

Southern Interior of British Columbia.—The southern interior of British Columbia may be subdivided into west and east. The western portion, lying between the Coast Range and the Cascade Mountains on the west and the Columbia Mountain system in the east, is an area composed of deep valleys running in a general north-south direction entrenched in the Low Plateau having an average elevation of 4,000 feet. The eastern subdivision is characterized by the Monashee Mountains, the Selkirks and other rugged lofty uplands, divided by narrow valleys and picturesque lakes. The climate is continental, milder in the west than in the east. Winters are cold and the general north-south trend of the valleys frequently allows cold air masses from northern British Columbia to drift southward. There are also occasions when extremely cold air may enter from Alberta either by passing through the passes in the Rockies or by subsidence of the higher levels of a cold wave from the prairies. Even in the valleys, the ground is usually snow-covered during part of the winter.

Temperatures rise rapidly in March and spring is bright, dry and bracing. Summers are warm, with frequent hot days but with cool and occasionally cold nights. Precipitation is light and, in contrast to the West Coast region, is fairly evenly distributed throughout the year. Most of the winter precipitation is in the form of snow; while in summer heavy showers or thunderstorms provide much of the rain. The showers are usually of short duration and summer is a season of bright weather in contrast to the rather cloudy winters. Annual sunshine totals in the Southern Interior average about 2,000 hours with the average July day receiving about ten hours as compared to slightly less than two hours per day in December, the dullest month of the year.

In the valleys the wind usually blows along the valley and thus, is generally north or south. Calms are frequent in the deep valleys, particularly during winter nights. Mountain and valley winds tend to reinforce the up-and-down-valley movement of air.

Increasing "continentality" toward the east and the effect of altitude are controlling factors on the temperature regimes in the southern interior. The Okanagan and neighbouring valleys are famous for their orchards. Despite the scanty precipitation, irrigation is possible in most places by utilizing water from the numerous mountain streams. The warm summers with fairly low humidity are a distinct climatic advantage for fruit growing though the liability of spring frosts presents a serious hazard. Despite the fact that average daily minimum temperatures rise above the freezing point by Mar. 20 in the southern portions of the Okanagan Valley, and at the northern end of Okanagan Lake by Apr. 1, night frosts may occur for several weeks after these dates. The frost hazard is ameliorated in many localities by topography but on clear nights with intensive radiational cooling, frosts may cause much damage especially on low ground with poor air drainage. As an aid to the fruit growers, a special Frost-Warning Service is provided by the Canadian Meteorological Service during the spring months and frost warnings are broadcast by radio stations early each evening. When frost is predicted, oil or coal-fired heaters spaced throughout the orchards are used to provide a protective smoke screen and also to produce air turbulence, thus mixing the cold surface air with warmer air at tree-top level. More serious than the spring frosts are rare spells of abnormally cold weather in winter which cause winter killing of the fruit trees against which there is no protection.

Nearly all valley stations have mean daily maximum temperatures in the 80's during July, but cool nights give a large daily range and rather low daily means. The result is that few stations have mean temperatures much above 70°F. for the warmest summer month. Oliver at the southern end of the Okanagan Valley has a July mean temperature of 72°F., while Vernon in the north has 69°F. Corresponding January mean temperatures are 25°F. and 23°F. Most valley stations have recorded summer temperatures above 100°F. In fact, 112°F. has been reported at both Lillooet and Chinook Cove. Mid-winter minima have exceeded -30°F. at most stations and the mercury has fallen to -49°F. at Princeton. Old Glory Mountain at an elevation of 7,700 feet (the highest weather station in Canada) has had an extreme minimum temperature of -30°F. and an extreme high of 72°F.