.7	199.7	165.4	75			
1991					148.9	203.2	213.9	178.6	105.2	53.1		
1992					160.2	166.6	145.2	127.9	85.5	47.7		
1993					155.6	147.4	165.4	148.9	108.2	58.9		
1994					129.9	166.9	156.7	135.6	99.2	68		
1995					156.7	208.6	187.1	175.4	94	82.3		
1996					157.6	147	172.9	163.7	103.8	63.6		
1997							190.4					
1998					166.9							

Table D-1.1: Pan Evaporation Data

Kemptonville

Year	January	February	March	April	May	June	July	August	September	October	November	December
1968								138	98.1			
1969						141.5	163.8	148.3	82.1			
1970							157.6		85.3	56.1		
1971						174.8		139.9	80	51.8		
1972									94.9	66.3		
1973						169.1	184.5	143.6	104			
1974							187.2		81			
1975					181.5	164	217.2	184.6	89.5	79.1		
1976						161.4	160.5	156.7	88.4			
1977							172.8	149.1				
1978							215.8					
1979					147.2	186.7	195.6	140.9	89.6			
1980							115.9	167.6	102.9			
1981						143.1	163.9		95.3			
1982							201.1	140.2	86.1	63.8		
1983						179.2	205.5	145.6	119.2	63.1		
1984							201.4	146	104.9			
1985							198.4	139.8	75	56.4		
1986						140.7	137.3	134.1	51.3			
1987							169.9	140.4	91.6			
1988						211.6	172.3	165.6	90.3			
1989						116.8	185.3	146.2	94			
1990						142.2	169.4	141.3	66.7			
1991						74	84	76.9	46.5	43.9		
1992						150.2	138.2	132.7	90			
1993						114.1	134.7	138.3	69.7	95.9		
1994							124.4	110.3	91.5	44		
1995						169.2	177.8	151.5				

Table D-1.1: Pan Evaporation Data

Morven												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1968										55.8		
1969						133.9	204.3	192.7	116			
1970					122	192.6	157.9	155.6		60.3		
1971								178.5	96.9	52.7		
1972					154.8	111.3	140.5	120.1	88.6			
1973					96.5	158.3	190.5	169.4	110.8	79.6		
1974						148.3	208.1	211.9	101			
1975						157.5	207.9	222	114.8			
Hartington												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1968						120.8	198.4	173.1	118	55.9		
1969					136.7	138.8	170.4	164	92.9	55.3		
1970						185.2	164.3	162.9	91.7	49.7		
1971					144.1	161.1	175		87.9	55		
1972					145.3	124.7	151.5	119.9	95.7	48.5		
1973				105.9	94.4	154.9	204.5	164	113.2	60.8		
1974					110.9	136.7	179.9	143.8	83.5	60.9		
1975					155.5	166.9	211.6	194.4	87.4	61		
Peterborough												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1982							177.7	145.8	88.6			
1983						153.9	184.6	155.4	102.3			
1984						172.8	169.4	140.7	82.1			
1985						138.6	174.4	120.5	87.9			
1986					127.3	149.9	167.7	123.3	71.7			
1987						159.7	186.5	158.9	82.2			
1988						186.6	199.4	145.9				
1989						134.6	189.2	130.7		52.6		
1990						141.2	164.1	144.4	82.9			
1991						184.7	189.6	156.2				
1992						140.9						

Table D-1.1: Pan Evaporation Data

All Data from the Five Evaporation Stations												
Mean					142	161	180	151	94	58		
SD					22	26	25	22	14	11		
SE					3.5	3.0	2.8	2.4	1.6	1.6		
SE%					2%	2%	2%	2%	2%	3%		
Upper					149	167	185	156	97	61		
Lower					135	155	174	146	90	55		

Table D-1.2: Lake Evaporation Data

Kemptville												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1968								101	76			
1969						105	128	111	64			
1970							121		64	43		
1971						133		108	63	41		
1972									76	52		
1973						128	141	110	85			
1974							139		67			
1975					138	127	160	139	68	62		
1976						129	127	125	72			
1977							121	98				
1978												
1979					108	130	147					
1980							89	116	74			
1981						105	119		66			
1982							152	111	65	55		
1983						126	145	109	82	52		
1984							132	100	76			
1985							146	102	57	45		
1986						104	105	107	41			
1987							129	100	60			
1988						152	124	117	65			
1989						83	129	104				
1990						104	124	97	52			
1991						54	64	59	34	26		
1992						111	104	100	66			
1993						88	99	97	50			
1994							90	79	66			
1995						125	126	125				
Peterborough												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1982							133	111				
1983						119			77			
1984						132		107	64			
1985						104	132	91	66			
1986						118	130	97	57			
1987						123	143	122				
1988							144	103				
1989							145	100				
1990						111	128	112	62			
1991						142	144					
1992						108						

Table D-1.2: Lake Evaporation Data

Ottawa												
Year	January	February	March	April	May	June	July	August	September	October	November	December
1962						123	118	94	57	29		
1963						139	145	98	79	59		
1964					133	151	146	112	71	38		
1965					133	148		106	68			
1966					106	146		100	82			
1967					116	125	125	109	84	38		
1968					117	114	157	134	86			
1969					103	128	169	120	70	41		
1970					101	150	130	124	70			
1971					119	156	145	119	65	44		
1972					128	101	137	106	80	39		
1973					72	113	141	113	82	46		
1974						121	142	112	66			
1975						141	164	133	63			
1976						141	120		67			
1977						111	146	105	70			
1978							147	124	82			
1979						122	145	87	71			
1980						126	127	122	82	34		
1981						127	135	107	72	41		
1982					122	126	155	113	67	46		
1983					95	145	149	122	91	49		
1984					100		129	110	72	47		
1985					127	118	145	119	80	44		
1986					110		120	101	62	40		
1987					107	126	126	128	70	36		
1988					120	138	131	105	71			
1989					95	112	161	117	74	47		
1990					102	111	149	129	57			
1991					113	149	158	131	78	37		
1992					122	124	113	97	64	36		
1993					119	114	127	114	82	43		
1994					99	127	121	103	74	48		
1995					120	155	138	128	71	56		
1996					121	110	129	125	76	45		
1997							141					
1998					123							

All Data from the Five Evaporation Stations

Mean					113	123	133	110	69	44		
SD					14	19	19	14	10	8		
SE					2.7	2.5	2.3	1.7	1.3	1.5		
SE%					2%	2%	2%	2%	2%	3%		
Upper					118	128	138	113	72	47		
Lower					108	118	129	106	67	41		