

SECTION E: ASSOCIATED INFORMATION

Appendix A

Tables and data associated with Chapter 3 Climate.

The selection of stations for the tables within the appendix was based on data availability, length of record and ability to depict typical and extreme conditions.

All climatic information provided is qualified by the number of years of record on which it is based.

The period of record is indicated by one or two figures after the station name – where there are two figures, they pertain to 9 am and 3 pm respectively. In the case of Figure 3.4, they indicate the period of rainfall record and rainy day record respectively.

STATION NUMBER	STATION NAME	LATITUDE		LONGITUDE		ELEV. (IN METRES)
		DEG	MIN	DEG	MIN	
088001	Alexandra P.O	37	21	145	43	206
088000	Archeron	37	15	145	43	-
088002	Avenel	36	54	145	14	145
088007	Bonnie Doon	37	01	145	52	282
088008	Broadford	37	12	145	06	221
088033	Broadford (White St.)	37	12	145	02	221
088070	Flowerdale (The Willows)	37	18	145	15	-
088025	Fort William	37	05	145	29	66
088074	Kanumbra	37	03	145	40	-
088034	Kilmore	37	19	144	56	370
088084	Kilmore (By lands)	37	18	145	00	-
086061	Kinglake	37	32	145	20	41
088023	Lake Eildon	37	14	145	55	262
086142	Mt. St. Leonard Potato Farm	37	34	145	30	603
088044	Marysville P.O	37	31	145	45	420
088112	Merton (Weir Farm)	36	59	145	43	331
088045	Molesworth	37	10	145	33	170
088131	Narbethong	37	31	145	40	-
088049	Puckapunyal	37	00	145	00	213
088050	Pyalong West	37	07	144	50	335
088068	Rubicon SEC	37	18	145	49	838

STATION NUMBER	STATION NAME	LATITUDE		LONGITUDE		ELEV. (IN METRES)
		DEG	MIN	DEG	MIN	
088053	Seymour	37	01	145	09	142
088153	Spring Creek Basin 2	37	06	145	42	360
088060	Wallaby Creek Weir	37	25	145	15	366
082129	Woodfield	37	01	145	48	338
088067	Yea P.O	37	13	145	25	172
*083002	Barjarg	37	00	146	00	313
*086008	Black Spur (The Hermitage)	37	34	145	39	-
*086009	Black Spur MMBW	37	36	145	38	567
*082096	Creighton's Creek	36	55	145	32	-
*082016	Euroa	36	46	145	33	175
*086178	Greenvale Sanatorium	37	39	144	51	-
*086305	Greenvale Reservoir	37	38	144	54	156
*086050	Healesville (Sanctuary)	37	41	145	32	131
*080091	Kyabram Research Station	36	20	145	04	104
*087029	Lancefield	37	17	144	44	475
*086070	Maroondah Weir	37	39	145	33	149
*086071	Melbourne Regional Office	37	49	144	58	34
*076031	Mildura AMO	34	14	142	05	50
*086090	O'Shannassy Weir	37	41	145	49	-
*082042	Strathbogie	36	52	145	44	506
*086117	Toorourrong Reservoir	37	29	145	09	244
*083031	Whitfield	36	46	146	25	246
*086131	Yan Yean	37	34	145	08	198

* Outside the Study Area but included for purposes of comparison.

List of station locations unused in Figures and Tables.

Table A.1 Highest daily rainfall intensities for selected stations.

STATION NAME	YEARS OF RECORD	AMOUNT (mm)	STATION NAME	YEARS OF RECORD	AMOUNT (mm)
Alexandra	106	108.2	Lake Eildon	96	101.3
Archeron	54	88.9	Lancefield	100	121.2
Avenel	82	110.5	Marysville	79	142.2
Barjag	51	135.1	Merton	66	170.2
Black Spur (Hermitage)	33	189.2	Molesworth	67	111.3
Black Spur (MMBW)	74	189.2	Mt. St. Leonard	54	137.9
Bonnie Doon	81	128.8	Narbethong	58	117.9
Broadford	74	100.1	O'Shannassy Weir	69	124.2
Broadford (White St)	82	103.1	Puckapunyal	77	132.1
Creightons Creek	47	99.1	Pyalong West	82	99.1
Flowerdale	32	77.7	Rubicon (SEC)	41	154.0
Fort William	83	117.9	Seymour	103	100.3
Healesville Sanctuary	52	101.2	Toorourong Res.	92	112.2
Kanumbra	35	69.6	Wallaby Creek Res.	100	135.4
Kilmore	100	99.8	Woodfield	68	139.7
Kilmore (Bylands)	33	108.0	Yea	99	151.6
Kinglake	65	151.9			

Table A.2 Estimated short duration intensities for specified return periods of several pluviograph stations.

*yrs. of observations

STATION: LAKE EILDON – 21*

RETURN PERIOD (YEARS)	RAINFALL DURATION (MIN.)												ESTIMATED RAINFALL INTENSITY PER DURATION (mm)
	6	12	18	30	60	120	180	360	720	1440	2880	4320	
2	5.4	8.5	10.4	12.8	16.5	20.6	24.5	31.9	40.0	51.4	62.4	68.2	
5	8.1	12.9	15.6	19.4	24.6	29.1	34.3	42.4	50.4	66.3	80.7	88.2	
10	10.1	15.9	19.3	24.1	30.4	34.9	40.9	49.2	56.9	75.7	92.3	100.9	
20	12.2	19.2	23.1	29.1	36.4	40.9	47.7	56.0	63.2	85.0	103.7	113.4	
50	14.8	23.2	27.9	35.3	43.9	48.1	55.7	63.9	70.3	95.6	116.7	127.6	
100	16.9	26.5	31.8	40.4	50.0	53.8	62.1	70.1	75.7	103.8	126.8	138.7	

STATION: MAROONDAH WEIR – 19*

RETURN PERIOD (YEARS)	RAINFALL DURATION (MIN.)												ESTIMATED RAINFALL INTENSITY PER DURATION (mm)
	6	12	18	30	60	120	180	360	720	1440	2880	4320	
2	5.2	7.9	9.7	12.4	17.0	23.1	25.7	35.1	48.6	67.7	85.5	92.5	
5	7.2	10.8	12.9	16.0	21.3	27.3	30.2	41.9	63.9	96.3	124.9	134.4	
10	8.6	12.7	14.9	18.3	24.0	29.7	32.9	46.0	73.7	115.8	152.3	163.5	
20	10.0	14.6	16.9	20.6	26.6	32.0	35.4	49.9	83.5	135.9	181.1	193.9	
50	11.7	16.9	19.3	23.2	29.6	34.6	38.1	54.1	94.8	160.0	215.8	230.5	
100	13.1	18.7	21.1	25.2	31.8	36.4	40.1	57.3	103.6	179.4	244.1	260.2	

STATION: WHITFIELD – 16*

RETURN PERIOD (YEARS)	RAINFALL DURATION (MIN.)												ESTIMATED RAINFALL INTENSITY PER DURATION (mm)
	6	12	18	30	60	120	180	360	720	1440	2880	4320	
2	6.5	9.8	12.3	15.1	19.7	25.0	29.4	41.0	54.9	69.4	89.1	97.9	
5	9.0	12.9	16.5	20.8	25.2	30.9	34.7	49.4	72.0	93.0	119.6	131.5	
10	10.7	14.9	19.2	24.5	28.7	34.5	37.8	54.4	83.0	108.3	139.5	153.5	
20	12.4	16.9	22.0	28.3	32.1	38.0	40.8	59.1	93.9	123.8	159.6	175.6	
50	14.4	19.1	25.2	32.7	35.9	41.9	44.1	64.4	106.4	106.4	182.8	201.3	
100	16.0	20.9	27.7	36.2	38.9	44.9	46.5	66.4	116.2	116.2	201.1	221.6	

Table A.3 Windspeed versus direction frequency analyses for 9am and 3pm in the months of January and July.

STATION: SPRING CREEK BASIN TWO

First year of record: 1957

Last year of record: 1985

January 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	1	*	-	-	-	4	1	-	15
6 – 10	3	7	*	1	2	27	3	3	5
11 – 20	2	7	-	-	3	11	1	*	45
21 – 30	2	2	-	-	*	3	-	1	25
31 – 40	*	*	-	-	-	*	-	-	8
41 – 50	-	1	-	-	-	*	-	-	1
51 +	-	-	-	-	-	-	-	-	1
All speeds	8	17	*	1	6	45	4	4	-

Number of observations: 330

July 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	4	5	*	-	*	2	*	1	28
6 – 10	7	15	-	*	1	5	3	3	12
11 – 20	5	12	-	*	1	2	1	*	35
21 – 30	1	2	-	-	*	1	-	-	21
31 – 40	*	-	-	-	-	*	-	-	4
41 – 50	-	-	-	-	-	-	-	-	1
51 +	-	-	-	-	-	-	-	-	-
All speeds	17	34	*	1	3	9	4	4	-

Number of observations: 307

January 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	*	1	-	*	*	1	1	*	2
6 – 10	5	7	1	2	1	20	5	6	3
11 – 20	5	5	-	2	2	15	3	2	47
21 – 30	2	1	-	-	1	7	1	1	34
31 – 40	1	*	-	-	*	*	-	-	11
41 – 50	-	-	-	-	*	*	-	-	2
51 +	-	-	-	-	-	*	-	-	1
All speeds	12	13	1	4	5	44	9	9	*

Number of observations: 330

July 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	2	1	-	-	-	2	1	1	15
6 – 10	13	11	-	-	1	15	4	4	7
11 – 20	6	10	-	-	2	4	1	1	48
21 – 30	1	2	-	-	1	1	-	-	24
31 – 40	-	-	-	-	-	*	-	-	5
41 – 50	-	-	-	-	*	-	-	-	*
51 +	-	-	-	-	-	-	-	-	*
All speeds	23	24	-	-	4	22	6	6	-

Number of observations: 289

- nil occurrence
- * < 0.5% occurrence

STATION: EUROA

First year of record: 1965

Last year of record: 1976

January 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	6	4	2	5	2	3	1	1	13
6 – 10	6	5	2	6	6	3	1	1	23
11 – 20	5	3	-	2	2	1	*	*	30
21 – 30	2	1	1	3	5	1	*	*	15
31 – 40	1	1	-	2	1	1	-	*	13
41 – 50	*	*	-	*	*	*	-	-	6
51 +	-	-	-	*	-	-	-	-	1
All speeds	21	14	4	18	17	8	2	3	*

Number of observations: 351

July 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm						1			
1 – 5	9	4	2	4	3	1	1	1	49
6 – 10	8	2	1	2	1	*	1	2	25
11 – 20	3	1	-	*	*	-	*	-	18
21 – 30	1	*	-	-	1	-	-	-	5
31 – 40	*	*	-	-	*	-	-	-	2
41 – 50	-	-	-	-	-	-	-	-	1
51 +	-	-	-	-	-	-	-	-	
All speeds	22	8	2	6	6	3	2	3	

Number of observations: 327

January 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	4	2	1	2	5	3	4	3	7
6 – 10	5	4	1	4	5	4	4	4	24
11 – 20	2	2	*	2	6	4	2	2	32
21 – 30	1	*	*	2	5	2	1	1	20
31 – 40	*	-	-	*	1	-	*	-	13
41 – 50	*	-	-	*	1	-	-	1	2
51 +	-	-	-	*	-	*	*	-	2
All speeds	12	8	3	11	23	13	11	12	1

Number of observations: 279

July 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	10	3	-	3	3	5	7	6	19
6 – 10	12	3	-	2	4	2	3	2	36
11 – 20	5	1	*	1	1	1	2	*	27
21 – 30	2	1	-	-	*	1	1	*	11
31 – 40	-	-	-	-	*	*	-	-	5
41 – 50	-	-	-	-	*	*	*	-	1
51 +	-	-	-	-	-	-	-	-	1
All speeds	29	7	*	5	8	9	13	8	-

Number of observations: 248

- nil occurrence
- * < 0.5% occurrence

STATION: LAKE EILDON

First year of record: 1957

Last year of record: 1985

January 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	3	9	12	5	21	16	5	2	12
6 – 10	1	3	2	2	2	1	1	*	72
11 – 20	-	1	*	1	*	1	1	-	11
21 – 30	-	*	*	-	-	*	*	-	4
31 – 40	-	-	-	-	-	-	-	-	1
41 – 50	-	-	-	-	-	-	-	-	-
51 +	-	-	-	-	-	-	-	-	-
All speeds	3	12	14	8	23	18	7	2	-

Number of observations: 465

July 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	7	15	8	2	2	4	5	8	43
6 – 10	2	2	1	-	-	-	1	2	49
11 – 20	*	*	-	-	-	-	-	-	7
21 – 30	*	-	-	-	-	-	-	-	*
31 – 40	-	-	-	-	-	-	-	-	*
41 – 50	-	-	-	-	-	-	-	-	-
51 +	-	-	-	-	-	-	-	-	-
All speeds	9	17	8	2	2	4	6	9	-

Number of observations: 465

January 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	3	6	6	5	13	10	6	4	1
6 – 10	2	4	2	3	4	8	6	2	53
11 – 20	1	1	*	1	1	4	4	1	29
21 – 30	*	*	-	-	*	*	1	*	12
31 – 40	-	-	-	*	*	1	1	-	2
41 – 50	-	-	-	-	-	-	*	-	2
51 +	-	-	-	-	-	-	-	-	*
All speeds	7	11	8	8	18	23	17	6	-

Number of observations: 465

July 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	5	12	3	3	11	11	11	7	22
6 – 10	2	2	1	*	-	1	4	2	63
11 – 20	*	*	-	*	*	*	*	*	12
21 – 30	-	-	-	-	-	*	*	-	2
31 – 40	*	-	*	*	-	-	-	-	*
41 – 50	-	-	-	-	-	-	-	-	1
51 +	-	-	-	-	-	-	-	-	-
All speeds	8	14	4	4	11	12	16	9	-

Number of observations: 465

- nil occurrence
- * < 0.5% occurrence

STATION: RUBICON (088068)

First year of record: 1957

Last year of record: 1985

January 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	10	2	-	*	1	1	2	6	25
6 – 10	15	5	*	2	2	2	1	5	21
11 – 20	4	1	*	1	2	1	*	1	32
21 – 30	2	1	*	1	1	1	*	1	11
31 – 40	1	*	*	*	1	*	*	*	6
41 – 50	1	*	-	*	*	*	-	*	3
51 +	-	-	-	-	-	-	-	*	3
All speeds	33	9	*	5	8	5	3	13	*

Number of observations: 893

July 0900 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	5	1	-	1	4	3	1	4	23
6 – 10	9	1	*	2	6	4	1	6	19
11 – 20	4	*	*	1	2	1	1	3	29
21 – 30	3	*	-	1	2	*	*	2	13
31 – 40	2	*	-	*	1	*	*	1	9
41 – 50	1	*	-	*	*	-	-	1	4
51 +	*	*	-	-	-	*	*	*	2
All speeds	24	3	*	6	15	9	4	16	1

Number of observations: 866

January 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	5	1	*	*	1	*	*	3	16
6 – 10	8	4	*	3	3	4	1	7	11
11 – 20	6	3	*	1	3	2	1	3	32
21 – 30	4	1	-	1	2	2	1	2	19
31 – 40	2	*	*	1	2	1	1	1	12
41 – 50	1	-	-	*	*	*	*	1	7
51 +	*	*	-	-	-	-	-	*	3
All speeds	26	9	1	7	7	9	4	17	*

Number of observations: 892

July 1500 Hrs. Local Standard Time

Wind Spd Km/Hr	Direction with occurrence								
	North	N.East	East	S.East	South	S.West	West	N.West	All directions
Calm									
1 – 5	7	1	-	*	1	*	*	4	20
6 – 10	12	2	*	1	3	2	1	8	12
11 – 20	7	1	*	1	2	2	1	4	30
21 – 30	4	1	*	1	2	1	*	2	18
31 – 40	3	*	-	*	1	1	1	1	11
41 – 50	2	*	-	-	*	*	-	1	7
51 +	-	*	-	-	-	-	-	*	2
All speeds	34	5	*	3	8	6	3	20	*

Number of observations: 859

- nil occurrence
- * < 0.5% occurrence

Table A.4 Monthly distribution of mean daily radiation for selected stations.

STATION NAME	YEARS OF RECORD	RADIATION LEVEL (MJ/m ²)											
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Melbourne	17	23.3	21.6	16.0	10.9	7.3	5.9	6.8	9.1	12.8	17.4	21.1	23.9
Kyabram Irr. Res.	9	27.1	25.1	20.0	14.5	9.3	7.2	8.1	10.4	15.7	20.5	25.2	27.8
Mildura	15	28.2	25.2	20.6	15.0	10.5	8.7	9.7	12.8	16.9	21.7	26.1	29.1

Table A.5 Phenomena occurring at selected stations (days per month).

TYPE OF PHENOMENA	STATION NAME	YEARS OF RECORD	MONTH											
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FOG	Euroa	11					1	1	2	1				
	Strathbogie	12				1	2	3	3	2	1			
	Mt. St. Leonard	21	4	4	4	4	4	4	4	4	4	3	4	3
	Lake Eildon	15			1	3	4	5	4	1				
	Rubicon SEC	29	1			2	3	4	5	3	2	1	1	1
	Spring Creek	11				2	3	5	4	2	1		1	
THUNDER	Euroa	11									1	1	1	1
	Strathbogie	12	2	1	1						1	1	2	1
	Mt. St. Leonard	21	1	1	1						1	1	1	1
	Lake Eildon	15	2	1	2	1				1	1	1	2	1
	Rubicon SEC	29	2	2	2						1	2	2	2
	Spring Creek	11	2	1	2						1	1	2	1
LIGHT FROST DAYS <2.2°C	Euroa	11					3	9	9	7	4	1	1	
	Strathbogie	12			1	8	13	17	19	16	12	9	3	1
	Mt. St. Leonard	20					1	4	7	6	5	2	1	
	Lake Eildon	15				1	5	9	11	7	5	2	1	
	Rubicon SEC	29				1	4	9	16	13	8	4	2	
	Spring Creek	11				2	7	11	13	11	8	5	3	
HEAVY FROST DAYS < 0.0°C	Euroa	11					1	2	4	2	1			
	Strathbogie	12				3	8	11	14	9	5	2	1	
	Mt. St. Leonard	20						1	1	1	1			
	Lake Eildon	15					1	4	5	2	1			
	Rubicon SEC	28					1	2	4	3	3			
	Spring Creek	11					1	5	7	4	3	1		