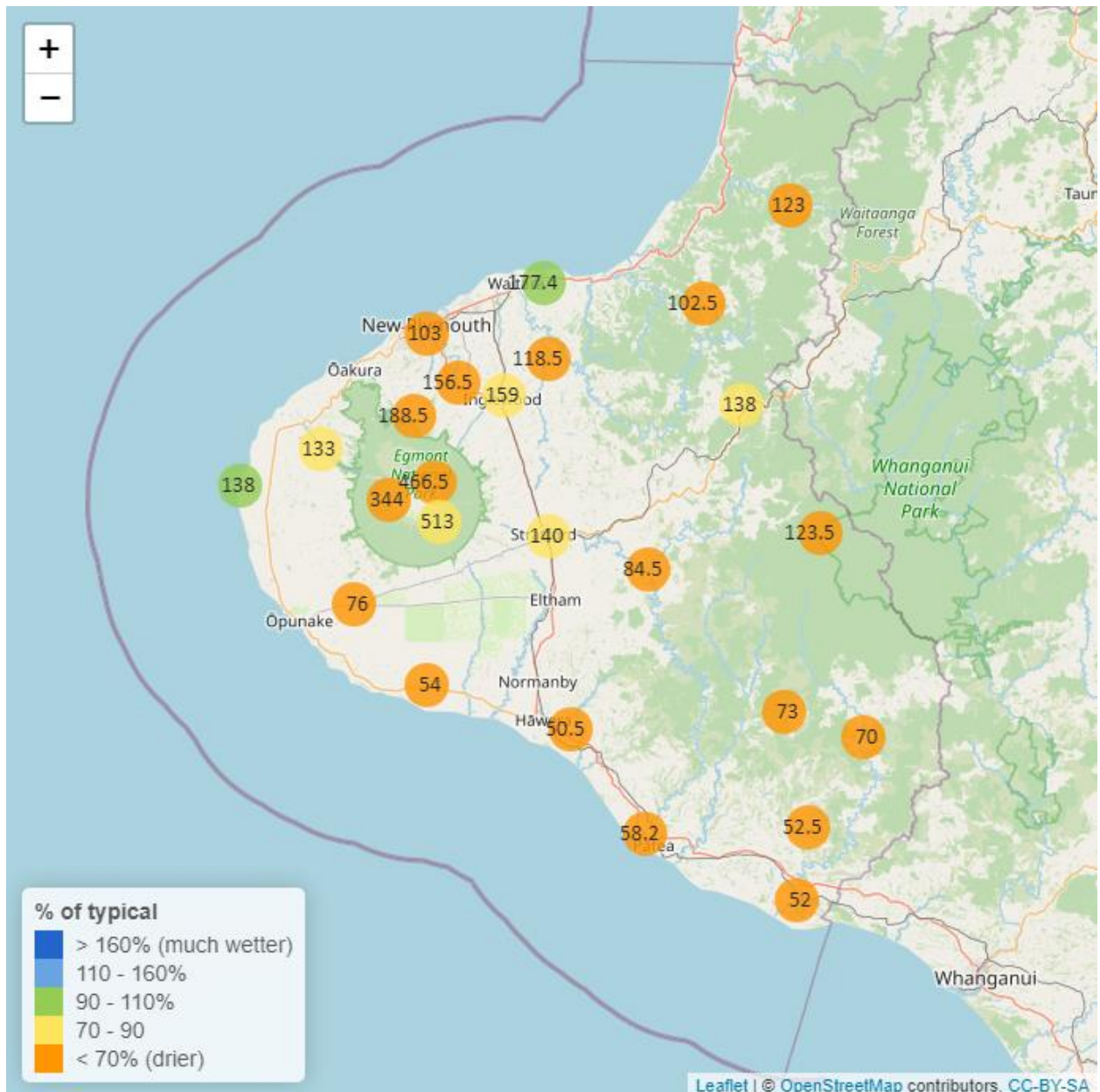


Taranaki Regional Council Monthly Rainfall and Environmental Data Report for June 2024

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



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

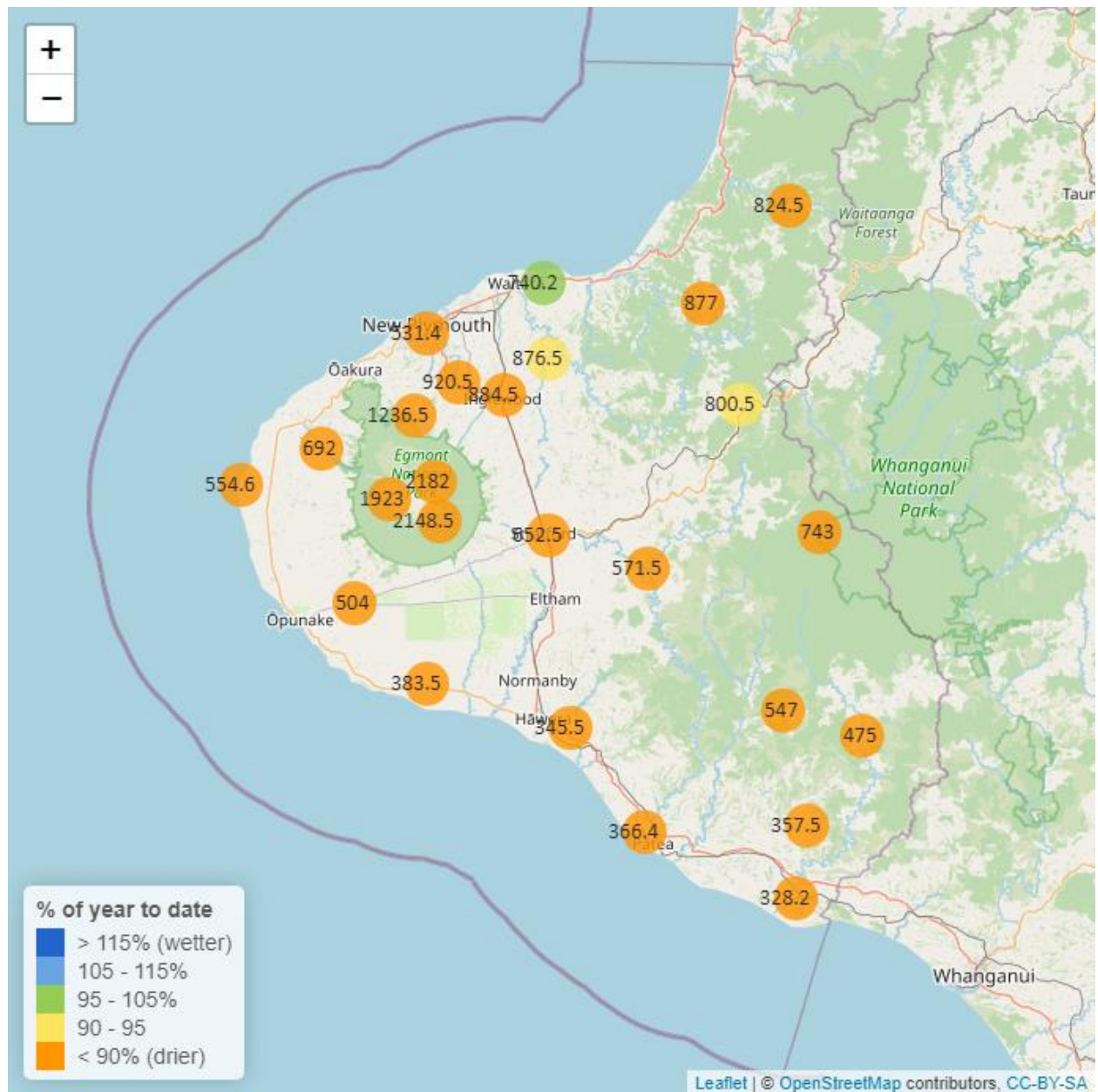


Table 1: Rainfall June and year-to-date totals for rain gauge sites in Taranaki.

	June			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	15	466.5	68.7	2182.0	71.0	31.4	1991
Dawson Falls	14	513.0	82.2	2148.5	77.5	36.1	1933
Kapoaiaia at Kahui Hut	16	344.0	63.0	1923.0	81.8	36.6	2006
Mangorei Upper at Forest Hill	14	188.5	55.5	1236.5	73.4	33.0	2018
Waiwhakaiho at Hillsborough	12	130.5	75.5	674.5	76.6	36.8	2013
Brooklands Zoo at New Plymouth	18	103.0	63.6	531.4	66.9	32.9	2012
Motunui M39 at Weston W3	18	177.4	106.9	740.2	99.0	47.0	1999
Waiwhakaiho at Egmont Village	11	156.5	66.6	920.5	83.5	37.9	1991
Manganui at Everett Park	15	118.5	63.4	876.5	93.1	42.2	1987
Inglewood at Oxidation Ponds	13	159.0	70.4	884.5	83.8	37.6	2000
Stony at Mangatete Bridge	16	133.0	70.9	692.0	73.9	34.5	2004
Kapoaiaia at Lighthouse	16	138.0	97.7	554.6	82.6	39.9	1930
Taungatara at Eltham Rd	15	76.0	51.8	504.0	69.9	31.9	2005
Kaupokonui at Glenn Rd	10	54.0	46.1	383.5	70.5	32.8	1998
Patea at Stratford	14	140.0	73.8	652.5	71.1	32.8	1999
Mangaehu at Bridge	16	84.5	54.7	571.5	77.3	35.9	1999
Kotare at OSullivans	15	123.0	65.1	824.5	88.2	38.2	1998
Uruti at Kaka Rd	14	102.5	53.3	877.0	89.5	39.3	1991
Pohokura Saddle	15	138.0	78.2	800.5	92.0	40.2	1991
Omaru at Charlies	16	123.5	62.0	743.0	88.5	40.6	2006
Omahine at Moana Trig	17	73.0	44.2	547.0	69.3	32.3	2007

	June			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	11	70.0	51.7	475.0	76.3	34.5	1994
Waitotara at Ngutuwera	14	52.5	43.4	357.5	60.7	27.7	1999
Tawhiti at Duffys	12	50.5	49.2	345.5	67.5	31.2	1994
Patea at Bore 3	16	58.2	54.9	366.4	66.6	31.0	2006
Waitotara at Hawken Rd	11	52.0	51.0	328.2	55.6	27.6	2016

1.2 Long-term data patterns

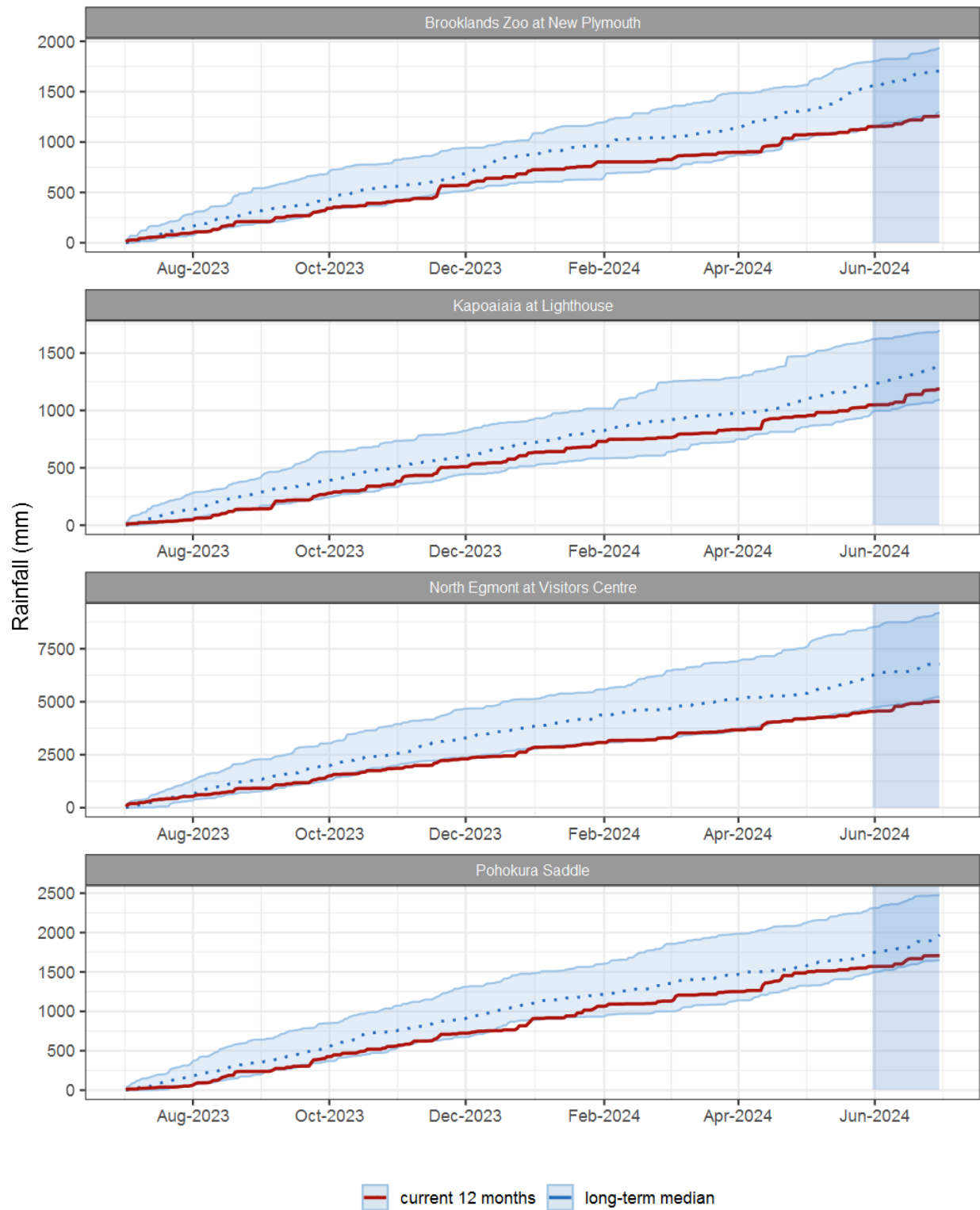


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki.

1.3 Monthly Bar Charts

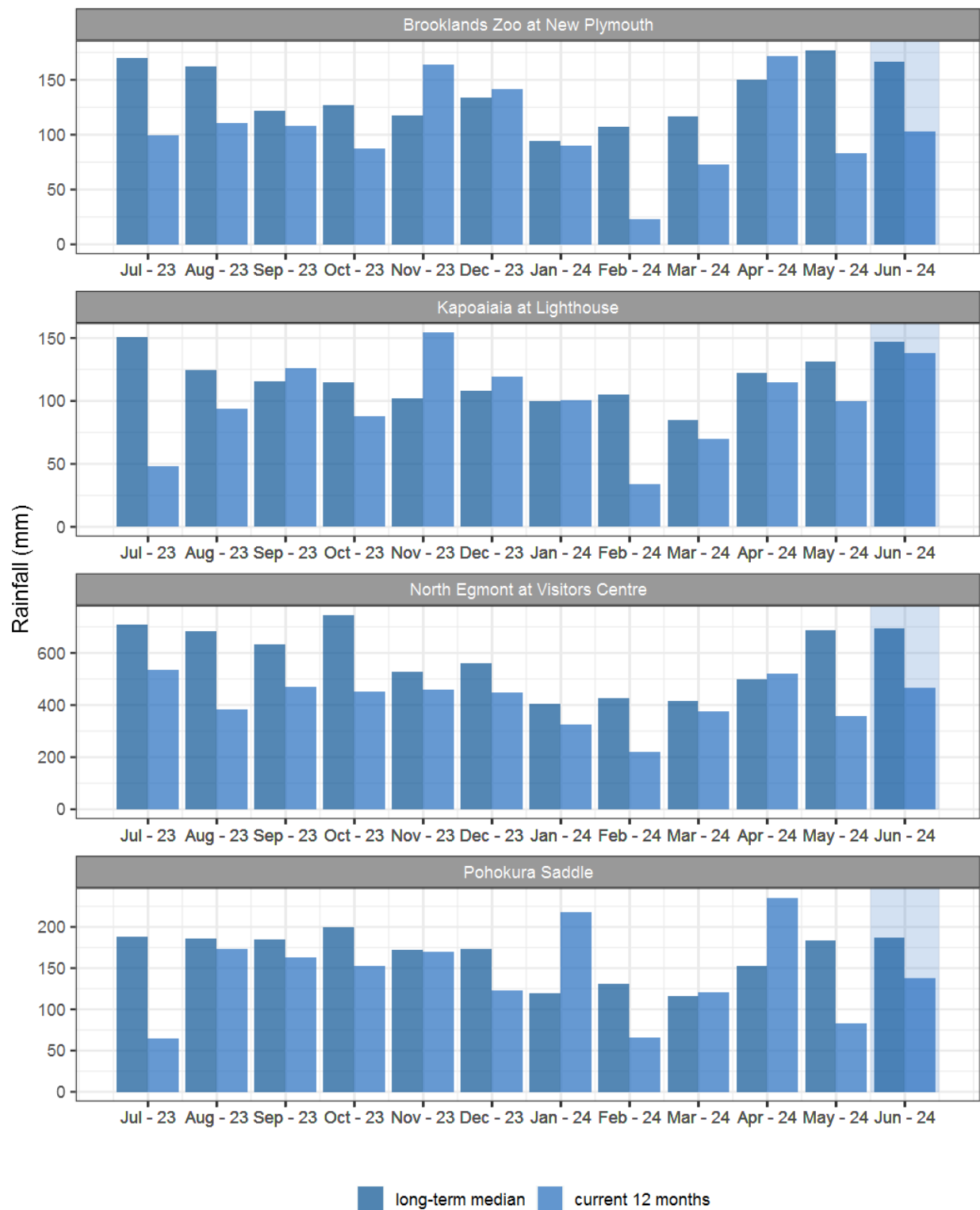


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months.

2. River Flow

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

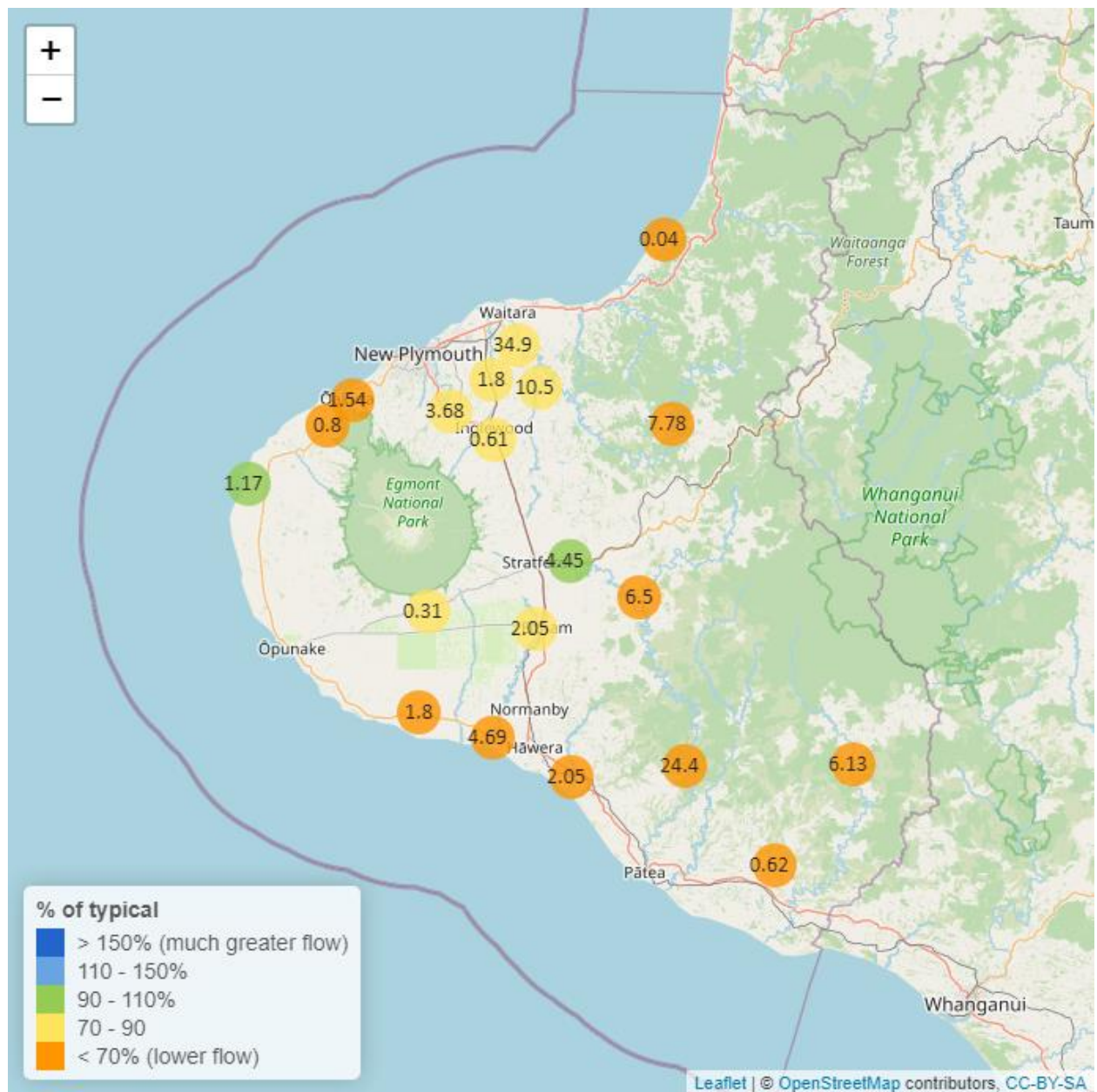


Table 2: Summary of high, low and mean flow for June and for June in all preceding years of record.

June 2024 - Recorded flows (m3/sec)								
	Highs		Lows		Mean			
River and Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Kaupokonui at Glenn Rd	4.85	11.03	1.26	1.28	1.80	2.92	10.43	46
Mangaehu at Bridge	36.34	54.22	3.58	4.20	6.50	9.48	53.83	46
Manganui at Everett Park	34.74	73.65	6.99	6.06	10.50	12.97	192.77	32
Mangawheroiti Above Intake W.W	0.67	1.29	0.24	0.21	0.31	0.38	1.90	11
Moumahaki at Johnston Rd	1.68	9.00	0.45	0.62	0.62	1.54	4.13	6
Ngatoro at SH3	2.44	4.63	0.44	0.41	0.61	0.74	16.37	34
Oakura at Victoria Rd	7.61	12.94	1.02	0.91	1.54	2.29	25.47	5
Patea at McColls Bridge	51.75	91.20	3.95	3.79	24.40	38.01	56.74	36
Patea at Skinner Rd	9.37	17.70	2.73	1.90	4.45	4.72	32.88	46
Tangahoe below Railway Bridge	5.38	16.55	1.57	2.62	2.05	5.75	10.56	6
Timaru at Tataraimaka	3.05	5.89	0.52	0.60	0.80	1.29	15.30	11
Waikaramarama at Bridge	0.24	0.68	0.02	0.02	0.04	0.07	1.69	6
Waingongoro at Eltham Rd	5.42	10.28	1.07	1.05	2.05	2.79	21.35	49
Waingongoro at SH45	9.24	23.06	2.88	2.86	4.69	7.74	24.51	43
Waiongana at SH3a	4.88	9.77	1.10	0.89	1.80	2.19	43.84	43
Waitara at Bertrand Rd	111.72	243.19	18.62	16.82	34.90	44.29	209.83	44
Waitara at Purangi Bridge	54.72	111.74	3.03	2.71	7.78	11.24	98.10	24
Waitotara at Rimunui Station	25.94	59.41	3.57	4.92	6.13	10.94	44.64	19
Waiwhakaiho at Egmont Village	14.46	27.35	2.86	2.56	3.68	4.90	68.57	44
Warea at Coast	2.84	4.04	0.76	0.62	1.17	1.20	8.24	7

2.2 Long-term data patterns

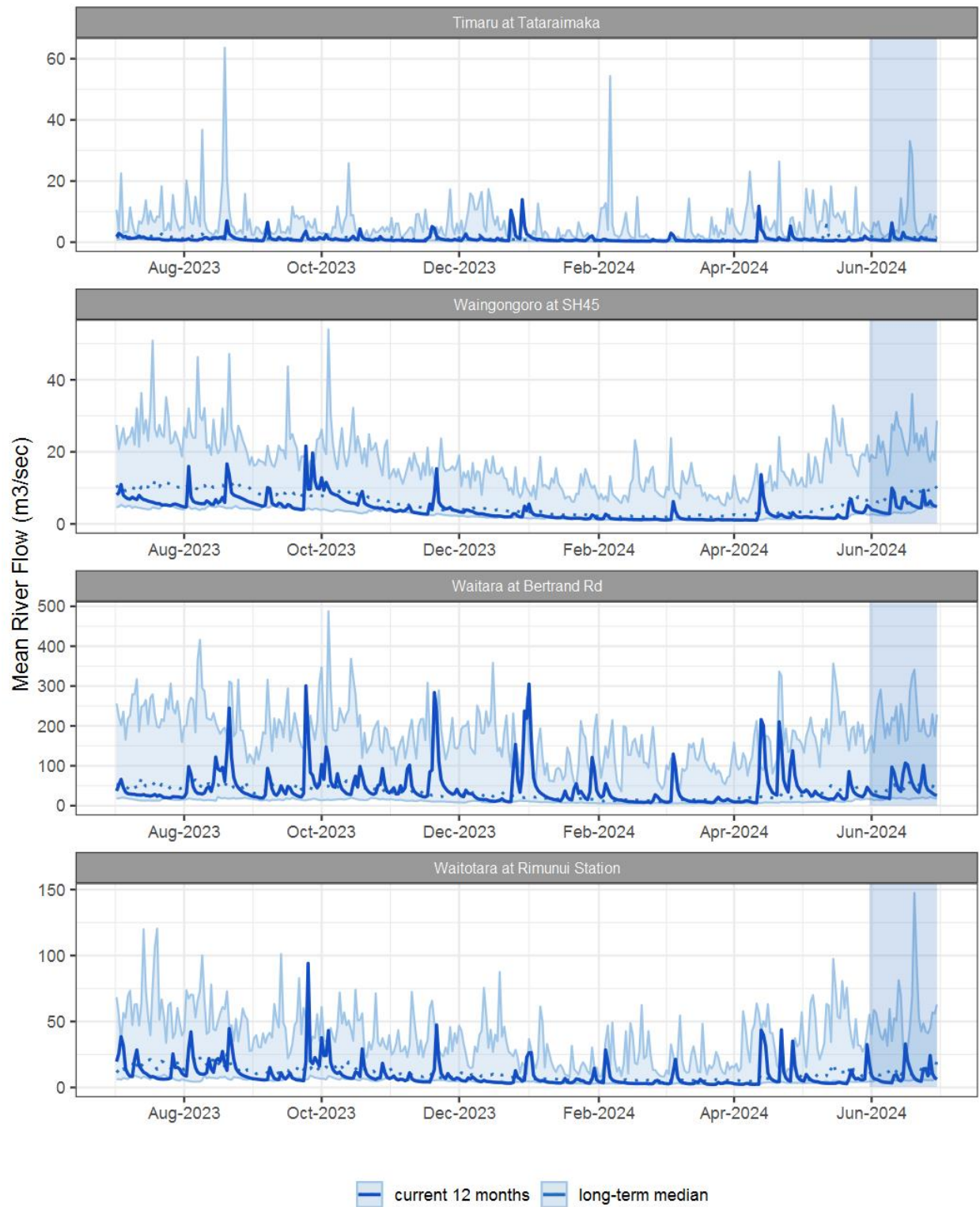


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

2.3 Monthly Bar Charts

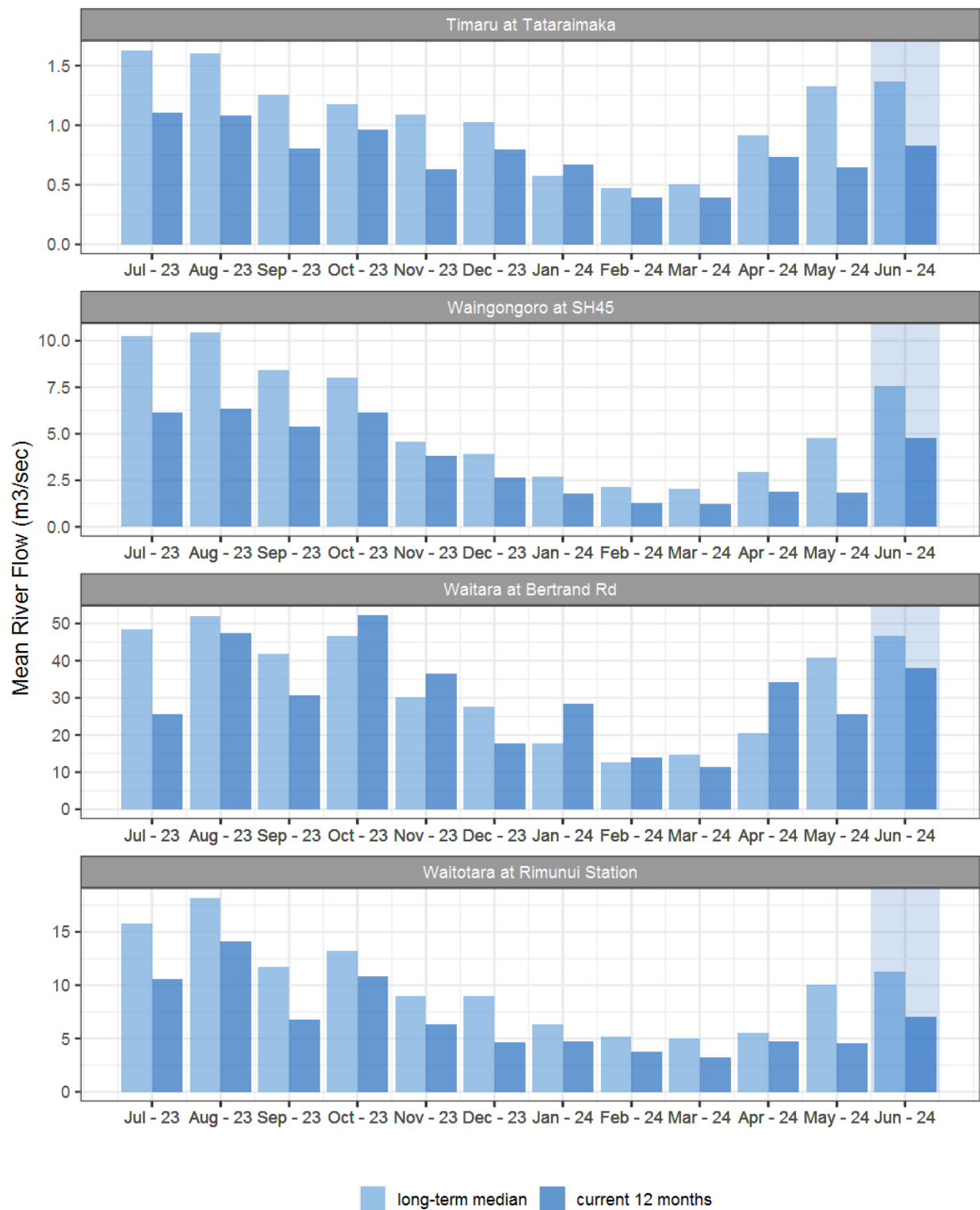


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

3. River Temperature

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

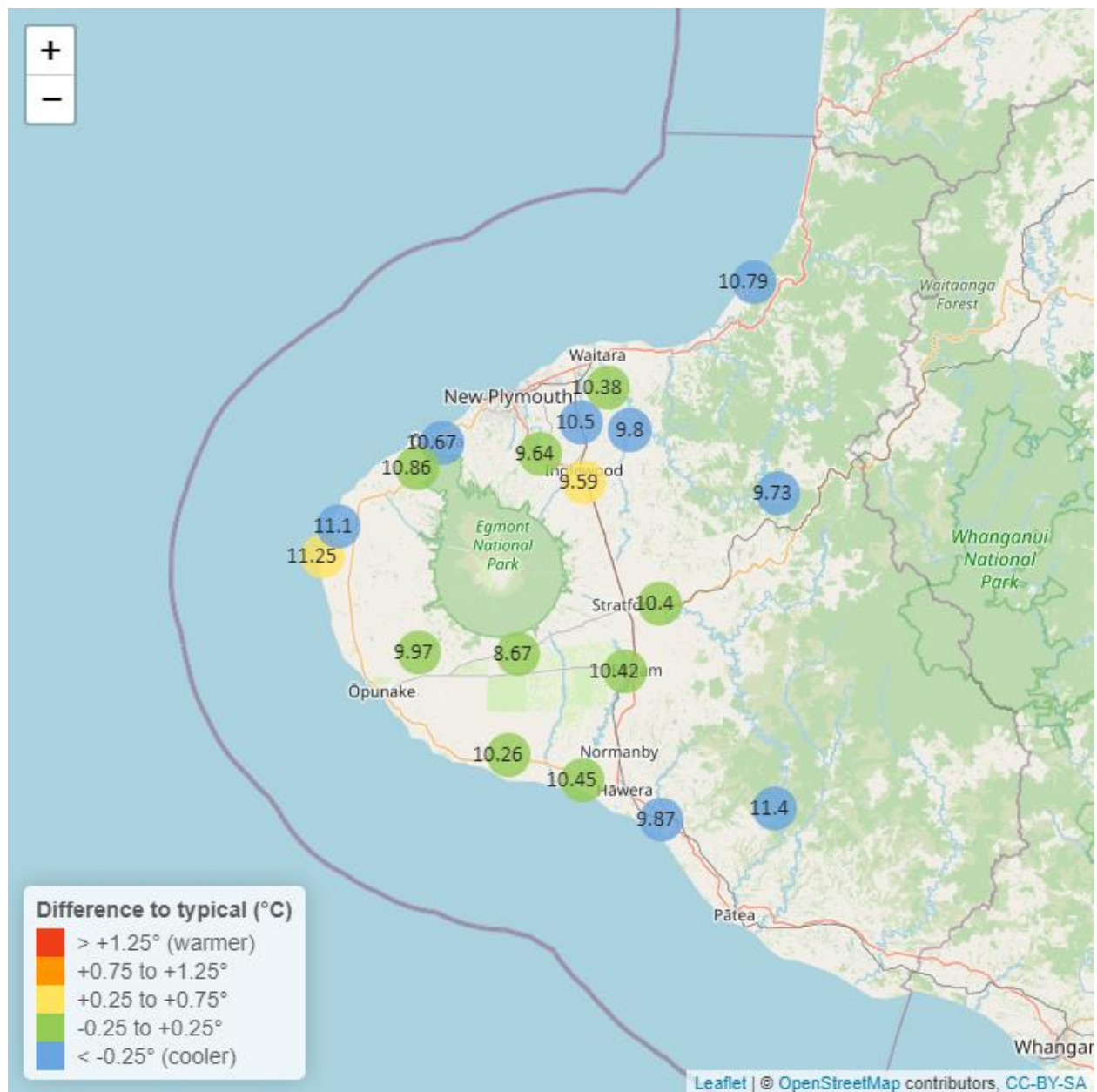


Table 3: Summary of high, low and mean river temperature for June and for June in all preceding years of record.

June 2024 - River Temperature (°C)								
	Highs		Lows		Mean			
River and Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Kapoaiaia at Lighthouse	13.67	13.45	9.02	7.57	11.25	10.96	14.33	25
Kaupokonui at Glenn Rd	12.70	12.38	7.70	7.30	10.26	10.11	13.91	30
Manganui at Everett Park	11.41	12.46	7.97	7.49	9.80	10.30	12.02	15
Mangawheroiti Above Intake W.W	10.54	10.42	7.54	7.00	8.67	8.85	11.16	11
Matau at Woolshed	11.27	12.27	7.66	7.21	9.73	10.23	11.96	6
Ngatoro at SH3	11.34	11.50	7.95	6.82	9.59	9.33	12.09	22
Oakura at Victoria Rd	12.24	12.70	8.95	8.70	10.67	11.12	12.83	5
Patea at McColls Bridge	12.54	12.91	10.62	10.59	11.40	11.73	12.91	10
Patea at Skinner Rd	11.87	12.19	8.71	7.60	10.40	10.23	12.66	20
Tangahoe below Railway Bridge	12.06	12.44	7.45	7.84	9.87	10.48	13.05	6
Timaru at Tataraimaka	12.45	12.71	8.76	8.48	10.86	11.02	13.03	9
Waiaua 2 at Barraclough Opua	12.51	12.03	7.61	7.18	9.97	9.88	13.11	5
Waikaramarama at Bridge	12.37	13.17	9.09	8.91	10.79	11.38	13.14	6
Waingongoro at Eltham Rd	11.85	11.90	8.56	7.88	10.42	10.41	12.50	20
Waingongoro at SH45	12.30	12.49	8.07	7.81	10.45	10.59	12.73	19
Waiongana at SH3a	12.13	12.91	8.76	8.67	10.50	11.00	12.88	13
Waitara at Bertrand Rd	11.61	12.50	9.27	7.72	10.38	10.23	12.22	34
Waiwhakaiho at Egmont Village	11.34	11.67	8.08	6.64	9.64	9.41	11.96	32
Warea at Coast	13.35	13.48	8.91	8.79	11.10	11.43	14.29	5

3.2 Long-term data patterns

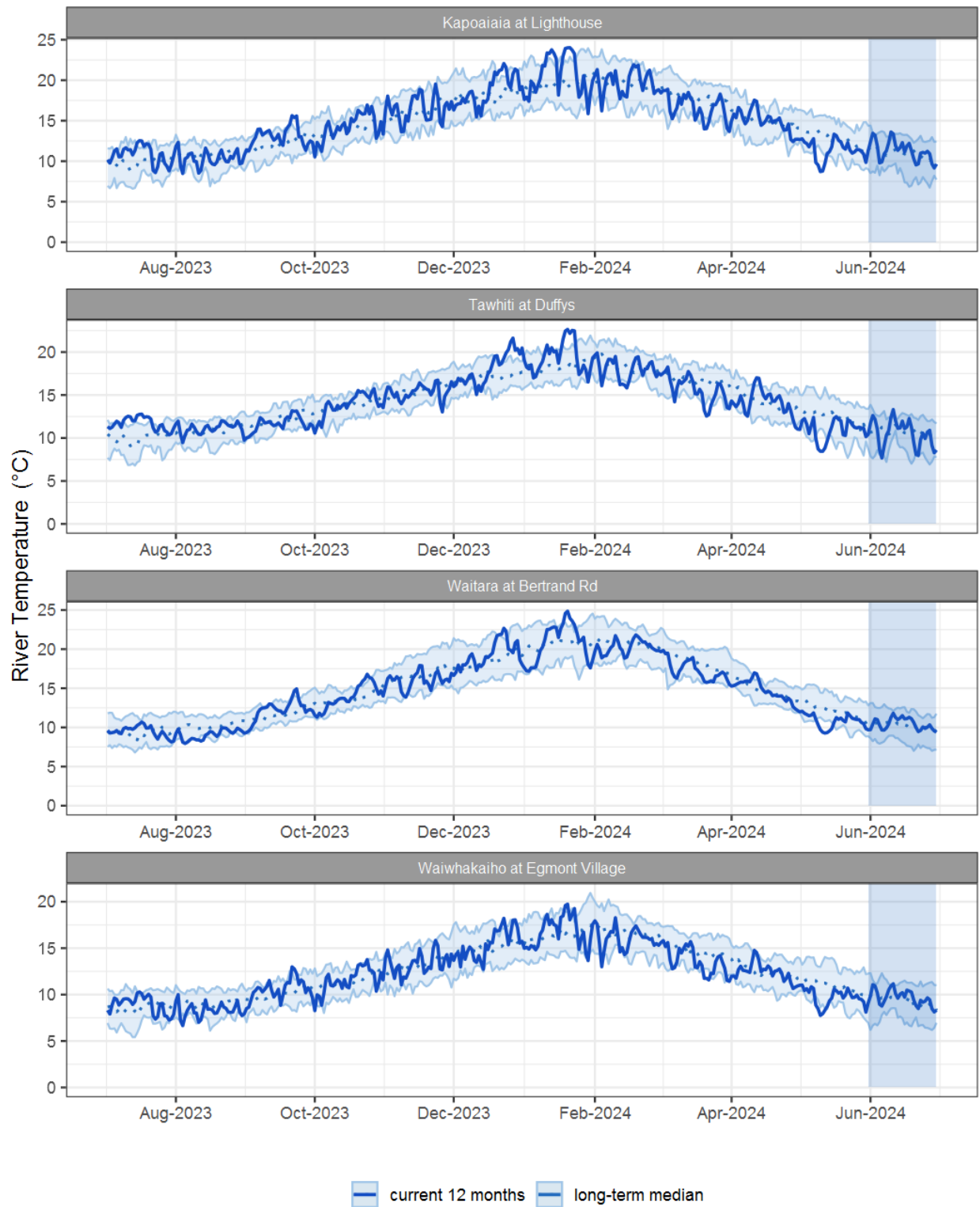


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

3.3 Monthly Bar Charts

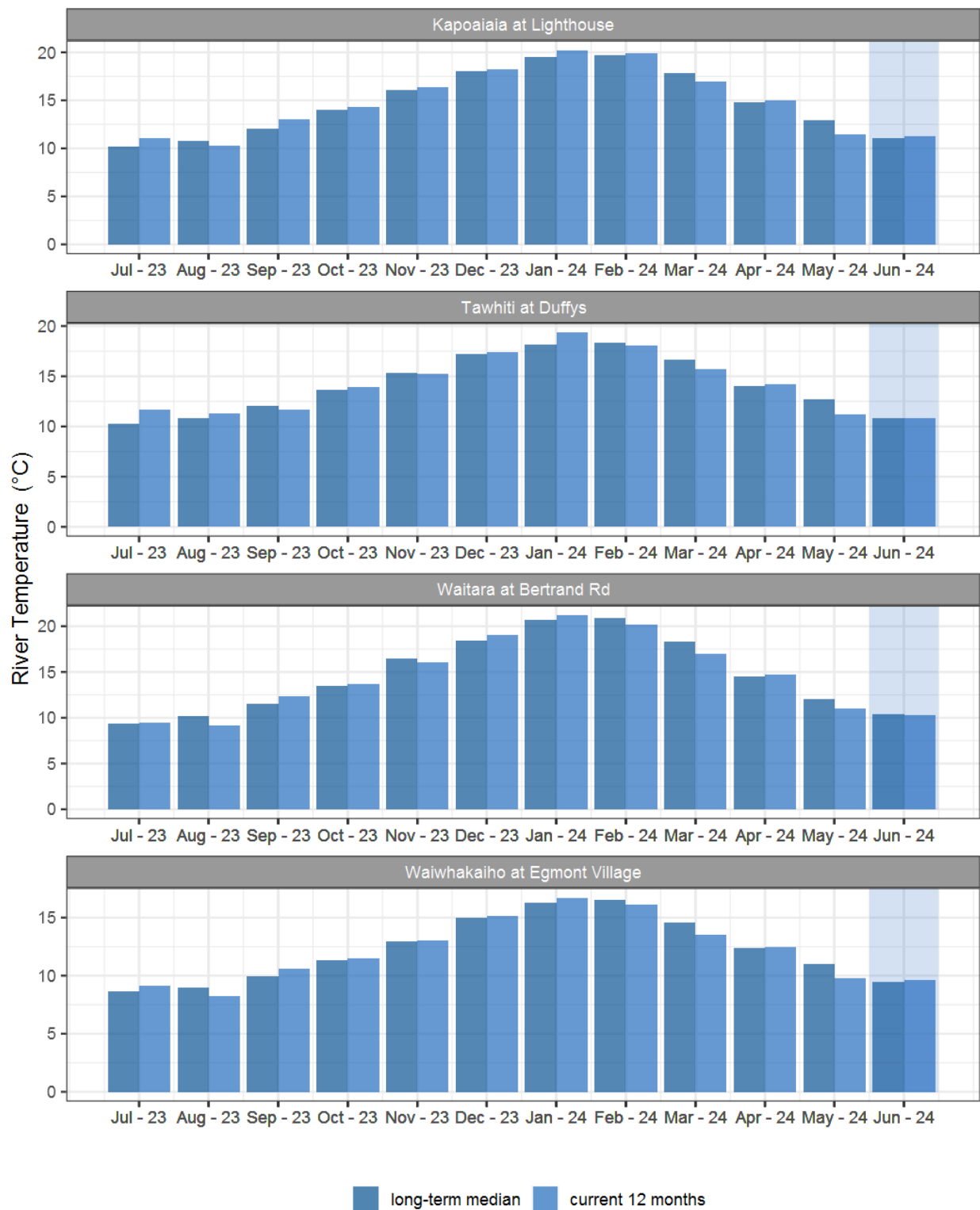


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

4. Air Temperature

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

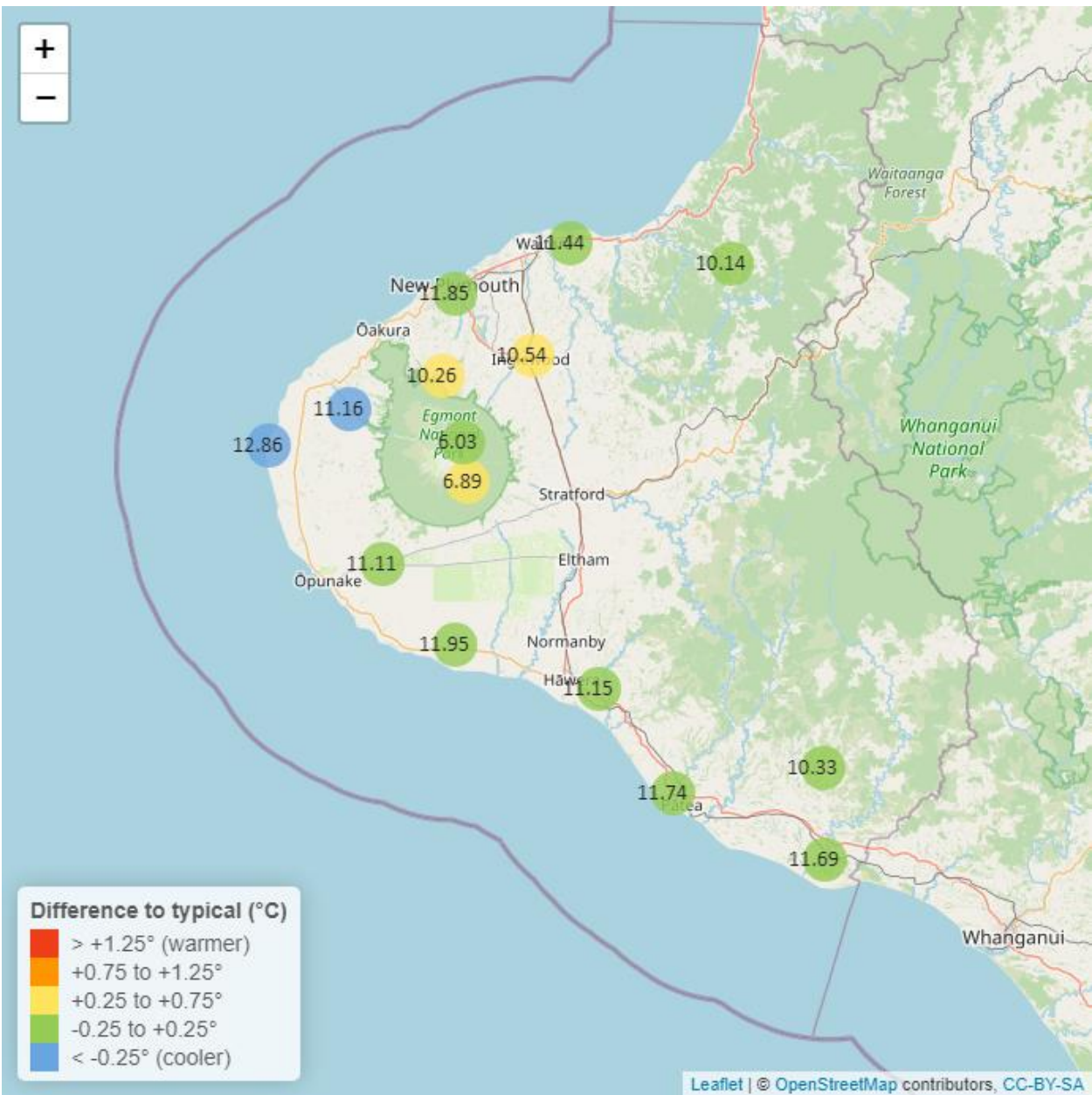


Table 4: Summary of high, low and mean air temperature for June and for June in all preceding years of record.

June 2024 - Air Temperature (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Brooklands Zoo at New Plymouth	16.21	16.22	6.65	5.85	11.85	11.88	19.57	12

June 2024 - Air Temperature (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Dawson Falls	11.85	10.01	3.04	1.55	6.89	6.28	14.64	9
Inglewood at Oxidation Ponds	14.83	14.61	4.75	3.09	10.54	10.13	17.66	12
Kapoaiaia at Lighthouse	15.95	15.91	7.04	6.89	12.86	13.12	18.90	12
Kaupokonui at Glenn Rd	15.95	15.82	5.08	4.69	11.95	11.87	17.77	9
Mangorei Upper at Forest Hill	13.49	13.34	6.89	4.70	10.26	9.87	16.32	7
Motunui M39 at Weston W3	15.24	15.53	6.39	5.29	11.44	11.56	17.35	7
North Egmont at Visitors Centre	10.99	10.05	2.41	1.48	6.03	6.19	13.24	8
Patea at Bore 3	15.62	15.67	5.96	5.30	11.74	11.88	16.99	11
Stony at Mangatete Bridge	14.69	15.37	6.56	6.12	11.16	11.71	17.22	8
Taungatara at Eltham Rd	15.12	15.03	5.67	4.97	11.11	11.26	16.62	9
Tawhiti at Duffys	15.74	15.66	0.84	1.30	11.15	11.38	17.68	11
Uruti at Kaka Rd	13.57	13.97	6.19	4.54	10.14	10.15	16.40	6
Waitotara at Hawken Rd	16.18	15.70	4.99	4.69	11.69	11.67	17.41	8
Weraweraonga at 749 Mangawhio Rd	16.30	15.47	2.14	2.40	10.33	10.16	17.91	7

4.2 Long-term data patterns

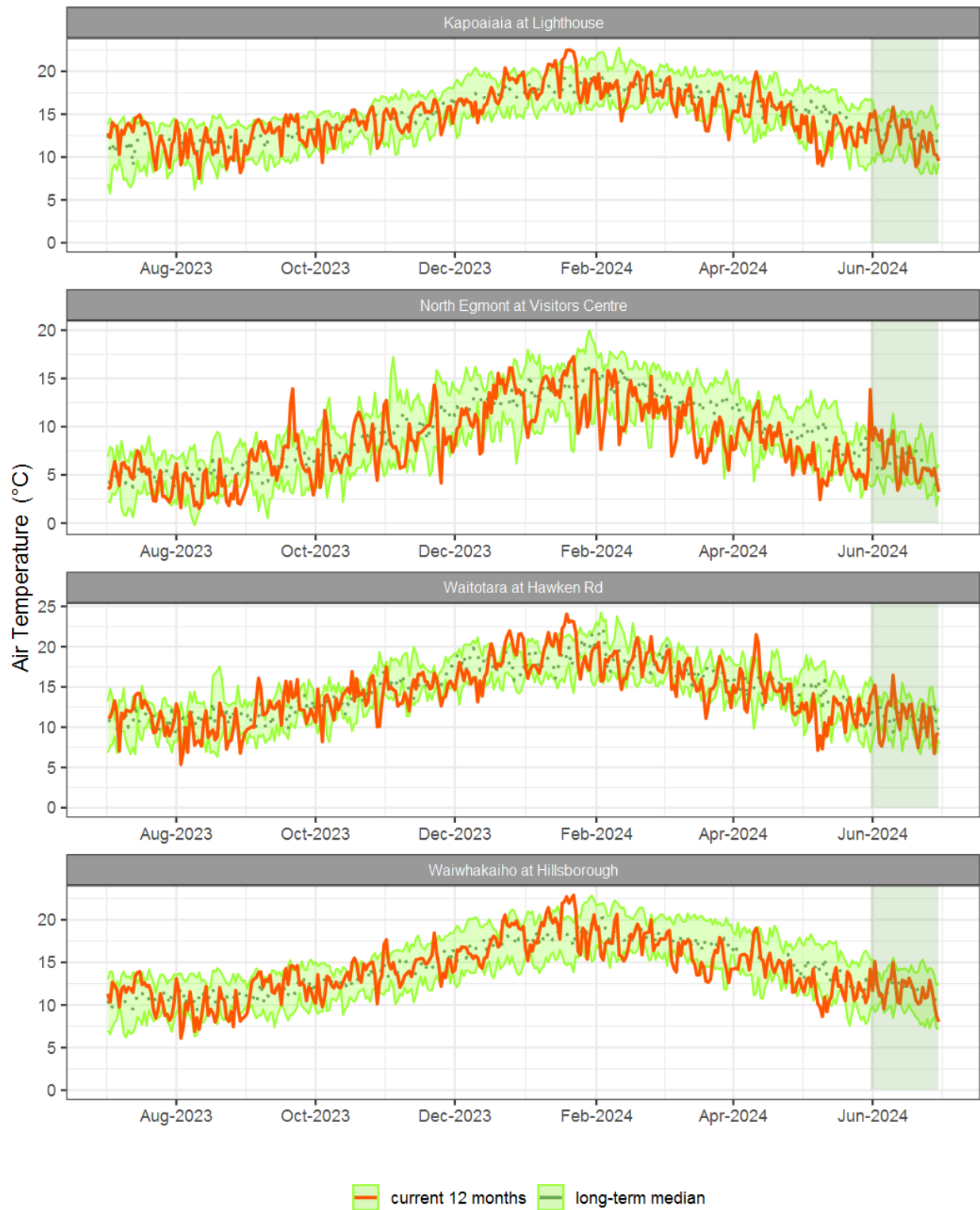


Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

4.3 Monthly Bar Charts

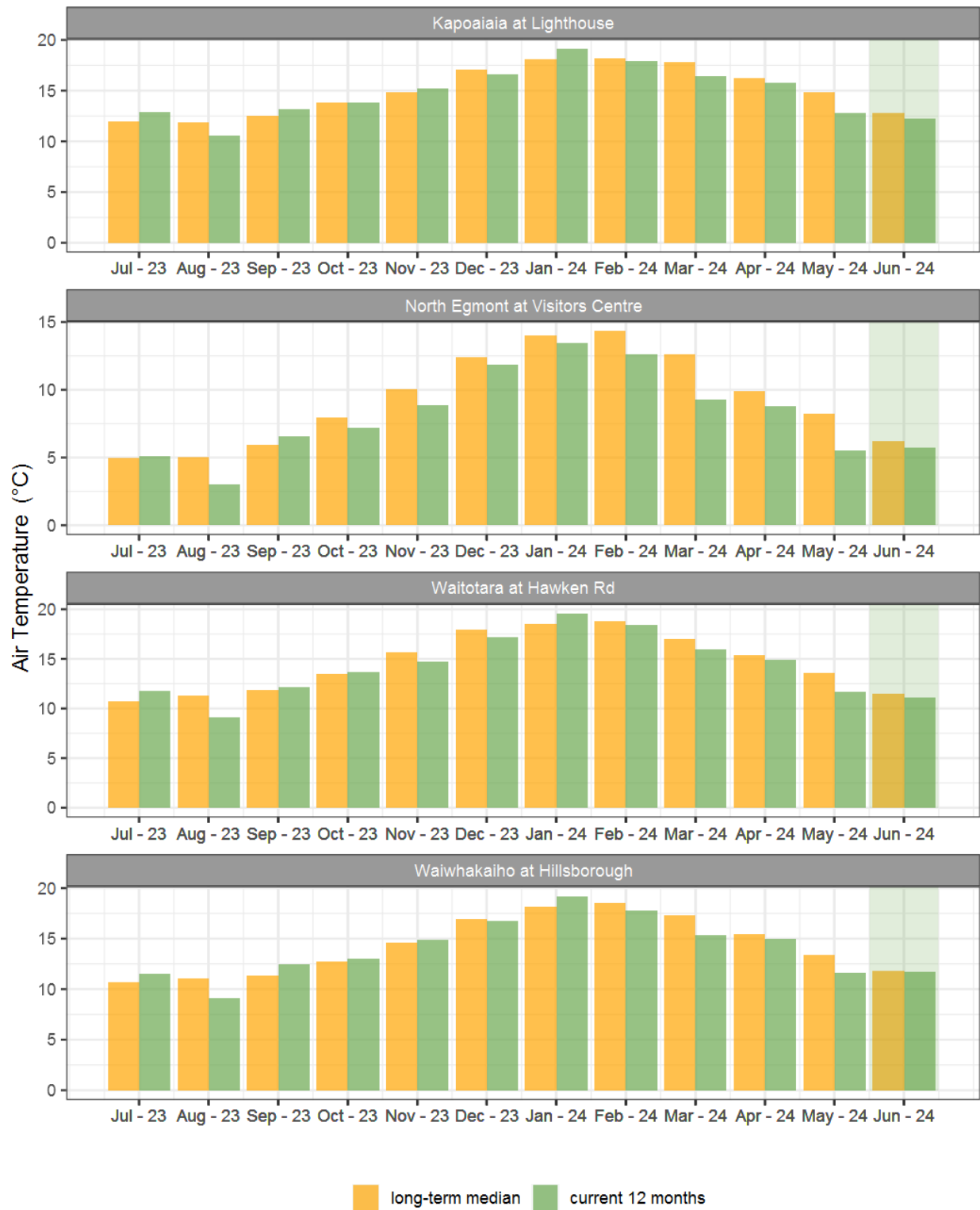


Figure 4.2: Monthly mean air temperature for June and the mean of all previously recorded months.

5. Soil Moisture

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

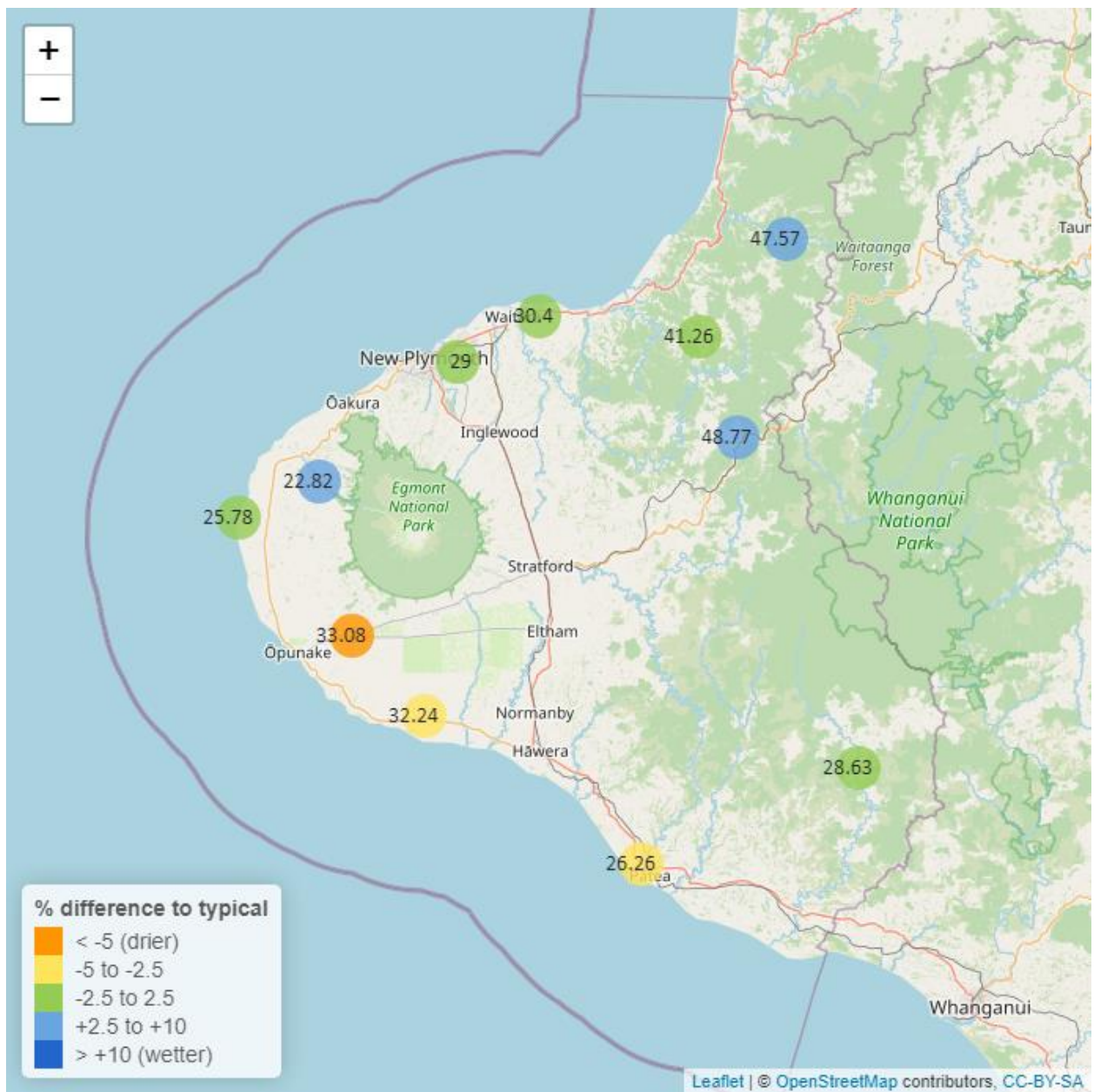


Table 5: Summary of high, low and mean soil moisture for June and for June in all preceding years of record.

June 2024 - Soil Moisture (%)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Kapoaiaia at Lighthouse	27.20	35.80	24.36	24.32	25.78	27.42	28.92	17
Kaupokonui at Glenn Rd	33.29	43.69	30.65	31.34	32.24	35.43	33.54	13
Kotare at OSullivans	51.42	48.56	45.74	36.30	47.57	41.58	55.36	12
Motunui M39 at Weston W3	31.69	35.81	29.30	26.47	30.40	30.53	33.01	16
Patea at Bore 3	27.33	33.54	24.59	26.60	26.26	29.01	28.02	8
Pohokura Saddle	52.77	51.98	45.98	32.08	48.77	43.96	53.45	18
Stony at Mangatete Bridge	26.75	24.10	21.39	12.74	22.82	18.97	30.60	8
Taungatara at Eltham Rd	35.89	43.74	31.69	27.79	33.08	38.56	39.31	10
Uruti at Kaka Rd	42.03	45.97	40.52	38.92	41.26	41.59	42.19	12
Waitotara at Rimunui Station	31.07	31.67	27.62	26.13	28.63	28.64	33.48	7
Waiwhakaiho at Hillsborough	30.52	33.19	27.38	25.11	29.00	29.26	33.05	11

5.2 Long-term data patterns

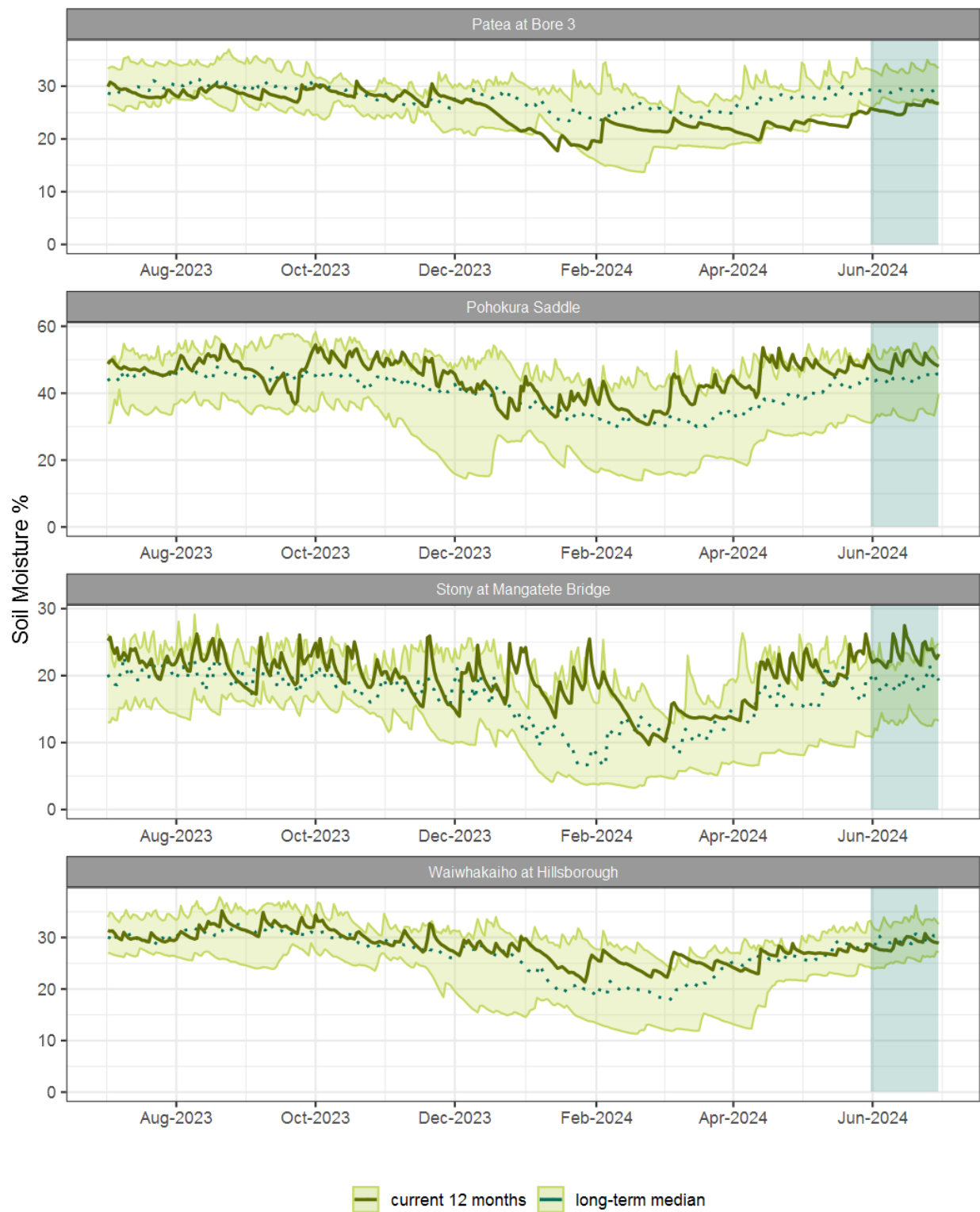


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.

5.3 Monthly Bar Charts

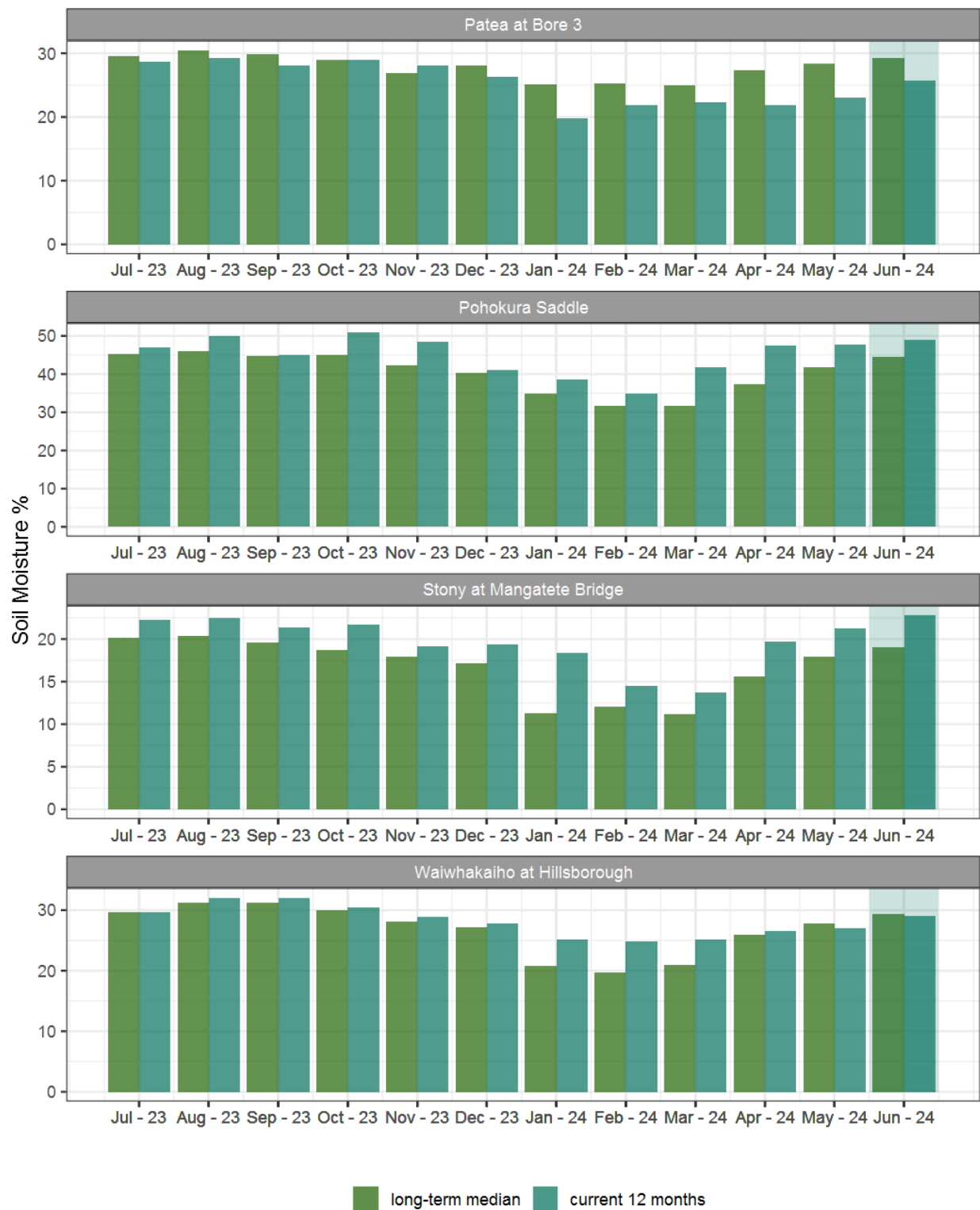


Figure 5.2: Monthly mean soil moisture for this month and the mean of all previously recorded months.

6. Soil Temperature

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

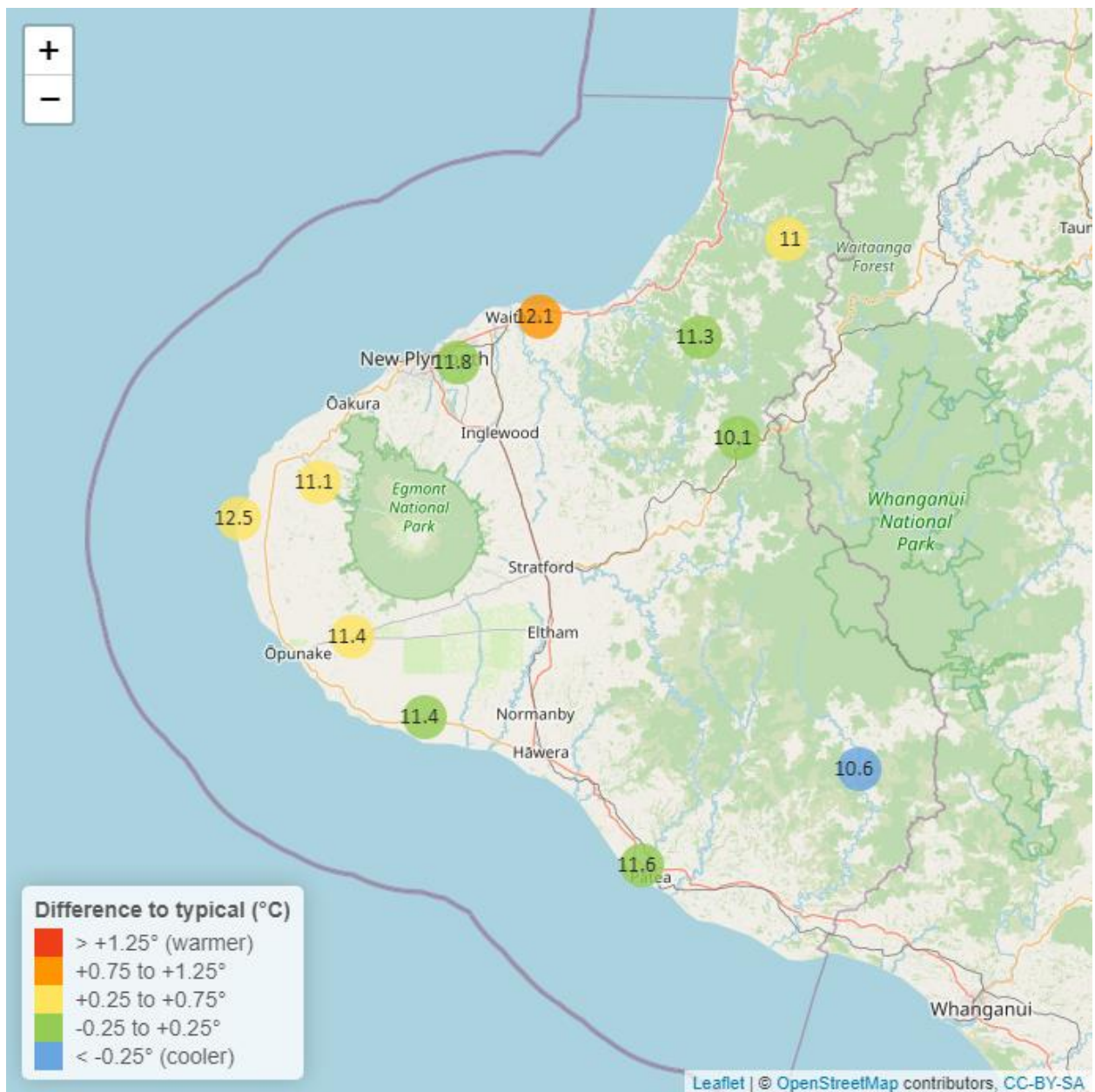


Table 6: Summary of high, low and mean soil temperature for June and for June in all preceding years of record.

June 2024 - Soil Temperatures (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Kapoaiaia at Lighthouse	14.91	14.16	9.66	8.71	12.5	11.75	16.34	19
Kaupokonui at Glenn Rd	12.79	13.16	9.89	9.49	11.4	11.40	13.20	13
Kotare at OSullivans	12.26	12.57	9.81	7.35	11.0	10.48	12.49	12
Motunui M39 at Weston W3	13.40	13.32	10.77	8.35	12.1	11.09	13.95	16
Patea at Bore 3	13.04	13.25	10.00	9.31	11.6	11.47	13.29	8
Pohokura Saddle	11.74	12.06	8.53	7.37	10.1	10.15	12.20	18
Stony at Mangatete Bridge	12.74	12.86	8.76	8.17	11.1	10.60	13.10	7
Taungatara at Eltham Rd	13.06	13.01	9.90	9.34	11.4	11.10	13.60	10
Uruti at Kaka Rd	12.21	12.67	10.25	8.43	11.3	11.17	12.44	12
Waitotara at Rimunui Station	12.59	13.04	8.50	8.43	10.6	11.06	13.43	7
Waiwhakaiho at Hillsborough	12.76	13.49	10.30	9.69	11.8	11.76	13.16	11

6.2 Long-term data patterns

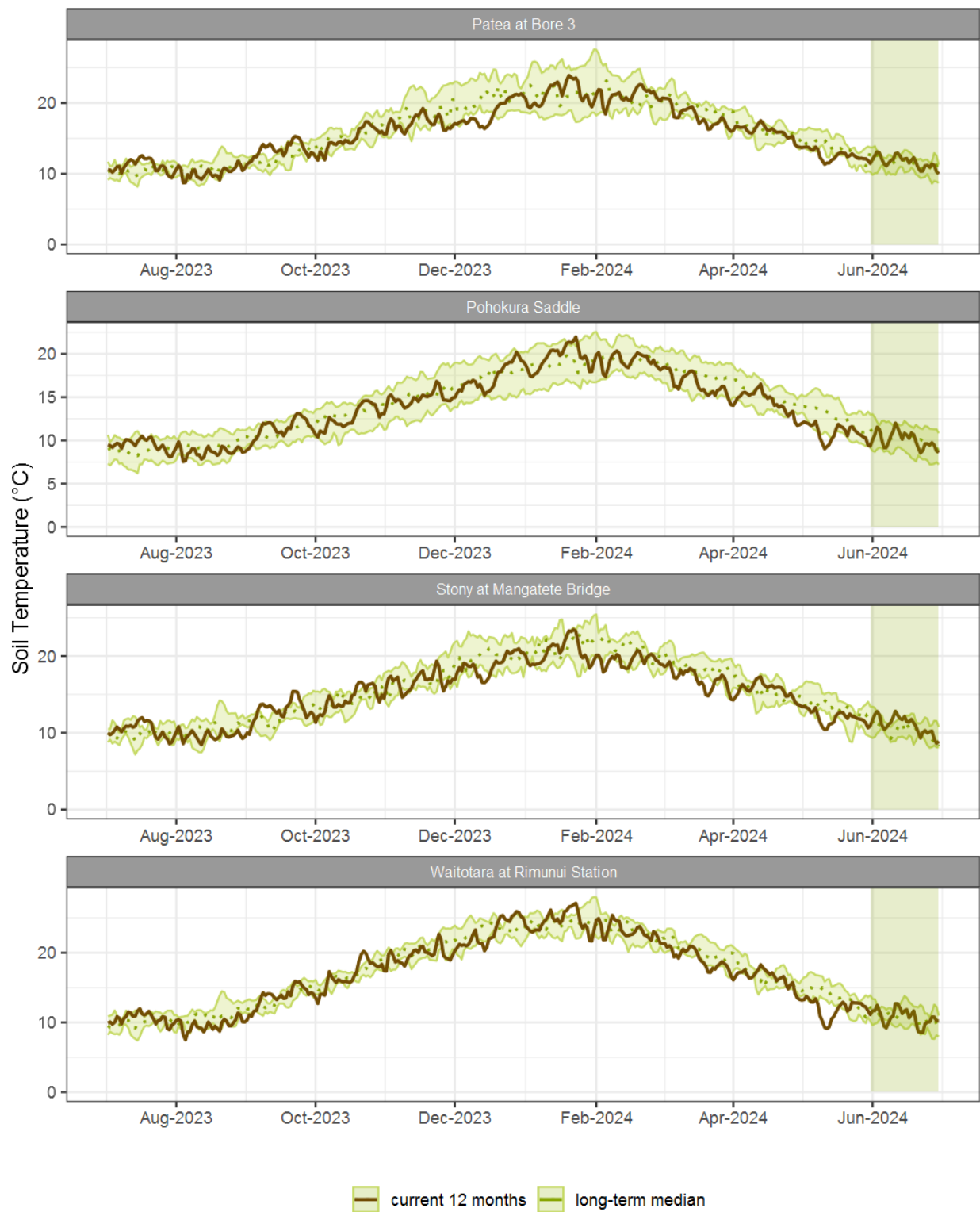


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.

6.3 Monthly Bar Charts

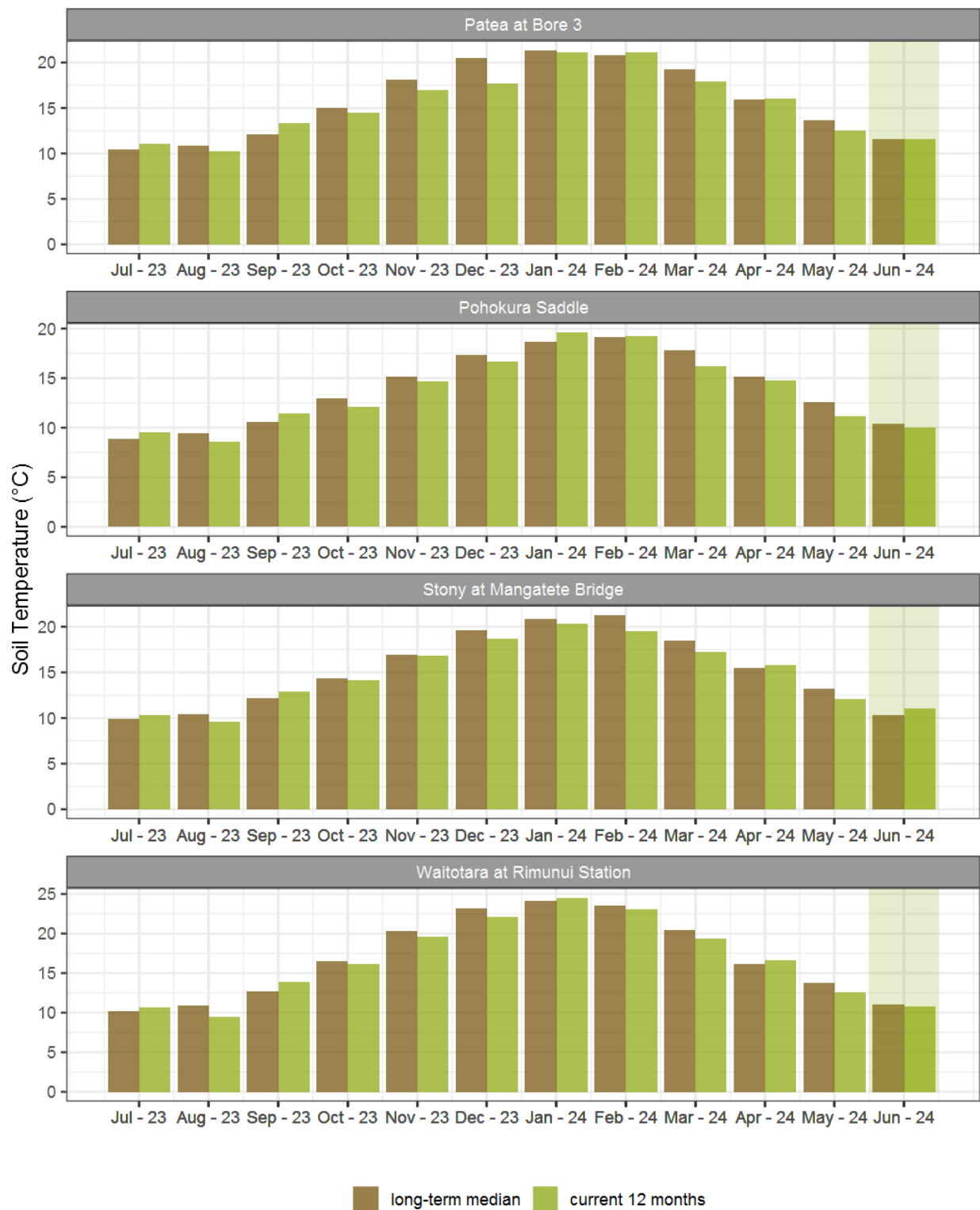


Figure 6.2: Monthly mean soil temperature for this month and the mean of all previously recorded months.

7. Wind Speed and Maximum Gusts

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

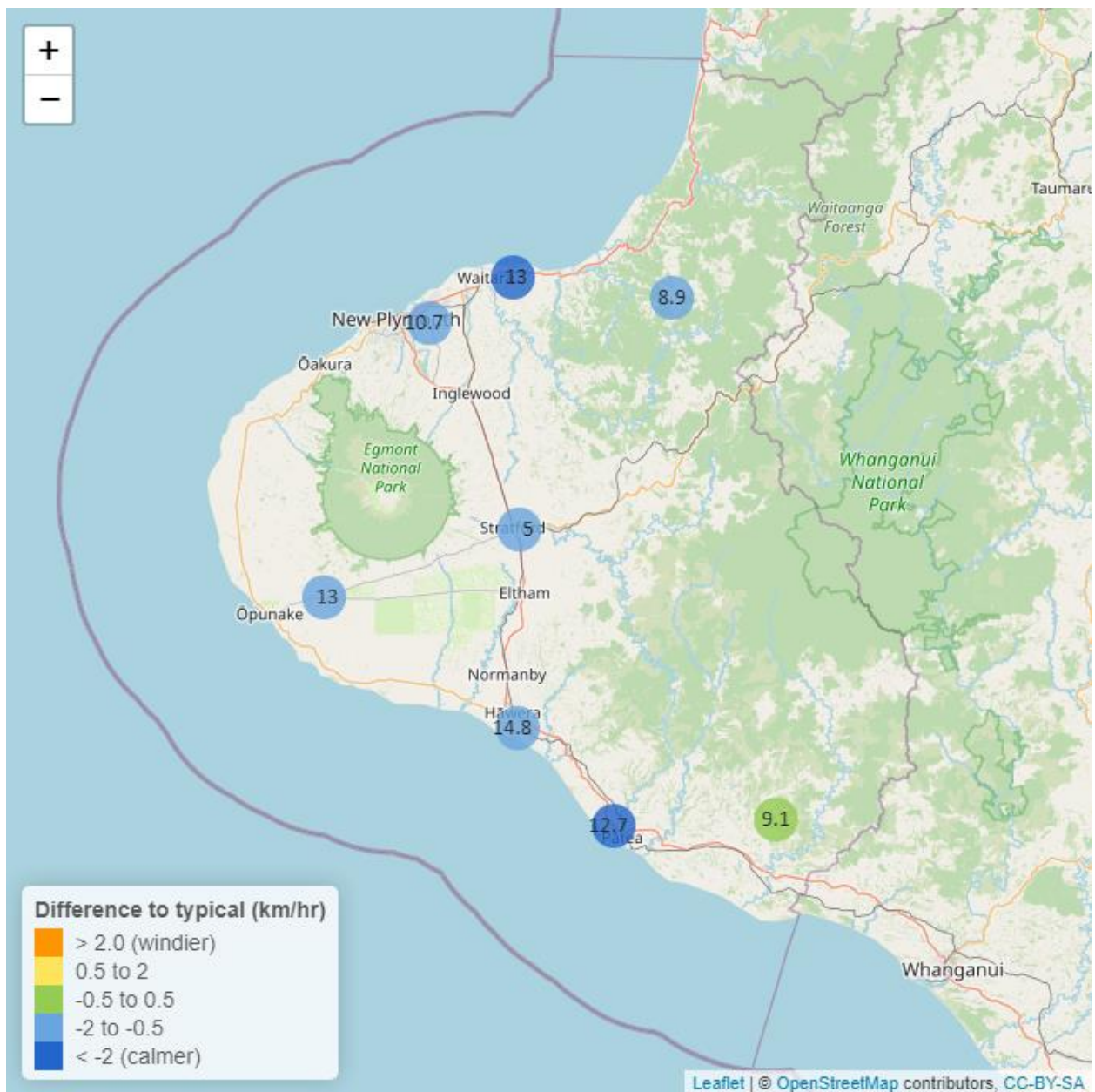


Table 7: Summary of high, low and mean wind speed for June and for June in all preceding years of record.

June 2024 - Wind Speed (average) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Hawera AWS	31.48	37.97	6.48	5.56	14.8	15.74	50.93	19
New Plymouth AWS	31.53	40.74	5.56	5.56	13.0	16.67	43.52	16
Patea at Bore 3	31.67	38.30	6.41	6.27	12.7	15.01	48.62	8
Patea at Stratford	14.09	17.69	2.25	2.41	5.0	6.13	22.03	18
Taungatara at Eltham Rd	27.39	31.44	5.30	6.40	13.0	14.76	50.53	8
Uruti at Kaka Rd	21.67	24.53	3.00	3.43	8.9	10.05	29.24	25
Waitotara at Ngutuweru	18.49	22.71	2.64	2.04	9.1	9.43	34.57	26
Waiwhakaiho at Hillsborough	25.20	30.71	4.09	4.18	10.7	12.42	34.45	7

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

June 2024 - Wind Gusts (Maximum) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	June maximum	Data years
Hawera AWS	72.23	77.78	20.37	20.37	40.7	46.3	88.90	19
New Plymouth AWS	64.82	81.49	20.37	18.52	38.9	46.3	74.08	16
Patea at Bore 3	76.40	76.60	17.50	18.09	38.7	42.9	88.50	8
Patea at Stratford	52.56	60.40	11.52	15.08	26.6	33.4	58.32	18
Taungatara at Eltham Rd	70.50	74.94	17.80	19.20	40.7	41.2	96.60	8
Uruti at Kaka Rd	59.76	73.08	16.20	18.00	36.0	38.8	60.48	24
Waitotara at Ngutuweru	68.76	70.60	18.00	16.20	38.5	39.3	83.16	26
Waiwhakaiho at Hillsborough	56.60	74.60	18.40	18.20	36.3	38.6	65.90	7

7.2 Long-term data patterns

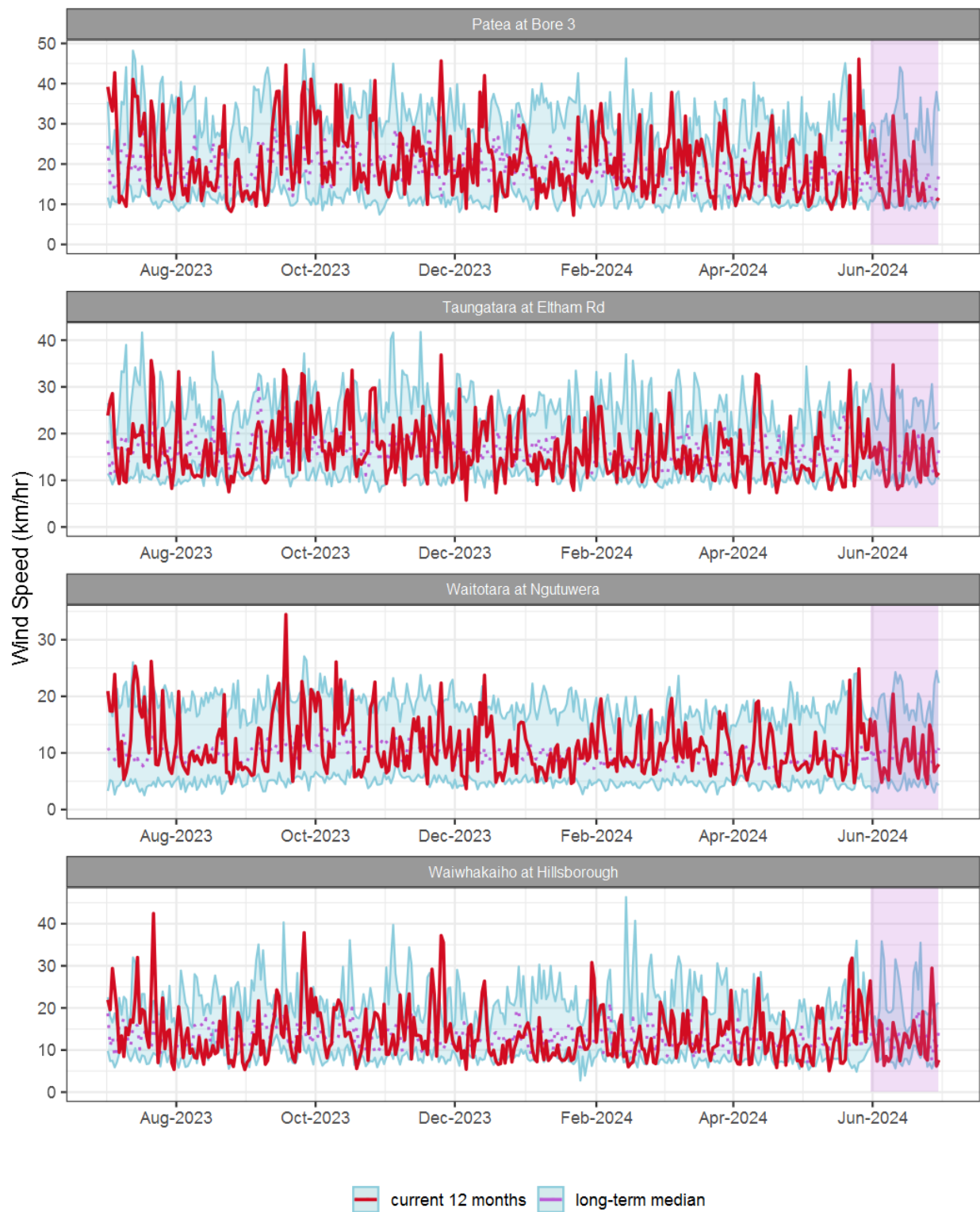


Figure 7.1: Running average wind speed (km/hr) for selected sites, set in context of the historic record.

7.3 Monthly Bar Charts

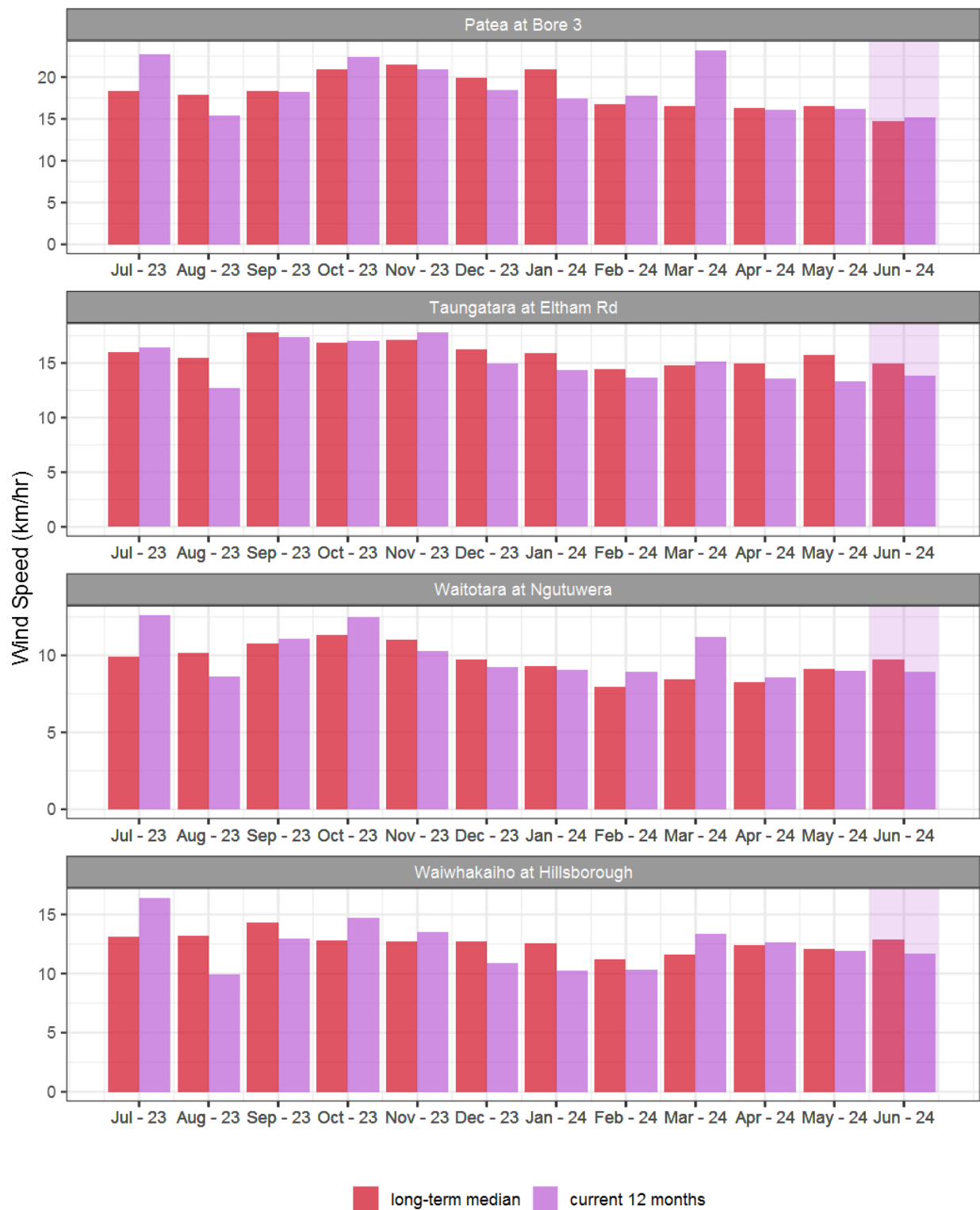


Figure 7.2: Monthly mean wind speed (km/hr) for selected sites, relative to the mean of all previously recorded months.

7.4 Wind roses for June 2024

Average windspeed

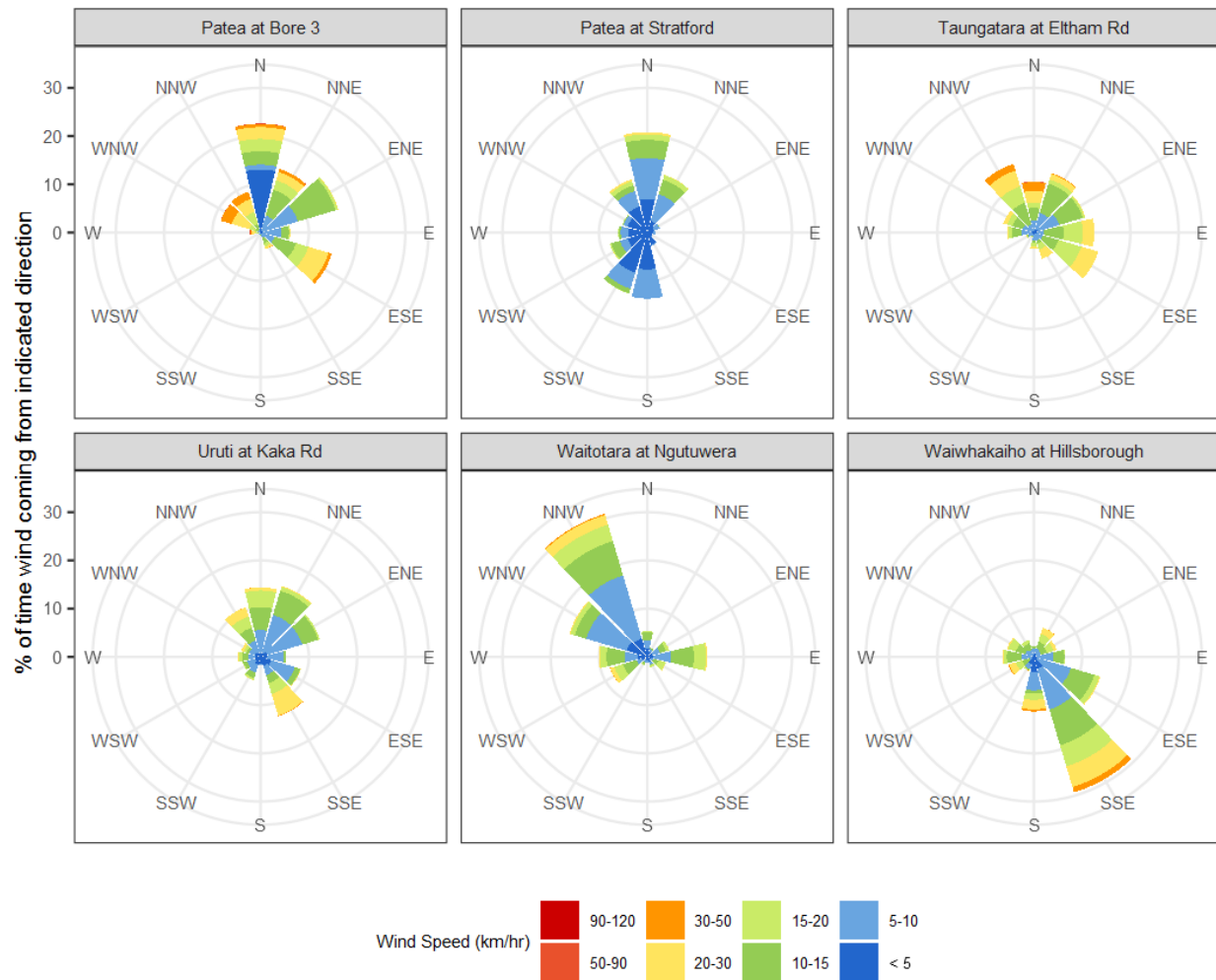


Figure 7.3: Wind roses for June for average wind speed (km/hr).

Maximum gust strength

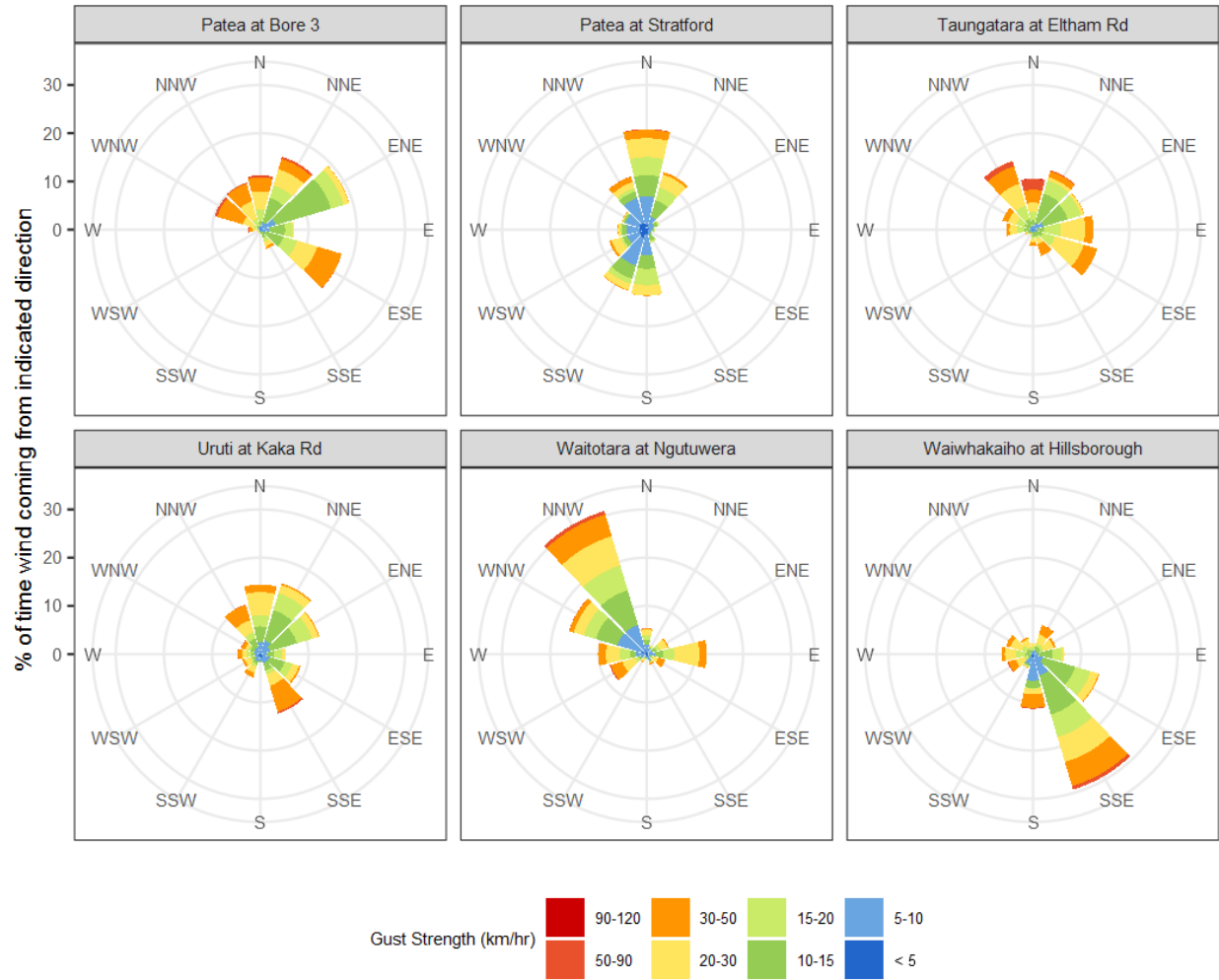


Figure 7.4: Wind roses for June for maximum wind gust (km/hr).

8. Summary of month's conditions

Rainfall

On average June rainfall was 108.8mm, 37% less than usual, ranging from 57% less rain at Waitotara at Ngutuwera, and 7% more at Motunui M39 at Weston W3.

Year-to-date rainfall is lowest at Waitotara at Hawken Rd with 44% less rainfall than normal, Motunui M39 at Weston W3 has had the highest year-to-date rainfall with 1% less normal rainfall, on average there has been 23% less rain than normal across all rain gauges. Compared to typical full year totals, on average sites have already received 36% of a typical year's rainfall, with the highest value at Motunui M39 at Weston W3, 47% of normal, whereas Waitotara at Hawken Rd sits at 28% of the typical year's total.

River Flow

Mean river flows for June were 34.4% lower than typical values, low flows were 2.8% lower, and high flows 53% lower than typical values. The maximum river flow recorded in June was 209.8m³/sec at Waitara at Bertrand Rd, on 10 June.

River Water Temperature

Mean river (non-mountain) water temperatures were 10.4°C, an average of 0.2°C cooler than long-term June values. Nighttime-low water temperatures were on average 0.5°C warmer than historic lows, and day-time high temperatures were on average 0.4°C cooler than historic highs. The maximum river water temperature recorded in June was 13.67°C at Kapoiaia at Lighthouse, on 10 June.

Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 10.7°C, which is the same as long-term June averages. Low air temperatures for June were on average 0.8°C warmer than the June average for previous years. Day-time high temperatures were on average 0.2°C warmer than historic highs. The maximum air temperature recorded in June was 19.6°C at Brooklands Zoo at New Plymouth, on 8 June.

Soil Moisture

The average soil moisture for June across sites in Taranaki region was 33.3%. Soil moistures were on average 0.1% wetter than typical June values. On average, low soil moistures were 3.8% wetter than previous lows, and the highs were on average 3.5% drier than previous values for June.

Soil Temperature

June soil temperatures were generally 0.3°C warmer than long-term averages. Average nighttime low soil temperatures were 1.1°C warmer than recorded lows, and upper day-time soil temperatures were on average 0.2°C cooler than long-term June highs. The

maximum soil temperature recorded in June was 16.3°C at Kapoiaia at Lighthouse, on 2 June.

Wind Speed (average and 10 minute gust)

June average wind speeds were 10.9km/hr, with average gust strength of 37.1km/hr, these were 1.6km/hr lighter and 3.8km/hr weaker than the long-term average. Average calm weather wind speeds were the same as than recorded lows, and windy conditions were on average 5.3km/hr lighter than long-term June highs. The maximum wind gust recorded in June was 96.6km/hr at Taungatara at Eltham Rd on 9 June.

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: 10 July 2024.

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