

Introduction

This chapter contains information about Victoria's geography and climate. This includes details of Victoria's physical features and location as well as rainfall and temperature variation.

The information about climate, rainfall and temperature has been provided by the Bureau of Meteorology, which measures this information on a daily basis at a range of geographic locations across Victoria. The meteorology tables in this chapter show data for selected areas only.

Physical features

Although Victoria is the second most populous State or Territory in Australia, it is ranked sixth in terms of geographic size, and accounts for just under 3% of Australia's total area (table 2.1).

2.1 AREA OF STATES AND TERRITORIES

	Area km ²	Length of coastline km	Percentage of total area	Percentage of total population (as at 30 June 2000)
Western Australia	2 529 875	20 781	32.89	9.9
Queensland	1 730 648	13 347	22.50	18.7
Northern Territory	1 349 129	10 953	17.54	1.0
South Australia	983 482	5 067	12.78	7.7
New South Wales	800 642	2 137	10.41	33.7
Victoria	227 416	2 512	2.96	24.9
Tasmania	68 401	4 882	0.89	2.4
Australian Capital Territory	2 358	. .	0.03	1.6
Australia(a)(b)	7 692 024	59 736	100.00	100.00

(a) Total includes estimates for Jervis Bay, Christmas Island and Cocos (Keeling) Island Territories. (b) Total includes Jervis Bay.

Source: AUSLIG, 100K Coastline database, 1993; Australian Demographic Statistics (Cat. no. 3101.0).

Wilson's Promontory, latitude 39°08'S, longitude 146°22'30"E, is the southernmost point of mainland Victoria and also of mainland Australia; the northernmost point is where the western boundary of the State meets the Murray River, latitude 33°59'S, longitude 140°58'E; the point furthest east is Cape Howe, situated at latitude 37°31'S, longitude 149°58'E. The western boundary lies at longitude 140°58'E and extends from latitude 33°59'S to latitude 38°04'S, a distance of 451 kilometres.

Victoria's longest river is the Goulburn, which runs from Lake Eildon to the Murray River, east of Echuca (table 2.2). The Goulburn is also the river with the greatest annual flow of water. The State boundary is the south bank of the Murray River, therefore the Murray flows in New South Wales.

2.2 SELECTED PHYSICAL FEATURES

	Height		Length
Mountain	metres	River	km
Bogong	1 986	Goulburn	563
Feathertop	1 922	Glenelg	454
Nelson	1 883	Loddon	392
Painter	1 877	Mitta Mitta	286
Hotham	1 861	Hopkins	280

Source: *The Australian Encyclopaedia*, Vol. 8, Sixth edition.

Climate

Victoria is characterised by a wide range of climatic conditions. There are the warm and dry grasslands of the State's northwest, covering the Mallee, and much of the Wimmera and Northern Country. The climate of the less elevated parts of the northeast is classified as temperate with no dry season and a hot summer. By contrast, the climate of the State's mountainous regions, as well as that of South Gippsland, the Otways, and the exposed coast of the far southwest, is classified as temperate with no dry season and a mild summer. Most of the rest of Victoria experiences a climate classified as temperate with no dry season, and a warm summer. The exception is an area covering much of the far southwest of the State, excluding the exposed coast. This area experiences a climate classified as temperate with a distinctly dry and warm summer.

Different synoptic systems produce rainfall in different parts of Victoria. The most reliable rainfall occurs in the Western District, where the passage of cold fronts, especially in winter, bring frequent light to moderate falls.

Thunderstorms are an important source of rainfall, particularly during the spring and summer months. However, rainfall from thunderstorms is frequently localised. The average number of days on which thunderstorms occur in Victoria each year, varies from about 10, along parts of the coast, to in excess of 30, around the highlands. The Melbourne region typically experiences thunderstorms on about 15 days per year. The majority of these storms have life cycles of between 40 minutes and one hour.

Under certain conditions, severe thunderstorms develop and produce damaging phenomena such as tornadoes, destructive wind gusts, large hailstones and flash flooding. Many severe thunderstorms produce very heavy rain and local flooding, but it is those that produce large hail and tornadoes which are responsible for the majority of severe damage. Severe thunderstorms are most likely to occur during the late spring and early summer months with the majority developing during the afternoon and evening.

In Victoria, snow is usually confined to the Great Dividing Range, where at intervals during the winter it may be covered to a considerable extent, especially over the elevated eastern section. Snow has been recorded in all districts except for the Mallee, the Wimmera North, and the Lower North of the State. Snow has been recorded in all months over the higher Alps, but mainly falls occur during the winter months. The heaviest snowfalls in Victoria are confined to sparsely populated areas.

Rainfall

Rainfall varies considerably across Victoria, as shown in table 2.3. Mildura consistently shows a low average rainfall, and recorded the lowest observed rainfall of the locations listed below in all seasons between Spring 2000 and Winter 2001.

The highest observed rainfall of 354mm was recorded in Portland in Winter 2001. Interestingly, this area recorded just 38mm of observed rainfall in Summer 2000–01, about one-third of the average for that time of year.

Melbourne recorded above average rainfall in Spring 2000 (223mm) and Autumn 2001 (226mm). In contrast, the 57mm of observed rainfall recorded in Summer 2000–01 was two-thirds below the average.

2.3 RAINFALL, By Location(a)

Location	Spring 2000 (Sep–Nov)		Summer 2000–01 (Dec–Feb)		Autumn 2001 (Mar–May)		Winter 2001 (Jun–Aug)	
	Observed rain	Average rain	Observed rain	Average rain	Observed rain	Average rain	Observed rain	Average rain
	mm	mm	mm	mm	mm	mm	mm	mm
Mildura	83	78	37	63	23	73	72	76
Horsham	138	128	55	72	58	104	159	143
Bendigo	241	144	97	98	77	132	127	176
Wodonga	256	181	174	130	106	165	185	239
Omeo	236	209	150	157	131	163	173	164
Lakes Entrance	168	190	113	163	258	199	231	177
Latrobe Valley	287	255	94	179	203	163	210	203
Melbourne	223	175	57	153	226	164	121	149
Geelong	241	172	50	107	296	146	153	152
Ballarat	245	190	57	128	142	168	160	199
Portland	249	199	38	106	151	182	354	305

(a) Latrobe Valley, Geelong and Portland, are measured at their respective airports. Geelong airport is at Grovedale and Portland airport is at Cashmore. Observed rain refers to the actual value during the designated season. Average rain refers to the historical arithmetic mean of all observations recorded at that location.

Source: Bureau of Meteorology.

Temperature

Minimum and maximum temperatures vary considerably across Victoria, and from season to season (table 2.4). Omeo, located in the north east highlands, consistently recorded the lowest observed minimum of the selected locations between Spring 2000 and Winter 2001. The highest observed minimums were recorded in Melbourne in all seasons except Summer 2000–01, when Mildura recorded 18.2° compared to Melbourne's 16.9°. Melbourne's higher observed minimums are influenced by the heat retaining qualities of city buildings and roads. Lakes Entrance, whose observations are not affected by this phenomenon, recorded similar observed minimums to Melbourne between Spring 2000 and Winter 2001.

2.4 MINIMUM TEMPERATURE, By Location(a)

	Spring 2000 (Sep–Nov)		Summer 2000–01 (Dec–Feb)		Autumn 2001 (Mar–May)		Winter 2001 (Jun–Aug)	
	Observed minimum	Average minimum	Observed minimum	Average minimum	Observed minimum	Average minimum	Observed minimum	Average minimum
	°c	°c	°c	°c	°c	°c	°c	°c
Mildura	10.0	10.0	18.2	15.9	9.6	10.7	5.1	5.0
Horsham	7.3	7.6	12.6	12.8	7.3	9.1	4.5	4.2
Bendigo	7.7	8.2	14.1	13.8	7.2	9.5	3.6	4.1
Wodonga	10.0	8.2	16.7	14.6	8.3	9.1	3.5	3.8
Omeo	6.3	4.5	10.7	9.0	5.2	5.1	1.8	0.2
Lakes Entrance	11.1	9.3	15.8	13.7	11.6	11.0	8.0	6.1
Latrobe Valley	8.6	7.6	13.6	12.0	8.4	8.7	5.3	4.1
Melbourne	11.8	10.3	16.9	14.7	12.0	11.8	8.8	7.1
Geelong	9.6	7.7	13.7	11.9	9.5	9.6	6.6	5.4
Ballarat	6.9	6.4	12.0	10.8	6.8	8.1	4.1	3.6
Portland	9.5	8.4	12.7	11.7	9.6	10.0	7.1	6.6

(a) Latrobe Valley, Geelong and Portland, are measured at their respective airports. Geelong airport is at Grovedale and Portland airport is at Cashmore. Observed minimum refers to the actual value during the designated season. Average minimum refers to the historical arithmetic mean of all observations recorded at that location.

Source: Bureau of Meteorology.

Mildura, located in the semi-arid region in the northwest of Victoria, recorded the highest observed maximum temperature of the selected locations in all seasons between Spring 2000 and Winter 2001, consistent with it recording the highest average maximum temperature in all seasons (table 2.5). There were four locations which recorded observed maximums over 30° during Summer 2000–01 — Mildura (34.6°), Wodonga (32.0°), Horsham (31.2°) and Bendigo (30.6°).

Observed maximums during Winter 2001 were similar across the selected locations, with Omeo (11.7°) and Ballarat (11.8°) recording the lowest temperatures in that season.

2.5 MAXIMUM TEMPERATURE, By Location(a)

	Spring 2000 (Sep–Nov)		Summer 2000–01 (Dec–Feb)		Autumn 2001 (Mar–May)		Winter 2001 (Jun–Aug)	
	Observed maximum	Average maximum	Observed maximum	Average maximum	Observed maximum	Average maximum	Observed maximum	Average maximum
	°c	°c	°c	°c	°c	°c	°c	°c
Mildura	24.6	23.8	34.6	31.2	24.1	23.6	16.7	16.1
Horsham	21.5	20.8	31.2	28.9	21.6	21.8	14.8	14.1
Bendigo	19.8	19.9	30.6	28.0	21.2	20.8	14.2	13.0
Wodonga	21.3	21.5	32.0	30.5	22.5	22.6	15.0	13.8
Omeo	17.7	17.6	26.3	24.7	18.1	18.3	11.7	10.9
Lakes Entrance	18.5	18.9	24.6	23.1	19.8	19.9	15.5	15.0
Latrobe Valley	18.8	18.8	28.2	25.0	20.5	20.3	14.6	14.0
Melbourne	20.2	19.5	28.1	25.3	20.7	20.6	15.3	14.3
Geelong	18.5	18.2	26.4	23.8	20.0	19.9	14.9	14.0
Ballarat	16.8	16.5	27.1	24.2	18.0	18.0	11.8	10.8
Portland	17.0	16.6	23.0	21.2	18.3	18.3	14.1	13.5

(a) Latrobe Valley, Geelong and Portland, are measured at their respective airports. Geelong airport is at Grovedale and Portland airport is at Cashmore. Observed maximum refers to the actual value during the designated season. Average maximum refers to the historical arithmetic mean of all observations recorded at that location.

Source: Bureau of Meteorology.

Bibliography

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