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Rainfall normals for New Zealand  
for the period 1961 to 1990

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*Taihoro Nukurangi*

# **RAINFALL NORMALS FOR NEW ZEALAND**

**FOR THE PERIOD 1961 TO 1990**

**A I Tomlinson and John Sansom**

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# RAINFALL NORMALS FOR NEW ZEALAND FOR THE PERIOD 1961 TO 1990

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## What are Rainfall Normals

Rainfall normals are standard period monthly and annual average rainfall values. Since rainfall is generally quite variable over time rainfall normals allow fair inter-comparisons of the rainfall at different places. If rainfall normals are not used, it is very easy to inadvertently compare the average rainfall over a wet period at one place with that over a dry period at another and thus reach a false conclusion about their relative average rainfalls. To ensure that such inter-comparisons are fair it is also necessary that the period of comparison is sufficiently long to make the average value a reasonable estimate of the long period average value. For example, the average rainfall over a relatively wet decade throughout New Zealand will be of little value as an indication of the long-term average rainfall. However, rainfall records at most sites tend to be of quite short duration and accordingly some balance has to be struck in deciding the length of the standard period to be averaged over.

The World Meteorological Organisation (WMO, 1983) recommends 30 consecutive years for the calculation of normals for all the climatological elements including rainfall. This is a compromise duration considering all elements, their variability in different parts of the world and the records available to estimate their average values. The thirty year periods should begin on the first day of a new decade. The normals in this publication are for the period 1 January 1961 to 31 December 1990. Under the WMO definition this is also a 'standard normal period'. The standard normal periods this century have been 1901 to 1930, 1931 to 1960 and 1961 to 1990.

## Rainfall Variability

New Zealand rainfall is quite variable. On a world scale the variability is at an intermediate level. The variability is most pronounced in the north and east of the country and about the Southern Alps and the reason for that is discussed in Tomlinson (1992). The day to day, month to month and year to year variability of rainfall is also reflected in the variability of the average rainfall over the thirty year normal periods. In fact, the coefficient of variation of thirty year average annual rainfalls over New Zealand is typically in the range 2.0 to 4.5. Such values are very close to being normally distributed and accordingly for places where the coefficient of variation is 3.0 (a typical New Zealand value) there is a 10% probability that independent (non-overlapping) normals will vary by 7% or more.

The last set of normals computed in New Zealand were for the period 1951 to 1980 (NZ Met. Service, [1984]). A comparison of those values with the ones in this publication show variations that would be expected. These variations are larger and more notable in the monthly average values. They arise from the rainfall in the 1980s. Of particular note were; a run of dry Mays in the west of New Zealand from Westland to Northland; several wet Marches in the Gisborne district; a few very wet

Decembers and Januaries on the west coast of the South Island. Each of these occurrences had a marked effect on the monthly normal rainfall.

### **Computation of Rainfall Normals**

The rainfall records used in this publication are archived in the National Climate Database (CLIDB) which is maintained and operated by the Climate Division of the National Institute for Water and Atmospheric Research (NIWA) and funded by the Foundation for Research Science and Technology. The data are subject to quality control procedures that are specified in operations manuals. The total operation of collecting, processing, archiving and supplying data is registered under the ISO 9002 quality system.

The average life of a rainfall recording station is relatively short in relation to the 30 year normal period. For stations that are no longer operating the average length of record is about 18 years. This means that for many stations calculating the normal rainfall involves some estimation of missing values. For the 1961 to 1990 normal period there were 310 stations with completed records or not more than 12 missing months; these were class one stations for the calculation of rainfall normals. A further 350 stations had not more than 60 missing months; these were class two stations. The calculation of rainfall normals was restricted to just class one and two stations. This is quite different from earlier normals (NZ Met. Service, 1973, [1984]) where stations with records as short as five years were used. The practice of using such short records has the advantage of providing a denser geographic coverage of stations (2000 for the 1941 to 1970 normals and 2200 for 1951 to 1980) and the disadvantage of producing a lot of estimated normals whose values have a high uncertainty. Since the aim of producing normals is to present average values for reliable station inter-comparisons, it was decided here that estimates of high uncertainty would not be calculated.

Estimated monthly values to fill the missing records in the 1961 to 1990 period for the class one and two stations were calculated from adjacent stations. The adjacent stations were the closest one (or two) stations whose monthly rainfalls were most highly correlated with the missing record station. Once the adjacent station was thus identified a simple ratio estimate was used for the missing month. The procedure is outlined in WMO (1983).

## **Further Rainfall Information**

NIWA has a range of New Zealand and Pacific Island rainfall data in its databases. These data are of three main types:

- Daily rainfall series from over 2000 sites of which about 800 are currently operating.
- A digitised data-set of continuous rainfall records from about 75 stations.
- A data-set of continuous rainfall records from about 100 tipping bucket rainfall recorders.

A catalogue of the first two data-sets is held within the CLIDB database. Details of the third set are held in a hard copy catalogue. There are two means of accessing these data. For CLIDB direct log-in access is available. This is most suitable for people with an on-going need for significant amounts of data. Alternatively data can be supplied by mail, fax, floppy disk or E-mail. This is most suitable for people with less frequent need for data and avoids the task of having to learn about the structure and inquiry techniques of CLIDB and the Water Resources Archive.

For request for data please contact either:

Database Services  
Climate Division  
NIWA Ltd  
P.O. Box 3047  
WELLINGTON

Note: From about January 1995 the above address changes to P.O. Box 31-311, LOWER HUTT.

## **Acknowledgments**

Mr Paul P Kintanar assisted greatly with the programming required to handle the data and produce estimated values for missing records. Elaine Fouhy assisted with data processing and editing. To all the Rainfall Observers who, through fair and foul weather, made the observations that have been used in these rainfall normals, we offer a large thank you.

## **References**

- NZ Met. Service, 1973: Rainfall normals for New Zealand, 1941-70. NZ Met. Service Misc. Pub. 145 and Supplement, 1975: 34 pp.
- NZ Met. Service, [1984]: Rainfall normals for New Zealand, 1951-80. NZ Met. Service Misc. Pub. 185: 36 pp.
- Tomlinson, A.I., 1992: Precipitation and the atmosphere. Chapter 4 in Waters of New Zealand. NZ Hydrological Society.
- World Meteorological Organisation, 1983: Guide to Climatological Practices, Chapter 8, CLIMAT Reports WMO, Geneva.

## STATION IDENTIFICATION

The stations whose rainfall values are on the following pages are identified by a station number. It can be used to locate the stations you are interested in, as the following example shows.

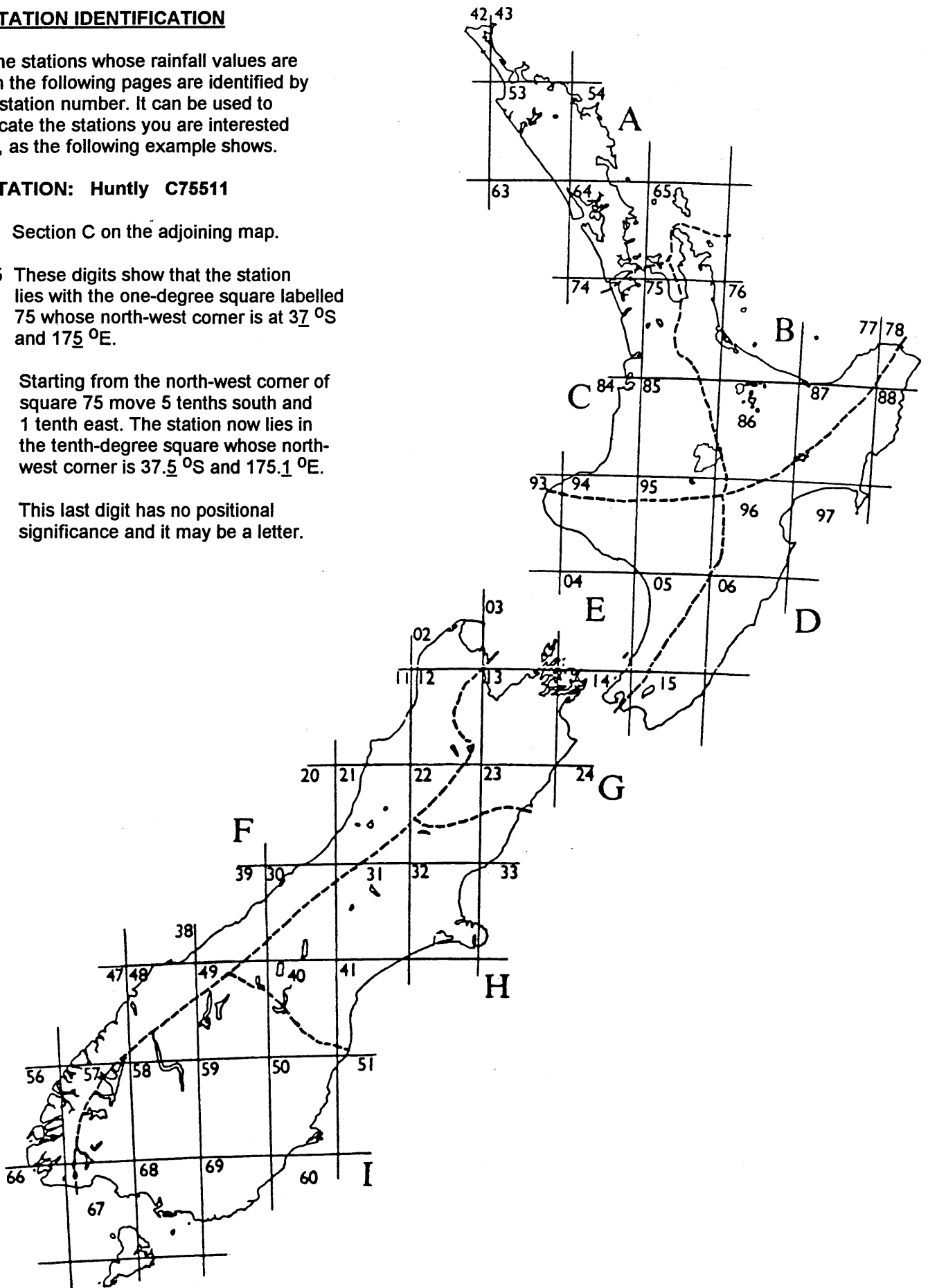
**STATION: Huntly C75511**

C Section C on the adjoining map.

75 These digits show that the station lies with the one-degree square labelled 75 whose north-west corner is at  $37^{\circ}\text{S}$  and  $175^{\circ}\text{E}$ .

51 Starting from the north-west corner of square 75 move 5 tenths south and 1 tenth east. The station now lies in the tenth-degree square whose north-west corner is  $37.5^{\circ}\text{S}$  and  $175.1^{\circ}\text{E}$ .

1 This last digit has no positional significance and it may be a letter.



STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Cape Reinga	A42461	34 25S	172 41E	191	63	67	82	109	88	122	129	116	94	64	63	61	1058
Waiharara	A43921	34 57S	173 12E	30	65	77	76	99	103	138	131	129	100	82	81	68	1149
Mangonui	A43951	34 59S	173 32E	11	73	85	94	117	120	166	145	153	122	97	84	83	1339
Waipapakauri	A53022	35 02S	173 15E	6	74	84	75	108	102	148	136	128	101	86	89	77	1208
Kaingaroa North	A53031	35 03S	173 20E	30	85	92	90	108	117	165	160	154	125	102	99	86	1383
Ahipara	A53111	35 10S	173 09E	5	70	72	78	99	110	141	132	138	105	87	92	71	1195
Kaitaia	A53121	35 07S	173 16E	8	92	95	83	113	114	156	148	151	116	96	101	85	1350
Rangitihi Sub Stn	A53132	35 07S	173 20E	37	94	101	92	118	130	170	170	172	130	110	116	91	1494
Herekino	A53222	35 16S	173 13E	34	94	92	103	125	141	184	168	180	135	122	120	92	1556
Broadwood	A53242	35 16S	173 24E	85	126	147	150	187	194	240	235	228	175	159	150	143	2134
Opononi	A53442	35 29S	173 26E	12	78	85	88	110	128	162	150	162	127	105	103	93	1391
Waipoua Forest	A53651	35 39S	173 33E	88	81	90	106	121	152	194	183	173	143	131	111	100	1585
Waimatenui 2	A53672	35 38S	173 44E	213	107	125	137	155	177	243	227	220	177	136	127	120	1951
Parakao	A53791	35 43S	173 57E	55	88	97	108	114	124	170	157	153	120	102	94	97	1424
Mamaranui	A53881	35 52S	173 48E	49	77	83	99	101	123	158	141	136	111	94	81	81	1285
Dargaville	A53981	35 56S	173 51E	46	80	78	88	94	117	150	135	130	107	91	82	80	1232
Dargaville	A53982	35 57S	173 50E	15	73	75	88	89	115	145	127	129	102	91	82	72	1188
Kawakawa Council	A54301	35 23S	174 04E	8	96	112	124	126	129	183	162	174	130	108	95	88	1527
Hikurangi	A54622	35 37S	174 17E	80	108	127	156	150	139	194	180	183	136	123	101	98	1695
Ruatangata No 2	A54623	35 40S	174 13E	152	95	126	128	132	124	173	173	173	137	118	100	104	1583
Glenberrie Forest	A54631	35 39S	174 21E	107	109	151	175	167	151	236	199	194	156	142	115	112	1907
Wairua Falls	A54701	35 46S	174 04E	15	86	90	95	108	114	155	145	136	110	89	97	92	1317
Titoki	A54702	35 43S	174 04E	28	86	105	95	99	109	149	134	139	110	97	88	91	1302
Maungatapere	A54721	35 45S	174 12E	122	108	118	132	128	137	169	167	166	132	108	109	98	1572
Whangarei Aero	A54733	35 46S	174 22E	37	89	119	132	124	126	182	155	149	125	106	85	94	1486
Tangihua	A54811	35 50S	174 07E	84	95	96	101	116	121	164	153	150	122	107	103	87	1415
Arapohue	A63091	36 00S	173 56E	61	82	76	85	92	108	141	125	122	100	89	84	76	1180
Waipu Cove	A64051	36 02S	174 30E	61	91	85	101	104	109	156	134	137	106	91	89	85	1288
Maungaturoto, Melford	A64132	36 10S	174 22E	17	98	95	106	111	125	160	145	163	122	96	103	95	1419
Pukehau	A64221	36 12S	174 15E	61	87	71	95	86	105	132	121	127	98	84	85	82	1173
Topuni	A64241	36 12S	174 27E	63	98	86	106	109	123	162	135	157	118	99	95	100	1388
Leigh 2	A64282	36 16S	174 48E	27	80	77	105	104	100	130	124	124	115	87	84	72	1202
Warkworth P.O.	A64461	36 24S	174 40E	15	105	113	129	134	135	189	170	168	139	107	105	111	1605
Mairetahi	A64531	36 33S	174 19E	24	76	72	94	100	110	140	135	128	104	88	85	77	1209
Okura Point	A64672	36 41S	174 43E	14	86	76	99	100	112	140	144	134	116	90	89	89	1275

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Tiri Tiri Lighthouse	A64691	36 36S	174 54E	70	78	67	75	82	88	114	113	113	91	78	71	73	1043
Woodhill Forest	A64741	36 45S	174 26E	30	82	74	98	113	121	145	142	136	118	96	99	88	1312
Riverhead Forest	A64751	36 46S	174 35E	28	81	92	94	121	125	167	154	140	122	96	97	106	1395
Whenuapai Aero	A64761	36 47S	174 38E	26	79	90	96	110	116	148	146	134	116	96	95	107	1333
Auckland,Albert Park	A64871	36 51S	174 46E	49	79	79	98	102	112	136	141	133	104	89	90	90	1253
Auckland City	A64878	36 51S	174 45E	75	76	70	89	93	101	115	119	114	92	80	84	86	1119
Auckland,Owairaka	A64971	36 54S	174 44E	41	85	82	95	105	119	142	139	135	111	93	93	98	1297
Onehunga B.Council 2	A64974	36 56S	174 47E	3	84	81	95	108	111	128	134	128	105	85	98	100	1257
Port Fitzroy	A65132	36 11S	175 21E	4	120	117	191	161	160	228	195	212	157	128	115	110	1894
Little Barrier Is	A65201	36 13S	175 03E	2	97	86	134	121	119	175	141	171	116	99	93	83	1435
Manukau Heads 2	A74052	37 03S	174 32E	244	66	62	88	88	93	127	109	104	86	76	83	84	1066
Sandy Bay	B65541	36 32S	175 27E	8	117	113	164	158	144	211	194	193	158	130	121	110	1813
Coromandel P.O.	B65751	36 46S	175 30E	9	120	125	174	166	146	214	191	201	166	124	111	123	1861
Whangapoua Forest	B65761	36 46S	175 36E	4	120	115	150	163	157	228	186	219	165	129	110	120	1862
Chiltern	B65851	36 48S	175 32E	67	137	138	196	176	173	228	226	229	186	153	143	147	2132
Tairua	B75082	37 00S	175 51E	6	133	121	189	149	163	208	182	195	155	120	126	128	1869
Kauaeranga Forest	B75162	37 07S	175 38E	53	117	135	172	161	168	206	229	215	183	125	123	127	1961
Tairua Forest	B75182	37 10S	175 51E	3	114	119	182	154	159	209	172	203	151	110	117	124	1814
Turua	B75251	37 14S	175 34E	2	69	77	98	95	106	118	126	110	101	79	67	88	1134
Kerepehi	B75351	37 18S	175 33E	9	71	88	99	92	94	113	122	109	109	80	71	97	1145
Paeroa	B75361	37 23S	175 40E	4	82	86	108	105	100	129	144	133	125	89	87	105	1293
Golden Cross	B75372	37 20S	175 47E	305	159	207	271	238	242	304	296	292	266	218	181	217	2891
Waihi	B75381	37 23S	175 51E	91	133	143	200	172	175	227	218	221	186	148	138	156	2117
Waihi Beach	B75491	37 25S	175 56E	8	119	110	171	138	138	182	150	163	137	112	111	131	1662
Elstow	B75561	37 31S	175 39E	12	73	81	95	95	97	111	122	115	109	85	81	95	1159
Te Aroha	B75571	37 33S	175 43E	18	94	103	126	121	120	151	166	152	144	108	104	117	1506
Kereone	B75661	37 40S	175 39E	55	80	83	96	93	107	116	126	115	111	92	91	103	1213
Waitoa	B75662	37 36S	175 36E	18	74	80	84	86	97	107	106	99	93	79	83	96	1084
Shaftesbury	B75681	37 37S	175 48E	55	104	124	181	138	162	192	185	193	167	130	126	148	1850
Tauwhare	B75741	37 45S	175 27E	46	81	82	87	84	107	115	120	115	99	93	89	100	1172
Kiwitahi 1	B75751	37 44S	175 34E	40	76	74	86	87	108	119	131	120	105	98	88	99	1191
Matamata Okauia	B75781	37 47S	175 51E	43	82	90	119	105	123	137	154	143	133	115	110	119	1430
Pohaturoa	B75861	37 48S	175 40E	91	89	91	104	97	119	126	143	139	122	101	114	106	1351
Matamata	B75873	37 49S	175 46E	61	83	87	107	101	113	120	128	134	125	105	106	112	1321
Tauranga	B76611	37 41S	176 10E	2	79	77	148	102	101	129	125	125	109	100	91	92	1278

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Tauranga Aero	B76621	37 40S	176 12E	4	87	82	135	96	110	133	122	126	113	88	87	114	1293
Whakamarama	B76701	37 44S	176 00E	256	138	139	217	158	184	216	200	208	186	164	163	184	2157
McLaren Falls	B76802	37 48S	176 02E	122	124	121	186	157	173	199	175	202	175	168	162	157	1999
Te Puke	B76832	37 48S	176 19E	61	105	98	174	115	135	166	149	154	144	119	114	153	1626
Maniatutu	B76842	37 51S	176 27E	64	98	98	143	106	117	145	126	141	116	103	101	134	1428
Pikowai	B76861	37 52S	176 39E	63	100	84	139	113	114	138	111	131	124	114	94	113	1375
Te Ranga	B76921	37 54S	176 16E	335	146	144	239	167	185	226	205	240	203	183	159	197	2294
Rotoehu Forest	B76951	37 54S	176 31E	72	95	114	167	119	131	155	145	156	137	113	111	157	1600
Thornton	B76981	37 55S	176 52E	3	89	89	123	85	103	130	118	126	103	93	89	105	1253
Thornton East	B76982	37 55S	176 52E	3	91	93	129	89	106	135	117	133	107	89	92	109	1290
Edgecumbe	B76983	37 58S	176 48E	8	95	94	135	101	117	143	125	142	117	99	98	120	1386
Rukuhanga Stn	B78501	37 34S	178 01E	21	91	84	133	120	137	162	166	175	136	105	101	104	1514
Lottin Point	B78511	37 33S	178 10E	61	99	80	157	109	138	179	179	205	170	113	121	105	1655
Matarau	B78601	37 40S	178 05E	152	156	117	194	188	210	242	255	282	237	189	168	176	2414
Putaruru,Lichfield	B85181	38 08S	175 50E	198	105	95	100	105	122	142	157	138	142	118	122	142	1488
Mamaku	B86001	38 06S	176 05E	570	143	129	169	147	171	204	201	209	186	170	166	180	2075
Ngongataha,Dalbeth Rd	B86011	38 04S	176 10E	411	121	128	163	130	149	181	165	192	170	148	145	160	1852
Lake Rotoma	B86053	38 03S	176 32E	310	145	163	205	158	167	225	211	244	209	167	172	175	2241
Mahoetahi Manawahe	B86061	38 01S	176 37E	396	158	165	225	174	169	244	220	242	213	180	184	183	2357
Kawerau	B86071	38 05S	176 43E	30	125	120	169	128	151	178	158	178	149	135	116	152	1759
Awakeri	B86082	38 02S	176 50E	100	88	90	136	93	115	131	121	130	111	97	100	115	1327
Te Teko	B86083	38 02S	176 49E	8	98	111	140	105	123	150	129	158	130	108	107	116	1475
Rotorua Aero 2	B86131	38 07S	176 19E	287	103	113	126	108	114	135	130	157	127	118	107	129	1467
Ngakuru	B86312	38 22S	176 10E	305	95	87	98	94	100	125	115	124	109	105	98	113	1263
Waiotapu Forest	B86341	38 19S	176 25E	435	99	106	119	101	115	132	130	141	129	112	102	117	1403
Kopuriki	B86381	38 20S	176 48E	152	105	95	115	104	119	128	117	132	119	120	108	127	1389
Kopuriki,Grant Rd	B86382	38 21S	176 48E	177	101	98	104	98	108	117	115	129	113	108	98	125	1314
Kaingaroa Forest	B86451	38 24S	176 34E	544	119	108	127	114	132	143	128	153	135	125	121	142	1547
Murupara	B86471	38 27S	176 42E	198	105	102	108	98	110	120	109	121	116	97	93	134	1313
Galatea	B86481	38 25S	176 48E	189	104	92	101	95	110	107	102	116	101	103	94	122	1247
Wairapukao Forest	B86551	38 32S	176 34E	437	106	96	107	101	116	131	122	129	119	110	99	138	1374
Taupo N.Z.E.D.	B86602	38 41S	176 04E	376	90	81	85	76	93	105	109	112	102	97	85	114	1149
Wairakei Power Stn	B86611	38 38S	176 06E	342	85	86	98	84	96	112	115	117	109	95	92	124	1213
Wairakei Research Stn	B86612	38 37S	176 07E	402	83	85	98	80	99	110	115	117	110	94	92	124	1207
Minginui Forest	B86671	38 39S	176 44E	366	129	106	102	109	115	130	127	147	138	123	112	143	1481

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Waimihia Forest	B86821	38 48S	176 15E	743	123	113	127	111	139	157	160	156	155	143	124	156	1664
Whakatane, Wainui	B87001	38 02S	177 04E	5	111	100	142	108	124	147	133	153	130	116	119	149	1532
Opouriao	B87002	38 06S	176 60E	17	113	105	152	114	130	160	142	165	134	121	130	139	1605
Opotiki	B87023	38 00S	177 17E	6	87	80	134	100	112	134	116	141	114	98	100	123	1339
Waimana	B87103	38 09S	177 05E	37	125	108	155	123	142	166	148	181	148	135	135	153	1719
Motu	B87255	38 16S	177 33E	488	138	108	145	157	189	206	201	221	194	169	153	172	2053
Auckland, Mangere	C64971	36 58S	174 47E	2	73	82	87	99	111	130	132	122	97	87	93	88	1201
Auckland, Otara	C64981	36 57S	174 52E	12	81	89	87	103	109	130	128	118	103	84	88	87	1207
Auckland Aero	C74082	37 00S	174 48E	7	74	81	86	93	100	116	126	111	93	80	84	91	1135
Ardmore	C74091	37 02S	174 58E	30	86	91	93	113	115	137	139	131	112	99	94	102	1312
Kingseat	C74182	37 08S	174 48E	9	83	83	87	103	122	135	142	125	108	92	96	93	1269
Waiuku	C74261	37 16S	174 40E	119	88	81	102	107	128	149	152	132	115	98	103	107	1362
Pukekohe	C74293	37 13S	174 54E	67	93	90	102	109	120	136	141	130	119	102	112	107	1361
Waiuku Forest	C74371	37 21S	174 43E	52	82	79	95	104	125	145	147	127	118	93	93	108	1316
Onewhero	C74391	37 20S	174 57E	46	89	87	104	111	127	145	147	129	124	116	108	116	1403
Onewhero, Gleniffer	C74392	37 21S	174 54E	207	102	101	116	125	146	167	167	147	135	126	119	125	1576
Maramarua Forest	C75321	37 18S	175 15E	38	80	90	98	94	109	121	127	129	109	94	94	101	1246
Te Kauwhata M.A.F.	C75412	37 25S	175 08E	32	79	75	86	89	109	115	112	111	100	88	83	97	1144
Huntly	C75511	37 34S	175 10E	13	79	81	94	103	114	134	135	124	115	101	99	111	1290
Hamilton, River Rd	C75612	37 41S	175 11E	30	87	80	100	98	122	140	142	130	116	108	106	111	1340
Ruakura	C75731	37 47S	175 19E	40	87	76	90	91	106	121	123	117	103	95	91	99	1199
Whatawhata	C75801	37 49S	175 05E	104	106	96	117	117	143	165	167	162	139	137	123	121	1593
Ngahinapouri	C75823	37 53S	175 14E	37	91	83	95	97	117	134	138	133	120	114	105	111	1338
Hamilton Aero	C75832	37 52S	175 20E	50	81	82	87	88	103	123	126	114	108	96	91	109	1208
Cambridge, Whitehall	C75851	37 52S	175 34E	140	80	83	96	86	110	123	126	125	106	95	96	97	1223
Roto O Rangi 2	C75941	37 59S	175 28E	61	84	83	87	85	101	113	122	114	107	98	95	108	1197
Cambridge	C75944	37 54S	175 28E	44	83	83	86	83	101	110	120	115	102	97	95	106	1181
Karapiro	C75951	37 56S	175 32E	60	80	84	89	86	104	117	126	122	108	100	102	103	1221
Kawhia	C84081	38 04S	174 49E	5	85	87	95	107	128	155	149	122	116	112	101	101	1358
Marokopa	C84371	38 18S	174 44E	5	86	78	108	110	142	159	155	131	124	115	110	103	1421
Dumbreck	C84381	38 23S	174 53E	366	157	120	153	164	226	248	251	213	224	220	193	179	2348
Piopio, Cumbrae	C84481	38 25S	174 51E	152	152	128	164	182	261	276	275	247	245	240	216	192	2578
Glenochy	C84582	38 32S	174 52E	170	132	103	137	159	222	235	239	207	210	198	182	159	2183
Mokau, Mohakatino Stn	C84761	38 43S	174 37E	46	106	92	110	126	151	160	153	136	124	126	131	117	1532
Uruti	C84951	38 59S	174 34E	104	143	136	143	145	186	192	196	189	184	183	173	172	2042

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Tatu	C84991	38 57S	174 57E	183	127	96	134	130	177	185	186	176	175	176	170	161	1893
Ngutunui	C85003	38 04S	175 05E	305	134	117	165	150	206	238	237	220	203	206	173	162	2211
Mt Pirongia Makeokeo	C85012	38 02S	175 08E	219	139	119	160	159	201	244	254	237	214	208	175	171	2281
Arapuni Power Stn	C85061	38 04S	175 39E	123	89	95	100	98	124	135	149	146	128	124	116	123	1427
Otorohanga, Glenbrook	C85124	38 10S	175 12E	40	99	85	102	104	132	153	154	145	128	124	109	115	1450
Otorohanga	C85222	38 13S	175 14E	37	100	79	102	102	127	140	144	134	126	106	105	113	1378
Te Kuiti	C85314	38 20S	175 09E	61	107	85	100	107	143	160	170	148	134	130	117	128	1529
Rangitoto	C85331	38 20S	175 23E	320	134	109	121	127	163	177	187	173	163	174	157	162	1847
Maraetai	C85372	38 21S	175 45E	198	108	84	102	94	128	141	143	144	135	127	119	130	1455
Whakamaru N.Z.E.D.	C85481	38 25S	175 48E	231	104	83	92	85	112	124	129	124	121	112	111	119	1316
Aria, Glenburn	C85501	38 35S	175 00E	107	109	84	111	114	156	163	159	141	138	133	117	116	1541
Tapuwae	C85531	38 33S	175 21E	488	124	91	119	119	160	169	175	163	167	161	146	154	1748
Pureora Forest	C85551	38 31S	175 33E	549	121	100	119	113	159	183	191	177	168	160	145	153	1789
Ongarue	C85711	38 45S	175 11E	229	114	78	94	109	138	147	152	135	147	124	123	138	1499
Taumarunui	C85821	38 53S	175 16E	171	107	81	92	96	133	137	142	130	140	129	127	137	1451
Ngapuke	C85842	38 51S	175 26E	311	91	80	84	85	120	120	127	113	125	111	111	129	1296
Kuratau	C85872	38 52S	175 44E	427	97	80	102	85	122	130	134	132	119	109	103	120	1333
Hinemaiaia Dam	C86801	38 53S	176 05E	493	113	96	113	93	121	124	116	129	115	125	113	138	1396
Pukeiti	C93292	39 12S	173 59E	366	231	193	235	247	307	295	323	297	280	300	266	245	3219
New Plymouth Aero	C94011	39 00S	174 10E	27	107	95	108	116	139	150	160	135	115	115	116	109	1465
Waitara	C94021	39 00S	174 14E	6	98	91	105	109	134	144	150	125	109	107	106	101	1379
Inglewood	C94122	39 09S	174 12E	195	180	140	177	165	210	224	223	215	196	212	198	185	2325
Tarata	C94131	39 10S	174 22E	94	139	110	142	135	164	179	181	172	157	148	156	147	1830
Purangi	C94151	39 09S	174 31E	206	161	118	159	151	191	202	207	198	182	193	185	170	2117
Tariki Hydro	C94222	39 13S	174 16E	235	189	145	180	173	213	232	235	228	211	220	216	189	2431
Te Wera Forest	C94262	39 14S	174 36E	180	152	104	127	132	162	168	176	166	171	155	153	155	1821
Lower Retaruke	C95022	39 04S	175 12E	223	105	85	95	98	135	140	145	140	142	128	130	135	1478
Tongariro Hatchery	C95081	39 01S	175 49E	411	144	111	139	115	158	173	177	169	164	161	154	161	1826
Turangi	C95085	39 00S	175 48E	366	118	104	124	108	158	158	150	151	146	142	129	128	1616
Desert Road Tearooms	C95171	39 11S	175 45E	906	217	150	226	210	267	283	293	267	266	225	207	242	2853
Te Rehunga	D05291	40 12S	175 58E	305	100	91	124	114	146	156	169	139	157	144	120	132	1592
Waipuna Woodville	D05381	40 20S	175 50E	67	85	81	97	92	115	118	124	108	111	117	98	116	1262
Makomako	D05471	40 27S	175 44E	158	113	96	117	109	146	167	164	139	141	152	121	129	1594
Hukanui	D05561	40 35S	175 40E	235	122	86	119	112	184	182	203	164	185	176	146	150	1829
Mangamaire	D05571	40 31S	175 45E	152	83	67	84	89	119	128	142	119	126	114	97	104	1272

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Eastray Station	D05681	40 36S	175 51E	146	71	59	78	82	110	120	133	115	109	96	80	97	1150
Wairere, Ihuraua	D05781	40 46S	175 51E	262	64	59	77	79	111	119	130	116	103	76	69	83	1086
Kopuaranga Station	D05861	40 48S	175 40E	206	77	71	97	99	137	138	147	135	126	108	101	104	1340
Masterton, Bagshot Stn	D05872	40 52S	175 46E	171	60	56	82	80	104	116	123	115	101	72	68	75	1052
Willowlea	D05881	40 51S	175 51E	122	53	52	78	76	98	116	122	107	87	70	64	76	999
Waingawa	D05964	40 59S	175 37E	114	59	52	78	74	93	98	103	96	79	73	71	76	952
Purunui, Blairlogie	D05991	40 55S	175 57E	119	49	55	90	74	109	120	126	117	95	65	57	73	1030
Ngamoko	D06012	40 03S	176 10E	445	116	107	155	133	154	168	177	164	167	144	130	164	1779
Kopua	D06022	40 05S	176 17E	311	71	66	99	79	91	101	116	100	89	81	72	105	1070
Maharakeke	D06041	40 02S	176 26E	176	70	56	90	83	76	107	101	96	81	61	59	92	972
Taniwha	D06042	40 00S	176 26E	168	64	50	85	68	62	82	95	83	65	58	56	80	848
Waipukurau Aero	D06051	40 00S	176 32E	137	50	61	82	61	59	81	93	76	67	50	53	74	807
Waipukurau, Wgtn Rd	D06053	40 00S	176 33E	137	50	67	84	68	67	88	99	85	74	54	54	79	869
Waiwhero Stn	D06062	40 04S	176 39E	137	54	80	103	92	95	126	132	114	96	66	62	89	1109
Ruaroa	D06101	40 11S	176 02E	268	91	87	112	112	133	139	155	132	147	130	110	134	1482
Bywell Station	D06121	40 11S	176 17E	380	83	75	118	102	107	128	148	135	130	90	77	114	1307
Flemington, Red Oaks	D06142	40 10S	176 27E	174	55	51	85	68	75	84	101	85	75	56	51	79	865
Aramoana	D06181	40 09S	176 50E	27	56	77	96	89	99	130	127	113	87	71	59	79	1083
Dannevirke	D06212	40 13S	176 07E	207	69	64	90	83	92	97	112	95	90	85	74	103	1054
Wharenui, Wilder Sett	D06251	40 15S	176 30E	122	52	63	92	81	86	106	117	103	79	61	57	85	982
Waitahora	D06322	40 20S	176 12E	250	74	73	107	96	117	131	152	133	121	95	79	114	1292
Porongahau, Glebelands	D06362	40 18S	176 38E	6	53	58	82	83	86	110	115	102	74	67	50	80	960
Herbertville, Woodbank	D06451	40 28S	176 33E	21	59	73	101	94	110	138	140	126	96	72	64	90	1163
Tawadale, Wimbledon	D06452	40 24S	176 32E	107	62	75	116	108	125	154	165	144	116	80	69	95	1309
Tataramoa Makuri	D06501	40 32S	176 00E	274	89	82	122	113	147	161	189	164	157	117	101	131	1573
Pongaroa, Green Hollow	D06521	40 34S	176 14E	107	60	56	90	78	103	113	125	122	99	72	66	90	1074
Marangai Station	D06901	40 54S	176 00E	98	53	54	84	79	105	121	124	116	98	64	57	73	1028
Tinui Downs Station	D06902	40 54S	176 04E	46	48	58	93	83	106	136	136	128	102	65	57	72	1084
Castlepoint Light	D06921	40 54S	176 13E	4	48	52	85	69	96	114	110	100	79	57	56	63	929
Baring Head Light	D14481	41 25S	174 52E	79	60	45	70	78	92	92	106	94	70	67	62	65	901
Woodside 2	D15032	41 05S	175 23E	82	99	75	115	112	139	144	154	144	124	113	109	110	1438
Greytown P.O.	D15041	41 05S	175 28E	57	69	58	82	84	103	107	121	99	87	81	76	78	1045
Wairarapa Cadet Farm	D15061	41 00S	175 38E	110	50	46	70	64	86	96	97	86	69	60	57	62	843
Gladstone Te Kopi	D15071	41 02S	175 42E	85	51	44	69	65	90	99	109	98	77	58	56	61	877
Ngaumu Forest	D15081	41 02S	175 53E	244	52	56	94	85	128	143	154	137	110	65	58	72	1154

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Featherston	D15131	41 07S	175 20E	46	89	62	93	97	108	121	132	122	98	85	87	90	1184
Tauherenikau	D15134	41 07S	175 23E	43	69	61	84	82	104	112	122	110	86	91	82	85	1088
Martinbor,Riverside	D15142	41 11S	175 29E	55	49	42	66	65	77	88	94	88	65	55	54	63	806
The Downs	D15151	41 06S	175 33E	61	50	49	67	68	90	100	109	96	71	61	54	67	882
Gladstone,Bannockburn	D15161	41 06S	175 38E	107	54	45	69	65	94	107	113	103	78	61	54	67	910
Longbush, Eringa Stn	D15162	41 10S	175 38E	189	50	55	81	84	115	128	140	128	94	67	63	78	1083
Waiorongomai	D15211	41 16S	175 09E	21	100	70	116	118	165	168	183	164	127	132	120	120	1583
Mahaki	D15244	41 14S	175 25E	24	50	35	65	61	78	85	89	80	59	55	52	62	771
Martinborough	D15246	41 13S	175 27E	34	47	39	63	61	81	85	94	84	62	56	49	63	784
Martinboro,Puruatanga	D15251	41 14S	175 30E	37	43	41	65	64	85	94	98	94	66	55	49	63	817
Ngatapa,Wainuioru Vy	D15261	41 13S	175 41E	122	53	55	83	85	119	138	145	138	99	67	62	71	1115
Hikawera	D15262	41 16S	175 37E	305	56	55	95	93	125	145	149	144	98	71	70	79	1180
Waikoukou,Longbush	D15263	41 12S	175 36E	122	46	44	68	71	94	108	118	109	77	57	54	64	910
Te Wharau,Waimoana	D15282	41 16S	175 53E	6	60	60	92	88	116	132	135	122	83	67	65	65	1085
Pirinoa	D15321	41 22S	175 13E	52	66	51	75	90	114	125	130	119	91	81	76	77	1095
Lagoon Hill	D15352	41 23S	175 31E	113	64	63	97	108	143	166	165	168	114	85	75	85	1333
Te Wharau,Glenburn	D15381	41 19S	175 51E	15	65	62	87	90	107	125	123	117	83	67	69	61	1056
Te Awaiti Stn	D15451	41 29S	175 35E	9	57	53	81	81	103	110	117	111	78	65	65	63	984
Cape Palliser	D15631	41 37S	175 18E	10	66	48	88	88	110	108	115	108	77	68	67	75	1018
Fern Glen	D16101	41 08S	176 00E	30	54	51	94	79	111	131	130	127	82	66	60	60	1045
Katoa, Whakaangi	D78733	37 43S	178 18E	94	154	133	205	213	253	286	271	310	259	168	162	191	2605
Ruatoria	D78931	37 54S	178 19E	61	104	108	171	144	168	209	205	230	167	102	101	136	1845
Waipaoa	D87281	38 17S	177 51E	244	85	90	130	111	109	138	141	139	124	95	77	120	1359
Otoko	D87462	38 27S	177 38E	274	92	78	111	89	100	126	119	136	110	89	77	113	1240
Eastwood Hill Stn 2	D87571	38 34S	177 43E	137	69	71	104	80	86	117	116	122	101	69	63	81	1079
Ngatapa,Rere Rd	D87572	38 34S	177 44E	137	69	73	104	84	91	118	114	119	94	69	60	84	1079
Ngatapa,Totangi Rd	D87573	38 33S	177 46E	91	74	82	116	88	96	123	105	121	92	72	62	89	1120
Waihirere, Glanavon	D87593	38 35S	177 56E	15	62	68	106	89	82	113	113	106	96	61	54	75	1025
Waerenga O Kuri 2	D87681	38 41S	177 48E	314	89	91	148	100	121	155	136	155	131	81	77	97	1381
Gisborne, Manutuke	D87683	38 41S	177 53E	9	61	64	92	77	84	111	105	106	86	59	51	68	964
Gisborne Aero	D87692	38 39S	177 59E	4	63	69	93	89	88	128	118	108	94	59	56	71	1036
Mangatawhiti	D87733	38 47S	177 20E	427	104	130	161	150	141	169	158	169	150	101	94	140	1667
Parikanapa	D87771	38 45S	177 42E	594	98	118	183	139	168	209	215	207	164	104	102	123	1830
Waikaremoana Onepoto	D87811	38 48S	177 07E	643	146	156	187	175	171	206	198	217	186	139	125	182	2088
Tuai	D87812	38 48S	177 09E	274	118	133	154	139	144	177	164	184	154	115	103	149	1734

STATION	Number	Lat	Long	Ht(m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Pihanga	D87841	38 48S	177 26E	137	83	108	135	138	141	165	170	166	134	91	87	118	1536
Waiau, Hillcrest	D87921	38 56S	177 17E	107	74	108	122	132	114	136	137	137	108	81	67	114	1330
Clydebank, Frasertown	D87942	38 57S	177 29E	46	90	131	158	160	161	184	177	171	135	91	87	122	1667
Ruangarehu Stn	D88011	38 03S	178 10E	274	97	101	170	131	139	173	184	210	161	94	90	118	1668
Te Puia Springs	D88031	38 03S	178 18E	210	100	119	191	145	164	218	201	225	159	102	101	118	1843
Tolaga Bay, Mangatuna	D88321	38 19S	178 16E	15	80	86	140	109	118	174	158	178	114	78	74	86	1395
Mokairau, Pakarae	D88421	38 28S	178 15E	46	86	92	136	129	135	180	166	164	119	88	76	88	1459
Te Wairere	D96251	39 17S	176 33E	564	108	118	179	148	124	183	187	173	165	106	96	151	1738
Rukumoana	D96261	39 16S	176 40E	368	104	113	170	144	115	166	163	152	141	108	88	147	1611
Esk Forest	D96272	39 15S	176 42E	427	108	124	176	151	134	175	162	163	154	110	92	154	1703
Tutira	D96281	39 14S	176 53E	201	82	101	153	125	108	153	149	142	126	86	69	119	1413
Tareha	D96282	39 16S	176 52E	430	98	113	173	138	118	169	146	157	136	97	84	129	1558
Waiwhare	D96441	39 27S	176 29E	351	83	90	136	95	78	118	115	118	107	79	78	126	1223
Kaweka Forest	D96444	39 26S	176 28E	416	73	105	130	115	95	129	122	131	132	94	85	125	1336
Te Hau	D96451	39 24S	176 34E	360	87	100	144	106	86	134	124	126	115	86	81	130	1319
Napier Aero	D96481	39 28S	176 52E	2	51	60	90	71	67	92	79	75	70	53	48	74	830
Eskdale	D96483	39 24S	176 48E	40	68	78	122	89	77	125	99	97	88	65	62	90	1060
Sherenden	D96561	39 30S	176 36E	250	67	73	125	79	65	102	99	97	90	65	61	98	1021
Napier Nelson Pk	D96591	39 30S	176 55E	2	46	60	88	67	64	90	84	79	66	52	47	66	809
Rose Hill	D96653	39 39S	176 33E	171	54	56	97	57	53	78	81	74	69	55	48	75	797
Havelock Nth, Te Mata	D96691	39 41S	176 55E	140	46	60	76	77	59	94	90	90	66	50	41	70	819
Smedley	D96731	39 47S	176 21E	457	85	103	156	108	102	117	127	141	130	100	92	130	1391
Gwavas	D96741	39 47S	176 29E	244	68	77	109	84	72	103	108	98	93	71	67	94	1044
Gwavas Forest	D96743	39 44S	176 27E	335	80	88	134	90	82	114	122	114	108	79	76	115	1202
Whakarua	D96753	39 42S	176 35E	223	58	66	99	68	62	90	93	89	77	59	54	83	898
Koparakore	D96771	39 45S	176 42E	55	41	51	75	56	56	77	81	74	59	48	42	65	725
Mokopeka	D96792	39 46S	176 56E	152	60	72	99	97	82	125	114	111	82	63	50	86	1041
Taurapa	D96793	39 44S	176 59E	91	52	66	87	79	72	106	110	94	79	48	50	70	913
Blackburn	D96831	39 53S	176 20E	320	73	67	108	80	76	94	100	98	94	71	70	101	1032
Springhill	D96833	39 51S	176 23E	274	69	73	110	79	73	98	103	100	89	72	68	96	1030
Tahuna	D96851	39 53S	176 32E	168	68	62	96	78	67	98	106	91	72	65	55	83	941
Patangata	D96871	39 53S	176 42E	76	47	55	80	67	66	90	98	84	70	52	48	71	828
Hapua	D96881	39 49S	176 51E	152	63	70	107	98	91	127	138	121	100	62	53	79	1109
Anawai	D96882	39 52S	176 53E	442	93	140	193	174	160	242	255	217	171	105	100	141	1991
Waimarama	D96891	39 48S	176 59E	3	55	62	81	77	77	112	106	98	80	59	51	74	932

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Ashley Clinton	D96921	39 57S	176 14E	351	97	82	140	101	110	123	132	131	119	98	93	130	1356
Makaretu North	D96925	39 54S	176 15E	396	92	84	143	108	104	124	135	129	125	98	100	136	1378
Mt Vernon 2	D96951	39 59S	176 33E	155	55	63	83	65	63	83	97	81	71	53	54	77	845
Kotemaori, Glenfarg Stn	D97003	39 05S	177 02E	277	93	143	128	140	107	167	115	145	110	100	72	141	1461
Waihua Valley	D97023	39 03S	177 14E	67	74	130	139	138	123	133	125	138	110	81	76	115	1382
Wairoa, Waiputaputa Stn	D97031	39 01S	177 19E	29	89	142	151	164	146	170	154	159	130	97	87	136	1625
Wairoa, Frasertown	D97042	39 00S	177 24E	8	83	131	129	144	140	137	127	141	105	86	81	113	1417
Tuhara Valley	D97051	39 02S	177 30E	24	83	103	132	125	136	165	142	150	111	84	70	98	1399
Paraparaumu Aero	E04991	40 54S	174 59E	5	77	53	81	79	96	102	109	96	86	92	82	83	1036
Turakina	E05021	40 03S	175 12E	24	69	58	72	68	82	89	92	80	71	78	71	83	913
Marton, Ross Street	E05034	40 04S	175 23E	152	80	65	80	73	92	99	97	85	81	93	79	92	1016
Marton Filter Station	E05047	40 00S	175 24E	244	83	69	79	74	97	101	100	91	86	99	79	101	1059
Motu Kowhai	E05051	40 02S	175 30E	165	74	59	75	73	88	94	91	82	79	84	74	91	964
Marama Kowhai	E05081	40 04S	175 48E	244	76	63	85	74	96	98	105	90	92	89	76	101	1045
Komako	E05092	40 05S	175 55E	271	84	72	105	95	121	126	131	117	117	103	87	121	1279
Lake Alice	E05134	40 08S	175 20E	126	72	57	78	71	84	93	91	82	79	81	69	86	943
Bulls, Flockhouse	E05221	40 14S	175 16E	9	63	57	66	63	83	82	90	78	71	72	61	85	871
Ohakea Aero	E05231	40 12S	175 23E	48	65	56	71	67	82	87	88	76	74	76	64	87	893
Waitatapia	E05232	40 13S	175 18E	29	65	55	69	65	84	85	92	76	70	69	65	81	876
Feilding Sandon Rd	E05251	40 13S	175 33E	87	71	57	75	68	84	88	94	79	80	77	67	86	926
Feilding Sewage Pt	E05254	40 15S	175 33E	55	58	53	67	60	82	83	87	73	72	76	59	77	847
Bunnythorpe	E05261	40 17S	175 38E	55	66	53	71	55	77	79	91	71	74	72	60	85	854
Glen Oroua	E05341	40 20S	175 24E	23	67	54	69	60	80	84	90	75	70	71	61	79	860
Palmerston N Aero	E05361	40 20S	175 37E	45	64	60	71	65	81	81	89	78	82	73	62	91	897
Palmerston N	E05363	40 23S	175 37E	34	71	62	78	66	89	87	98	84	80	82	68	93	958
Palm. Nth, Haydon St	E05369	40 20S	175 38E	41	71	68	78	68	90	86	95	79	84	83	69	100	971
Himatangi	E05431	40 24S	175 18E	12	72	54	69	67	84	88	95	79	72	75	66	86	907
Opiki	E05442	40 26S	175 28E	11	69	59	74	67	92	93	99	88	80	79	69	88	957
Tiritea No 2	E05464	40 26S	175 40E	131	90	84	98	92	124	122	132	111	115	118	92	119	1297
Waitarere Forest	E05521	40 33S	175 12E	3	65	55	70	61	88	85	95	76	74	67	61	79	876
Moutoa	E05531	40 32S	175 20E	3	78	60	77	68	93	93	98	86	81	83	70	89	976
Mangahao Power Stn	E05542	40 35S	175 27E	110	100	82	106	94	126	133	135	120	122	125	93	130	1366
Levin M.A.F.	E05622	40 39S	175 16E	46	85	64	87	78	107	104	114	96	93	94	81	99	1102
Muhunoa East	E05627	40 41S	175 17E	110	108	85	108	96	132	130	135	121	124	133	106	123	1401
Waikanae Waterworks	E05802	40 53S	175 04E	30	79	62	99	81	125	126	128	114	100	112	89	102	1217

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)													Year
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Te Horo,Longcroft	E05811	40 49S	175 09E	61	75	59	100	77	120	117	118	106	93	109	87	100	1161	
Reikorangi	E05912	40 54S	175 07E	150	113	84	135	109	163	167	177	154	144	165	126	150	1687	
Paekakariki Hill	E14091	41 01S	174 56E	250	94	70	107	101	127	138	139	125	102	115	101	105	1324	
Linden	E14181	41 10S	174 50E	46	77	58	94	112	131	143	148	135	110	105	92	104	1309	
Lower Hutt,Taita	E14192	41 11S	174 58E	65	86	64	105	104	138	144	152	136	105	108	97	109	1348	
Lower Hutt,Avalon	E14195	41 11S	174 56E	15	80	62	102	111	148	141	148	128	99	116	95	114	1344	
Karori Reservoir	E14271	41 17S	174 45E	141	81	65	102	114	133	146	153	146	113	108	103	97	1361	
Wellington,Kelburn	E14272	41 17S	174 46E	125	78	60	95	107	121	138	142	135	104	99	94	91	1264	
Lower Hutt,Gracefield	E14290	41 14S	174 55E	34	74	62	92	111	137	142	158	140	114	98	88	100	1316	
Wainuiomata Reservoir	E14294	41 16S	174 59E	125	92	84	141	145	210	231	241	229	159	143	124	139	1938	
Wainuiomata Coast Rd	E14296	41 17S	174 57E	82	93	84	141	146	211	232	242	229	159	143	124	138	1942	
Eastbourne, Days Bay	E1429Q	41 15S	174 54E	33	71	68	94	127	144	167	170	158	113	105	87	110	1414	
Beacon Hill	E14382	41 20S	174 50E	132	67	52	76	92	103	119	117	112	87	80	69	81	1055	
Wellington,Rongotai	E14386	41 19S	174 48E	5	71	52	81	93	107	123	119	114	91	87	82	78	1098	
Wellington Aero	E14387	41 20S	174 49E	6	67	48	76	87	99	113	111	106	82	81	74	74	1018	
Kaitoke	E15011	41 05S	175 11E	223	135	96	147	141	201	214	221	211	184	175	176	175	2076	
Kaitoke Headworks	E15021	41 03S	175 12E	189	148	106	166	166	220	228	251	227	203	196	192	191	2294	
Trentham Racecourse	E15101	41 08S	175 02E	52	88	61	97	97	130	136	142	130	105	109	100	105	1300	
Wallaceville	E15102	41 08S	175 03E	56	88	59	99	95	131	135	142	130	104	109	100	106	1298	
Trentham	E15103	41 09S	175 02E	49	81	54	91	93	127	134	138	125	97	100	90	97	1227	
U Hutt,Tennyson St	E15104	41 07S	175 03E	55	94	61	100	100	133	139	143	133	109	117	109	110	1348	
Cape Egmont	E93271	39 17S	173 45E	8	101	85	104	121	127	142	159	131	117	103	95	95	1380	
Patiki	E93491	39 28S	173 58E	152	101	89	109	108	124	144	145	124	124	118	106	112	1404	
Dawson Falls	E94311	39 19S	174 07E	945	327	298	401	476	569	591	609	653	595	526	441	413	5899	
Stratford Dem Farm	E94333	39 20S	174 18E	311	144	119	151	145	189	204	214	194	172	181	171	154	2038	
Riverlea	E94401	39 26S	174 04E	259	106	93	113	125	149	176	178	151	142	135	117	120	1605	
Eltham	E94422	39 26S	174 17E	183	105	99	117	114	149	168	175	160	138	126	117	116	1584	
Manaia Dem Farm	E94512	39 32S	174 09E	98	85	71	94	92	114	124	124	106	98	89	86	83	1166	
Inaha	E94513	39 35S	174 11E	50	84	68	86	84	106	113	116	98	90	83	77	82	1087	
Orautoha	E95322	39 20S	175 14E	323	108	83	98	95	120	134	134	125	133	120	125	123	1398	
Karioi 2	E95451	39 29S	175 31E	648	89	64	76	80	106	114	118	100	112	93	91	114	1157	
Waiouru M.W.D.	E95464	39 28S	175 40E	823	80	61	78	69	97	101	101	92	91	83	75	102	1030	
Parapara,Okeore	E95532	39 31S	175 20E	472	91	71	87	90	119	115	122	107	115	107	99	119	1242	
Marua	E95592	39 32S	175 55E	805	73	64	72	59	85	82	87	72	75	69	67	92	897	
Mataroa	E95671	39 40S	175 42E	564	84	64	81	72	96	102	103	91	93	87	86	111	1070	

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Moawhango, Tikerere	E95682	39 36S	175 51E	488	76	53	72	57	78	77	81	69	74	70	62	90	859
Hunterville, Koeke Est	E95751	39 43S	175 34E	505	89	70	84	79	103	108	104	95	93	92	82	111	1110
Cairnmuir Mangaweka	E95781	39 47S	175 48E	457	82	69	90	76	105	102	106	91	94	97	85	114	1111
Taoroa	E95791	39 42S	175 55E	442	71	56	72	62	83	84	88	76	75	71	63	96	897
Oxton	E95831	39 53S	175 20E	82	82	65	74	68	83	92	90	82	78	83	79	96	972
Mangaonoho	E95862	39 53S	175 39E	290	88	63	80	69	89	90	90	81	87	87	78	99	1001
Ohingaiti, Mangamako	E95873	39 53S	175 46E	311	81	59	72	66	84	88	86	78	78	79	73	98	942
Te Parapara	E95891	39 53S	175 57E	610	88	71	94	84	119	112	115	96	103	100	83	116	1181
Wanganui, Cooks Gdns	E95902	39 56S	175 03E	22	67	58	66	67	79	85	84	73	67	72	67	78	863
Okoia, Mangaone	E95911	39 55S	175 10E	160	77	64	76	68	88	95	90	83	75	86	77	92	971
Ngahere Iti	E95952	39 59S	175 33E	195	79	58	76	65	87	92	91	82	79	86	74	91	960
Tiroroa Rewa	E95961	39 58S	175 38E	229	76	61	80	68	86	90	90	85	80	85	75	93	969
Apiti	E95981	39 58S	175 53E	457	82	69	91	86	110	118	118	107	107	101	89	118	1196
Apiti, Table Flat	E95992	39 58S	175 59E	686	106	89	134	121	151	162	168	153	153	126	106	153	1622
Paturau	F02641	40 41S	172 24E	30	134	95	138	156	155	175	182	170	155	183	161	146	1850
Bainham	F02751	40 46S	172 33E	79	262	201	295	315	343	340	372	383	360	391	381	307	3950
Tarakohe	F02891	40 49S	172 54E	5	111	78	108	129	134	136	181	156	130	137	127	115	1542
Uruwhenua	F02981	40 59S	172 49E	91	145	111	152	202	202	193	238	263	199	231	190	152	2278
Westport Aero	F11752	41 44S	171 35E	2	174	139	171	188	207	198	185	181	202	192	195	191	2223
Westport Marine	F11761	41 45S	171 36E	3	169	135	173	194	209	196	185	177	195	196	196	193	2218
Inangahua	F11891	41 51S	171 57E	61	180	128	162	193	226	197	208	191	222	229	219	210	2365
Cobb Power Station	F12071	41 05S	172 44E	213	120	94	150	159	188	189	225	229	188	197	174	139	2052
Cobb Dam	F12162	41 06S	172 41E	823	131	106	163	175	212	197	242	230	211	216	199	164	2246
Karamea	F12211	41 15S	172 07E	4	148	102	131	161	176	172	154	138	180	169	185	163	1879
Wangapeka	F12462	41 25S	172 38E	259	117	88	115	137	148	144	158	163	160	180	167	166	1743
Howard	F12761	41 46S	172 39E	470	147	106	125	156	163	153	164	157	184	193	182	162	1892
Murchison M.W.D.	F12831	41 48S	172 20E	160	118	83	94	135	143	136	143	128	154	153	147	129	1563
Mangles Valley	F12842	41 50S	172 24E	232	129	86	99	133	143	141	144	122	148	166	155	139	1605
Lake Rotoiti	F12882	41 48S	172 51E	634	134	96	114	131	139	125	125	118	142	160	149	147	1580
Hokitika Aero	F20793	42 43S	170 59E	39	245	175	222	234	244	221	226	220	259	266	263	249	2824
Ross	F20981	42 54S	170 48E	15	301	210	278	254	267	230	235	244	291	315	331	294	3250
Reefton	F21182	42 07S	171 52E	198	149	106	125	166	187	172	182	170	189	193	178	172	1989
Blackball	F21341	42 22S	171 25E	107	237	165	209	261	287	259	248	244	304	287	299	240	3040
Totara Flat	F21361	42 18S	171 37E	77	158	111	129	156	184	161	169	145	183	180	182	160	1918
Greymouth Hbr	F21421	42 27S	171 12E	3	200	149	193	222	227	205	203	190	218	235	227	210	2479

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Greymouth Aero	F21422	42 27S	171 11E	4	202	140	195	215	205	199	199	187	211	235	228	216	2432
Dobson	F21431	42 27S	171 18E	14	241	163	216	235	258	237	220	202	252	272	269	240	2805
Paroa	F21512	42 31S	171 10E	11	222	149	210	237	237	203	211	209	236	248	241	234	2637
Arnold Power Station	F21541	42 32S	171 25E	75	255	180	217	252	288	244	239	223	285	307	311	269	3070
Inchbonnie	F21641	42 41S	171 27E	116	405	298	359	397	454	350	337	341	447	471	477	400	4736
Rotomanu 2	F21653	42 39S	171 34E	107	300	217	256	273	313	240	235	232	306	332	357	296	3357
Kowhitirangi No 2	F21801	42 53S	171 02E	30	325	228	311	299	284	252	250	248	321	352	352	343	3565
Lake Kaniere	F21812	42 48S	171 08E	133	333	257	327	304	329	273	270	291	365	367	393	355	3864
Otira Substation	F21851	42 50S	171 34E	383	428	300	351	411	471	369	362	394	516	550	530	425	5107
Dumfreith	F22021	42 03S	172 15E	380	152	102	124	155	178	157	179	150	187	193	187	163	1927
Grey Robinson Rivers	F22401	42 28S	172 02E	368	233	156	181	229	256	216	220	198	262	277	288	239	2755
Lower Whataroa	F30231	43 12S	170 22E	30	332	258	347	301	296	251	260	287	332	361	339	347	3711
Whataroa 2	F30233	43 16S	170 22E	64	425	292	444	352	363	297	293	331	405	439	413	436	4490
Mahitahi	F39662	43 38S	169 36E	30	435	332	479	354	355	283	315	295	401	435	398	436	4518
Paringa	F39741	43 43S	169 27E	43	494	378	618	428	421	370	393	414	493	535	493	471	5508
Milford Sound	F47691	44 40S	167 55E	3	652	472	670	562	556	405	383	409	564	639	549	642	6503
Haast Pass	F49132	44 06S	169 22E	524	398	261	398	352	377	302	300	331	451	459	404	379	4412
Puysegur Point	F66161	46 09S	166 37E	43	207	158	191	207	204	190	166	152	174	173	163	184	2169
Greville Harbour	G03882	40 48S	173 49E	29	81	49	82	93	99	97	116	98	82	89	82	79	1047
Stephens Is	G04601	40 40S	174 00E	187	61	39	63	67	81	74	86	79	65	71	62	61	809
Riwaka Valley	G12091	41 03S	172 55E	61	103	93	132	146	161	162	199	213	156	168	147	126	1806
Motueka	G12191	41 06S	172 58E	8	87	80	103	119	126	131	158	164	120	125	110	95	1418
Lower Moutere	G12193	41 09S	172 59E	5	78	70	85	106	112	112	131	138	103	109	98	87	1229
Graham V. Pokororo	G12281	41 12S	172 50E	82	96	83	116	132	144	147	177	194	153	154	137	124	1657
Baton	G12371	41 19S	172 43E	201	102	77	105	119	134	132	158	165	138	150	138	123	1541
Motupiko	G12481	41 27S	172 46E	183	84	71	80	92	94	94	104	105	95	116	96	100	1131
Kohatu, Highfield 2	G12491	41 29S	172 59E	259	95	79	105	113	108	106	115	117	115	125	111	98	1287
Kaka	G12561	41 34S	172 41E	396	133	104	121	145	142	131	147	148	152	187	163	150	1723
Whangamoia 2	G13154	41 11S	173 31E	61	112	90	131	153	140	132	140	156	132	160	148	130	1624
Pokokini	G13193	41 06S	173 56E	30	121	86	131	157	154	141	162	169	146	165	157	136	1725
Mapua	G13203	41 15S	173 05E	15	70	57	75	85	89	86	96	100	81	87	82	73	981
Appleby	G13211	41 17S	173 06E	17	71	56	75	89	89	85	96	100	81	90	82	72	986
Nelson Aero	G13222	41 17S	173 14E	2	80	56	82	93	92	80	90	96	79	89	84	73	994
Maitai Valley	G13232	41 17S	173 21E	116	108	83	121	145	143	123	133	153	126	148	137	117	1537
Rai Valley	G13251	41 13S	173 34E	55	139	112	149	185	189	164	176	199	171	196	172	175	2027

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Linkwater	G13281	41 17S	173 52E	25	106	69	112	136	146	128	172	176	134	148	112	106	1545	
Moutere Hills	G13301	41 22S	173 05E	110	84	61	78	94	89	96	101	103	92	102	86	87	1073	
Roding River	G13321	41 22S	173 16E	183	117	78	115	138	130	113	123	137	123	143	131	118	1466	
Havelock Suburban	G13371	41 20S	173 45E	17	104	73	109	134	142	120	155	166	135	143	121	113	1515	
Onamalutu, Ashdown Stn	G13461	41 28S	173 41E	116	113	76	116	143	144	135	160	172	145	159	126	116	1605	
Grovetown	G13491	41 29S	173 58E	6	52	34	54	59	66	54	71	69	49	57	48	48	661	
Fabians Valley	G13551	41 31S	173 35E	152	100	66	93	124	116	102	133	142	126	136	107	96	1341	
Wairau Vly, Southwold	G13552	41 32S	173 34E	119	74	53	74	93	85	81	103	105	85	102	78	75	1008	
Blenheim Aero	G13581	41 31S	173 52E	27	58	36	56	68	72	58	70	73	60	65	53	55	724	
Sevenoaks	G13582	41 32S	173 49E	55	62	42	60	69	73	65	74	80	65	73	58	57	778	
Fairhall	G13583	41 33S	173 51E	65	55	36	51	61	67	55	66	69	54	64	49	50	677	
Glenmae	G13641	41 37S	173 24E	229	80	59	81	97	94	94	103	113	91	108	90	80	1090	
Tyntesfield	G13671	41 36S	173 45E	183	58	41	53	63	66	59	68	72	60	66	56	54	716	
The Leatham	G13721	41 45S	173 12E	466	97	70	86	111	106	98	109	106	103	119	111	99	1215	
Spray Point Waihopai	G13741	41 44S	173 26E	457	81	59	78	84	90	85	90	92	94	107	89	88	1037	
Marama	G13792	41 44S	173 56E	213	59	38	62	67	71	64	84	88	63	72	57	56	781	
Duntroon	G13871	41 49S	173 46E	350	65	42	63	76	72	75	89	89	74	81	65	74	865	
Awatere Vly, Upcot	G13951	41 54S	173 34E	518	66	41	55	61	62	59	72	73	63	74	65	63	754	
Titirangi Bay	G14012	41 01S	174 09E	46	105	73	116	120	151	151	179	162	121	136	126	110	1550	
Manaroa	G14101	41 07S	174 02E	10	108	71	130	136	154	144	170	171	128	149	133	120	1614	
Waitaria Bay	G14102	41 10S	174 02E	37	131	107	148	175	182	162	193	211	168	189	190	165	2021	
The Brothers Light	G14141	41 06S	174 27E	66	50	36	57	69	77	77	92	73	57	70	57	54	769	
Ocean Bay	G14311	41 20S	174 06E	9	101	77	104	125	130	111	133	133	104	119	109	101	1347	
Marshlands	G14401	41 27S	174 00E	3	60	38	63	67	77	65	83	82	61	68	56	57	777	
Seddon	G14601	41 40S	174 05E	85	50	30	57	56	62	56	69	66	45	49	43	42	625	
Seaview	G14611	41 37S	174 09E	17	48	32	56	59	63	54	71	68	46	47	44	41	629	
Ugbrooke	G14613	41 37S	174 06E	61	51	37	63	65	68	59	77	74	53	54	50	46	697	
Wai Iti	G14702	41 44S	174 05E	96	52	32	61	59	67	58	81	74	49	52	48	49	682	
Grassmere Salt Works	G14711	41 44S	174 09E	2	41	27	54	55	60	53	71	67	39	42	39	39	587	
Cape Campbell	G14721	41 44S	174 17E	3	47	32	61	59	71	60	76	70	44	46	46	44	656	
Ward, Chancet	G14811	41 50S	174 11E	20	55	38	70	65	80	61	91	81	52	53	59	57	762	
Hanmer Forest	G22581	42 31S	172 51E	387	75	70	90	105	106	98	115	126	97	100	89	80	1151	
The Poplars	G22641	42 36S	172 26E	539	101	65	73	96	118	98	113	108	119	129	108	95	1223	
Glynn Wye Stn	G22651	42 36S	172 31E	427	77	53	66	81	96	81	91	100	84	97	86	72	984	
Molesworth	G23021	42 04S	173 15E	893	55	41	45	62	61	53	62	55	48	63	54	64	663	

STATION	Number	Lat	Long	Ht(m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Ellerton	G23091	42 01S	173 59E	61	60	43	92	67	79	56	89	75	54	55	59	51	780
Ngaio Downs	G23092	42 04S	173 57E	24	53	40	73	63	71	51	81	72	54	49	53	50	710
Imphal	G23182	42 06S	173 51E	85	47	48	109	71	84	66	95	100	75	70	62	62	889
Clarence,Matariki	G23193	42 09S	173 54E	61	57	52	92	74	96	66	95	76	52	56	62	59	837
Sawyers Downs	G23341	42 23S	173 29E	183	71	69	109	90	100	77	123	110	89	87	78	78	1081
Hapuku,Grange Rd	G23361	42 18S	173 41E	136	110	120	169	135	131	98	150	138	107	119	119	115	1511
Kaikoura West	G23461	42 24S	173 41E	7	55	53	95	85	87	69	90	88	60	63	61	53	859
Haldon Downs	G23463	42 24S	173 37E	30	58	65	122	97	88	73	96	104	77	82	78	70	1010
Kaikoura Weather Stn	G23471	42 25S	173 42E	108	52	53	88	80	86	66	87	82	58	60	58	54	824
Arthurs Pass	H21951	42 57S	171 34E	738	380	231	328	337	392	306	293	315	381	433	437	404	4237
Lake Taylor Station	H22721	42 46S	172 16E	604	89	58	71	96	111	99	122	109	111	123	99	90	1178
Island Hills	H22751	42 45S	172 33E	380	78	61	89	90	104	81	112	109	95	99	87	76	1081
Riverside	H22781	42 43S	172 53E	207	52	54	65	58	62	53	66	68	54	59	58	59	708
Culverden P.O.	H22782	42 46S	172 51E	173	44	45	49	57	56	44	60	58	44	49	49	51	606
Balmoral Forest	H22871	42 52S	172 45E	198	40	40	50	54	59	48	62	61	42	50	46	45	597
Melrose Stn	H22941	42 55S	172 26E	457	69	59	74	77	87	75	92	92	77	88	75	73	938
Masons Flat	H22951	42 54S	172 32E	335	56	53	64	60	69	56	68	66	56	70	62	60	740
Glenallen	H22961	42 59S	172 39E	244	45	46	58	56	65	52	71	70	52	65	53	52	685
Whalesback Stn	H23511	42 30S	173 11E	463	83	85	113	116	116	110	141	144	104	111	91	96	1310
Highfield	H23602	42 39S	173 04E	168	55	52	73	72	69	61	80	84	66	64	62	60	798
Keinton Combe	H23611	42 36S	173 06E	213	64	63	87	88	82	72	95	101	77	76	70	67	942
Ferniehurst	H23631	42 36S	173 19E	137	72	67	107	98	105	93	132	128	84	91	78	71	1126
Hawkswood	H23632	42 39S	173 20E	152	64	69	112	105	111	99	144	130	84	86	77	72	1153
Conway Flat	H23641	42 38S	173 27E	43	56	56	84	86	80	62	78	74	52	59	59	54	800
Spotswood	H23731	42 45S	173 18E	27	47	51	80	77	79	74	94	84	57	60	54	52	809
Lowry Hills Stn	H23811	42 48S	173 06E	244	53	52	81	78	75	68	91	87	62	66	58	60	831
Gore Bay	H23831	42 51S	173 19E	15	62	57	78	81	82	69	81	79	53	61	64	52	819
Kilmarnock	H23911	42 56S	173 09E	91	67	62	87	84	85	73	87	82	58	70	70	60	885
Erewhon	H30581	43 31S	170 52E	594	119	76	107	120	134	129	144	151	152	166	138	123	1559
Mesopotamia	H30691	43 38S	170 54E	552	79	50	61	78	86	79	78	95	95	100	84	72	957
Mt Cook,The Hermitage	H30711	43 44S	170 06E	765	418	257	436	336	352	269	260	288	343	415	385	435	4194
Lilybank Station	H30751	43 43S	170 34E	686	84	54	77	89	97	94	105	111	111	118	95	91	1126
L Pukaki, Braemar	H30921	43 59S	170 12E	550	70	42	67	62	76	69	75	83	84	87	72	67	854
Deepburn	H30981	43 56S	170 51E	518	94	76	91	80	74	59	66	83	72	87	86	97	965
Glenthorne	H31141	43 11S	171 27E	610	111	73	99	117	143	120	132	143	152	161	137	126	1514

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Craigieburn Forest	H31172	43 09S	171 43E	914	111	78	91	114	135	110	130	144	148	170	144	135	1510
Harper River	H31241	43 13S	171 28E	533	95	64	80	99	116	105	114	119	119	133	111	99	1254
Simois Creek	H31251	43 17S	171 34E	549	64	46	58	76	85	83	94	92	88	87	75	60	908
Double Hill	H31321	43 19S	171 16E	561	106	73	91	107	119	107	103	124	125	145	119	106	1325
L Coleridge Homestead	H31351	43 21S	171 35E	514	64	45	59	77	80	73	82	83	77	87	68	61	856
Lake Coleridge	H31352	43 22S	171 32E	364	64	44	53	72	77	71	77	78	74	85	68	62	825
Mt Torlesse	H31391	43 19S	171 56E	378	91	70	83	89	90	67	88	84	80	97	85	83	1007
High Peak Stn	H31471	43 27S	171 44E	457	90	68	86	96	96	83	111	116	85	104	83	79	1097
Highbank Power Stn	H31572	43 35S	171 44E	230	82	72	82	85	83	58	80	80	70	86	76	80	934
Hororata West	H31581	43 32S	171 51E	287	81	71	83	78	81	58	78	78	64	82	74	76	904
Hororata	H31591	43 33S	171 54E	213	74	66	75	74	77	58	74	83	58	76	67	70	852
Hororata Substation	H31593	43 33S	171 59E	192	68	59	70	68	72	55	69	72	52	69	62	67	783
Wairere	H31642	43 39S	171 27E	381	115	108	113	110	96	67	92	98	91	110	99	116	1215
Springburn	H31643	43 41S	171 29E	332	89	72	85	81	74	52	71	77	66	81	74	86	908
Alford Forest 1	H31651	43 38S	171 32E	390	101	91	97	94	86	66	89	95	81	98	91	101	1090
Methven,Alaska	H31655	43 36S	171 34E	402	111	97	106	102	93	64	92	96	84	107	96	109	1157
Methven	H31661	43 38S	171 38E	316	84	71	87	85	77	58	82	84	68	88	75	90	949
Rakaia,Greenfields	H31671	43 36S	171 44E	305	80	69	79	81	80	57	79	82	66	84	72	77	906
Te Pirita Mead	H31691	43 41S	171 59E	144	63	53	64	65	69	55	68	74	44	60	56	57	728
Evandale	H31733	43 42S	171 20E	396	89	73	88	89	77	60	77	87	73	95	80	92	980
Mt Somers,Bucleugh	H31743	43 44S	171 29E	296	83	66	78	76	72	50	67	73	58	80	72	77	852
Lyndhurst	H31771	43 43S	171 42E	232	69	61	69	71	67	49	65	75	53	69	60	68	776
Higham Chertsey	H31791	43 47S	171 56E	128	61	57	68	70	72	58	72	78	49	65	62	64	776
Somerton	H31792	43 46S	171 55E	137	61	55	66	68	68	54	67	74	48	62	60	62	745
Lochaber	H31801	43 50S	171 04E	451	72	53	69	73	68	62	74	80	66	80	68	69	834
Hackthorne	H31851	43 48S	171 35E	198	71	59	67	69	64	49	64	72	53	70	63	65	766
Winchmore	H31883	43 48S	171 48E	160	59	55	63	68	65	51	67	72	47	60	59	61	727
Orari Gorge	H31926	43 58S	171 12E	259	124	104	121	110	89	62	83	90	81	108	100	124	1196
Hinds	H31941	43 59S	171 26E	147	72	63	65	71	61	49	60	65	49	66	66	65	752
Ashburton Council	H31971	43 54S	171 45E	101	59	54	63	65	62	51	63	66	44	57	58	56	698
Waipara	H32072	43 03S	172 45E	76	47	44	58	51	56	45	60	61	44	49	49	48	612
Wharfedale	H32121	43 09S	172 12E	396	68	61	75	78	96	83	107	105	78	86	70	80	987
Amberley,Railway Tce	H32171	43 09S	172 43E	38	50	49	64	59	62	45	61	65	46	54	53	50	658
Glentui 1	H32221	43 14S	172 15E	274	91	82	99	85	94	68	93	90	80	90	88	85	1045
Okuku	H32232	43 14S	172 23E	152	63	53	77	67	72	60	74	82	64	82	67	84	845

STATION	Number	Lat	Long	Ht(m)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Ashley Forest 1	H32252	43 15S	172 35E	107	61	55	73	69	69	55	77	70	59	64	58	64	774
Rangiora	H32351	43 18S	172 35E	30	60	50	68	65	65	52	76	65	52	58	56	60	727
Rangiora	H32352	43 19S	172 34E	46	55	43	63	57	56	49	63	61	48	59	54	57	665
Darfield	H32412	43 29S	172 08E	195	65	55	70	65	73	58	76	82	52	67	63	63	789
Eyrewell Forest	H32424	43 24S	172 17E	158	62	52	68	61	72	53	78	72	52	60	59	60	749
Christchurch Aero	H32451	43 29S	172 32E	30	46	42	58	53	58	51	68	60	41	44	50	45	616
Waimakariri Bridge	H32461	43 25S	172 39E	5	46	41	57	58	58	52	69	61	41	48	48	45	624
Christchurch Gardens	H32561	43 32S	172 37E	7	46	40	57	59	61	56	76	63	41	49	49	47	644
Shirley	H32563	43 30S	172 40E	6	40	37	52	55	57	50	67	59	35	42	43	41	578
Christchurch, Bromley	H32573	43 32S	172 42E	9	42	37	49	58	62	50	71	58	34	45	43	44	593
Mt Pleasant	H32574	43 34S	172 43E	137	48	39	48	62	69	64	83	69	45	57	51	46	681
Godley Head Light	H32581	43 35S	172 48E	138	40	34	40	54	54	49	67	51	30	40	37	39	535
Burnham Sewage Plant	H32631	43 37S	172 19E	61	48	46	54	56	61	56	63	66	40	47	54	52	643
Lincoln	H32641	43 39S	172 28E	11	52	45	57	58	53	54	69	62	39	46	55	49	639
Greenpark	H32751	43 43S	172 31E	2	47	43	50	57	53	56	71	65	37	46	54	49	628
Okuti	H32781	43 47S	172 48E	61	73	61	84	96	114	122	174	169	76	84	80	69	1202
Onawe Duvauchelle Bay	H32791	43 46S	172 56E	46	58	51	62	88	91	92	131	115	57	68	62	66	941
Magnet Bay	H32871	43 51S	172 45E	6	53	46	52	62	62	61	84	74	38	53	54	47	686
Akaroa, Armstrong Cres	H32891	43 49S	172 58E	34	60	51	72	88	91	104	154	149	65	78	64	53	1029
Akaroa, Onuku	H32894	43 50S	172 58E	299	81	69	100	111	110	123	173	163	82	106	90	71	1279
Motunau	H33001	43 02S	173 05E	27	68	61	80	76	79	62	70	69	49	60	62	56	792
Little Akaloa	H33601	43 40S	173 00E	244	51	41	56	73	81	79	99	91	47	56	48	51	773
Le Bons Bay, Eastwood	H33711	43 45S	173 06E	229	64	53	72	87	95	94	117	104	55	69	72	64	946
L Pukaki, Guide Hill	H40022	44 00S	170 14E	732	76	43	69	66	73	67	70	79	85	89	68	75	860
Lake Tekapo, Air Safaris	H40041	44 01S	170 28E	762	50	34	51	50	53	54	57	60	52	53	46	50	610
Burkes Pass, Airies	H40061	44 04S	170 41E	518	84	62	83	78	75	58	73	76	73	87	74	75	898
Te Ngawai	H40272	44 13S	170 44E	427	95	75	97	75	64	49	59	59	66	79	78	83	879
Cave, Heatherleigh	H40383	44 20S	170 52E	274	74	68	80	65	55	44	41	57	46	70	67	77	744
Mt Nimrod 2	H40481	44 26S	170 53E	381	99	90	100	76	64	49	50	60	52	84	84	105	913
Foxdown Stn	H40491	44 29S	170 55E	229	67	58	66	56	52	39	53	51	37	57	60	68	664
Melford Hills	H40771	44 45S	170 46E	441	66	49	71	59	59	43	51	58	38	66	57	70	687
Ikawai	H40892	44 52S	170 56E	70	48	40	59	45	44	40	50	48	35	50	45	55	559
Woodbury	H41011	44 00S	171 10E	305	114	100	116	101	82	56	84	87	76	100	94	115	1125
Lynnford	H41061	44 01S	171 36E	73	60	58	63	69	61	48	64	64	42	59	61	58	707
Kakahu Bush	H41111	44 09S	171 06E	122	71	62	74	72	61	44	65	64	48	62	66	62	751

STATION	Number	Lat	Long	Ht(m)	Rainfall Normals 1961-1990. (mm)												
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Orari Estate	H41131	44 08S	171 19E	81	72	61	67	68	61	44	61	60	43	60	62	61	720
Coldstream No 3	H41153	44 09S	171 33E	12	54	48	53	58	57	43	49	52	36	57	55	50	612
Waitawa	H41211	44 17S	171 10E	49	54	47	56	52	49	36	44	44	34	48	50	46	560
Temuka	H41224	44 15S	171 17E	24	60	53	61	56	49	40	54	48	40	52	56	52	621
Smithfield	H41322	44 22S	171 15E	5	56	50	62	54	52	39	49	48	32	47	55	51	595
Timaru Aero	H41323	44 18S	171 14E	25	54	47	55	52	47	36	45	42	33	48	50	46	555
Gordons Valley	H41402	44 27S	171 03E	91	55	49	64	50	48	37	40	48	30	53	52	58	584
Gleniti Reservoir	H41414	44 24S	171 11E	76	55	53	62	58	53	38	48	48	35	53	54	54	611
Timaru Harbour	H41422	44 24S	171 15E	3	54	47	57	57	53	38	48	46	33	49	50	49	581
Hunter,Sodwall	H41502	44 34S	171 01E	204	58	51	66	55	49	39	52	50	35	58	57	69	639
Waimate, Lansdown	H41602	44 39S	171 01E	120	61	51	68	55	54	41	57	50	35	57	56	63	648
Moanaroa	H41611	44 36S	171 06E	104	55	48	62	52	51	37	53	43	32	53	52	57	595
Waimate	H41701	44 44S	171 02E	64	55	50	66	57	55	42	55	50	34	56	54	62	636
Lake Ohau Stn	H49182	44 10S	169 49E	533	98	63	104	87	102	95	106	104	117	120	94	96	1186
Lake Waitaki	I40641	44 41S	170 25E	235	57	42	61	45	41	33	40	39	32	49	46	50	535
Duntroon	I40861	44 52S	170 41E	158	55	44	61	42	44	33	47	39	28	47	48	57	545
Earnslaw	I48741	44 45S	168 24E	335	133	83	148	113	123	124	108	111	142	150	120	133	1488
Arthurs Point	I48961	44 59S	168 40E	482	80	56	89	73	83	78	59	63	80	95	67	80	903
Arrowtown	I48981	44 55S	168 49E	360	68	44	79	58	71	65	52	55	70	76	54	62	754
Makarora Station	I49222	44 15S	169 13E	320	186	134	230	176	194	180	195	207	233	247	199	211	2392
Minaret Bay	I49411	44 25S	169 07E	313	102	85	124	112	128	115	118	134	151	153	115	120	1457
Omarama,Tara Hills	I49591	44 32S	169 54E	488	60	36	52	44	47	38	35	44	46	49	45	50	546
Lake Hawea	I49621	44 36S	169 15E	350	62	44	72	59	68	62	65	69	74	73	56	62	766
Hawea Flat	I49631	44 39S	169 18E	335	59	42	71	57	62	55	58	62	67	68	51	61	713
Wanaka	I49711	44 42S	169 08E	314	60	40	69	55	62	58	58	58	64	71	53	56	704
Mt Barker	I49712	44 43S	169 11E	305	58	37	66	51	58	53	51	53	59	63	49	54	652
Cardrona	I49801	44 52S	169 01E	518	56	39	71	48	58	51	46	53	56	60	44	57	639
Upper Meg Power Stn	I49901	44 58S	169 03E	518	64	45	77	58	69	57	53	59	64	75	52	64	737
Blackstone Hill	I49991	44 56S	169 55E	579	64	53	69	49	45	35	39	41	39	54	48	61	597
Ranfurly	I50111	45 07S	170 06E	424	49	34	49	37	31	24	25	25	24	39	36	44	417
Waipiata	I50112	45 10S	170 09E	360	46	32	44	31	30	24	23	23	23	32	32	43	383
Kauru, The Dasher	I50161	45 11S	170 41E	549	76	63	85	64	68	62	81	64	48	69	63	86	829
Glendale Station	I50341	45 21S	170 28E	550	65	52	67	47	49	45	54	51	38	57	48	64	637
Trotters Creek	I50382	45 23S	170 49E	30	59	48	65	48	50	43	55	47	39	55	50	61	620
Palmerston	I50471	45 29S	170 43E	21	55	47	61	44	58	52	60	57	45	52	41	62	634

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Middlemarch, Garthmyl	I50512	45 31S	170 08E	198	59	46	53	35	37	30	31	28	29	46	44	60	498
Centrewood	I50571	45 31S	170 46E	85	54	40	58	40	45	39	47	42	34	47	41	55	542
Cherry Farm Hospital	I50662	45 37S	170 37E	6	62	46	65	47	55	49	58	47	40	56	46	62	633
Lee Flat	I50701	45 47S	170 02E	354	72	59	59	56	73	60	56	51	52	65	58	74	735
Pinewood	I50722	45 44S	170 15E	351	68	57	64	53	66	54	57	59	50	63	55	71	717
Taiaroa Head	I50771	45 47S	170 44E	72	59	46	59	51	62	54	54	50	44	53	52	63	647
Balmoral, Outram	I50821	45 53S	170 13E	3	75	57	68	50	59	54	50	46	48	62	53	76	698
Whare Flat	I50842	45 49S	170 26E	158	83	74	93	83	98	98	111	100	80	83	79	91	1073
Ross Creek	I50851	45 50S	170 30E	165	92	75	102	84	103	94	107	90	80	92	84	99	1102
Dunedin, Btl Gardens	I50852	45 52S	170 31E	73	81	63	93	74	93	83	94	81	68	80	69	84	963
Sullivan Dam	I50853	45 49S	170 31E	299	102	85	114	95	114	106	116	102	88	102	94	105	1223
Berwick Forest	I50901	45 58S	170 04E	18	74	53	69	54	70	63	58	50	54	66	59	77	747
Dunedin Aero	I50921	45 55S	170 12E	1	70	50	64	47	61	51	47	45	44	60	51	72	662
Burnside	I50941	45 54S	170 27E	43	76	59	87	62	76	73	78	63	57	69	61	75	836
Southern Reservoir	I50942	45 54S	170 27E	122	76	62	83	65	74	65	73	61	57	69	65	78	828
Dunedin, Musselburgh	I50951	45 54S	170 31E	2	71	56	76	64	73	69	69	58	51	67	59	75	788
Te Anau Downs	I57182	45 11S	167 50E	229	115	67	122	96	99	96	80	87	121	131	92	107	1213
Te Anau	I57473	45 25S	167 44E	204	112	73	111	91	101	100	81	82	108	117	96	102	1174
Manapouri, West Arm 2	I57522	45 31S	167 16E	232	420	280	320	350	370	310	270	280	360	370	330	350	4010
Manapouri	I57561	45 34S	167 36E	192	122	79	111	99	117	111	89	86	115	124	102	104	1259
Plains Station	I57581	45 34S	167 52E	305	104	75	103	87	95	84	72	68	93	99	82	97	1059
Monowai	I57761	45 47S	167 37E	158	118	82	109	96	120	114	95	92	115	116	92	111	1260
Eastern Bush	I57971	45 59S	167 46E	183	98	82	98	92	107	99	85	73	87	89	73	97	1080
Wether Hill	I57991	45 54S	167 57E	311	97	85	104	87	99	91	80	70	84	91	74	95	1057
Queenstown	I58061	45 02S	168 40E	329	75	52	84	67	81	74	58	59	77	90	65	69	851
Dunrobin	I58711	45 44S	168 07E	314	96	69	92	74	86	79	63	59	75	87	68	93	941
Waikaia	I58781	45 44S	168 51E	152	90	69	89	70	86	72	61	58	64	76	66	86	887
Kaweku	I58961	45 57S	168 40E	143	91	64	81	74	86	77	62	50	61	71	56	82	855
Otama	I58981	45 55S	168 50E	183	89	64	80	65	71	65	53	44	56	66	57	81	791
Matakanui	I59051	45 04S	169 31E	305	58	44	58	45	42	37	32	32	37	53	44	60	542
Lauder Flat	I59072	45 00S	169 42E	366	53	42	57	42	36	31	31	29	32	47	42	52	494
Clyde, Fraser St	I59131	45 11S	169 19E	183	42	30	50	35	35	29	26	24	27	40	31	43	412
Ophir 2	I59161	45 07S	169 37E	305	43	31	50	37	30	26	23	27	30	40	32	51	420
Roxburgh Power Stn	I59431	45 29S	169 19E	110	48	37	54	35	41	32	29	28	31	42	37	54	468
Roxburgh	I59532	45 33S	169 19E	97	58	49	58	43	53	41	38	34	38	56	42	57	567

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					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Roxburgh, Hilltop	I59543	45 33S	169 24E	518	69	52	62	45	50	43	40	44	47	57	45	67	621
Deep Stream 2	I59692	45 40S	169 58E	366	61	49	53	45	54	46	43	39	38	54	49	63	594
Wilden No 1	I59721	45 44S	169 12E	427	89	71	80	65	80	62	54	54	63	73	61	94	846
Kelso, Pineview	I59811	45 53S	169 09E	180	90	70	83	73	86	67	59	53	68	79	65	89	882
Raes Junction	I59841	45 48S	169 27E	152	85	66	77	75	93	77	67	61	67	75	68	78	889
Beaumont N.Z.F.S.	I59842	45 51S	169 29E	46	87	69	82	80	109	88	74	65	79	84	71	84	972
Mahinerangi Dam	I59891	45 53S	169 58E	396	87	78	84	78	98	83	80	74	66	81	73	90	972
Tapanui	I59921	45 57S	169 15E	180	88	72	87	74	93	84	78	60	70	77	66	86	935
Lawrence	I59961	45 55S	169 41E	122	74	61	68	58	66	53	48	44	53	60	57	71	713
Waihola	I60002	46 01S	170 05E	30	69	57	67	52	70	61	55	47	48	61	51	66	704
Lillburn	I67061	46 00S	167 40E	76	106	82	98	101	120	111	96	84	96	99	83	101	1177
Tuatapere	I67161	46 08S	167 41E	30	112	82	107	111	124	116	90	87	92	101	88	94	1204
Orepuki	I67272	46 17S	167 44E	20	117	88	113	126	134	121	101	87	102	115	89	106	1299
Centre Island Light	I67481	46 28S	167 51E	61	118	79	99	118	116	105	90	72	95	107	84	101	1184
Lora	I68051	46 01S	168 33E	256	125	91	118	115	128	105	90	85	99	105	96	114	1271
Reaby Downs	I68071	46 02S	168 46E	168	107	69	95	91	107	94	75	72	79	93	82	101	1065
Mandeville	I68081	46 00S	168 49E	116	96	67	85	72	91	77	64	52	68	73	63	80	888
Otautau N.Z.F.S.	I68102	46 10S	168 00E	55	109	74	100	108	136	109	87	82	93	95	82	93	1168
Drummond, Heddon Bush	I68111	46 06S	168 08E	73	92	68	92	81	92	84	64	57	69	76	62	85	922
Winton	I68133	46 09S	168 20E	44	94	63	84	78	92	76	61	53	66	71	59	84	881
Waimumu, Glendhu	I68171	46 07S	168 45E	183	125	89	112	110	129	104	86	78	98	105	93	111	1240
Hedgehope	I68251	46 13S	168 32E	41	106	73	96	91	108	85	68	61	73	82	78	94	1015
Hokonui Forest	I68252	46 13S	168 35E	46	109	74	95	94	106	88	71	64	79	84	82	94	1040
Riverton	I68301	46 21S	168 01E	6	107	66	95	115	116	104	81	75	90	92	85	89	1115
Edendale	I68371	46 19S	168 47E	40	108	73	89	96	105	84	69	62	79	87	84	92	1028
Invercargill Aero	I68433	46 25S	168 20E	0	112	75	93	106	110	95	77	62	81	91	82	97	1081
Awarua	I68531	46 30S	168 22E	10	114	75	96	111	111	95	83	64	87	96	85	91	1108
Tiwai Point	I68533	46 35S	168 23E	5	117	69	92	106	112	89	94	70	89	95	76	93	1102
Dog Island Light	I68641	46 39S	168 25E	12	111	75	97	107	102	93	80	64	86	98	91	88	1092
Tuapeka Mouth	I69051	46 02S	169 33E	116	77	59	70	55	67	51	46	38	53	60	54	72	702
Nithdale	I69101	46 11S	169 05E	213	111	76	91	97	113	89	76	64	76	91	86	101	1071
Baverstock Waiwera	I69151	46 10S	169 31E	91	65	46	58	50	60	49	41	33	43	58	51	61	615
Hillend	I69171	46 08S	169 45E	262	79	66	76	64	78	71	64	49	61	71	63	75	817
Clinton P.O.	I69232	46 12S	169 22E	122	99	57	73	83	103	84	70	56	72	88	77	77	939
Balclutha	I69272	46 14S	169 45E	12	70	54	66	52	66	62	55	41	51	63	53	67	700

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Balclutha, Finegand	I69273	46 16S	169 44E	6	65	49	60	48	61	59	51	39	47	66	48	67	660
Remote	I69283	46 12S	169 51E	91	71	58	64	53	68	62	57	44	53	61	55	64	710
Lochindorb	I69351	46 20S	169 32E	198	88	71	90	84	105	97	94	66	79	91	73	84	1022
Inchclutha, T'Graph Rd	I69382	46 18S	169 50E	8	67	53	64	50	71	70	64	47	55	66	47	65	719
Mokoreta	I69411	46 25S	169 07E	105	135	88	112	133	146	124	109	88	107	112	114	117	1385
Owaka	I69461	46 27S	169 39E	12	83	60	81	81	99	99	84	67	74	83	73	79	963
Nugget Point	I69481	46 27S	169 49E	129	81	64	81	73	90	85	78	58	68	74	71	79	902
Quarry Hills	I69501	46 33S	169 03E	76	132	94	118	134	146	125	114	93	115	118	113	118	1420