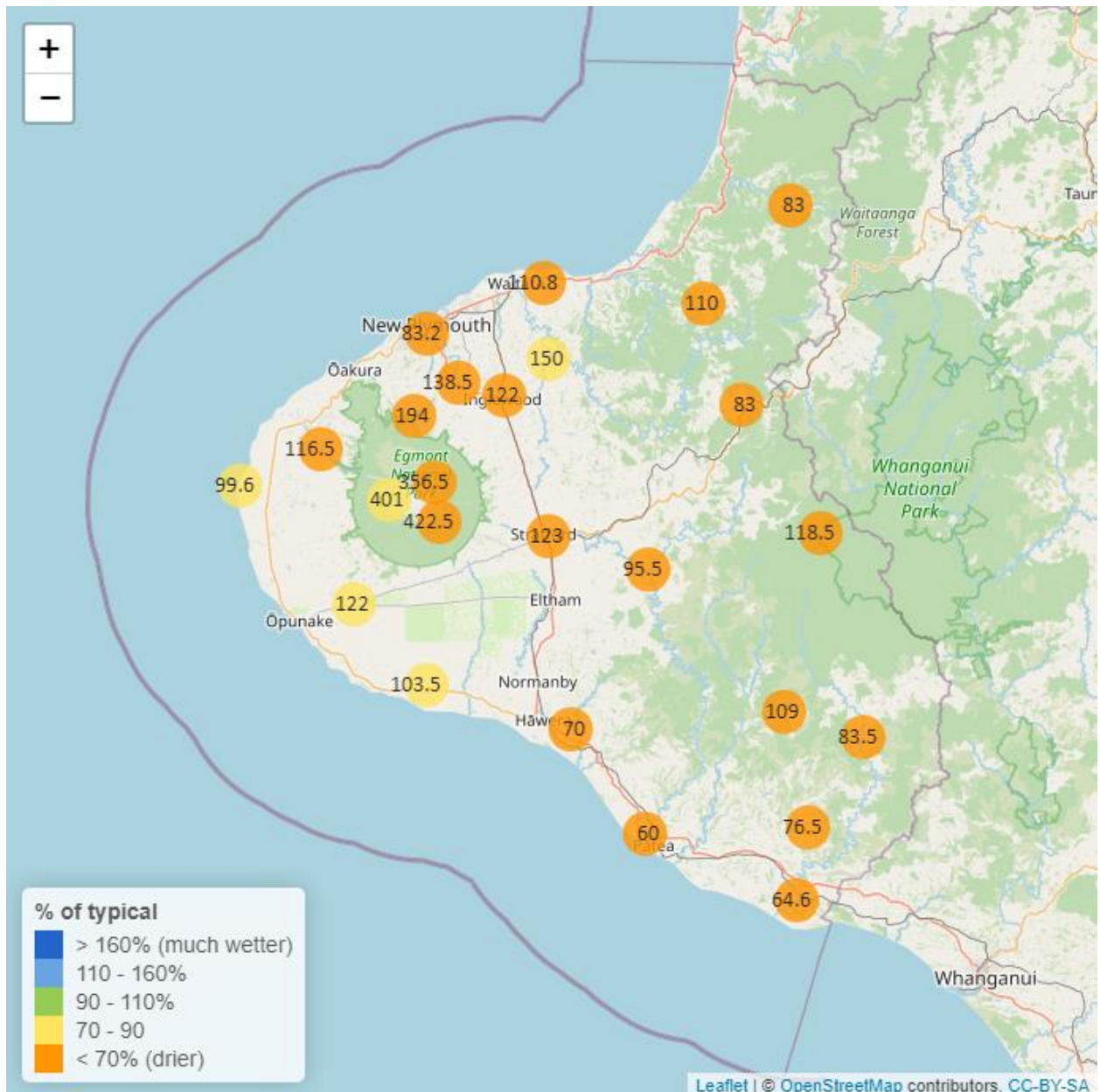


Taranaki Regional Council Monthly Rainfall and Environmental Data Report for May 2024

Note: The data presented here are provisional data only and may change as a result of quality control at a later date.

1. Rainfall

Map 1: May total rainfall (mm) and percentage of long-term mean (colour key).



Map 1a. Total rainfall 1 January to end May (mm) and percentage of long-term mean (colour key).

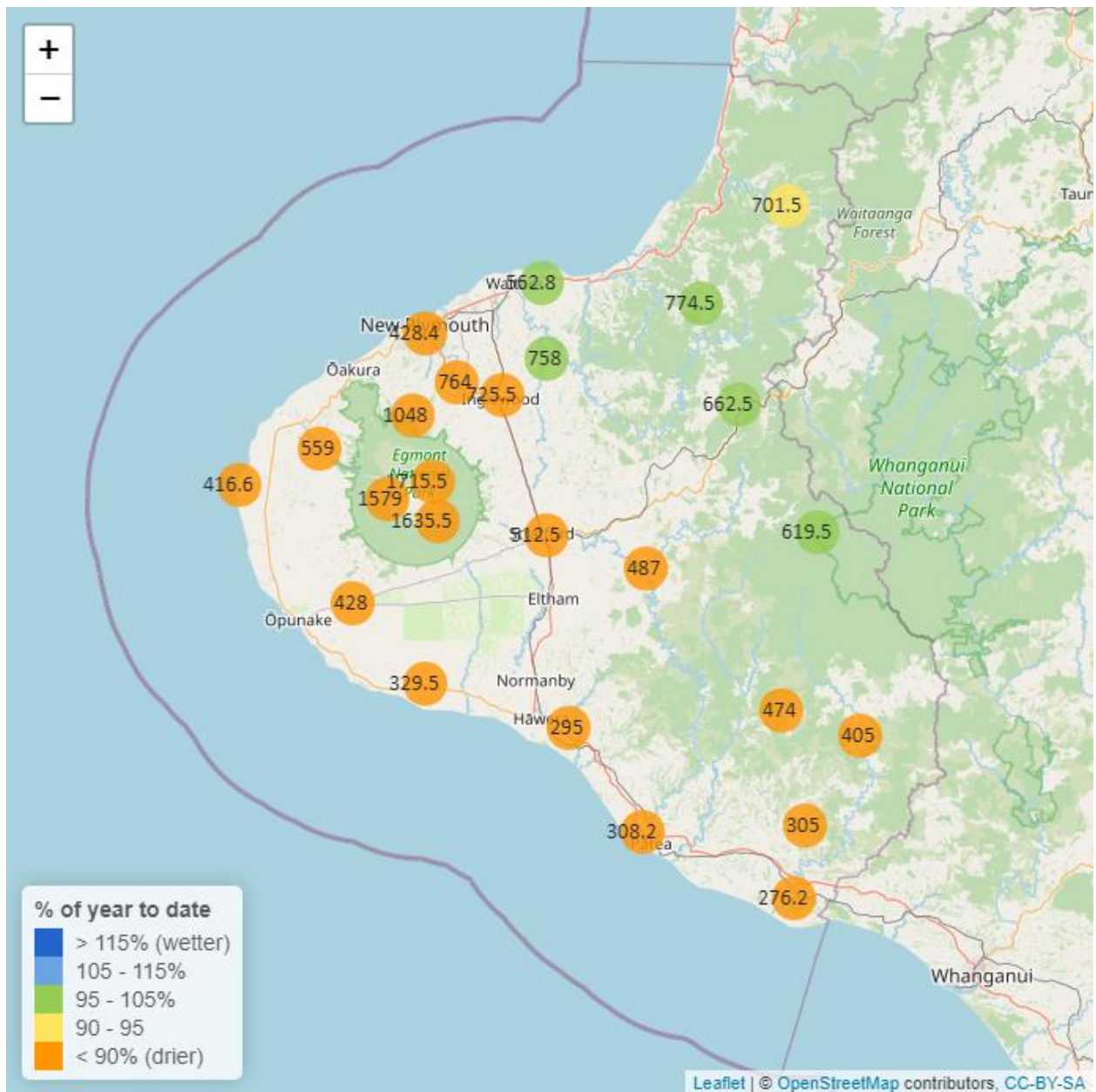


Table 1: Rainfall May and year-to-date totals for rain gauge sites in Taranaki.

	May			Year to Date			
Rain gauge	# days with rain	Total rain (mm)	% of typical month	Total to date (mm)	% of typical year to date	% of typical full year	Records Began
North Egmont at Visitors Centre	21	356.5	52.5	1715.5	71.7	24.7	1991
Dawson Falls	21	422.5	67.2	1635.5	76.2	27.5	1933
Kapoaiaia at Kahui Hut	24	401.0	76.4	1579.0	87.3	30.0	2006
Mangorei Upper at Forest Hill	19	194.0	45.1	1048.0	77.9	27.9	2018
Waiwhakaiho at Hillsborough	15	87.5	44.2	544.0	76.9	29.7	2013
Brooklands Zoo at New Plymouth	21	83.2	46.4	428.4	67.7	26.5	2012
Motunui M39 at Weston W3	15	110.8	68.0	562.8	96.7	35.8	1999
Waiwhakaiho at Egmont Village	17	138.5	60.0	764.0	87.5	31.5	1991
Manganui at Everett Park	14	150.0	74.9	758.0	100.5	36.5	1987
Inglewood at Oxidation Ponds	13	122.0	52.1	725.5	87.5	30.8	2000
Stony at Mangatete Bridge	19	116.5	55.8	559.0	74.6	27.9	2004
Kapoaiaia at Lighthouse	17	99.6	74.8	416.6	78.1	29.9	1930
Taungatara at Eltham Rd	19	122.0	71.1	428.0	74.5	27.1	2005
Kaupokonui at Glenn Rd	20	103.5	88.5	329.5	77.2	28.2	1998
Patea at Stratford	17	123.0	55.3	512.5	70.5	25.8	1999
Mangaehu at Bridge	21	95.5	59.3	487.0	83.2	30.6	1999
Kotare at OSullivans	17	83.0	38.5	701.5	94.0	32.5	1998
Uruti at Kaka Rd	10	110.0	53.8	774.5	98.4	34.7	1991
Pohokura Saddle	14	83.0	45.2	662.5	95.5	33.3	1991
Omaru at Charlies	21	118.5	68.1	619.5	96.7	33.9	2006
Omahine at Moana Trig	23	109.0	62.4	474.0	75.9	28.0	2007

	May			Year to Date			
Rain gauge	# days with rain	Total rain (mm)	% of typical month	Total to date (mm)	% of typical year to date	% of typical full year	Records Began
Waitotara at Rimunui Station	17	83.5	62.5	405.0	83.1	29.4	1994
Waitotara at Ngutuwera	18	76.5	62.3	305.0	65.1	23.7	1999
Tawhiti at Duffys	19	70.0	65.9	295.0	72.0	26.6	1994
Patea at Bore 3	18	60.0	49.5	308.2	69.3	26.1	2006
Waitotara at Hawken Rd	14	64.6	49.1	276.2	56.6	23.2	2016

1.2 Long-term data patterns

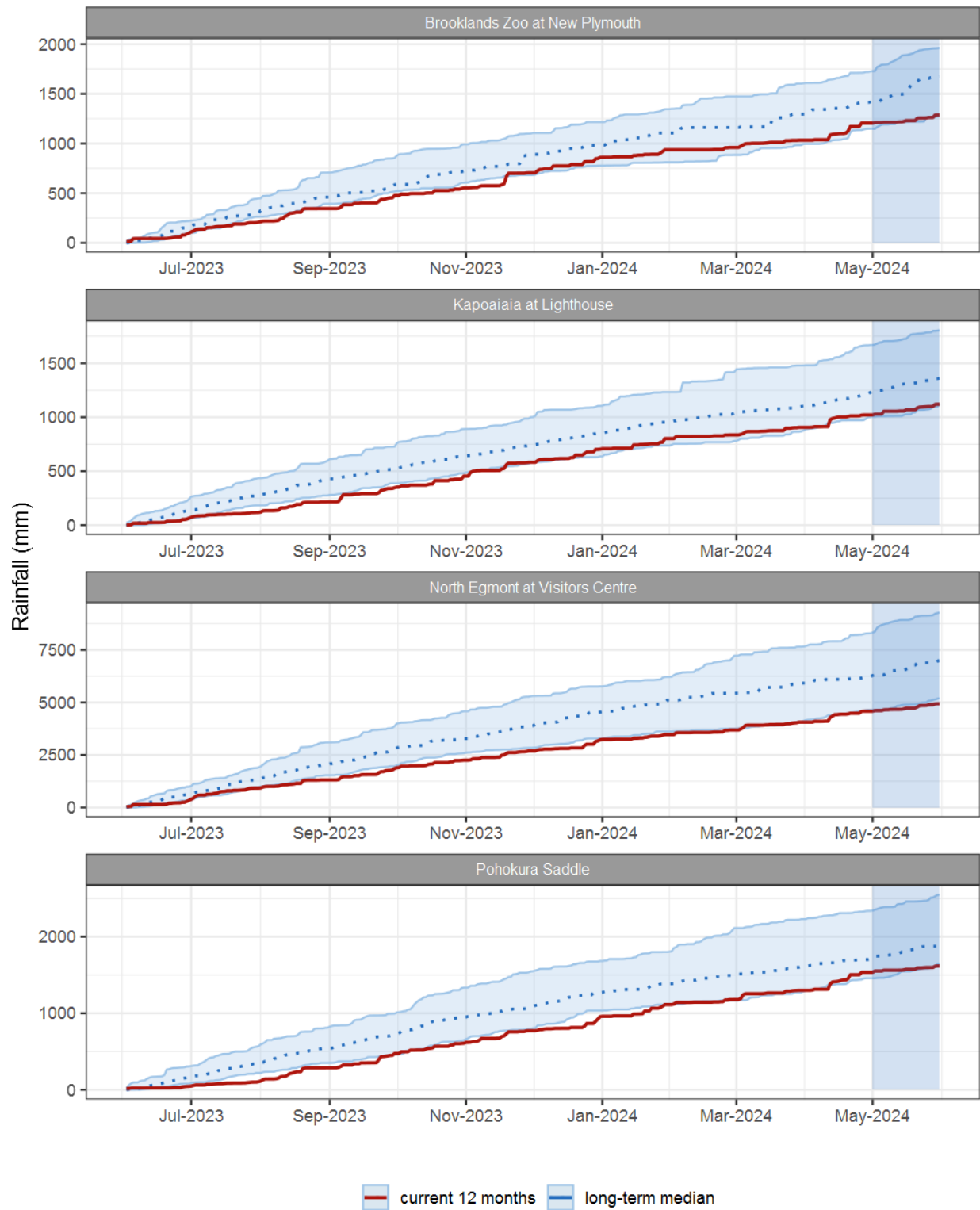


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki.

1.3 Monthly Bar Charts

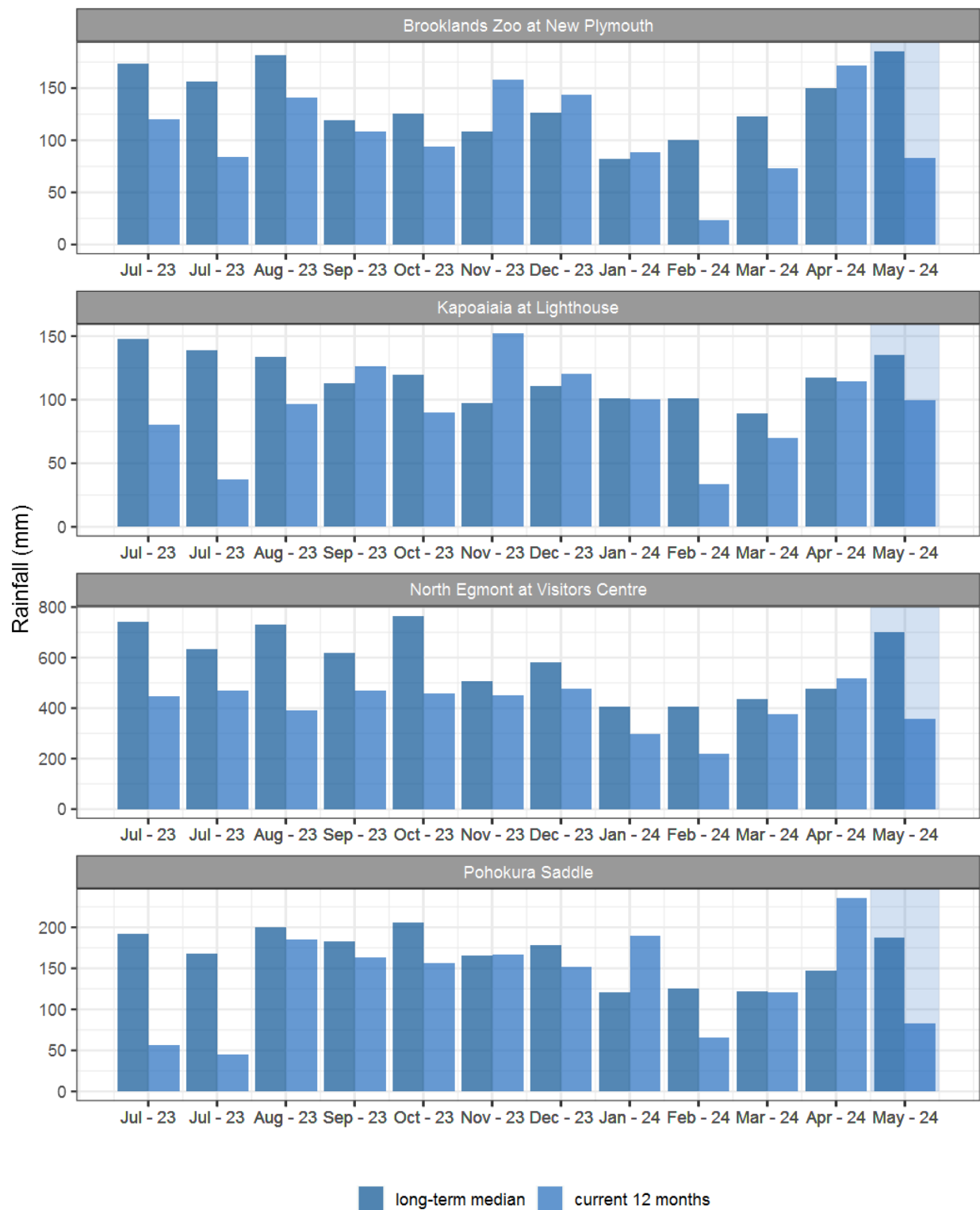


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months.

2. River Flow

Map 2: May mean river flows (m³/sec), with difference as percentage of long-term mean.

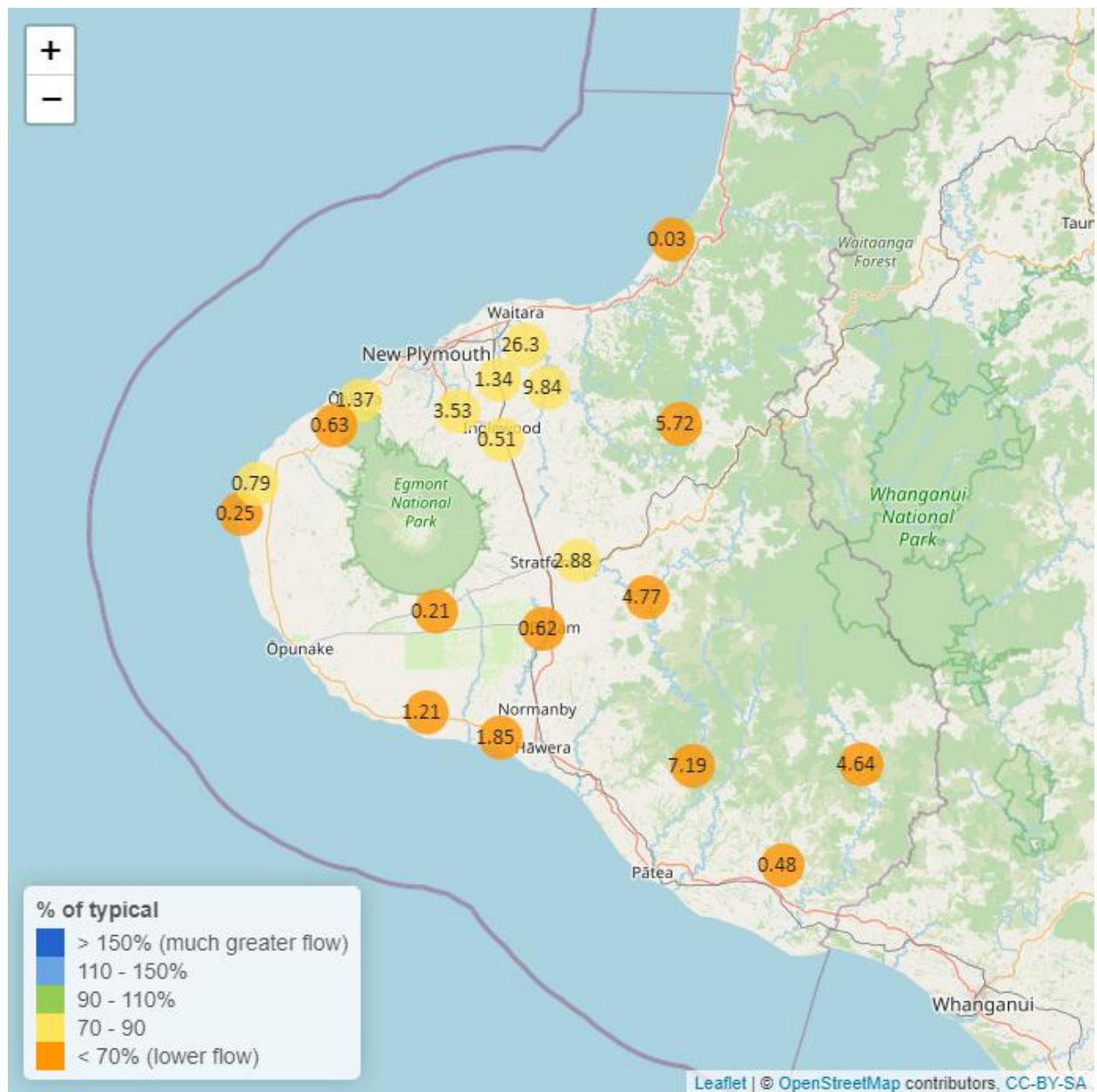


Table 2: Summary of high, low and mean flow for May and for May in all preceding years of record.

May 2024 - Recorded flows (m3/sec)								
	Highs		Lows		Mean			
River and Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Kapoaiaia at Lighthouse	1.66	3.95	0.19	0.32	0.25	0.76	9.80	37
Kaupokonui at Glenn Rd	1.33	8.72	1.10	0.88	1.21	2.02	1.34	46
Mangaehu at Bridge	15.19	46.66	3.15	2.85	4.77	7.51	25.15	46
Manganui at Everett Park	22.74	73.36	6.99	4.14	9.84	11.32	164.60	31
Mangawheroiti Above Intake W.W	0.75	1.31	0.19	0.14	0.21	0.34	2.25	11
Moumahaki at Johnston Rd	3.01	9.02	0.33	0.48	0.48	1.16	5.33	6
Ngatoro at SH3	1.13	4.23	0.41	0.32	0.51	0.67	5.40	34
Oakura at Victoria Rd	3.36	16.98	0.88	0.54	1.37	1.85	9.44	5
Patea at McColls Bridge	41.66	73.97	3.39	2.61	7.19	24.15	60.82	33
Patea at Skinner Rd	6.01	17.18	1.90	1.23	2.88	3.82	9.30	46
Timaru at Tataraimaka	1.36	8.78	0.44	0.40	0.63	1.33	4.89	11
Waikaramarama at Bridge	0.14	0.78	0.02	0.01	0.03	0.06	0.62	6
Waingongoro at Eltham Rd	2.92	9.00	0.43	0.54	0.62	1.95	8.61	49
Waingongoro at SH45	5.64	20.12	1.54	1.70	1.85	4.90	10.92	43
Waiongana at SH3a	2.82	8.82	0.92	0.56	1.34	1.80	17.78	44
Waitara at Bertrand Rd	52.33	213.48	15.64	9.61	26.30	35.09	209.18	44
Waitara at Purangi Bridge	19.13	107.13	2.52	1.20	5.72	9.25	26.95	25
Waitotara at Rimunui Station	15.99	57.48	2.96	3.49	4.64	9.18	36.23	19
Waiwhakaiho at Egmont Village	7.76	25.45	2.69	2.21	3.53	4.27	21.80	44
Warea at Coast	2.59	4.96	0.51	0.38	0.79	0.92	6.78	7

2.2 Long-term data patterns

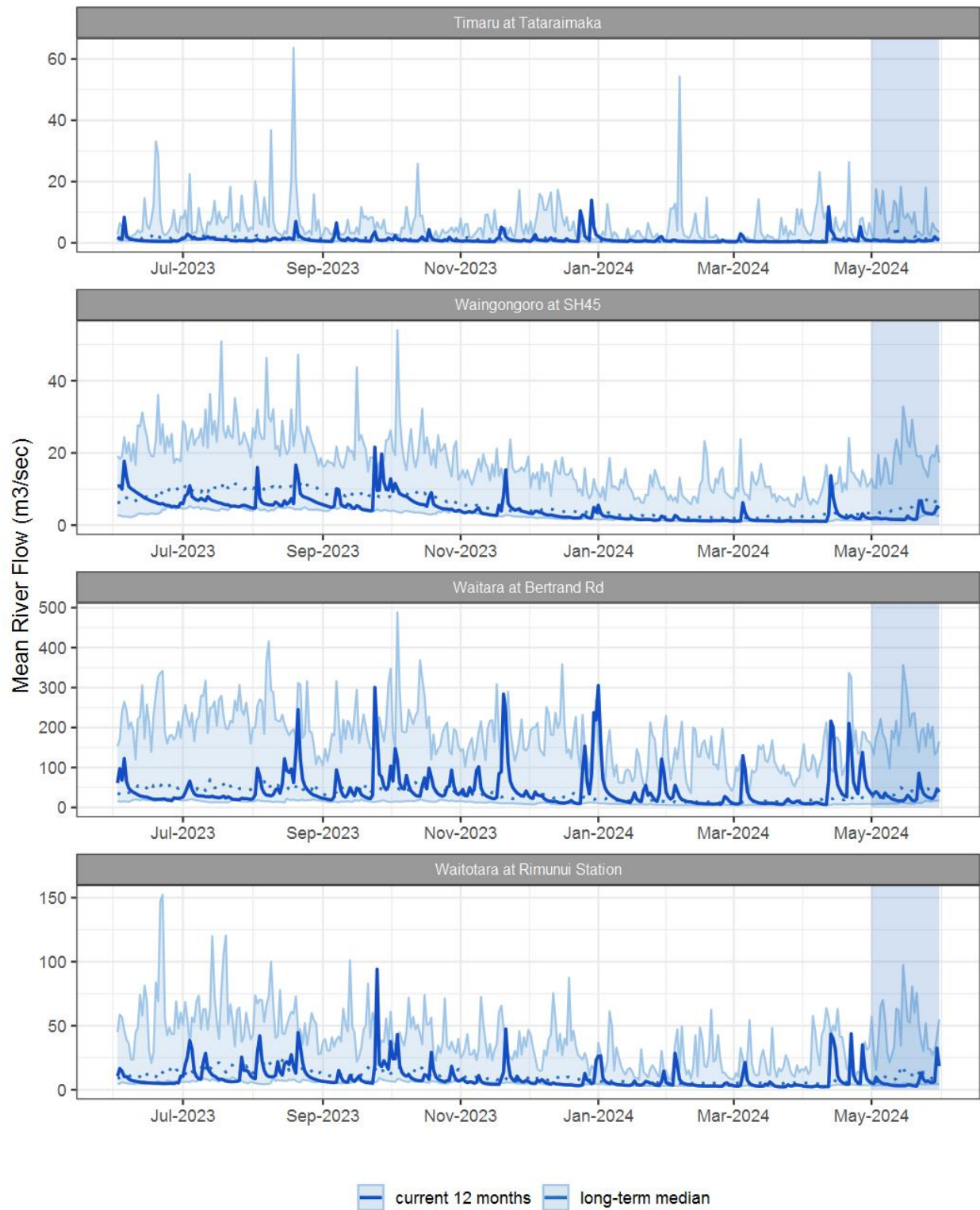


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

2.3 Monthly Bar Charts

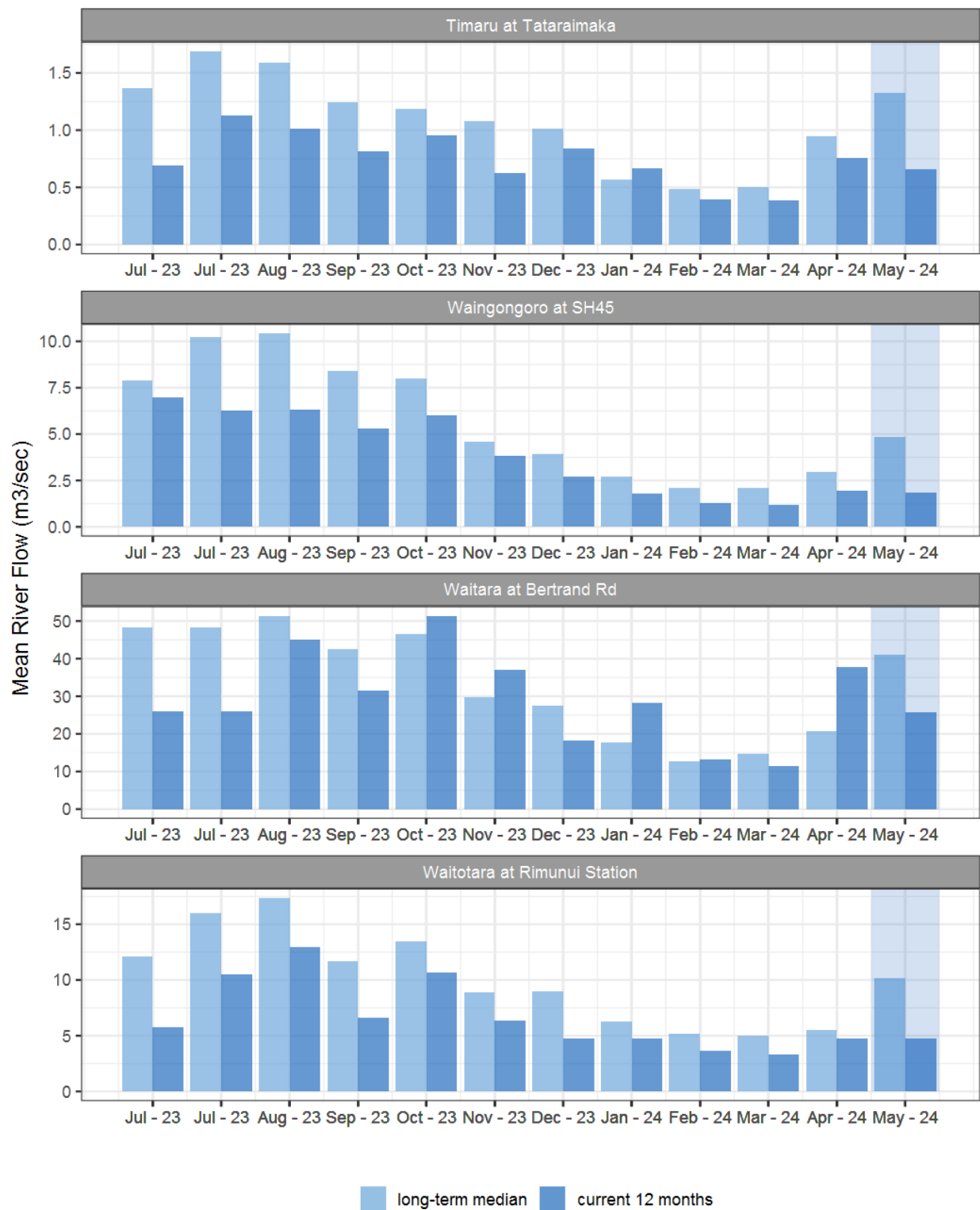


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

3. River Temperature

Map 3: May mean water temperature with difference to long-term mean (°C).

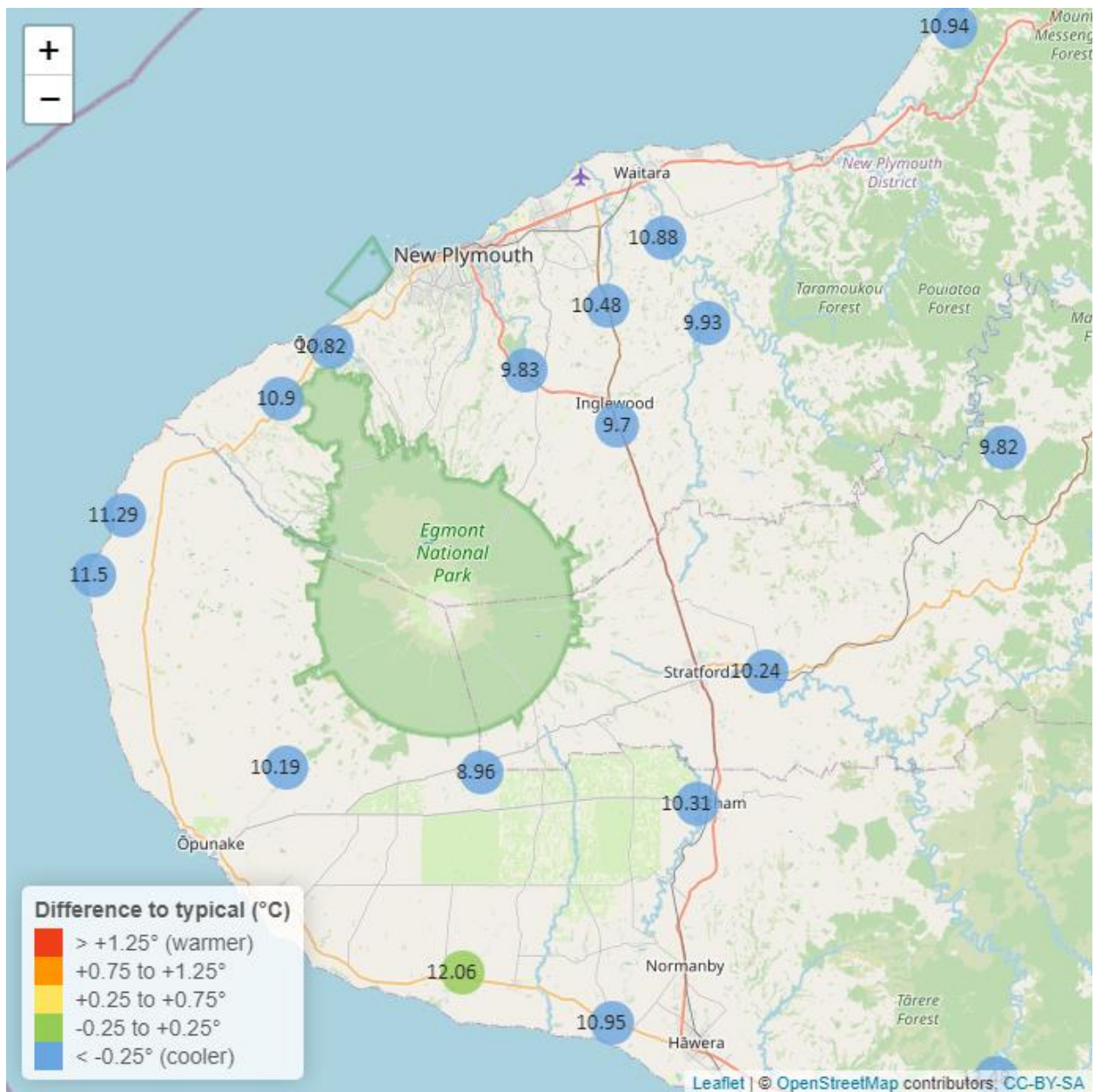


Table 3: Summary of high, low and mean river temperature for May and for May in all preceding years of record.

May 2024 - River Temperature (°C)								
	Highs		Lows		Mean			
River and Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Kapoaiaia at Lighthouse	13.39	15.76	8.93	9.23	11.50	12.77	14.21	24
Kaupokonui at Glenn Rd	14.19	14.96	10.83	8.74	12.06	11.87	14.25	32
Manganui at Everett Park	11.41	14.68	7.87	9.00	9.93	11.87	12.07	14
Mangawheroiti Above Intake W.W	10.05	12.26	6.96	7.48	8.96	9.89	10.52	11
Matau at Woolshed	11.36	14.07	7.44	8.28	9.82	11.50	11.78	6
Ngatoro at SH3	11.24	13.68	7.70	7.90	9.70	10.81	12.12	22
Oakura at Victoria Rd	12.29	14.80	8.56	9.67	10.82	12.36	13.03	5
Patea at McColls Bridge	14.55	16.48	11.76	12.37	12.48	14.25	15.07	8
Patea at Skinner Rd	11.57	14.02	8.08	8.71	10.24	11.59	12.32	20
Timaru at Tataraimaka	12.41	14.70	8.42	9.39	10.90	12.36	12.94	10
Waiaua 2 at Barraclough Opua	12.50	14.47	7.75	8.01	10.19	11.24	14.08	5
Waikaramarama at Bridge	12.24	15.39	8.17	9.72	10.94	12.75	12.61	6
Waingongoro at Eltham Rd	11.67	13.70	8.08	8.48	10.31	11.35	12.29	19
Waingongoro at SH45	12.47	14.99	8.65	9.01	10.95	12.11	13.03	19
Waiongana at SH3a	12.09	15.08	8.48	9.35	10.48	12.46	12.82	13
Waitara at Bertrand Rd	12.14	14.73	9.20	9.60	10.88	12.13	12.48	37
Waiwhakaiho at Egmont Village	11.28	13.57	7.76	8.08	9.83	10.90	12.02	32
Warea at Coast	13.32	16.20	8.52	10.30	11.29	13.23	14.55	4

3.2 Long-term data patterns

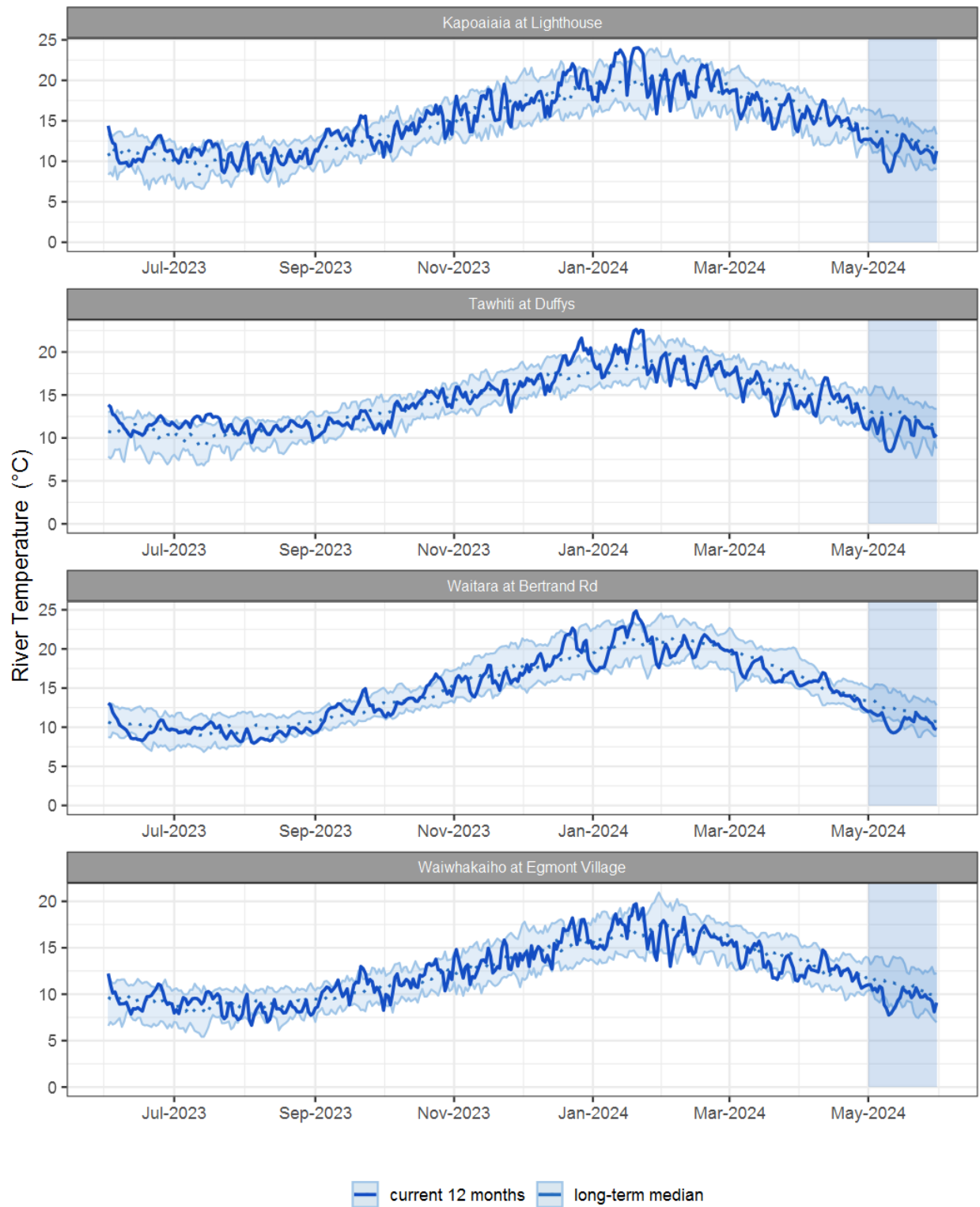


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

3.3 Monthly Bar Charts

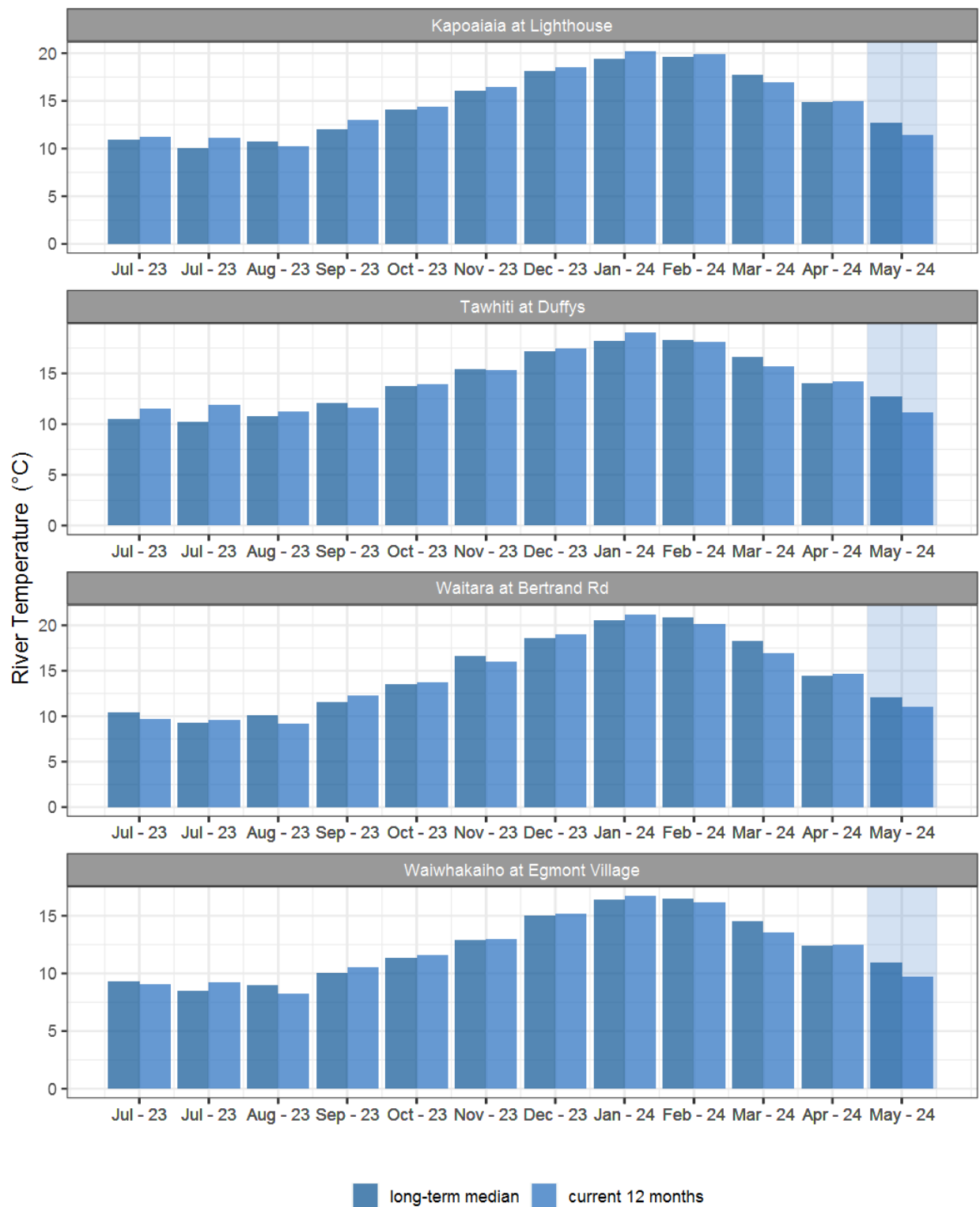


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

4. Air Temperature

Map 4: May mean air temperature with difference to long-term mean (°C).

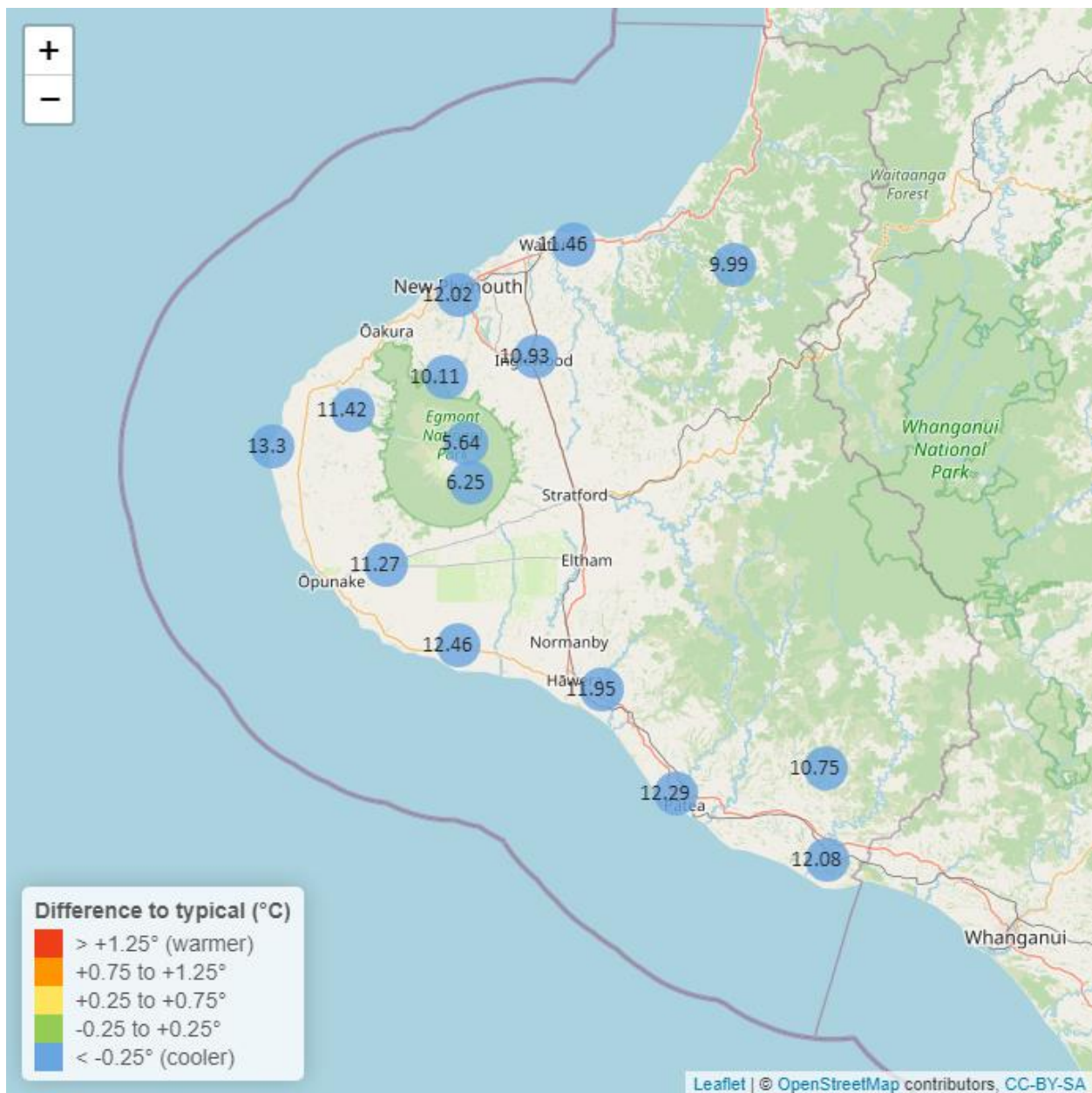


Table 4: Summary of high, low and mean air temperature for May and for May in all preceding years of record.

May 2024 - Air Temperature (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Brooklands Zoo at New Plymouth	17.27	18.75	7.45	7.09	12.02	13.69	19.89	12
Dawson Falls	10.55	13.42	2.66	2.96	6.25	8.18	14.03	8
Inglewood at Oxidation Ponds	15.86	17.35	5.16	4.60	10.93	11.93	19.54	12
Kapoaiaia at Lighthouse	16.10	18.22	7.51	8.12	13.30	14.78	17.76	12
Kaupokonui at Glenn Rd	16.27	18.61	5.65	6.26	12.46	13.68	18.22	9
Mangorei Upper at Forest Hill	13.65	15.69	6.36	6.00	10.11	11.48	15.54	7
Motunui M39 at Weston W3	15.99	17.90	6.37	6.66	11.46	13.40	17.46	7
North Egmont at Visitors Centre	10.97	12.99	2.34	2.56	5.64	8.05	17.72	9
Patea at Bore 3	15.57	18.48	6.33	6.86	12.29	13.60	18.22	11
Stony at Mangatete Bridge	15.39	17.82	7.74	7.66	11.42	13.50	17.84	8
Taungatara at Eltham Rd	15.09	17.76	5.72	6.60	11.27	13.02	18.47	9
Tawhiti at Duffys	16.00	18.25	1.04	3.04	11.95	13.08	18.12	11
Uruti at Kaka Rd	14.42	16.43	5.89	6.00	9.99	11.97	16.60	6
Waitotara at Hawken Rd	16.48	18.80	5.74	6.52	12.08	13.57	18.87	8
Weraweraonga at 749 Mangawhio Rd	16.20	18.57	3.29	4.00	10.75	12.17	19.43	7

4.2 Long-term data patterns



Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

4.3 Monthly Bar Charts



Figure 4.2: Monthly mean air temperature for May and the mean of all previously recorded months.

5. Soil Moisture

Map 5: May mean soil moisture content (%).

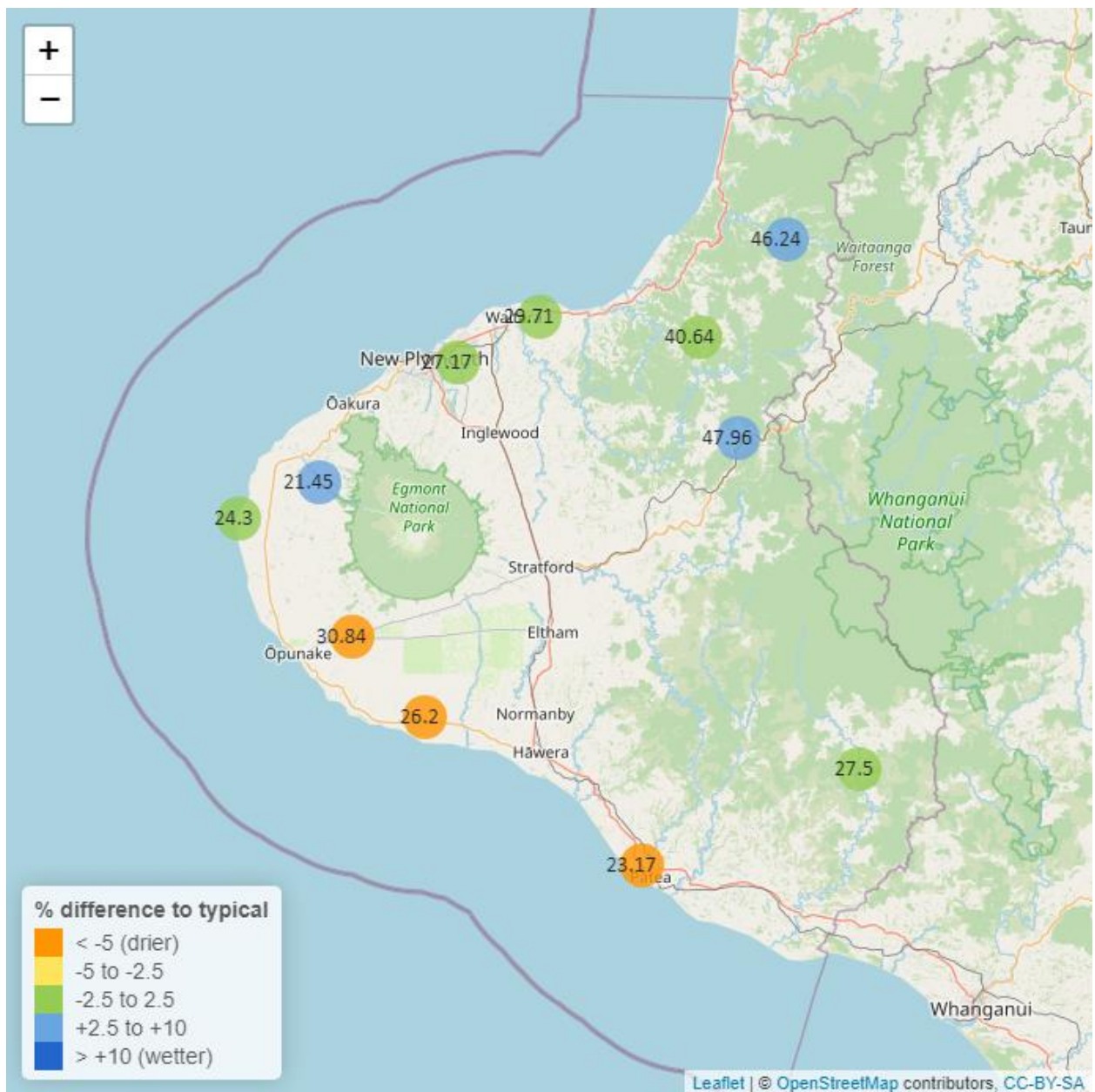


Table 5: Summary of high, low and mean soil moisture for May and for May in all preceding years of record.

May 2024 - Soil Moisture (%)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Kapoaiaia at Lighthouse	25.03	31.72	23.45	19.55	24.30	26.02	25.18	12
Kaupokonui at Glenn Rd	31.60	41.75	23.43	19.10	26.20	33.00	32.06	13
Kotare at OSullivans	48.78	49.29	44.01	32.09	46.24	39.80	50.28	12
Motunui M39 at Weston W3	30.67	31.66	28.95	17.33	29.71	29.03	31.08	11
Patea at Bore 3	25.64	33.15	22.31	24.21	23.17	28.54	25.88	7
Pohokura Saddle	51.56	52.02	45.60	31.21	47.96	42.92	53.01	10
Stony at Mangatete Bridge	25.16	24.31	18.53	9.40	21.45	17.98	31.91	8
Taungatara at Eltham Rd	34.41	43.39	29.10	25.95	30.84	37.74	38.85	10
Uruti at Kaka Rd	41.64	44.60	39.35	35.19	40.64	40.52	41.97	13
Waitotara at Rimunui Station	30.48	31.45	26.59	24.31	27.50	27.82	33.34	7
Waiwhakaiho at Hillsborough	28.71	31.54	26.64	22.61	27.17	26.90	29.25	12

5.2 Long-term data patterns

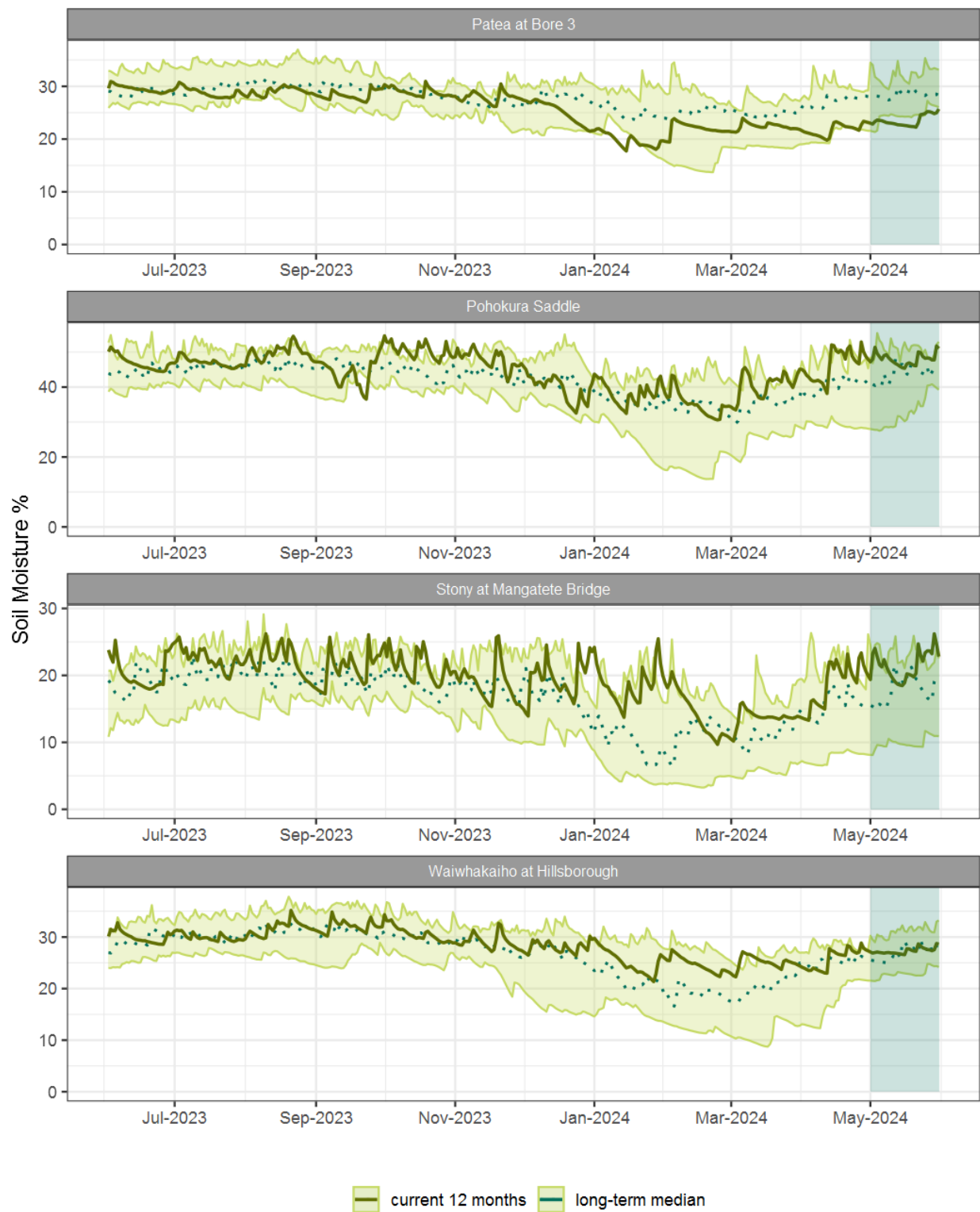


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.

5.3 Monthly Bar Charts

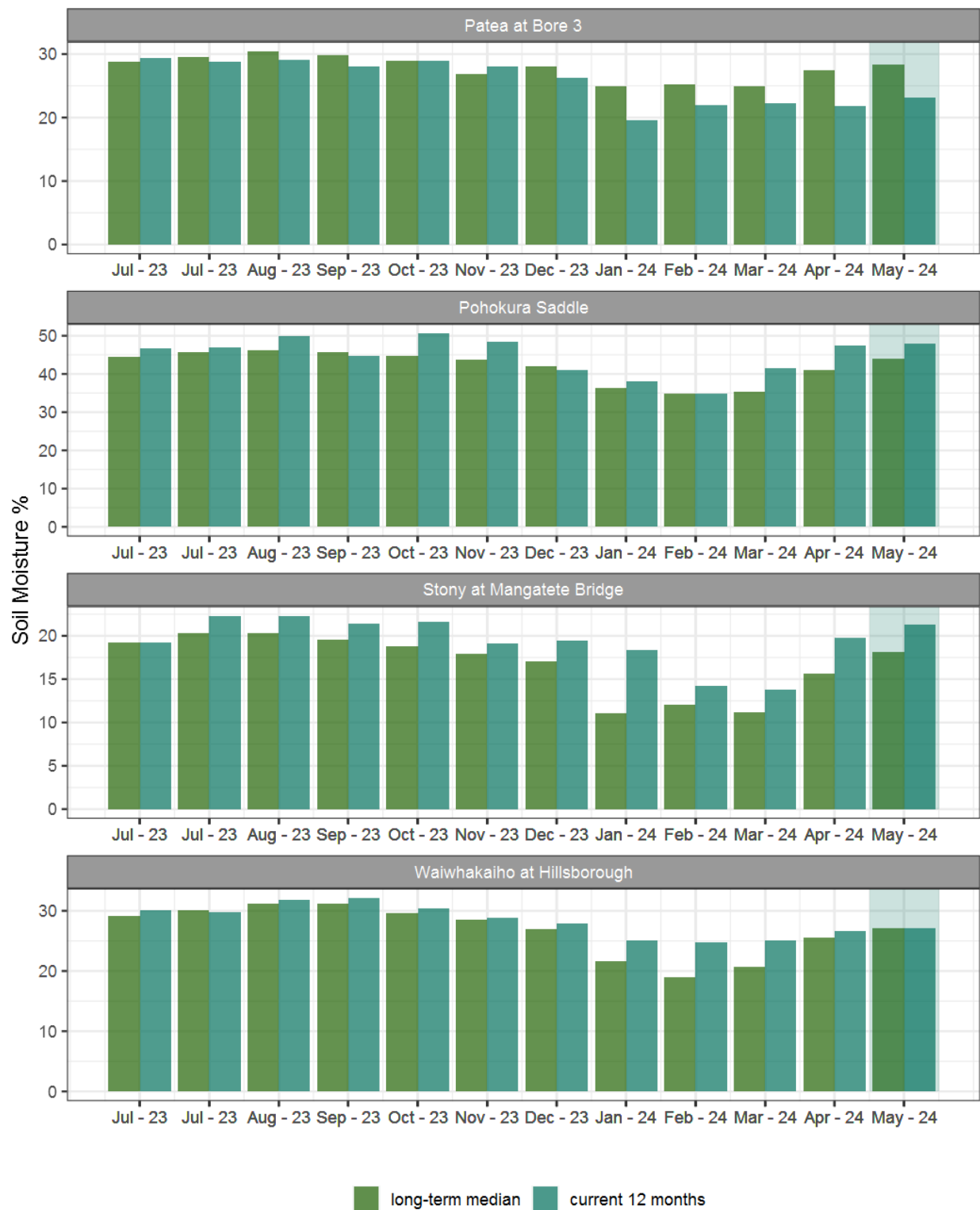


Figure 5.2: Monthly mean soil moisture for this month and the mean of all previously recorded months.

6. Soil Temperature

Map 6: May mean soil temperatures with difference to long-term mean (°C).

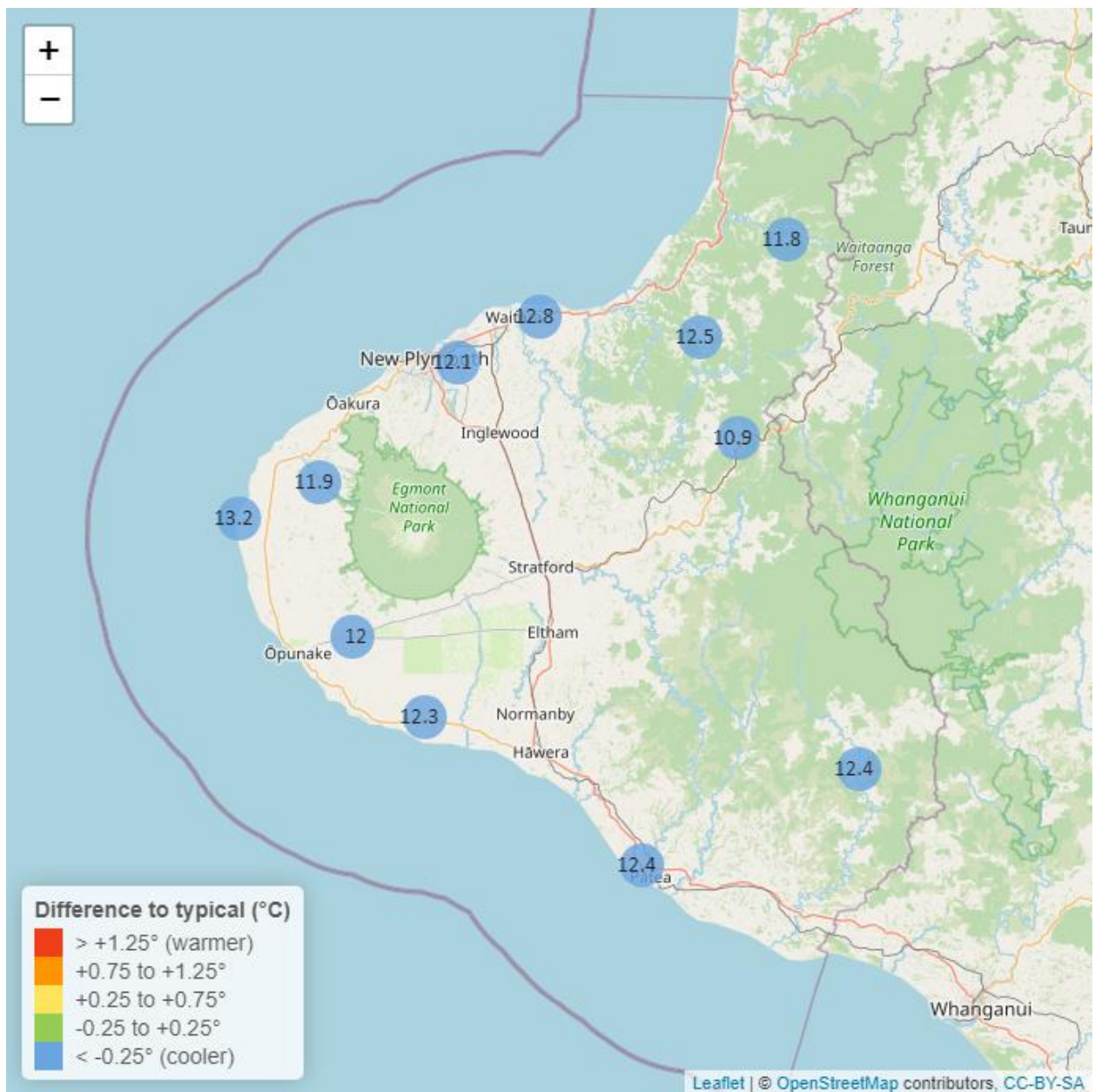


Table 6: Summary of high, low and mean soil temperature for May and for May in all preceding years of record.

May 2024 - Soil Temperatures (°C)								
	Highs		Lows		Mean			
River and Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Kapoaiaia at Lighthouse	15.13	17.43	11.06	11.62	13.2	14.53	15.62	12
Kaupokonui at Glenn Rd	13.50	16.30	10.94	11.29	12.3	13.70	15.98	13
Kotare at OSullivans	12.49	15.87	10.11	9.37	11.8	12.80	12.56	12
Motunui M39 at Weston W3	14.17	16.23	11.42	10.72	12.8	13.62	14.47	11
Patea at Bore 3	13.86	16.31	11.33	10.76	12.4	13.56	14.13	7
Pohokura Saddle	12.23	15.51	9.10	10.37	10.9	13.01	12.56	10
Stony at Mangatete Bridge	13.41	16.60	10.44	9.86	11.9	13.30	15.04	7
Taungatara at Eltham Rd	13.70	15.99	10.37	10.64	12.0	13.30	14.40	10
Uruti at Kaka Rd	13.93	15.95	10.94	10.31	12.5	13.53	14.19	13
Waitotara at Rimunui Station	13.70	16.42	9.25	10.49	12.4	13.77	14.45	7
Waiwhakaiho at Hillsborough	13.86	16.47	10.94	11.23	12.1	13.81	14.40	12

6.2 Long-term data patterns

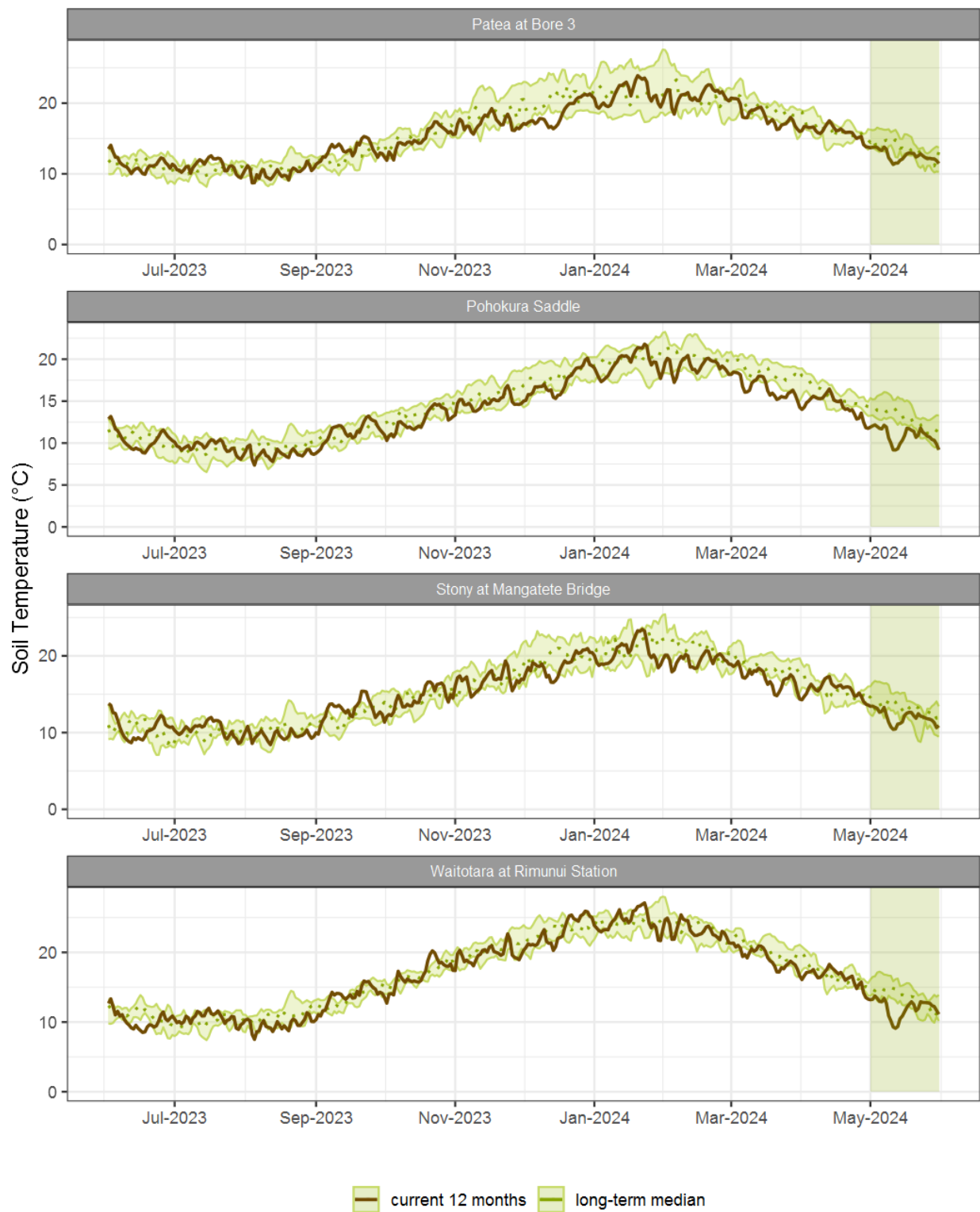


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.

6.3 Monthly Bar Charts

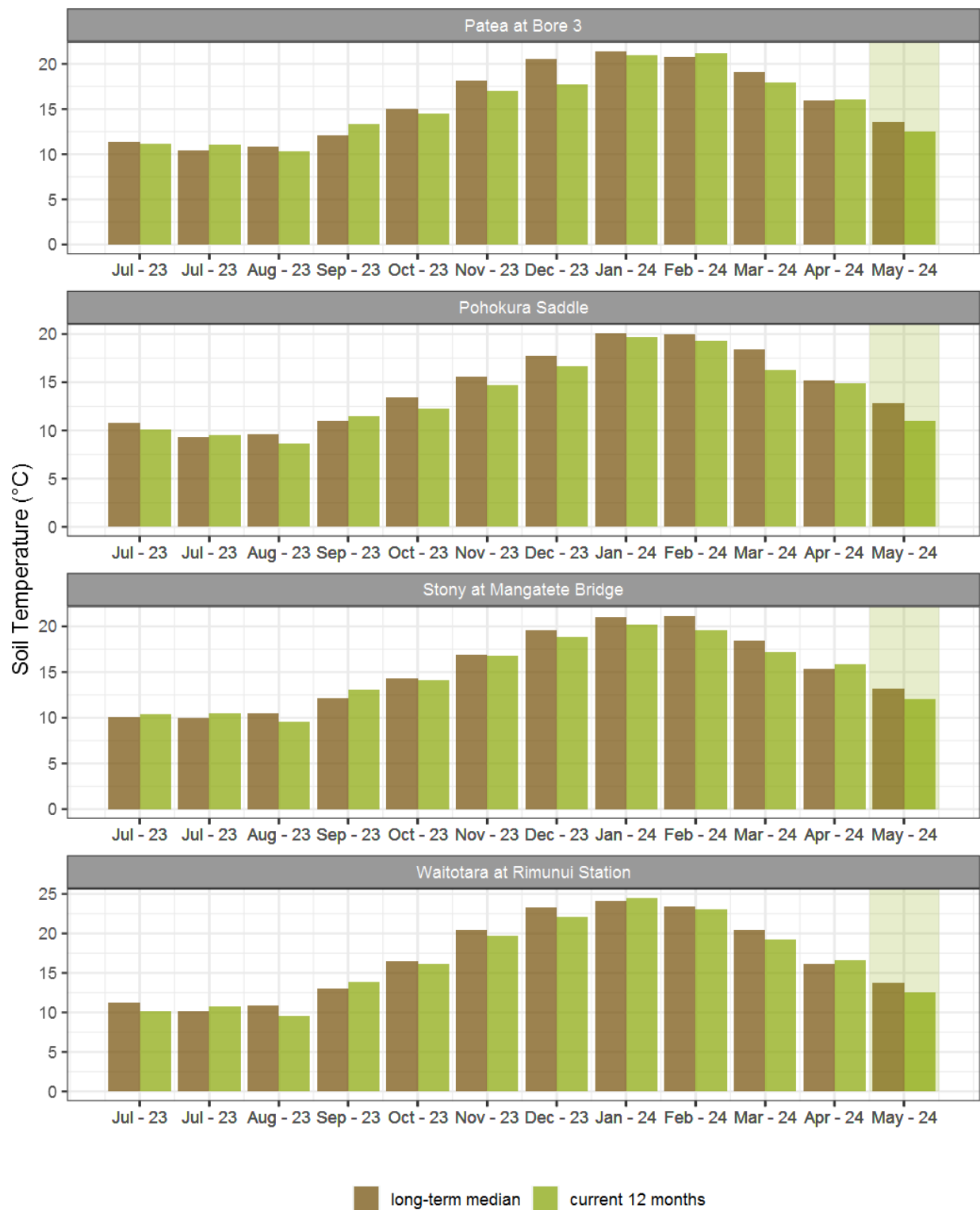


Figure 6.2: Monthly mean soil temperature for this month and the mean of all previously recorded months.

7. Wind Speed and Maximum Gusts

Map 7: May mean of wind speed with difference to long-term values (km/hr).

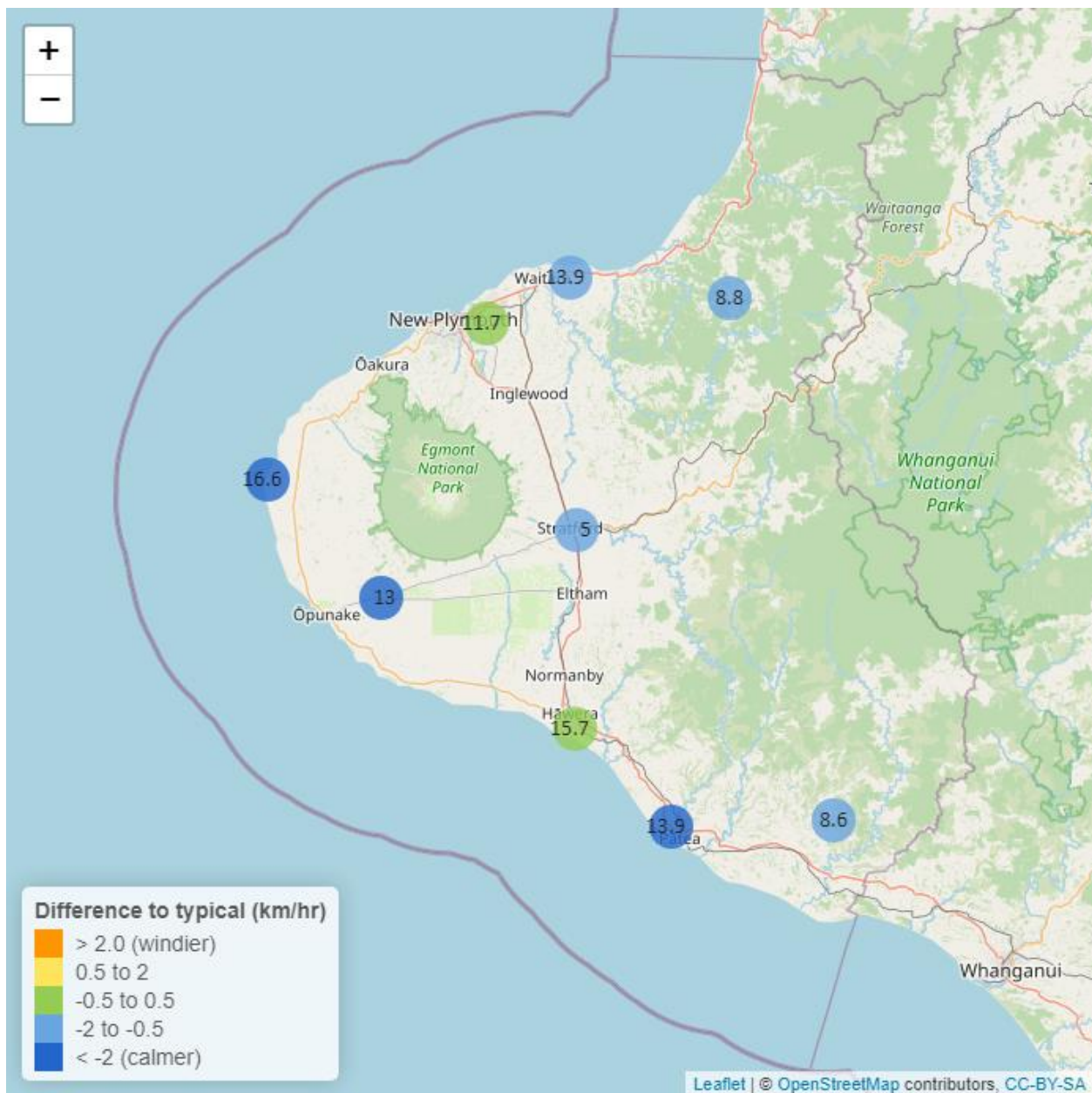


Table 7: Summary of high, low and mean wind speed for May and for May in all preceding years of record.

May 2024 - Wind Speed (average) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Hawera AWS	43.52	36.11	5.56	5.56	15.7	15.74	55.56	19
Kapoaiaia at Lighthouse	39.03	41.51	6.24	6.17	16.6	19.52	62.94	23
New Plymouth AWS	39.82	39.82	6.48	5.56	13.9	15.74	52.78	16
Patea at Bore 3	44.69	40.82	6.05	6.49	13.9	15.96	52.82	8
Patea at Stratford	15.46	17.84	2.39	2.29	5.0	6.28	25.89	18
Taungatara at Eltham Rd	34.53	32.38	5.70	6.61	13.0	15.13	49.70	8
Uruti at Kaka Rd	18.93	23.14	3.08	3.26	8.8	9.60	35.79	25
Waitotara at Ngutuvera	23.09	21.89	3.09	1.97	8.6	9.12	31.13	26
Waiwhakaiho at Hillsborough	37.02	28.59	3.90	3.89	11.7	11.75	48.32	7

Table 8: Summary of high, low and maximum wind gusts for May and for May in all preceding years of record.

May 2024 - Wind Gusts (Maximum) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	May maximum	Data years
Hawera AWS	79.64	74.08	20.37	18.52	40.7	42.60	87.04	19
Kapoaiaia at Lighthouse	68.40	81.50	17.50	20.40	38.2	48.20	101.20	23
New Plymouth AWS	81.49	83.34	22.22	20.37	42.6	44.45	85.19	16
Patea at Bore 3	74.80	80.60	18.30	19.20	44.9	44.40	77.40	8
Patea at Stratford	50.40	63.72	15.12	15.80	27.4	33.10	78.48	18
Taungatara at Eltham Rd	76.00	80.20	22.00	20.40	39.7	47.10	79.90	8
Uruti at Kaka Rd	55.80	73.50	18.36	17.90	32.4	36.00	92.88	24
Waitotara at Ngutuvera	76.32	69.48	17.64	16.56	37.4	36.72	84.96	25
Waiwhakaiho at Hillsborough	81.90	69.90	17.30	18.40	40.0	40.05	85.90	6

7.2 Long-term data patterns

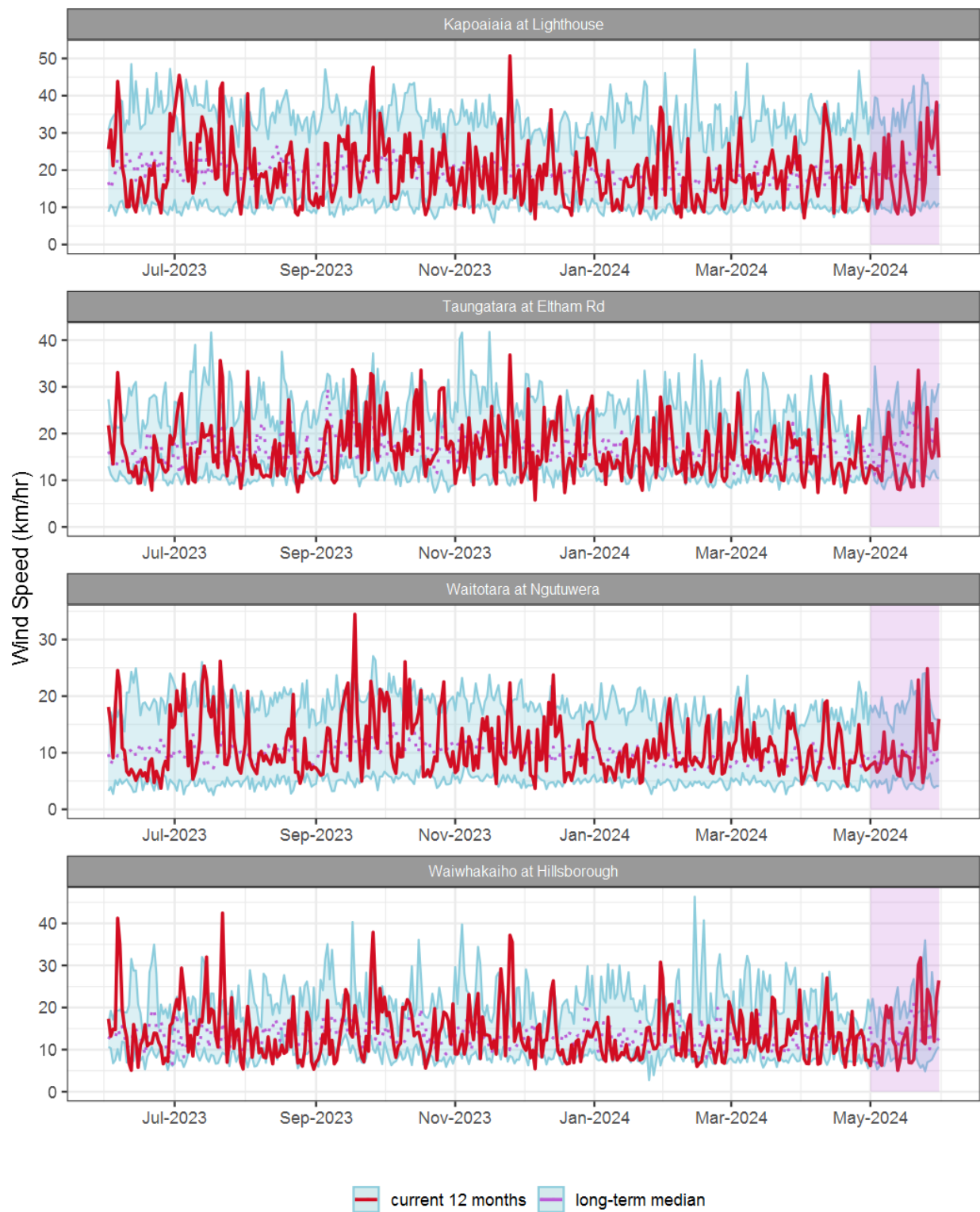


Figure 7.1: Running average wind speed (km/hr) for selected sites, set in context of the historic record.

7.3 Monthly Bar Charts

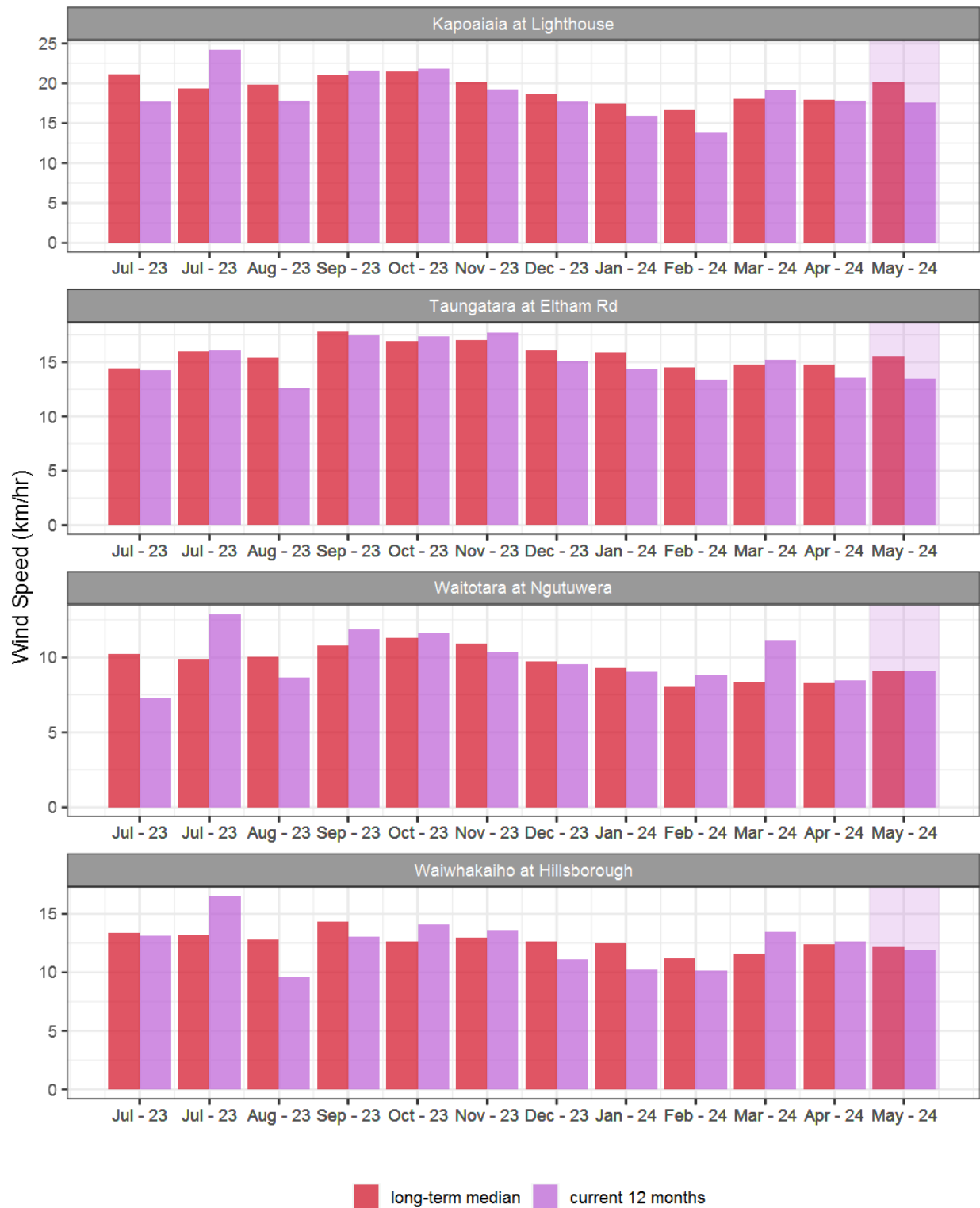


Figure 7.2: Monthly mean wind speed (km/hr) for selected sites, relative to the mean of all previously recorded months.

7.4 Wind roses for May 2024

Average windspeed

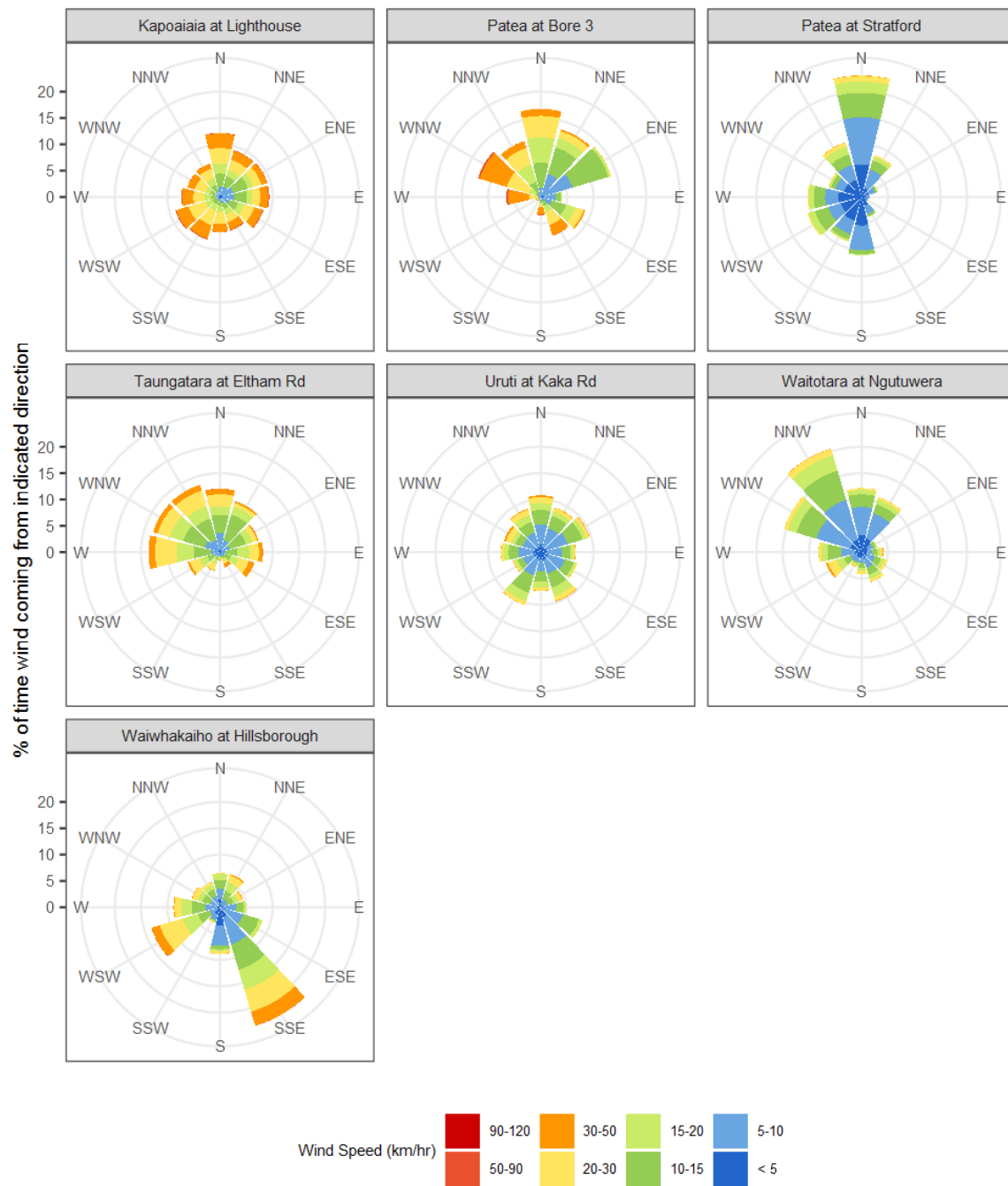


Figure 7.3: Wind roses for May for average wind speed (km/hr).

Maximum gust strength

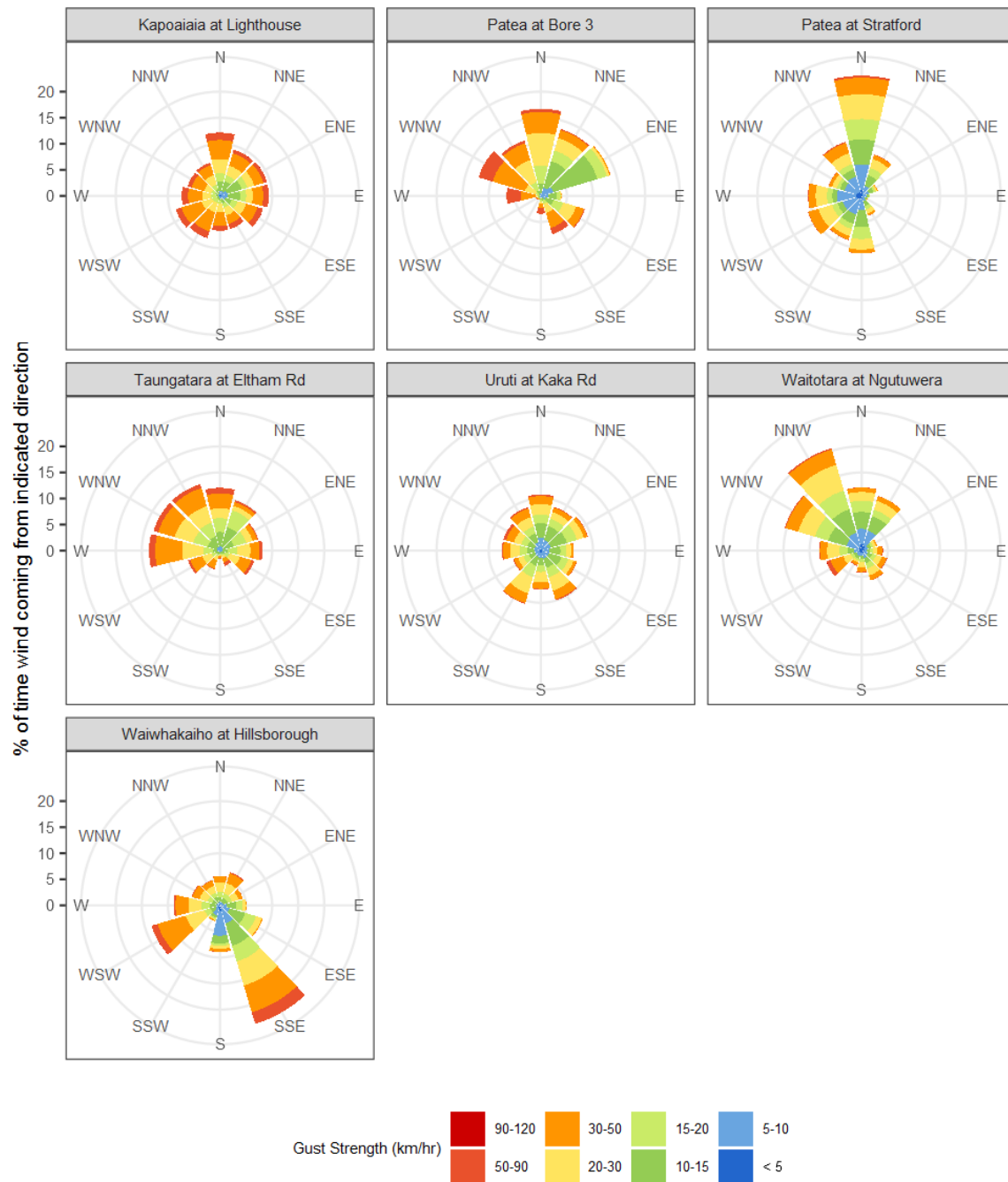


Figure 7.4: Wind roses for May for maximum wind gust (km/hr).

8. Summary of month's conditions

Rainfall

On average May rainfall was 104.5mm, 41% less than usual, ranging from 62% less rain at Kotare at OSullivans, and 12% less at Kaupokonui at Glenn Rd.

Year-to-date rainfall is lowest at Waitotara at Hawken Rd with 43% less rainfall than usual, Manganui at Everett Park has had the highest year to date rainfall with 100% of normal rainfall, on average there has been 19% less than normal across all rain gauges.

Compared to typical full year totals, on average sites have only received 30% of a typical year's rainfall, with the highest value at Manganui at Everett Park, 36% of normal, whereas Waitotara at Hawken Rd sits at 23% of the typical year's total.

River Flow

Mean river flows for May were 40.8% lower than typical values, low flows were 28.4% greater, and high flows 68.6% lower than typical values. The maximum river flow recorded in May was 209.2m³/sec at Waitara at Bertrand Rd, at 8pm on 21 May 2024.

River Water Temperature

Mean river (non-mountain) water temperatures were 10.7°C, an average of 1.4°C cooler than long-term May values. Nighttime-low water temperatures were on average 0.6°C cooler than historic lows, and day-time high temperatures were on average 2.5°C cooler than historic highs. The maximum river water temperature recorded in May was 15.07°C at Pātea at McColls Bridge, at 9:30pm on 1 May.

Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 10.9°C, which is 1.6°C cooler than long-term May averages. Low air temperatures for May were on average 0.4°C cooler than the May average for previous years. Day-time high temperatures were on average 2.2°C cooler than historic highs. The maximum air temperature recorded in May was 19.89°C at Brooklands Zoo at New Plymouth, at 4:10pm on 3 May.

Soil Moisture

The average soil moisture for May across sites in Taranaki region was 31.4%. Soil moistures were on average 0.5% drier than typical May values. On average, low soil moistures were 6.1% wetter than previous lows, and the highs were on average 3.7% drier than previous values for May.

Soil Temperature

May soil temperatures were generally 1.3°C cooler than long-term averages. Average nighttime low soil temperatures were 0.1°C cooler than recorded lows, and upper day-time soil temperatures were on average 2.6°C cooler than long-term May highs. The maximum soil temperature recorded in May was 15.62°C at Kapoiaia at Lighthouse, on 1 May

Wind Speed (average and 10 minute gust)

May average wind speeds were 12.8km/hr, with average gust strength of 39.5km/hr, these were 1.3km/hr lighter, and 2.9km/hr weaker than the long-term average. Average calm weather wind speeds were 0.1km/hr stronger than recorded lows, and windy conditions were on average 2km/hr stronger than long-term May highs. The maximum wind gust recorded in May was 101.2km/hr at Kapoiaia at Lighthouse, on at 3:50pm on 29 May.

Notes: Low and high values refer to the upper and lower 5th percentiles of the historic record for each site (wind, river flow and soil moisture are upper and lower 1st percentiles). These percentile values give a better indication of the general upper and lower range of the historic data against which to compare the current month. For example, minimum air temperature, because it is the lowest recorded value, accentuates the difference of the current month's colder conditions relative to the historical data. The start year (records began) for each site and variable in the respective tables shows the length of data used to compute historic highs, lows, and "typical values". Sites with a longer data record will generally provide a more reliable comparison to values in the current year.

Report date: 5 June 2024.