

considerable. The figures of 103 in. and 146 in. for the two full years during which the record has been kept are very high, and the number of rainy days—260 and 261—are also very considerable. The smallest monthly rainfall, 5·24 in., is in February, and the highest, 15·89 in., on twenty-nine days in July. Indeed, the figures show, so far as they go, that no month is at all dry. This state of affairs must lead to cloudy skies and comparatively little sunshine, while the air at the same time will be usually highly saturated with moisture—in fact, within the forest plant-life must be exposed to the most extreme hygrophytic conditions, and that these are not more reflected by the vegetation as a whole is dependent probably upon the contour of the ground and the nature of the soil.

It is unfortunate that so few details are at present available for 1908, a year of abnormal dryness for the whole of New Zealand. At any rate, the small rainfall of January and February shows that plants even of the moistest forests are occasionally subject to conditions other than those to which they are attuned.

Although so far to the north, frost is not unknown in the lowest portions of the forest, though probably it never reaches beyond 1° or 2°. On the higher land frosts of much greater severity are said to occur, but I should think that more than 5° or 6° Fahr. will be extremely rare.

High winds are frequent, as in nearly every part of New Zealand, and these, of course, have an immense effect in counteracting the intense hygrophytic conditions brought about by a great rainfall, a large number of rainy days, and a moist atmosphere.

All the above is most scanty and to some extent mere guesswork, and infinitely better data are required before we can have any true knowledge as to the relation between the climatic factor and the kauri-forest vegetation.

Month.	1905.	1906.	1907.	1908.	Average.
January—					
Inches ...	...	7·13	20·71	0·49	9·44
Days of rain ...	...	16	17	8	13
February—					
Inches ...	...	8·06	6·84	0·81*	5·24
Days of rain ...	...	20	21	...	20
March—					
Inches ...	...	8·55	6·72	...	7·63
Days of rain ...	...	21	18	...	19
April—					
Inches ...	8·77	6·24	11·64	...	8·88
Days of rain ...	26	19	21	...	22
May—					
Inches ...	9·43	11·38	10·02	...	10·27
Days of rain ...	25	26	25	...	25
June—					
Inches ...	14·13	8·18	11·14	...	11·15
Days of rain ...	24	20	22	...	22
July—					
Inches ...	11·80	18·77	17·10	...	15·89
Days of rain ...	27	30	30	...	29
August—					
Inches ...	10·56	10·27	18·98	...	13·27
Days of rain ...	27	25	27	...	25
September—					
Inches ...	12·44	8·75	12·55	...	11·24
Days of rain ...	29	25	24	...	26
October—					
Inches ...	15·29	3·55	12·80	...	10·54
Days of rain ...	28	20	24	...	24
November—					
Inches ...	7·96	8·85	5·64	...	7·48
Days of rain ...	19	23	16	...	19
December—					
Inches ...	4·59	4·18	12·55	...	7·10
Days of rain ...	19	15	16	...	16
Totals ...	{ 94·97 224	{ 103·91 260	{ 146·69 261	{	{
Monthly average	{ 10·55 24	{ 8·66 21	{ 12·22 21	{	{ 9·91† 22†

* Record ceased.

† Average per month over whole period.

Before concluding this introduction I must express my sincere thanks for much valuable assistance to Mr. A. Hamilton, Director of the Dominion Museum. My thanks are also due to Mr. B. C. Aston, F.C.S., Chief Chemist of the Agricultural Department, who analysed certain soil samples, and to Mr. J. Maxwell, caretaker of the Waipoua Kauri Forest, who gave me much information *re* Maori names and uses of the plants.