



# The New Zealand Gazette.

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SATURDAY, NOVEMBER 14, 1857.

## PROCLAMATION.

By His Excellency Colonel THOMAS GORE BROWNE, Companion of the most Honorable Order of the Bath, Governor of the Colony of New Zealand, &c., &c.

**W**HEREAS by an Act of the General Assembly of New Zealand, intituled "The Waste Lands Act, 1856," it is enacted that no land acquired from the aboriginal inhabitants, after the passing thereof, shall be open for sale or disposal until the Governor shall have notified, by Proclamation in the *New Zealand Government Gazette*, that the Native Title has been extinguished over such land.

Now, therefore, I, the Governor, do hereby proclaim and notify that the Native Title has been extinguished over the Blocks of Land the boundaries whereof are mentioned or described in the Schedule hereunto annexed.

Given under my hand, and issued under the Public Seal of the Colony of New Zealand, at Government House, at Auckland, this tenth day of November, in the year of our Lord one thousand eight hundred and fifty-seven.

THOMAS GORE BROWNE.

By His Excellency's command,

E. W. STAFFORD.

GOD SAVE THE QUEEN!

## SCHEDULE.

### PROVINCE OF AUCKLAND.

#### *Whangarei District.—Whareora Block.* (Containing 4927 Acres.)

The boundary commences at Kahiwa, thence along the boundary line of the Parahaki Block till it reaches Pehiawiri, thence along the boundary line separating it from Pehiawiri, thence along a line on the ridge of hills on the Ngunguru road, thence to Whanui, and thence to Kahiwa.

#### *Whangarei District.—Parahaki Block.* (Containing 4481 Acres.)

The boundaries commence on the boundary of Mr. Dent's farm at Awaroa, thence down the Awaroa river to its mouth, thence up the river: Hatea to the Ahipupu, thence up the course of the said river, thence up the surveyed line running in an Easterly direction separating Pehiawiri, thence along the said line to the boundary line of the Whareora Block, thence along the said line to Kahiwa, thence along the boundary of the land sold to Gorrie till it reaches the land of Dent, thence along the boundary of Dent's land to the point of commencement; the portion on the Hatea river, not colored red on the plan annexed to the original deed, and included within the aforesaid boundaries, is reserved for the Natives.

#### *Whangarei District.—Kaurehohore Block.* (Containing 4790 Acres.)

The boundary commences at the boundary of Paranui, thence up the course of the river Mangakino, thence on the surveyed line to the

river of Mangahuru, thence down the course of the said river Mangahuru to the branch stream at Orari, thence to the great Swamp of the Wairua, thence along the edge of the great Swamp to Waihireri, thence to Kaurihohore, thence along the surveyed line until it joins the boundary of the land sold to Mr. Mair, thence along the boundary of Mr. Mair's land to Parami, where it ends at the point of commencement.

*District of Coromandel Harbour.—Onekura,  
(Pagitt's Homestead.)*

(Area 81 Acres, 3 Roods, 7 Perches.)

The boundaries commence at Puharakeke, thence in a North-Easterly direction 1120 links, and 1592 links, crossing and recrossing the Whangarahi Creek at Onekura; thence through a swamp to a survey line cut through the Kauri forest, and running in a South-Easterly direction 2300 links to a point inland of the Otumoho Creek; thence in a straight line, crossing and recrossing the Otumoho Creek 4339 links, and through the middle of a swamp along the survey line to a point at the South-East corner of the surveyed line to Puharakeke 1537 links, where the boundaries join.

#### PROCLAMATION.

By His Excellency Colonel THOMAS GORE BROWNE, Companion of the most Honorable Order of the Bath, Governor of the Colony of New Zealand &c., &c.

**WHEREAS**, by an Act of the General Assembly of New Zealand, intituled "The Naturalization Act, 1856," it is enacted, "that all and singular the persons who shall be declared to come within the operation of this Act by any Proclamation to be issued in that behalf by His Excellency the Governor, or Officer administering the Government, shall, as from the time to be in the respective cases in that behalf specified by such Proclamation, be deemed and taken, until the termination of the next Session of the General Assembly, to be, and to have been as from such specified time, natural born subjects of Her Majesty, within the Islands of New Zealand, as fully to all intents and purposes as if their names had respectively been inserted in the Schedule hereunto annexed. Provided always that every such Proclamation shall contain the description, occupation, or calling, of the person or persons therein named, and of his or their residence at the date of such Proclamation."

Now, therefore, I, the Governor of the Colony of New Zealand, in pursuance of the power and authority in me vested by the said Act, do hereby proclaim and declare that the person hereinafter mentioned shall come

within the operation of the said Act from the date hereinafter specified, viz:—

JAMES ANSENNE,

from the 8th day of July, 1856; native of Belgium, carpenter; residence, Auckland, Province of Auckland.

Given under my hand, and issued under the Public Seal of the Colony of New Zealand, at Government House, at Auckland, this thirteenth day of November, in the year of our Lord One thousand eight hundred and fifty-seven.

THOMAS GORE BROWNE,  
Governor.

By his Excellency's command,

E. W. STAFFORD.

GOD SAVE THE QUEEN!

Colonial Secretary's Office,  
Auckland, November 9th, 1857.

**T**HE following Despatch, with the accompanying Order by Her Majesty in Council, is published for general information.

E. W. STAFFORD.

Downing-street,  
23rd July, 1857.

SIR,—I transmit to you, herewith enclosed, a copy of an Order which has been made by the Queen in Council, under date of the 25th ultimo, directing that in all Prayers, Litanies, and Collects for the Royal Family, the words "The Prince Consort" be inserted instead of the words "The Prince Albert;" and I have to desire that you will make Her Majesty's Order generally known throughout the Colony under your government.

I have, &c.,  
H. LABOUCHERE.

Governor  
Gore Browne, C.B.,  
&c., &c., &c.

At the Court at Buckingham Palace, the 25th day of June, 1857.

Present:—

THE QUEEN'S MOST EXCELLENT MAJESTY  
IN COUNCIL.

**WHEREAS** by the Act of Uniformity, which establisheth the Liturgy, and enacts, that no Form or Order of Common Prayer be openly used other than what is prescribed or appointed to be used in and by the said Book, it is notwithstanding provided, that in all these Prayers, Litanies, and Collects which do anywise relate to the King, Queen, or Royal Progeny, the Names be altered and changed from Time to Time, and fitted to the present

occasion, according to Direction of lawful authority: Her Majesty was pleased this Day in Council to declare Her Royal Will and Pleasure, That in all the Prayers, Litanies, and Collects for the Royal Family, the Words "The Prince Consort" be inserted instead of the Words "The Prince Albert."

And Her Majesty doth strictly charge and command, That no Edition of the Common Prayer be from henceforth printed but with this Amendment; and that in the meantime, till Copies of such Edition may be had, all Parsons, Vicars, and Curates within this Realm do (for the preventing of Mistakes), with the Pen, correct and amend all such Prayers in their Church Books, according to the foregoing directions: And for the better Notice hereof, that this Order be forthwith printed and published, and sent to the several Parishes; and that the Right Reverend the Bishops do take care that Obedience be paid to the same accordingly.

WM. L. BATHURST.

Colonial Secretary's Office,  
Auckland, November 9th, 1857.

**H**IS Excellency the Governor has been pleased to appoint

HENRY IRELAND

to be Registrar under "The Marriage Act 1854," and the Deputy-Registrar of Births, Deaths, and Marriages, under the "Registration Ordinance," Session 8, No. 9, for the District of Rangiawhia.

E. W. STAFFORD.

#### NOTICE TO MARINERS.

Colonial Secretary's Office,  
Auckland, November 9th, 1857.

**T**HE following Notice respecting a new Light proposed to be exhibited at Newcastle, on the Coast of New South Wales, and an intended Light House on the Inner South Head at the entrance of Port Jackson, together with the copy of a Letter from the Light, Pilot, and Navigation Board of New South Wales, is published for general information.

E. W. STAFFORD.

#### ADDITIONAL LIGHT AT THE ENTRANCE OF PORT JACKSON.

Notice is hereby given, that, in addition to the Revolving Light now exhibited on the Outer South Head of the Harbour of Port Jackson, it is the intention of the Government shortly to erect a Lighthouse on the Inner South Head, which will be a first-class Catoptric Light, and exhibit a constant bright light, at a height above the level of high water of 100 feet.

Notice will be given of the time when this light will be first exhibited, as soon as it has been with certainty decided upon.

ROBT. F. POCKLEY,  
Superintendent of  
Lights, Pilots, and Navigation,  
New South Wales.

Sydney, New South Wales,  
7th October, 1857.

#### NEW LIGHT AT THE PORT OF NEWCASTLE.

Notice is hereby given that on and after the 1st January, 1858, the Coal Fire hitherto exhibited on the main land, at the Port of Newcastle, will be discontinued, and that a light from the Lighthouse recently erected on Nobby's Island will be exhibited.

The light will be a bright white fixed light, and will show from sun-set to sun-rise.

ROBT. F. POCKLEY,  
Superintendent of  
Lights, Pilots, and Navigation,  
New South Wales.

Sydney, New South Wales,  
7th October, 1857.

Light, Pilot, and Navigation Board,  
Sydney, 7th October, 1857.

**SIR,**—The Light, Pilot, and Navigation Board having in attention to a Treasury Minute dated the 5th instant, taken into consideration the subject of the best time for the first exhibition of the Light from the new Lighthouse at Newcastle, I am directed to acquaint you, for the information of the Honorable the Finance Minister, that they would advise that the Light should be first exhibited on the 1st January, 1858, and that notice to this effect, in the accompanying form, be published in the Government Gazette, and transmitted to the proper authorities in England, India, and other quarters, by the next mail steamer.

2. The Board also think it desirable that a notice should be transmitted at the same time of the intention of the Government to erect a new Lighthouse at the Inner South Head, and they are of opinion that until the time for the first exhibition of the Light from it be determined, the accompanying notice will be sufficient to give publicity to the intentions of the Government.

I have, &c.,  
(Signed) W. A. G. DREW,  
Secretary.

The Secretary  
to the Treasury.

**ERRATUM.**—In Gazette No. 29, of November 9th, 1857, folio 172, third line, second column, for "Me, Returning Officer," read "The Returning Officer."

Colonial Secretary's Office,  
Auckland, November 13th, 1857.

THE following remarks on the Meteorology of New Zealand, by Captain Drury, R.N., are published for general information.

E. W. STAFFORD.

### ON THE METEOROLOGY OF NEW ZEALAND

The following Meteorological remarks by Captain Byron Drury, R.N., are based on observations made in New Zealand, on board H.M.S. Pandora, during four years;—and on some valuable contemporaneous observations. In some measure they show how uncertainly the ordinary winds of one portion of these islands affect other parts, and yet, if the gale is extraordinary (or an unusual one) how generally the effects are felt.

It is a matter of interest to trace the extent of the almost rotatory storm, the N.E. wind, which commences at E., and frequently, after suddenly changing from N.E. to N.W. and S.W., ends within a few points of where it commenced. This is more observable at sea than in the vicinity of the land; where it is an expanded rotatory gale, and therefore has not the dire effects of a hurricane. Its prognostics are so certain, and commence so gradually, that the anticipated changes can be made subservient to effecting a passage.

This N.E. gale appears to be common to the southern regions from Bass Strait eastward to Tierra del Fuego. Descriptions of it at the latter place do not materially differ from what is observed here, except that here they are more decided in the spring and summer than in the winter.

Before discussing the local winds of these islands, we may describe the ordinary winds off the coast, extending to Australia and Van Diemen's Land, beyond those latitudes where periodical monsoons exist.

We are not able to state that particular phases of the moon are coincidental with changes in the weather; indeed, after having kept a careful register every two hours, night and day, in these seas during four years, we could not recognize elemental changes corresponding with lunar phases.

In connexion with these remarks may be introduced an extract from the work of Captain Flinders, who, during his six years' captivity in the Mauritius, never lost an opportunity of communicating the results of investigation. In his *Voyages*, page 444, vol. 2, after noticing the hurricanes that island is so liable to, he says, "An opinion commonly entertained in Mauritius that hurricanes are little to be apprehended, except near the time of full moon, does not seem to be well founded."

A marine barometer,\* a sympiesometer, and an aneroid have been used for the pressure; Mason's hygrometer for the moisture, and good thermometers for the temperature of air and water. The barometer is a certain indicator of changes in these latitudes; no vessel should be without it; but it requires study, for the greater height presages N.E. gales, and its changes require special notice in reference to the weather. In the latitude of Auckland we have known it to range from 30.66 to 28.80 during the revolution of a N.E. gale.

The ordinary wind of these seas is westerly nearly the whole year round.

It may be generally assumed that the barometer falls to N. and N.W. winds; that these are the rainy quarters; and that although the wind becomes stronger at first as it draws to S.W., the weather will clear up.

The steadiest wind is about W.S.W. The changes are almost invariably with the sun, or contrary to the movement of the hands of a watch.† South winds bring cold clear weather; and raise the barometer high. S.E. winds are uncommon, but when they do set in, usually in April, May, and June, they last several days; with cold raw weather; and the barometer about 30.00. The N.E. wind occurs about once a month in spring and summer, but less regularly in winter; it is preceded by cloudless serenity and calms; the barometer from 30.30 to 30.60. A light breeze from the eastward, drawing to N.E., is gradually accompanied by a dull sky; the barometer begins to fall and the breeze freshens briskly. The sky becomes overcast, and usually in twelve hours it begins to rain. From that time to thirty-six or forty-eight hours the wind continually increases: in a heavy squall it will suddenly shift to the N.W., from which quarter it blows still stronger for from six to eighteen hours, latterly accompanied by heavy rain or hail; lightning is frequently seen in the S.E. quarter. The barometer is at its lowest a little before there is another (sometimes) sudden change to the S.W., from which quarter it begins to clear, while the glass rises rapidly, although the squalls are at first very violent. The wind sometimes remains in this quarter, sometimes veers round as far as S.S.E.; but if it should remain at

\* Carefully compared at the Cape of Good Hope and in England, and found to be correct. The barometer was by Newinan, with an iron cistern, and considered a very good one. In 1851 it was compared with Mr. Maclear's at the Cape Observatory, and in 1856 with Mr. Cox's standard at Devonport.

† Contrary to those of the northern hemisphere, though still with the sun, which of course moved differently.

W.S.W., fresh, steady breezes and fine weather will last for several days. We have traced the diameter of one of these rotatory gales to 960 miles.\* They seldom last more than three days, before the weather becomes fine.

We now come to the subject more specifically connected with New Zealand, having thus stated a few generalities, and we find it necessary to divide the group into eight portions to distinguish all the local winds.

The formation of these islands, their comparative breadth at the parallel of the East Cape, with the narrow strip of land to the northward, the Strait, the high snow-capped mountains, and extensive plains and forest tracts, must produce varieties of currents of air; and we find frequent changes though of short duration. But placed as these islands are, apart from any deserts or icy regions, the ordinary westerly current, unless blowing with unusual force, becomes neutralized by the varied configurations of the country's surface; and for this reason we purpose to divide the islands into eight atmospheric districts, namely:—

- 1st. From the North Cape to Mercury Bay on the east coast, and to Kawhia on the west.
- 2nd. From Mercury Bay to the East Cape.
- 3rd. From the East Cape to Cook Strait.
- 4th. From Kawhia to Cape Farewell.
- 5th. Cook Strait.
- 6th. From Cape Campbell to Cape Saunders.
- 7th. From Cape Saunders to Foveaux Strait.
- 8th. The West Coast of the Middle Island.

It has been frequently stated that New Zealand is a moist climate as compared to England, but if meteorological data during a number of years be taken as the basis of comparison, it will be found, such is not the case. Persons residing in New Zealand during 1851—1852, might conclude there was an excess of moisture; but had a person lived in the country in 1853—1854 alone, he would come to an opposite conclusion, for the drought then was a source of considerable uneasiness.

Farmers do not complain there of excessive moisture. Indeed, at Auckland no more falls than is required to produce its prolific vegetation, although perhaps too frequent to bring grapes and some other fruits to perfection which thrive in other parts of the colony.

We believe that more rain falls in the west of England and on the West Coast of Scotland and Ireland than in any part of New Zealand.

The comparative absence of great intensity of electricity may modify the falls of rain. It is seldom such floods are heard of as accompany the thunderstorms of other regions. The greatest quantity of rain known to fall in twenty-four hours at Auckland within the three last years was less than at Sydney Heads. We have not been able to trace any accident occurring from lightning.

Fogs are rare, except in the extreme south. In the Bay of Islands and Hokianga there is a morning fog occasionally in September, October, and November, which generally clears up at 10 a.m., and is followed by a fine day. In the Bay of Plenty we experienced a fog of three days' duration in the month of October, but it was considered quite extraordinary, and they have been experienced in the months of June and July in Hauraki Gulf, but seldom throughout the day.

*From the North Coast of New Zealand to Mercury Bay on the East Coast, and  
Kawhia (or Kawhia) on the West.*

In this division the ordinary wind throughout the year is from N.W. to S.W. on the west coast, and from W.S.W. it lasts longest. In summer the N.W. and S.W. are both fine. In winter the N.W. wind is prevalent, accompanied by rain. When the wind veers south of W.S.W., it blows from the westward off the shore on the East Coast, otherwise the wind takes a direction down the coast. There is a sea breeze into Auckland and other harbours on the East Coast in summer weather.

N.N.W. winds are accompanied by rain. The N.E. wind already described, generally ends in a severe gale. S.E. wind is rare, but when it comes, lasts several days, with cold, raw weather, sometimes showery.† In winter there are sometimes very sudden changes on the East Coast after short intervals of calm. Cloudless serenity in winter is usually followed by a wet day; and a lunar halo is a sure prognostic of rain. The narrow interval between the seas on the West and East Coasts and the extensive forests of Manukau conduce to moisture prevailing in Auckland to a greater extent than at the Bay of Islands. It is also for this reason Auckland is milder in winter; frost being uncommon; whereas at the Bay, though a lower latitude, ice may be found an inch thick occasionally.

\* The N.E. gale is a progressive Cyclone; not a merely local wind.

† We found, on an average of three years, that there were only twenty days with the wind between S. and E. were preceded by S.W. winds, and ended in calm. They occurred in April, May, June, and July. A S.E. gale are common—from a degree south of Auckland to the southward—we found only one in the Hauraki Gulf (in June, 1852). It lasted 48 hours.

In the harbours on the West Coast the ordinary breezes are from S.W., with land winds in summer, which, however, are very light and partial. In Manukau the West winds are peculiarly fresh, the contour of the coast here forming the apex of an obtuse angle. The harbours on the East Coast draw the sea breeze into their various channels in summer. In winter the weather is very variable.

During our experience the maximum temperature in the shade at Auckland	°
land in summer was	79
Minimum in winter	40
Mean in summer	67
" " winter	52
And the mean annual fall of rain was	43 inches

#### *Mercury Bay to East Cape.*

Between Mercury Bay and the East Cape the summer breezes are from the westward, dying away at night in and near the shore, but not in the Bay. A N.E. gale may be expected once a month, prevailing from March to July. S.E. winds are common near the East Cape, sometimes lasting for several days, and often very strong, but seldom blowing beyond the Mercury Islands. There is also a very strong S.W. gale, which is dangerous in headsteads between Cape Runaway and the East Cape; it is preceded by rollers and unsteady laws of wind.

The people in sight of White Island can foretell weather by the appearance of the steam from Whakeri; with west winds the smoke is low, and more of it is seen. The S.E. wind, they say, smothers the steam. No doubt the density of the atmosphere tells on that vast body of vapour.

The climate of Mercury Bay may be considered fine, generally.

#### *From East Cape to Cook Strait.*

Going from East Cape to Cook Strait a very marked phenomenon frequently takes place on rounding the East Cape. The strong westerly wind that drives across the bay carries its line a few miles eastward of the Cape, but southward of this the breeze is N.E. Sometimes a vessel may be becalmed for hours between two strong breezes from W. and N.E. The configuration of the coast at once accounts for this:—The west wind meets with little obstacle in crossing the narrow and comparative low land north of the ranges forming the southern boundaries of the Bay of Plenty; at the East Cape it meets the lofty Hikurangi, and the breadth of the country now being considerable; the rarified air over it induces regular sea breezes from the N.E. succeeded in the evenings by the land wind for a short distance from the shore. An exception is the N.E. gale, known on this part of the coast as the black north-easter, to distinguish it from the ordinary sea breeze from the same quarter. In winter the sea breeze cannot be depended upon, and S.E. and S. gales set in very suddenly, and even in summer the S.E. winds sometimes last for some days.

In Hawke Bay in spring there are fierce westerly winds for days, with a low barometer, and variable weather, ending in a cold south wind, blowing hard for a short time, when the ordinary weather returns.

This part of New Zealand has a fine climate.

The barometer rises for N.E., S.E., and S. winds, and falls for N., N.W., and W. winds.

#### *West Coast, from Kawhia to Cape Farewell.*

Along the coast of Taranaki the sea breeze sets in from W.S.W. to S.W. drawing round to S.E. during the day and dying away at sunset.

A N.E. gale produces a northerly swell at Taranaki, greater than when at N.W.

N.W. winds blow very hard for about twelve hours, and then change to W.S.W. afterwards to S.W.

From November to April the weather is fine. In June and July S.E. winds prevail. Gales at any season seldom last more than forty-eight hours. Sometimes a N.W. swell sets in without the wind blowing home. The barometer rises for S. and E. winds, and falls for northerly, and north-westerly, which is the rainy quarter.

The proportion of N.W. to S.E. winds is about seven to four, which may be assumed as also the proportion of S.W. winds to all others on the west coast.

#### *Cook Strait.*

In Cook Strait, that is, between Cape Campbell and Stephen Island, it may be said there are only two winds, N.W. and S.E. It is easy to account for the wind coming only from these two points, N.W. or S.E. by the configuration of the Strait, a channel of that direction, bounded by lofty hills on either side; but it is not so easy to establish the causes of the sudden change with regard to the winds which are blowing outside the Strait. It may, however, be partially accounted for, if we suppose the ordinary ocean wind (W.S.W.) to be represented by the

wind in the Strait until overcome by either of the winds prevalent on the near part of the East Coast, namely, the black north-easters, the south-easters, or the south winds; either of these produce a south-easter in the Strait, and when the west wind is very light on the west coast, the N.E. sea breeze of the east coast draws through the Strait, forming the fine S.E. wind. The varied height of the mountains, the snow-capped Kaikoras, the extensive and heated plains must concur to produce great effects on the currents of air. The N.W. winds prevails with fine weather, the S.E. with bad weather; both often blow very violently, and succeed each other suddenly. The appearance of the sky indicates the approach of the south-easter by banking up in that quarter, and by the neighbouring mountains becoming capped with clouds. There is also a fine S.E. wind. The finest months are April, August, November, and December. The most windy and rainy are May, June, and July.

Thunder and lightning are unusual.

The following information was obtained from Staff Surgeon Prendergast, who kept a register at Wellington:—

		inches.
Average fall of rain in	1852	- 49
“	“	1853 - 67
“	“	1854 - 39
		} 52 inches

Maximum amount of rain in one day, 2 inches

During the same period the barometer maximum, 30.67 }  
 (At the sea level) - - - - - " minimum, 28.81 } Range, 1.86 inches.

The following Tables were made from observations at Wellington, in 1854.

TEMPERATURE.

—	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Minimum . . .	56	61	56	42	34	32	32	32	37	40	42	42
Maximum . . .	83	73	77	62	56	54	55	64	70	74	78	70
Mean . . . . .	69½	67	66½	52	45	43	43½	48	55½	57	60	56

PRESSURE (AT SEA LEVEL).

—	Jan. in.	Feb. in.	Mar. in.	April. in.	May. in.	June. in.	July. in.	Aug. in.	Sept. in.	Oct. in.	Nov. in.	Dec. in.
Minimum . . .	29.32	29.52	29.40	29.39	28.70	28.72	29.20	29.22	29.15	29.07	29.03	29.16
Maximum . . .	29.99	29.99	30.10	30.45	30.61	30.15	30.07	30.33	30.05	30.02	30.33	30.04
Mean . . . . .	29.65	29.75	29.75	29.92	29.35	29.43	29.63	29.77	29.60	29.53	29.68	29.60

—	Average Temperature.	Average Pressure. in.	Fall of Rain. in.	Fair Days.	Rainy Days.	Frosty Nights.
1852 . . . . .	57.2	29.76	49.2	261	105	10
1853 . . . . .	58.4	29.87	67.4	226	139	—
1854 . . . . .	54.3	29.64	39.7	280	85	11

WINDS.

—	N.N.E. to N.N.W.	N.W.	S.W.	S.E.	Calm or Variable..	Gales,
1852 . . . . .	—	225	—	141	—	29
1854 . . . . .	—	221	—	144	—	15

There were fifteen shocks of earthquake in 1852, and twelve in 1854.

## NELSON.

The Meteorology of Nelson was observed during eleven years by the late Samuel Stephens, Esq., to whom Captain Drury was indebted for the following information on that subject.

The prevailing winds are:—

January.—N.N.E. to N.N.W. S.E. to N.E.	June.—S.E. to N.E. Calms.
February.—N.N.E. to N.N.W. S.W. and S.E. to N.E.	July.—S.E. to N.E. Calms.
March.—N.N.E. to N.N.W. Variable and calms.	August.—N.N.E. to N.N.W. S.E. to N.E.
April.—N.N.E. to N.N.W. S.E. to N.E.	September.—S.E. to N.E., and S.W.
May.—S.W. Calms and variable.	October.—N.N.E. to N.N.W. S.E. to N.E.
	November.—N.N.E. to N.N.W. S.W.
	December.—N.N.E. to N.N.W.

It appears that the N.W. of the Straits is represented by N.N.E. to N.N.W., and the S.E. by S.E. to N.E., and that Blind Bay is only partially affected by the gales in Cook Strait.

For the years 1852-3 we have this proportion:—

—	N.N.E. to N.N.W.	N.W. to W.	S.W.	S.E. to N.E.	Calm or Variable.	Gales.
1852 . . . . .	110	35	62	99	60	28
1853 . . . . .	107	34	45	96	83	21

The N.E. is the rainy quarter (southward of the Strait). It is the N.E. gale of these seas; and is but of short duration, veering to N.W. and S.W.

The common S.E. wind of the Strait seldom blows home to Nelson.

The ordinary sea breeze begins from the westward, working round to N.W., and drawing to N.E. at sunset. At Nelson the strongest gales are from S.W.

Rainy weather is generally indicated by vapoury clouds hanging on the hills. When strong gales occur without rain, they are often preceded by a red, wild, and lurid sky. These come mostly from the westward.

The maximum amount of rain was in May 16, 1853, when three and a half inches fell in eight hours, the barometer falling to 29.08; on common rainy days, about three quarters of an inch falls in twenty-four hours.

The average fall of rain in 1852-53-54, for each month, was as follows:—

January, 2.69; February, 2.78; March, 2.53; April, 2.45; May, 3.41; June, 3.37; July, 2.53; August, 3.24; September, 3.27; October, 5.51; November, 2.56; December, 3.44. September, October, and December being the most rainy months. Snow rarely falls on the low lands about Nelson, but the mountain ranges are covered for months. The barometer falls considerably previous to snow storms, which occur in the end of May and June.

Thunder clouds proceed from S.E. to N.W. Thunder occurred on forty-two days during three years, chiefly in January, September, and December. Fogs and misty weather are rare. Dews occur at all seasons. The temperature at Nelson was as low as 26° during three days in August, 1854; the wind being S.S.E. The highest range was 87° in February.

The greatest amount of pressure was 30.50 in April; wind S.E. to S.W. The lowest, 28.74, on May 17, 1853, with much thunder and lightning.

The following Tables are from observations in 1852-53-54.

TEMPERATURE.												
—	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Minimum . .	42.33	45.33	38.66	33.00	32.66	29.33	28.66	28.83	32.00	35.66	—	—
Maximum . .	77.33	82.66	78.66	71.50	69.00	55.66	59.33	59.17	65.66	68.66	—	—
Mean . . . .	63.01	62.71	60.01	54.40	49.50	44.74	43.05	44.24	46.39	49.95	—	—

  

PRESSURE.												
—	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Minimum . .	29.24	29.32	29.34	22.42	28.96	29.20	29.25	22.20	29.07	29.19	—	—
Maximum . .	30.04	30.12	30.25	30.41	30.30	30.27	30.32	30.25	30.16	30.20	—	—
Mean . . . .	29.75	29.80	29.89	29.99	29.75	29.83	29.87	29.73	29.69	29.77	—	—



—	Mean Average Temperature Day and Night	Average Pressure.	Fall of Rain. Inches.	Fair Days.	Rainy Days.	Frosty Nights.
1852 . . . . .	53·7	29·82	35·7	247	119	14
1853 . . . . .	50·8	29·78	45·1	242	123	40
WINDS.						
—	N.N.E. to N.N.W.	N.W. to W.	S.W.	S.E. to N.E.	Calms.	Gales.
1852 . . . . .	110	35	62	99	60	28
1853 . . . . .	107	34	45	96	83	21

## PHENOMENA.

—	Thunder or Lightning Days.	Earthquakes.	Solar Halo.	Lunar Halo.	Meteora.	Snow on the Low Hills. Days.
1852 - - -	15	3	0	4	0	5
1853 - - -	18	12	0	0	0	2

N.B.—These observations were made in the town of Nelson, 120 feet above the sea level.

## EAST COAST OF THE MIDDLE ISLAND.

*Cape Campbell to Cape Saunders.*

About Lyttelton nearly central in this district, we find the summer sea breezes blow from the N.E. with hazy weather, occasionally changing to N.W. for two or three days. The summer sea breeze dies away at sunset, and is succeeded by a light S.W., springing up about midnight, which lasts until 9 a.m.

In winter the prevailing winds are S.E. at sea, but at Lyttelton and Canterbury the wind is S.W., while at sea it is S.E. In spring and autumn the winds are variable from N.E., for two or three days, with very fine weather; then light winds for a day, shifting to N.W., blowing a gale from twelve to forty-eight hours; then a sudden shift to S.W., strong wind and rain for three days, when it comes round again to N.E. along shore.

Fortunately it seldom blows strong from east, but even light winds from that quarter produce a heavy swell in Port Cooper. This wind is accompanied by fog and misty rain.

The violent S.W. wind in this harbour off the land is accompanied with more danger to shipping than any wind that has blown in. In December we experienced a south-easter between Canterbury and Otago. It fell calm for an hour, when the S.S.E. wind came up suddenly and with little warning; it veered to S.S.W. This S.W. wind corresponds to the south-eastern of Cook Strait.

It is very necessary to be aware of the prognostics of the sudden changes along this coast, especially the north wester, which comes on at once to blow furiously. The most unmistakeable sign is a remarkable transparency of the atmosphere, which is very clear indeed.

The N.W. wind of this district resembles the sirocco of the Mediterranean; it comes on suddenly, and changes the temperature in a few minutes from 12 to 20 degrees. This change in the temperature perhaps arises from the rapid melting of snow in crossing the Southern Alps, or from crossing heated plains.

The S.W. wind is preceded by heavy, hard-edged, dark cumuli in that quarter. At sea this is probably S.S.E.

Again, the mountains are clouded in a south-easter, and partially in a south-wester:—while all distant objects, including the Kaikoras, are distinct, with a fine blue tint, on the approach of the N.W. wind. The finest months are December, January, February, and March. Rains and gales are chiefly in June, July, and August. The rainy quarter is N.W. to S.W. The hot north-wester in summer frequently terminates in wet. There is also a wet and a dry south-wester. In autumn or winter the barometer rises very high, with light east winds, producing fogs and much rain, lasting ten or fourteen days.

The barometer is very variable on this coast; its fluctuations amount almost to a puzzle on shore. It is supposed the lofty mountains must have some share in producing local pressure, as the mercury is frequently moving, though no apparent atmospheric disturbance takes place.\* The following remarks are specially applicable at sea. In winter the mercury falls previously to a S.S.E. or a S.W. gale, but immediately before commencing it rises, and when at its greatest height the gale blows strongest. In winter such a gale brings continuous rain for three days: but in spring and autumn severe squalls, with rain, hail, and sleet, the glass remaining high, and it is succeeded by N.E. wind and fine weather. The mercury falls before a N.W. gale, especially if followed by a wet S.W. wind: the change is often immediate. It is very low when snow falls, although without wind.

At Lyttelton the barometer has been very low for many days without any change: it has been at its highest with very bad weather, and soon after at its lowest with very fine weather. It appears that the cyclone north-easter does not occur above four times a year, then the rain from this quarter is heavy. The greatest fall of rain yet known in twenty-four hours was 2.14 inches in April 1853.

The uncertainty of the weather is shown to be remarkable by the following example. The rain that fell in,—

April 1852	3.09 inches.
April 1853	9.40 "
April 1854	1.08 "

April is considered a fine dry month, but in 1853 more rain fell than in any other month. Snow rarely falls on the plains, but it has fallen in May, July, August, and September. In August 1851 there was a heavy fall of two inches deep, that lay all day. Thunder and lightning are rare. Their clouds proceed from N.W. or S.W., with dense cumulo-stratus. This occurs in spring and autumn.

The temperature at Christchurch has been as low as 27° (June 10, 1852); the highest was 91° in the shade on February 1, 1854, at 3 p.m.

The greatest amount of pressure was 30.64, August 14, 1854.  
The least pressure - - - - 28.85, May 17, 1853.

The following Tables are from observations in 1852, 1853, and 1854, at Christchurch:—

TEMPERATURE.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Minimum . .	52	52	52	45	37	32	31	33	39	44	46	51
Maximum . .	89	87	88	79	69	61	61	61	67	76	77	82
Mean . . . .	70½	69½	67½	62	58	46½	46	47	53	60	61½	66½

PRESSURE.

	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Minimum . .	29.15	29.26	29.27	29.50	29.02	29.11	29.07	29.19	29.14	29.26	29.25	29.15
Maximum . .	30.18	30.09	30.31	30.50	30.33	30.43	30.42	30.50	30.21	30.26	30.27	30.14
Mean . . . .	29.66	29.67	29.79	30.60	29.67	29.77	29.74	29.84	29.67	29.76	29.76	29.64

The above observations were registered only between 9 a.m. and 4 p.m., 20 feet above sea level.

	Average Temperature.	Average Pressure.	Rain.	Fair.	Rainy Days.	Frosty Nights
1852 . . . . .	59	29.76	27.53	304	62	15
1853 . . . . .	58	29.72	41.34	295	70	22
1854 . . . . .	59	29.76	26.40	313	52	19

\* Similar effects have been noticed near Tierra del Fuego.

WINDS.						
—	N.N.E. to N.N.W.	N.W. to W.	S.W.	S.E. to N.E.	Calm or Variable.	—
1852 . . . . .	4	20	112	119	110	—
1853 . . . . .	6	21	115	120	103	—
1854 . . . . .	5	27	99	151	83	—

On only two or three days in each of the years 1852, 1853, and 1854, was any thunder heard.

It has been a matter of surprise and speculation that the hot N.W. winds proceeding directly from the snow should produce considerable heat, instead of (as would appear natural) an opposite sensation; nor can it be accounted for by the air traversing the plains, as the heat is found fully as sensible, and perhaps more so, at the foot of the snowy range.

We may, perhaps, account for it thus:—We find this hot N.W. wind is preceded by cloudless serenity; therefore a great deal of radiation is taking place. The melting surface of the snow covering the heights releases latent heat, causing the atmosphere to become highly rarefied, which consequently rises, but, meeting an upper current, becomes cool and condensed, and rushes towards the coast, carrying at first a portion of the lower strata of caloric, the immediate sensible precursor of the gale. In a few hours the equilibrium is restored, and condensed moisture falls in rain, which is frequently the termination of the gale.\*

At Akaroa this gale is seldom felt, being sheltered by the Peninsular mountains. In this place the sea breeze follows the bends of the harbour. S.W.† gales follow N.W. winds, and blow very hard. The land wind has more than ordinary strength in passing Akaroa Heads in the morning.

At Otago no register appears to have been kept previous to 1854.

Our information regarding the weather there is gathered from an intelligent pilot, who resided sixteen years near the Heads.

North winds are rare. The ordinary sea breeze is N.E. It seldom blows from east.

S.E. winds are accompanied by thick, hazy weather, but seldom blow home.

South winds do not blow strongly, unless they veer to S.S.W. and S.W.

The winds off the land are the strongest, and W.N.W. winds blow the hardest, the latter being at times a hot wind. The squalls from this quarter are heavy.

The heaviest gales are in November, often with large hailstones.

The dirtiest weather is in June and July. January is the hottest, and July the coldest month. Snow falls and lies on the ground for two or three days in June, July, and August. S. to S.E. is the rainy quarter.

The pilot considered that there are about thirty days in the year when it would not be prudent to cross the bar because of the swell, which is worse in attempting to leave. He states that 1853 was a peculiarly dry season. It is curious that in that year there should have fallen at Canterbury nearly double the annual average amount of rain, and that in all other parts of New Zealand it was remarkably dry.

The affects on the barometer may be generally assumed as similar to those of Canterbury, allowing for  $2\frac{1}{2}^{\circ}$  higher latitude: At Otago there is much more fog.

#### *Cape Saunders to Foveaux Strait, and to the West Coast of Middle Island.*

There is less information of the weather in this district. In summer season the N.E. winds and Otago weather extend to the Traps; but after passing the meridian of Stewart Island, a very different climate may be met with. We found on two occasions that on approaching the west coast, N.N.W. gales blew down the west coast, with thick foggy weather.

It is said that in summer easterly winds blow occasionally for six weeks at a time. It is, therefore, as well for vessels bound eastward at that season to pass considerably south of this latitude, unless it is wished to make a landfall.

We may allow the district between Hawke's Bay and the East Cape the superiority of Climate; although that of Nelson is more bracing.

The bay of Islands claims an exception from the ordinary humidity of the northern district.

Auckland is subject to more moisture, although no more rain falls than is necessary for the prolific vegetation, which its excellent soil and delightful temperature produce.

The summer during two years, 1853 and 1854, was even too dry, threatening a drought.

\* Perhaps this hot wind is a tail of an Australian "brickfielder." Compare relative positions on the map; and consider the direction from which this remarkable wind blows. It is not felt far north or south of this particular section of New Zealand.—R. F.

† S.E. outside, and in Cook Strait.

Having concluded this statement of the Meteorology of New Zealand, as far as we have been able to collect facts from imperfect observations, and our own knowledge of the coast, we may remark that the climate is in general peculiarly adapted to colonists of our race. That the navigator will experience frequent changes, but is well warned by certain prognostics with the assistance of his barometer. That all gales are of short duration. And that the temperature throughout the year is so equable, especially in the northern portion, that it is difficult to define the limits of summer and winter.

BYRON DRURY, Commander, R.N.,  
Commanding H.M. Surveying Vessel "Pandora,"  
employed several years in New Zealand.