

51. *Climate and Damage from Natural Causes.*—The weather during the period was marked by fewer extremes than in either of the two preceding periods. The only case of forest damage attributable to extreme weather violence occurred just at the end of the reporting period in the last week of March, 1948, when a sudden and unexpected wind-storm about midnight vented the peak of its violence along the eastern boundary of Golden Downs State Forest, in Nelson. The new lookout cabin on the shoulder of Gordon's Knob (see para. 43 of 1947 report) at about 3,000 ft. altitude was completely destroyed and its occupant was severely injured. So sudden and so extreme was the blast that the boarding of the structure was splintered to matchwood as from an explosion. Although the occupant was at the time of the blow-away actually speaking on the telephone to the forest staff in the valley below, it was impossible to reach him until after daylight, although relief expeditions twice set out in the storm and the darkness. When relief did reach him he was found to have a broken leg and to have suffered considerably from exposure.

The forest itself suffered a certain amount of breakage and windfall along its eastern margin, which was from 700 ft. to 1,500 ft. below the cabin; but there was no instance of complete windthrow over any area, whilst in the forest interior at any distance over a mile from the affected margin no damage at all could be seen.

This incident is described at some length because the localized intensity of weather violence affords one of a chain of examples of extreme storms experienced in that particular area over the years. Gordon's Knob and the upper catchment of the Motueka River appear to be in a district particularly subject to extremes of concentrated atmosphere disturbance, though fortunately only at long intervals.

In other respects the season, although far from an average one, did not experience weather markedly unfavourable to forest well-being. The summer, though providing in most districts a long dry spell, showed neither extremely high temperatures nor long periods of low humidity, and in no case did the high temperature coincide with the low-humidity period. Although, therefore, there were, as always, times of fire anxiety, in no case did the actual hazard as measured by climatic factors only run as high as in some preceding years. Certain silvicultural phenomena noted, however, do merit formal record, though they are not interpretable quantitatively in terms of recorded climatological data. The records will serve, however, as silvicultural precautionary signposts :—

- (i) *Seed Shedding from Insignis Pine.*—It has been customary to regard this species as completely serotinous throughout the Dominion, so that in any given year when a seed supply is needed in any district, seed can be obtained in any quantity from local trees. All trees, so to speak, store in the cone the seed of three preceding years, if not more, and it can be collected when and as required at any season of the year. When, however, in mid-1947, collection was begun in Rotorua, it was found that the weather of the two preceding summers (see relevant reports on climate and on fire hazard) had apparently sprung all the cones to shed the seed. Investigation showed that the same had occurred, although not to such a degree of completeness, with insignis pine in Canterbury and in Nelson. Ample seed was procurable from other districts, so that with some slight reorganization no dislocation of silvicultural routine resulted, but the incident serves to show how unsuspectedly close we run to a climatic margin with many of our customary silvicultural practices. It was found upon inquiry that such cone-opening and seed-shedding is a normal annual occurrence in South Australia, a small difference in the life-history of the tree species which must profoundly affect silvicultural practice.