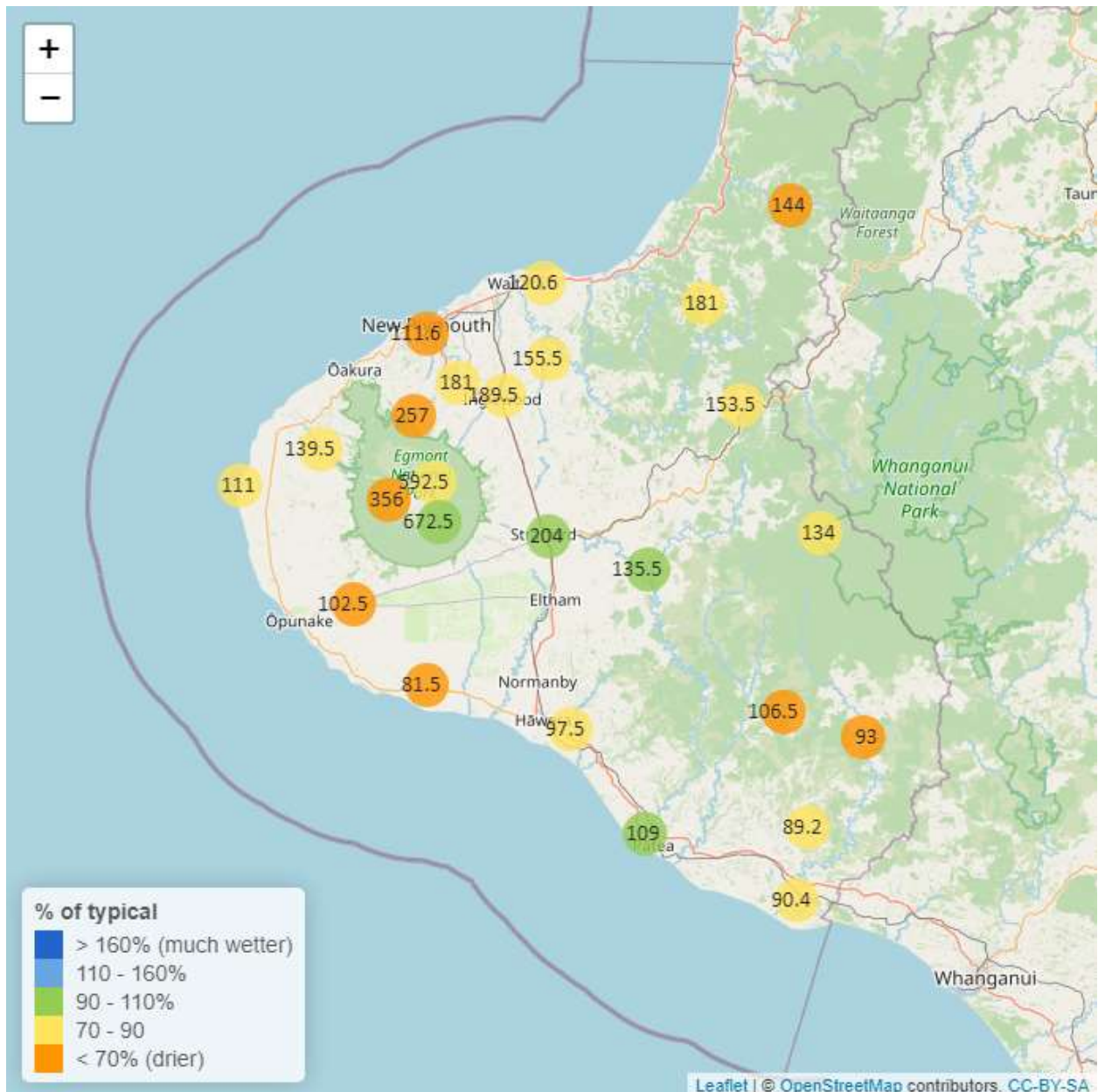


Taranaki Regional Council Monthly Rainfall and Environmental Data Report for July 2024

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



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

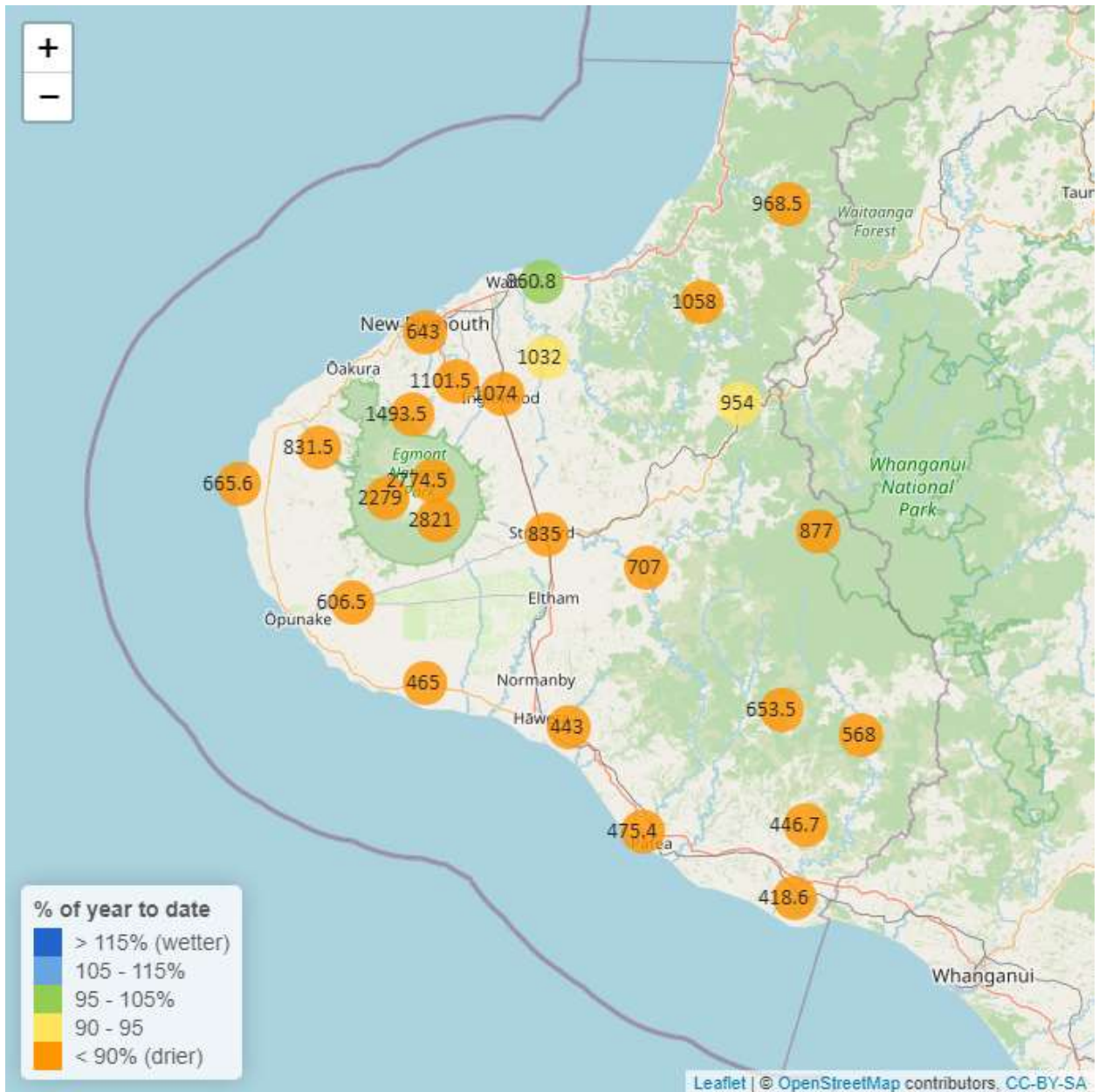


Table 1: Rainfall July and year-to-date totals for rain gauge sites in Taranaki.

Rain gauge	July			Year to Date			Records Began
	# days with rain	Total rain (mm)	% of typical month	Total to date (mm)	% of typical year to date	% of typical full year	
North Egmont at Visitors Centre	17	592.5	84.8	2774.5	73.6	39.9	1991
Dawson Falls	19	672.5	109.2	2821.0	83.3	47.4	1933
Kapoaiaia at Kahui Hut	20	356.0	61.7	2279.0	77.8	43.4	2006
Mangorei Upper at Forest Hill	17	257.0	63.3	1493.5	71.5	39.8	2018
Waiwhakaiho at Hillsborough	14	122.0	67.2	796.5	75.0	43.5	2013
Brooklands Zoo at New Plymouth	20	111.6	67.9	643.0	67.0	39.8	2012
Motunui M39 at Weston W3	19	120.6	80.2	860.8	95.8	54.7	1999
Waiwhakaiho at Egmont Village	17	181.0	76.9	1101.5	82.3	45.4	1991
Manganui at Everett Park	16	155.5	76.9	1032.0	90.2	49.7	1987
Inglewood at Oxidation Ponds	16	189.5	82.1	1074.0	83.5	45.6	2000
Stony at Mangatete Bridge	17	139.5	71.3	831.5	73.4	41.5	2004
Kapoaiaia at Lighthouse	14	111.0	74.9	665.6	81.2	47.8	1930
Taungatara at Eltham Rd	14	102.5	60.7	606.5	68.1	38.4	2005
Kaupokonui at Glenn Rd	13	81.5	67.6	465.0	70.0	39.8	1998
Patea at Stratford	19	204.0	99.5	835.0	74.4	42.0	1999
Mangaehu at Bridge	18	135.5	90.5	707.0	79.5	44.4	1999
Kotare at OSullivans	17	144.0	69.1	968.5	84.7	44.9	1998
Uruti at Kaka Rd	17	181.0	89.2	1058.0	89.5	47.4	1991
Pohokura Saddle	17	153.5	82.0	954.0	90.2	48.0	1991
Omaru at Charlies	19	134.0	73.3	877.0	85.8	48.0	2006
Omahine at Moana Trig	21	106.5	67.4	653.5	69.0	38.6	2007

	July			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	16	93.0	68.0	568.0	74.8	41.2	1994
Waitotara at Ngutuwera	12	89.2	72.3	446.7	62.7	34.7	1999
Tawhiti at Duffys	13	97.5	88.0	443.0	71.1	40.0	1994
Patea at Bore 3	17	109.0	94.3	475.4	71.4	40.2	2006
Waitotara at Hawken Rd	13	90.4	77.9	418.6	59.3	35.2	2016

1.2 Long-term data patterns

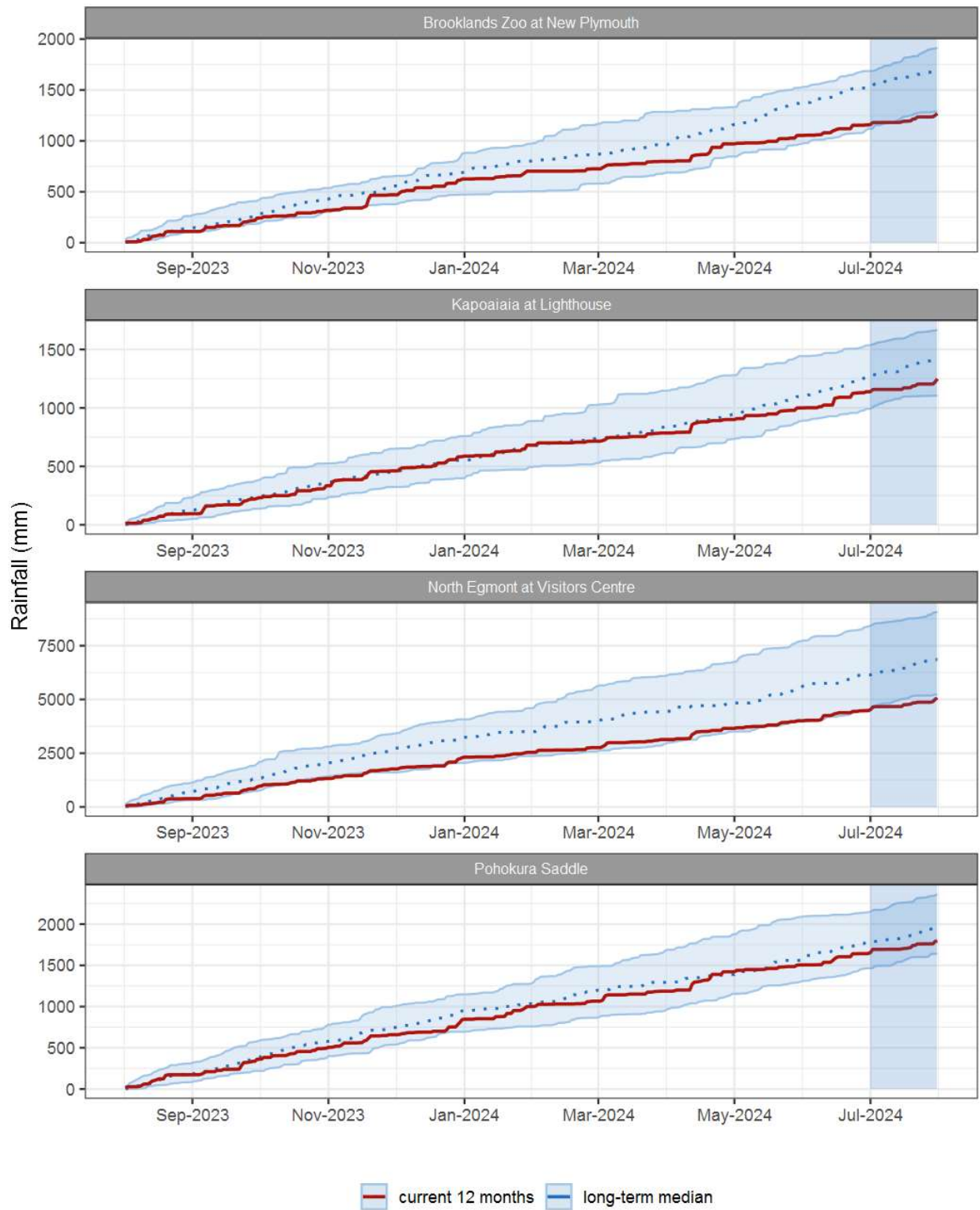


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki.

1.3 Monthly Bar Charts

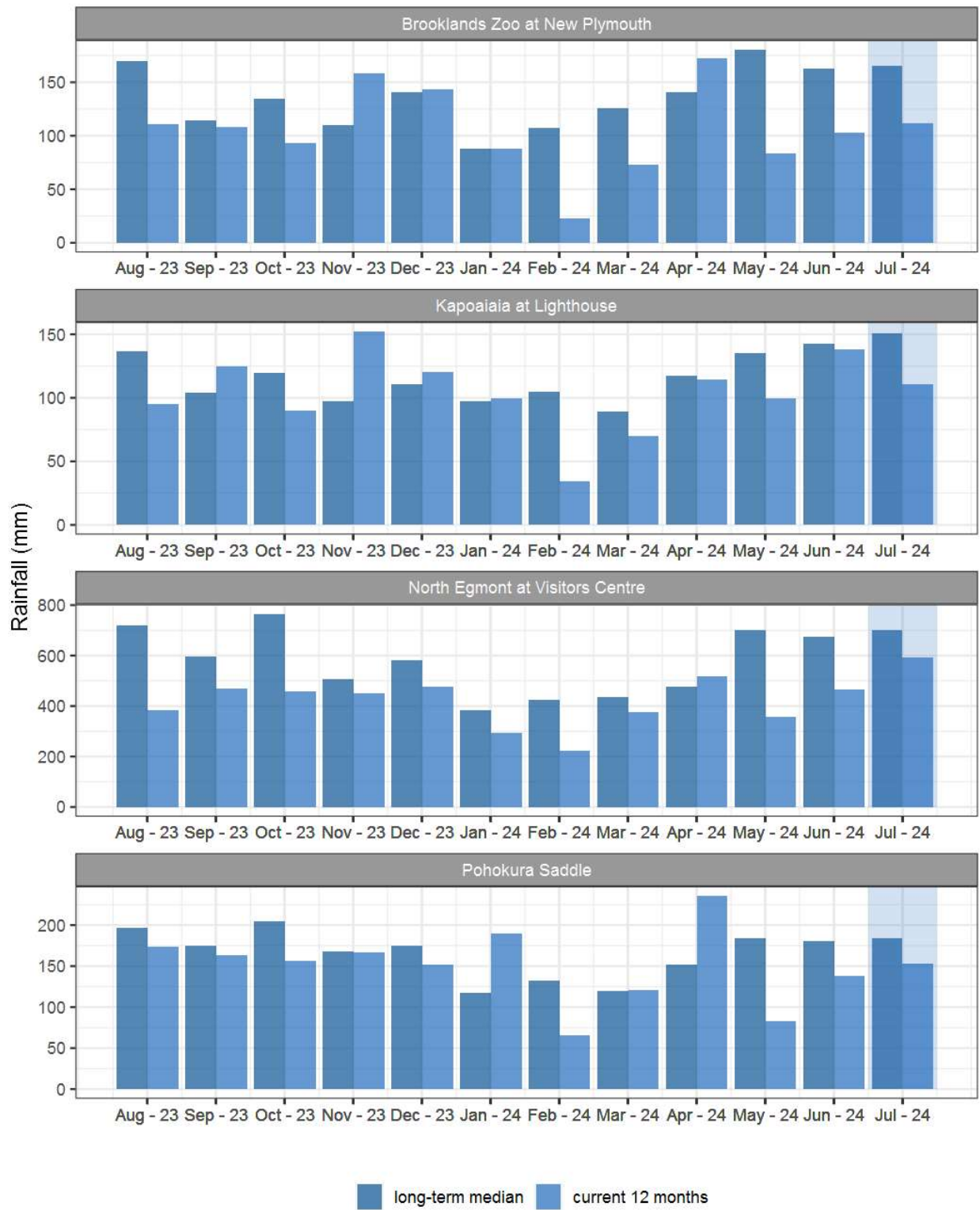


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months.

2. River Flow

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

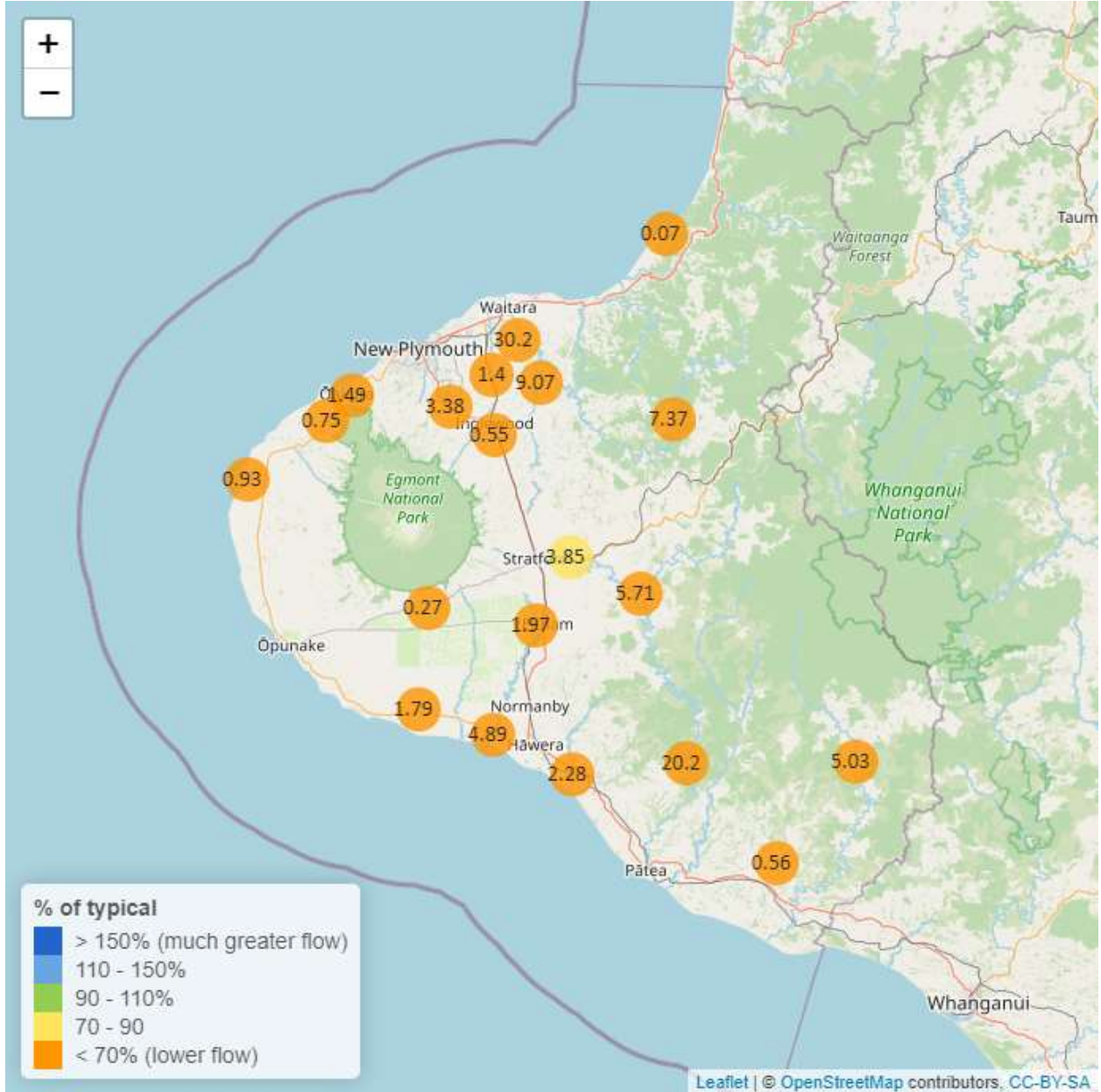


Table 2: Summary of high, low and mean flow for July and for July in all preceding years of record.

July 2024 - Recorded flows (m3/sec)								
River and Site	Highs		Lows		Mean		July maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kaupokonui at Glenn Rd	6.93	12.36	1.47	1.65	1.79	3.43	28.43	45
Mangaehu at Bridge	31.11	60.13	3.80	4.31	5.71	11.22	60.31	46
Manganui at Everett Park	45.42	76.70	6.23	5.43	9.07	13.20	570.57	33
Mangawheroiti Above Intake W.W	1.03	1.62	0.22	0.26	0.27	0.44	4.21	11
Moumahaki at Johnston Rd	2.91	9.08	0.43	0.98	0.56	2.10	20.94	6
Ngatoro at SH3	2.59	4.32	0.41	0.41	0.55	0.80	40.11	36
Oakura at Victoria Rd	7.31	15.30	0.87	1.30	1.49	3.01	34.69	5
Patea at McColls Bridge	56.74	110.71	4.25	3.72	20.20	43.70	62.63	34
Patea at Skinner Rd	12.17	19.64	2.45	1.90	3.85	5.27	110.53	46
Tangahoe below Railway Bridge	9.59	23.01	1.72	3.32	2.28	6.53	68.12	6
Timaru at Tataraimaka	2.88	6.90	0.47	0.74	0.75	1.50	33.09	11
Waikaramarama at Bridge	0.52	1.06	0.02	0.04	0.07	0.13	4.91	6
Waingongoro at Eltham Rd	6.76	10.83	1.50	1.31	1.97	3.21	66.46	49
Waingongoro at SH45	13.75	27.24	3.98	4.32	4.89	9.85	68.82	43
Waiongana at SH3a	5.47	10.00	0.81	0.80	1.40	2.26	74.23	43
Waitara at Bertrand Rd	172.19	263.06	16.64	14.92	30.20	46.77	665.36	44
Waitara at Purangi Bridge	63.32	115.79	2.78	2.00	7.37	11.55	145.10	25
Waitotara at Rimunui Station	29.60	66.51	3.61	6.28	5.03	14.00	77.19	18
Waiwhakaiho at Egmont Village	13.56	28.73	2.42	2.41	3.38	5.01	135.40	44
Warea at Coast	2.98	5.91	0.68	0.62	0.93	1.64	9.53	7

2.2 Long-term data patterns

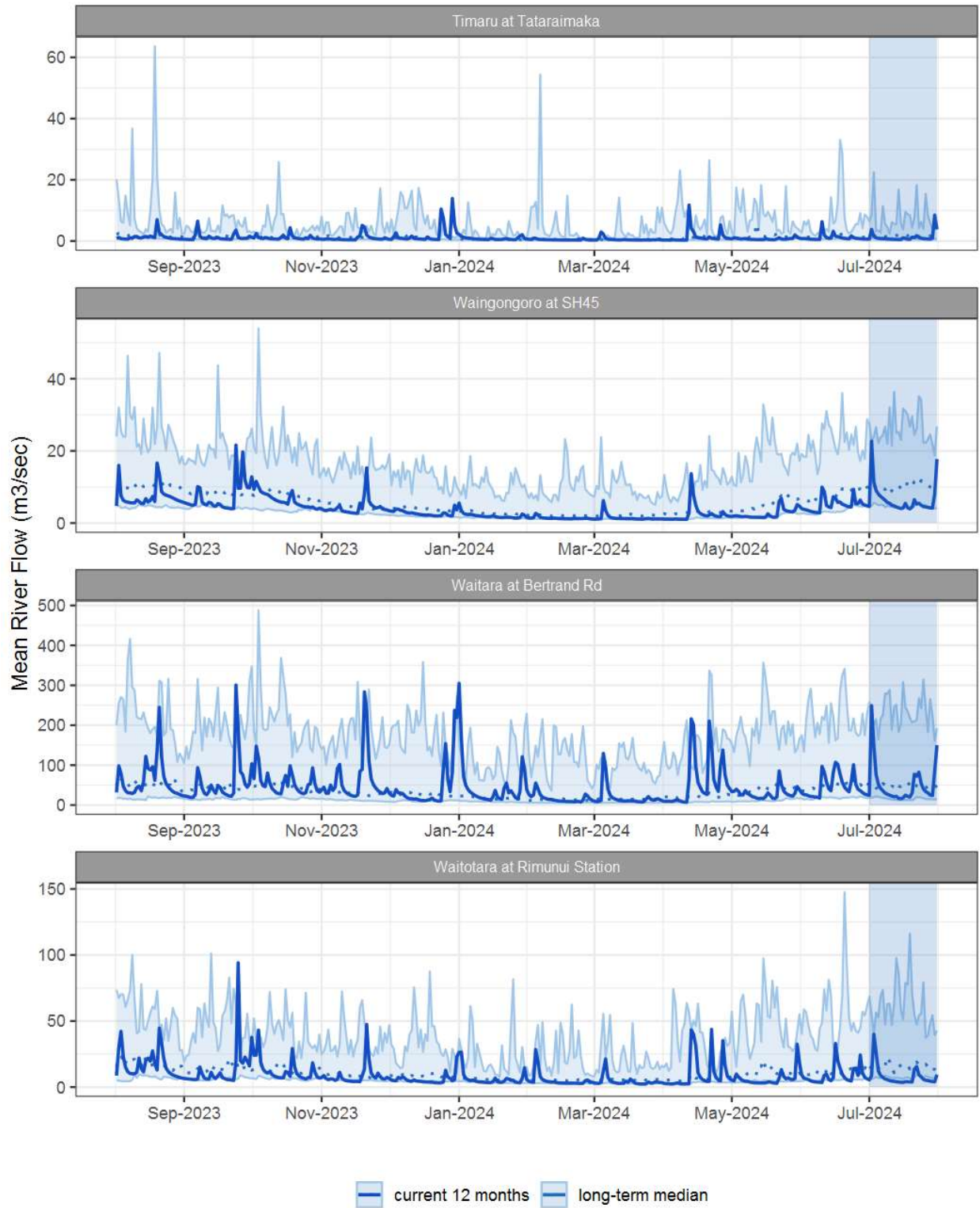


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

2.3 Monthly Bar Charts

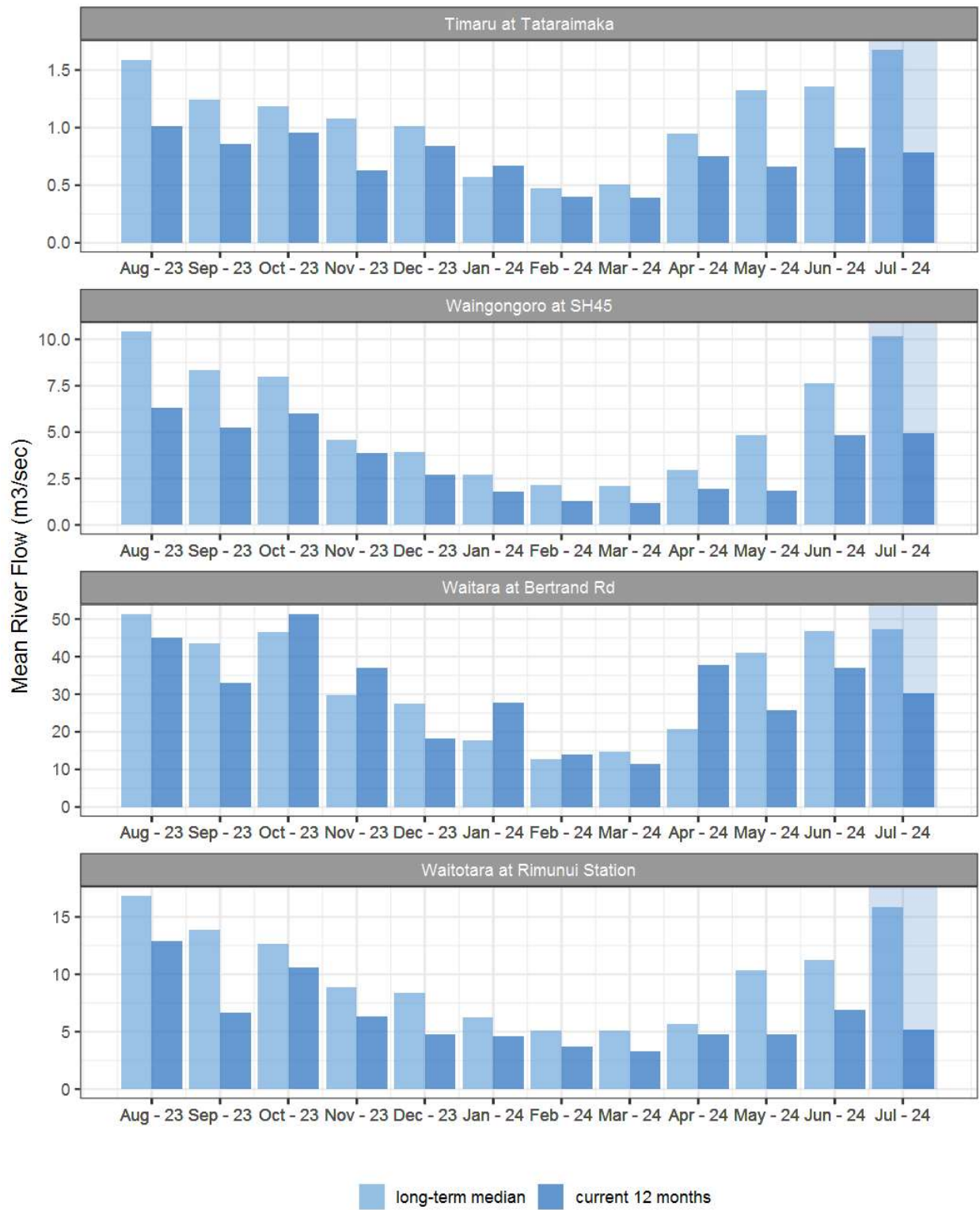


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

3. River Temperature

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

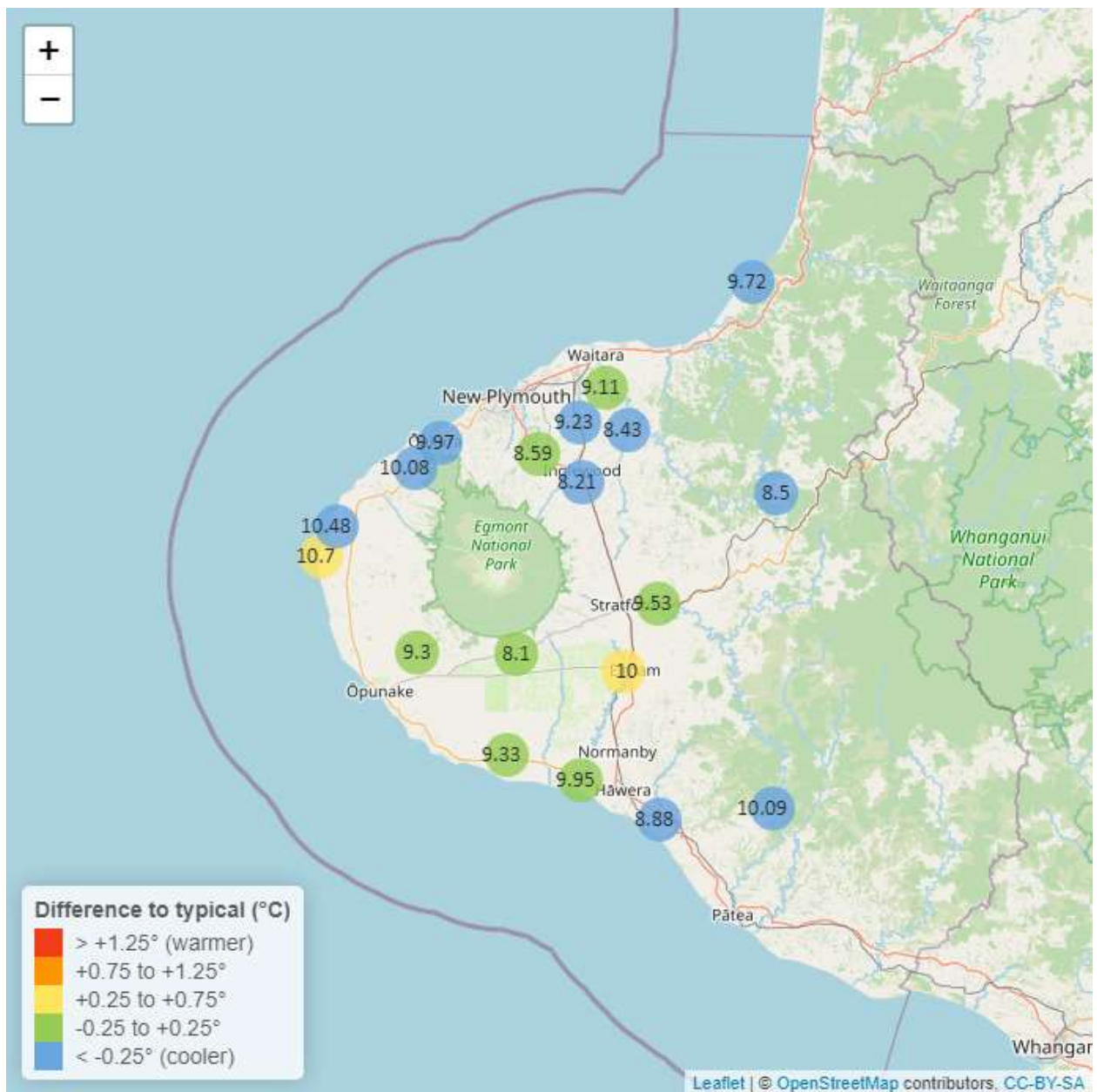


Table 3: Summary of high, low and mean river temperature for July and for July in all preceding years of record.

July 2024 - River Temperature (°C)								
River and Site	Highs		Lows		Mean		July maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	12.59	12.53	7.96	6.94	10.70	10.17	13.10	25
Kaupokonui at Glenn Rd	11.27	11.22	6.69	6.60	9.33	9.34	12.26	30
Manganui at Everett Park	10.02	11.38	6.68	6.97	8.43	9.49	10.78	15
Mangawheroiti Above Intake W.W	9.12	9.51	6.62	6.46	8.10	8.21	9.55	11
Matau at Woolshed	10.36	11.50	6.25	7.27	8.50	9.67	11.05	6
Ngatoro at SH3	9.91	10.38	6.57	5.95	8.21	8.50	10.98	22
Oakura at Victoria Rd	11.33	12.09	7.61	8.27	9.97	10.46	11.79	5
Patea at McColls Bridge	10.59	11.56	9.58	9.69	10.09	10.56	10.91	10
Patea at Skinner Rd	10.81	11.32	7.51	7.24	9.53	9.64	11.36	20
Tangahoe below Railway Bridge	10.80	11.79	5.92	7.81	8.88	10.08	11.68	6
Timaru at Tataraimaka	11.47	12.37	7.46	8.03	10.08	10.50	11.81	9
Waiaua 2 at Barraclough Opua	11.42	11.38	6.67	6.84	9.30	9.35	12.35	5
Waikaramarama at Bridge	11.37	12.54	7.60	8.35	9.72	10.96	11.91	6
Waingongoro at Eltham Rd	11.15	11.16	8.06	7.25	10.00	9.64	11.47	20
Waingongoro at SH45	11.27	11.80	7.36	7.70	9.95	10.20	11.69	19
Waiongana at SH3a	10.71	11.84	7.56	7.80	9.23	10.22	11.57	13
Waitara at Bertrand Rd	10.58	11.56	7.40	6.99	9.11	9.30	11.44	34
Waiwhakaiho at Egmont Village	9.98	10.60	6.85	6.04	8.59	8.59	10.61	32
Warea at Coast	12.31	12.85	7.65	8.90	10.48	11.08	13.16	5

3.2 Long-term data patterns

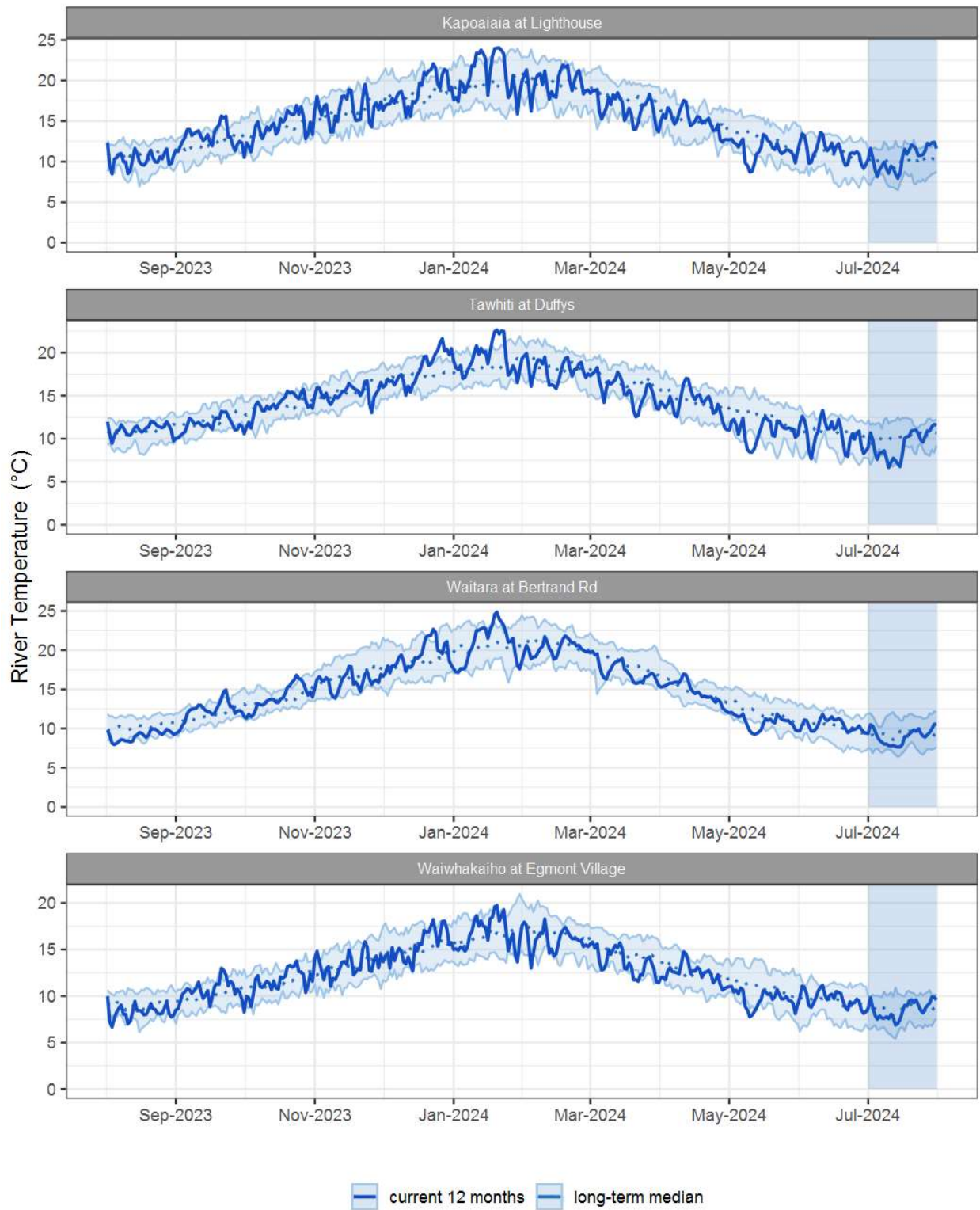


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

3.3 Monthly Bar Charts

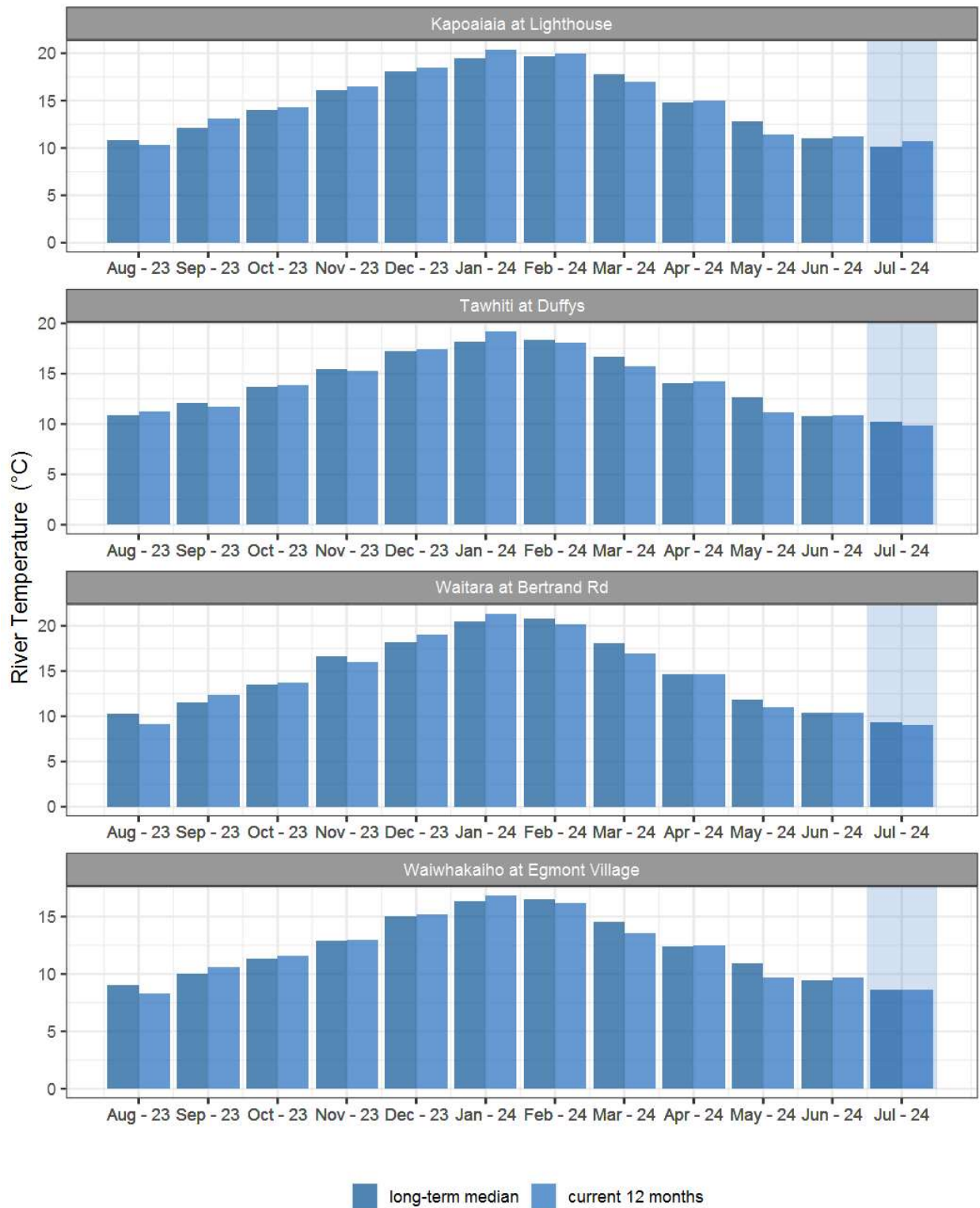


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

4. Air Temperature

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

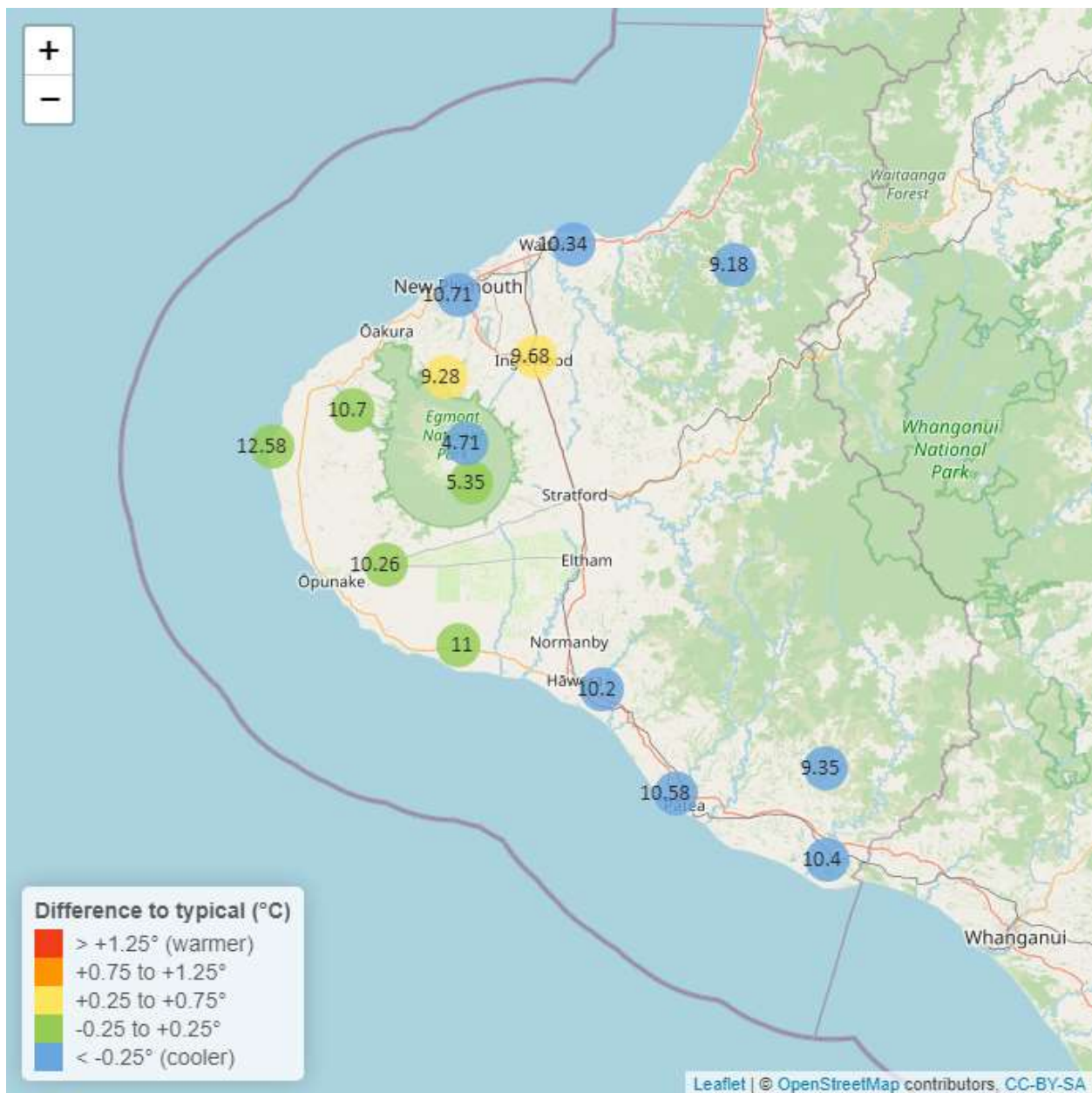


Table 4: Summary of high, low and mean air temperature for July and for July in all preceding years of record.

July 2024 - Air Temperature (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	July maximum	Data years
Brooklands Zoo at New Plymouth	15.55	15.29	5.62	5.16	10.71	11.03	17.64	12
Dawson Falls	8.94	9.00	1.96	0.74	5.35	5.30	10.57	9
Inglewood at Oxidation Ponds	14.12	13.63	2.96	2.55	9.68	9.32	15.82	12
Kapoaiaia at Lighthouse	14.90	14.86	6.08	6.09	12.58	12.35	16.37	12
Kaupokonui at Glenn Rd	14.80	14.74	4.21	4.78	11.00	11.16	16.51	9
Mangorei Upper at Forest Hill	12.28	12.04	4.89	4.27	9.28	9.02	13.78	7
Motunui M39 at Weston W3	14.16	14.60	4.46	5.22	10.34	11.14	15.97	7
North Egmont at Visitors Centre	8.31	8.61	1.14	0.60	4.71	5.10	12.52	9
Patea at Bore 3	14.45	14.60	5.08	5.16	10.58	10.91	15.87	11
Stony at Mangatete Bridge	13.86	14.05	5.07	5.75	10.70	10.79	16.72	8
Taungatara at Eltham Rd	13.97	13.99	4.75	4.36	10.26	10.43	15.09	9
Tawhiti at Duffys	14.40	14.52	-0.20	1.70	10.20	10.53	16.53	11
Uruti at Kaka Rd	12.50	13.07	4.55	4.62	9.18	9.45	14.91	6
Waitotara at Hawken Rd	14.82	14.98	4.56	5.26	10.40	10.94	16.45	8
Weraweraonga at 749 Mangawhio Rd	14.86	15.02	1.22	3.20	9.35	10.19	16.57	7

4.2 Long-term data patterns

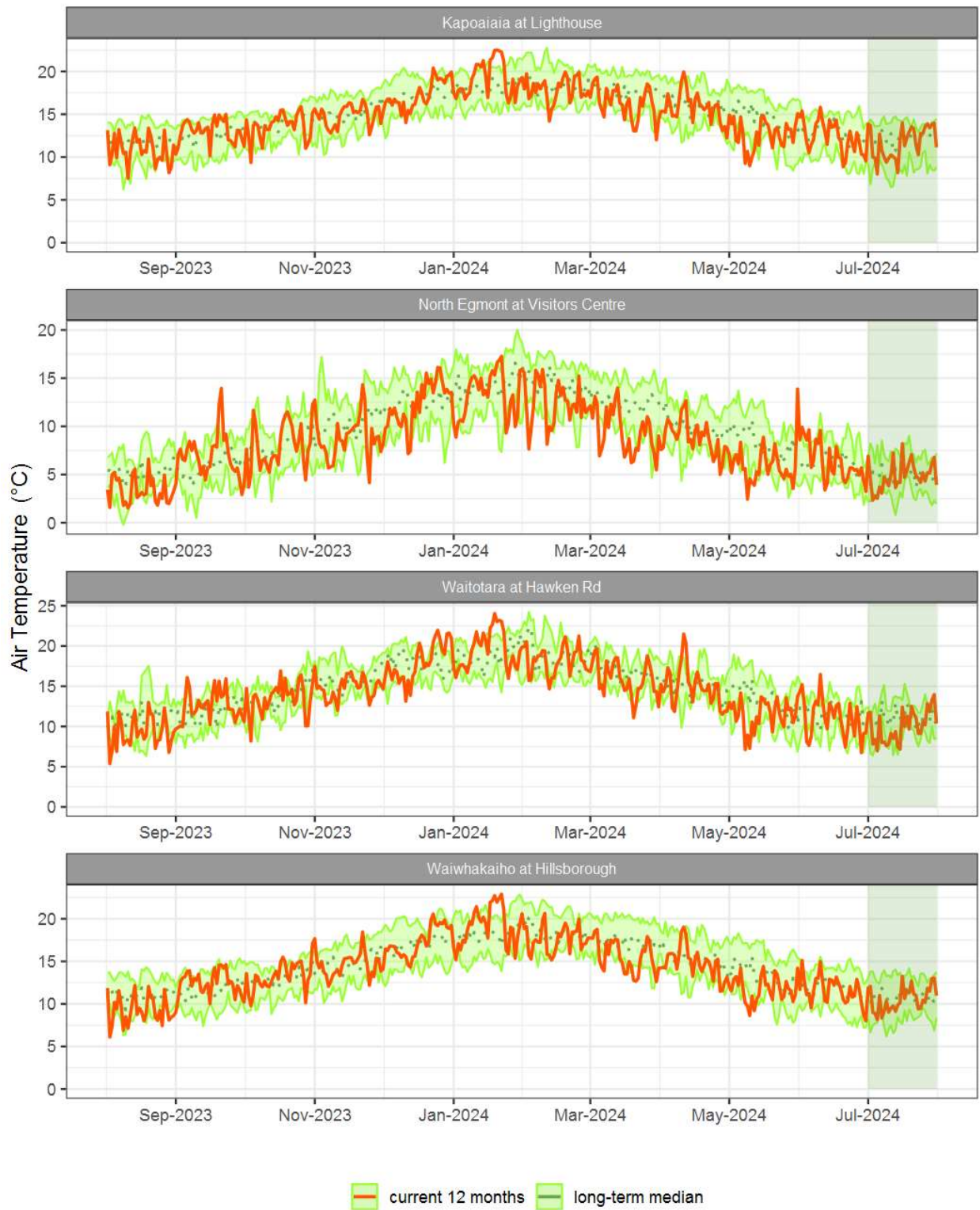


Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

4.3 Monthly Bar Charts

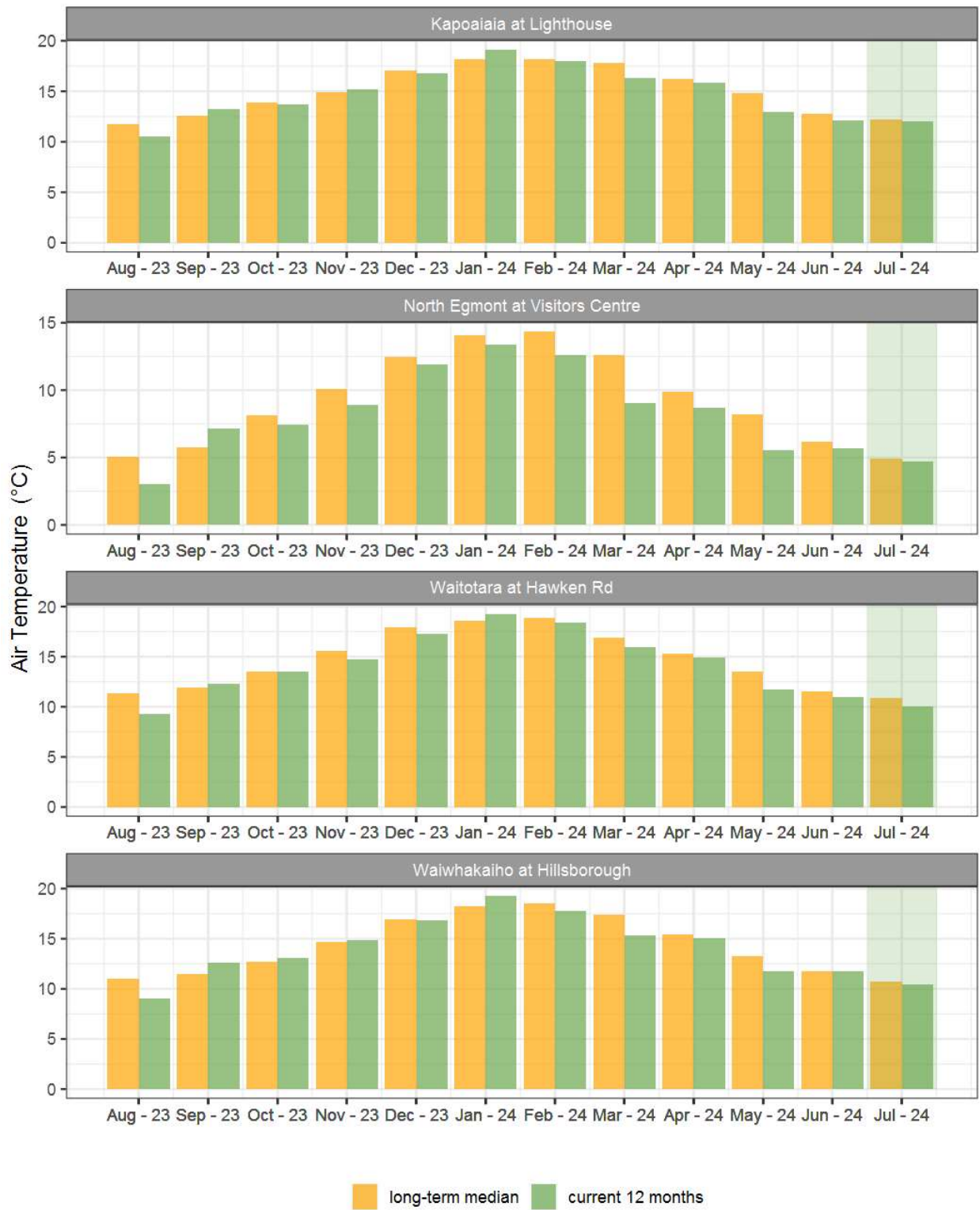


Figure 4.2: Monthly mean air temperature for July and the mean of all previously recorded months.

5. Soil Moisture

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

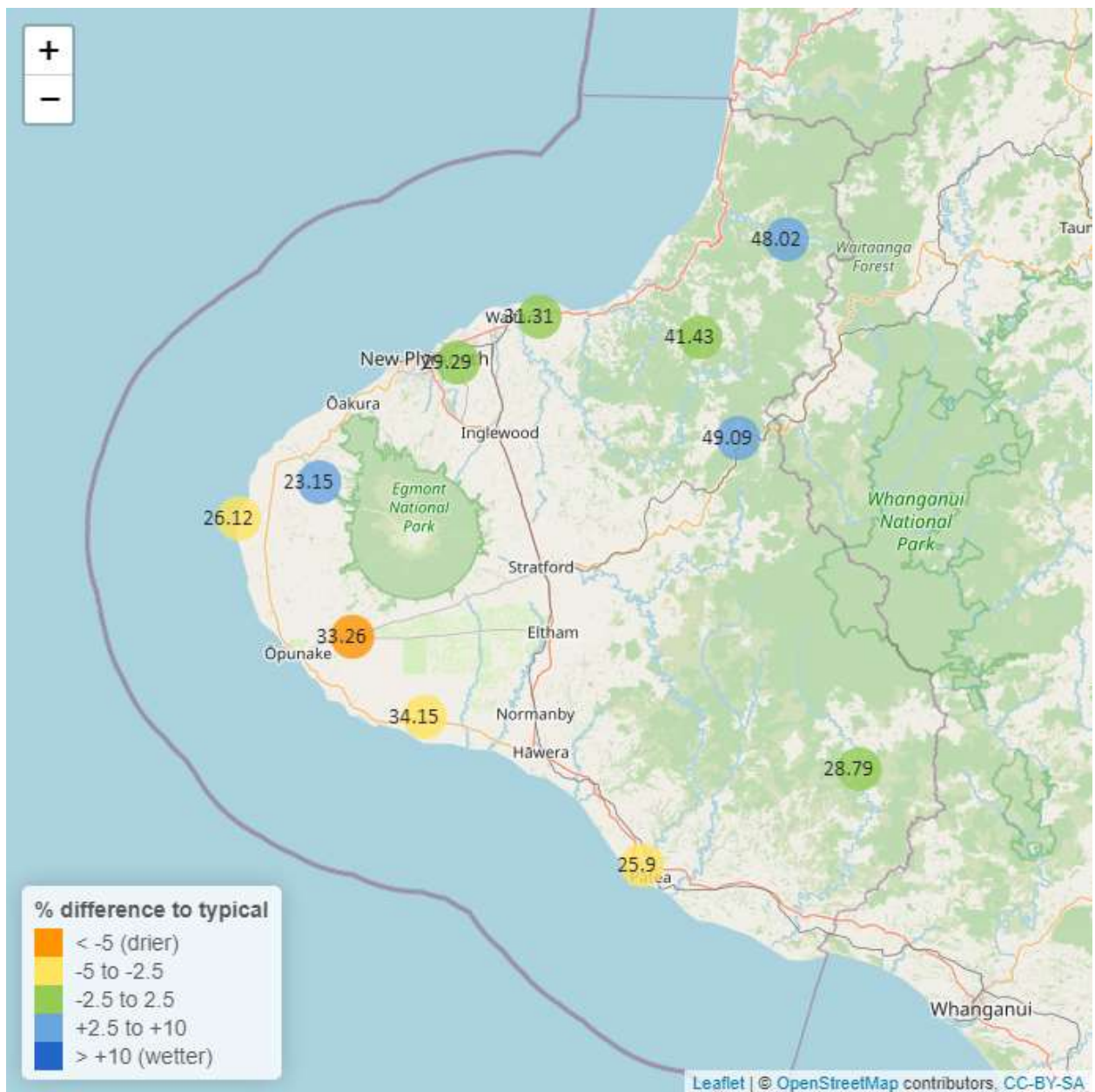


Table 5: Summary of high, low and mean soil moisture for July and for July in all preceding years of record.

July 2024 - Soil Moisture (%)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	July maximum	Data years
Kapoaiaia at Lighthouse	27.36	38.11	25.51	24.31	26.12	28.65	28.55	16
Kaupokonui at Glenn Rd	35.28	45.74	33.60	32.47	34.15	38.58	38.75	13
Kotare at OSullivans	52.15	51.38	45.76	37.76	48.02	43.71	56.30	12
Motunui M39 at Weston W3	32.90	35.56	30.37	26.65	31.31	31.18	33.16	15
Patea at Bore 3	27.41	34.53	24.97	26.11	25.90	29.41	29.64	8
Pohokura Saddle	53.01	52.13	46.88	35.20	49.09	45.33	53.58	17
Stony at Mangatete Bridge	27.36	25.47	20.29	14.45	23.15	20.48	31.33	8
Taungatara at Eltham Rd	37.13	47.60	32.41	29.76	33.26	39.67	41.61	10
Uruti at Kaka Rd	42.23	46.69	40.35	39.80	41.43	42.29	42.43	12
Waitotara at Rimunui Station	31.56	32.02	28.12	27.00	28.79	29.33	33.93	7
Waiwhakaiho at Hillsborough	31.49	34.37	28.42	26.54	29.29	29.80	32.99	11

5.2 Long-term data patterns

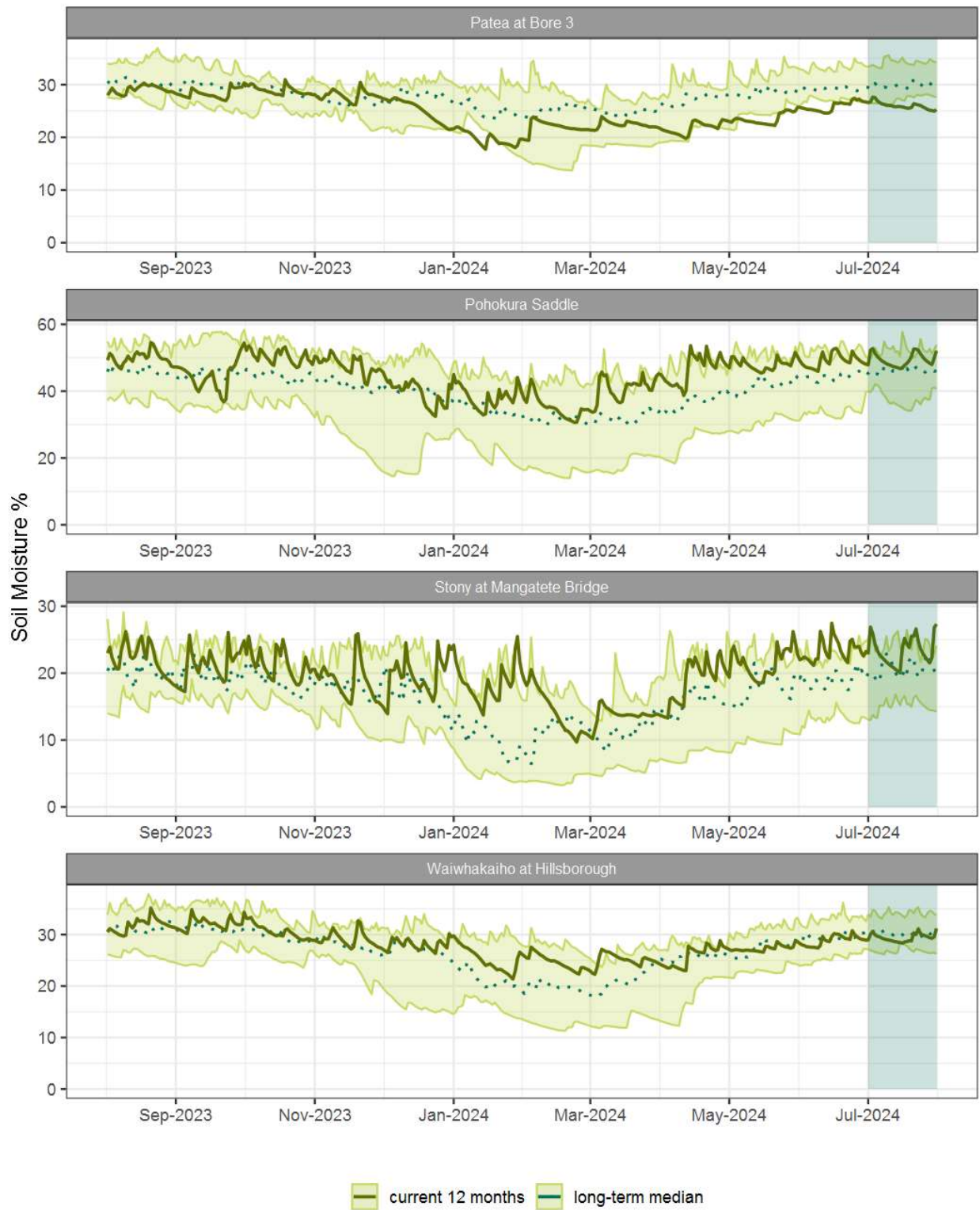


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.

5.3 Monthly Bar Charts

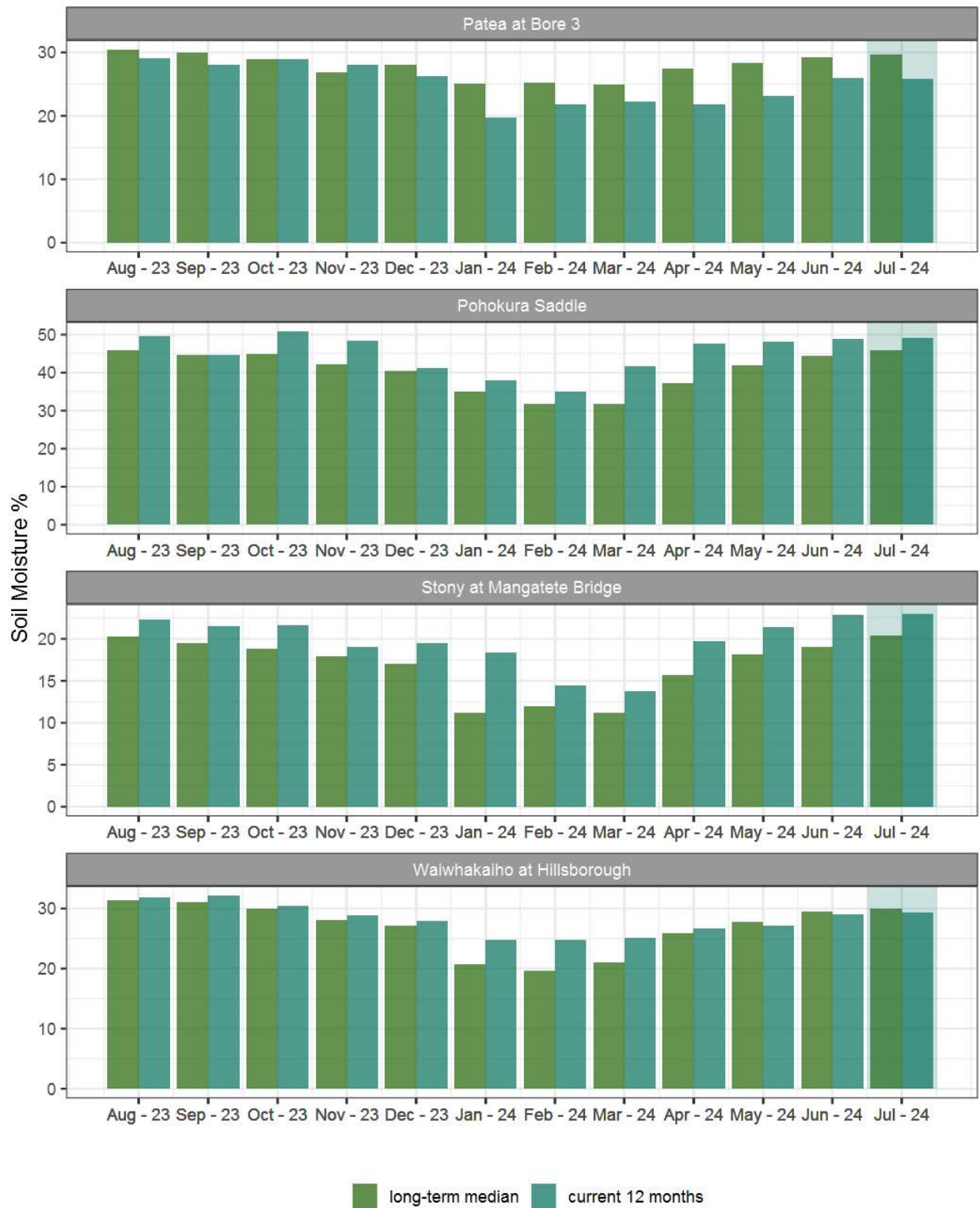


Figure 5.2: Monthly mean soil moisture for this month and the mean of all previously recorded months.

6. Soil Temperature

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

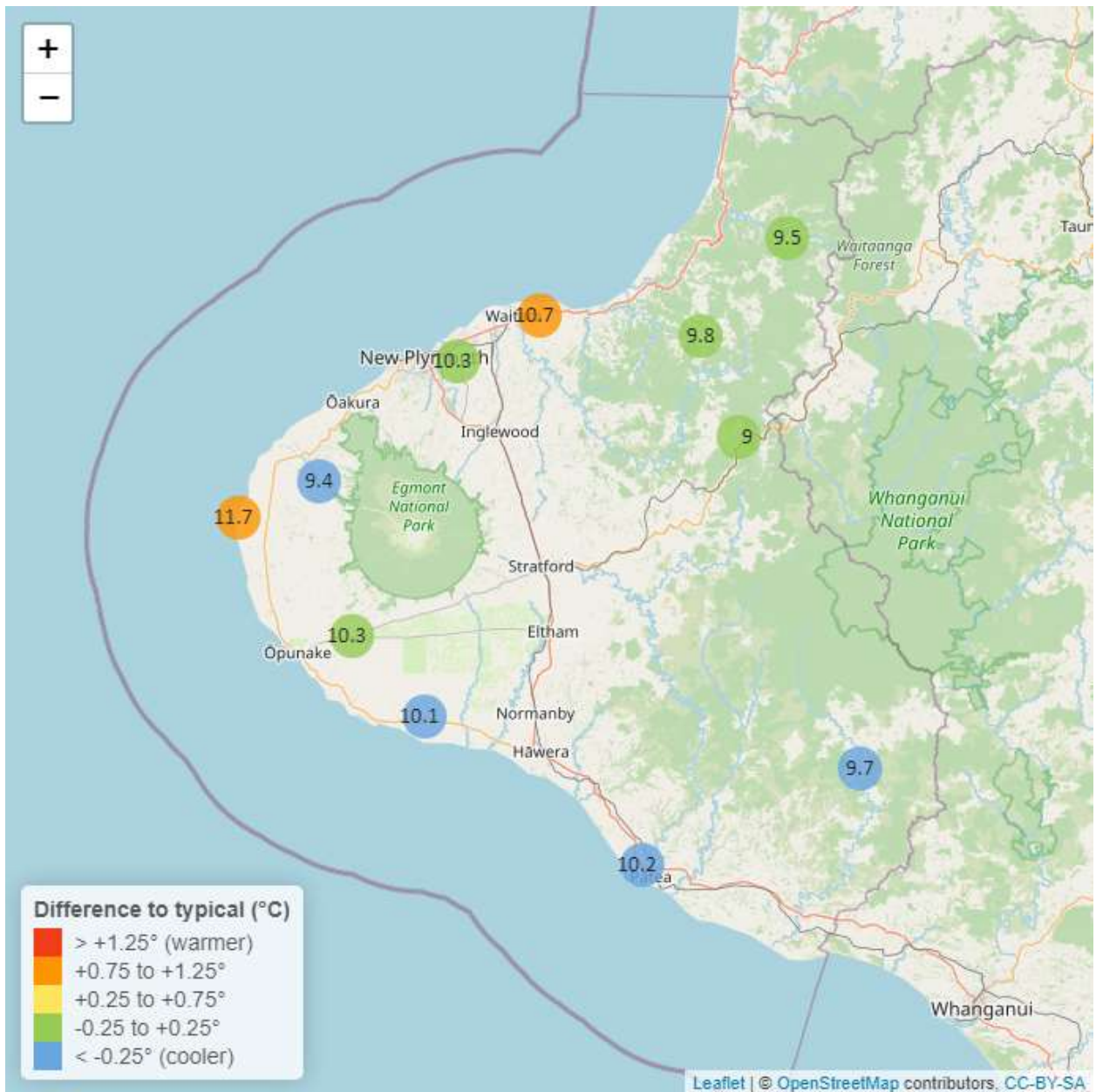


Table 6: Summary of high, low and mean soil temperature for July and for July in all preceding years of record.

July 2024 - Soil Temperatures (°C)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	July maximum	Data years
Kapoaiaia at Lighthouse	14.11	12.99	8.22	8.06	11.7	10.83	15.64	19
Kaupokonui at Glenn Rd	11.30	11.90	8.47	8.40	10.1	10.34	11.82	13
Kotare at OSullivans	10.59	11.27	7.73	6.39	9.5	9.40	11.18	12
Motunui M39 at Weston W3	12.08	11.93	9.48	7.38	10.7	9.95	12.38	15
Patea at Bore 3	11.59	12.12	8.63	8.92	10.2	10.61	12.27	8
Pohokura Saddle	10.37	10.54	7.13	6.99	9.0	8.90	10.83	18
Stony at Mangatete Bridge	11.19	11.90	6.80	8.00	9.4	10.03	11.90	7
Taungatara at Eltham Rd	11.70	11.80	8.70	8.30	10.3	10.19	12.27	10
Uruti at Kaka Rd	10.70	11.11	8.67	7.22	9.8	9.96	10.95	12
Waitotara at Rimunui Station	11.22	11.77	7.54	8.20	9.7	10.24	12.17	7
Waiwhakaiho at Hillsborough	11.47	12.06	8.97	8.35	10.3	10.37	11.92	11

6.2 Long-term data patterns

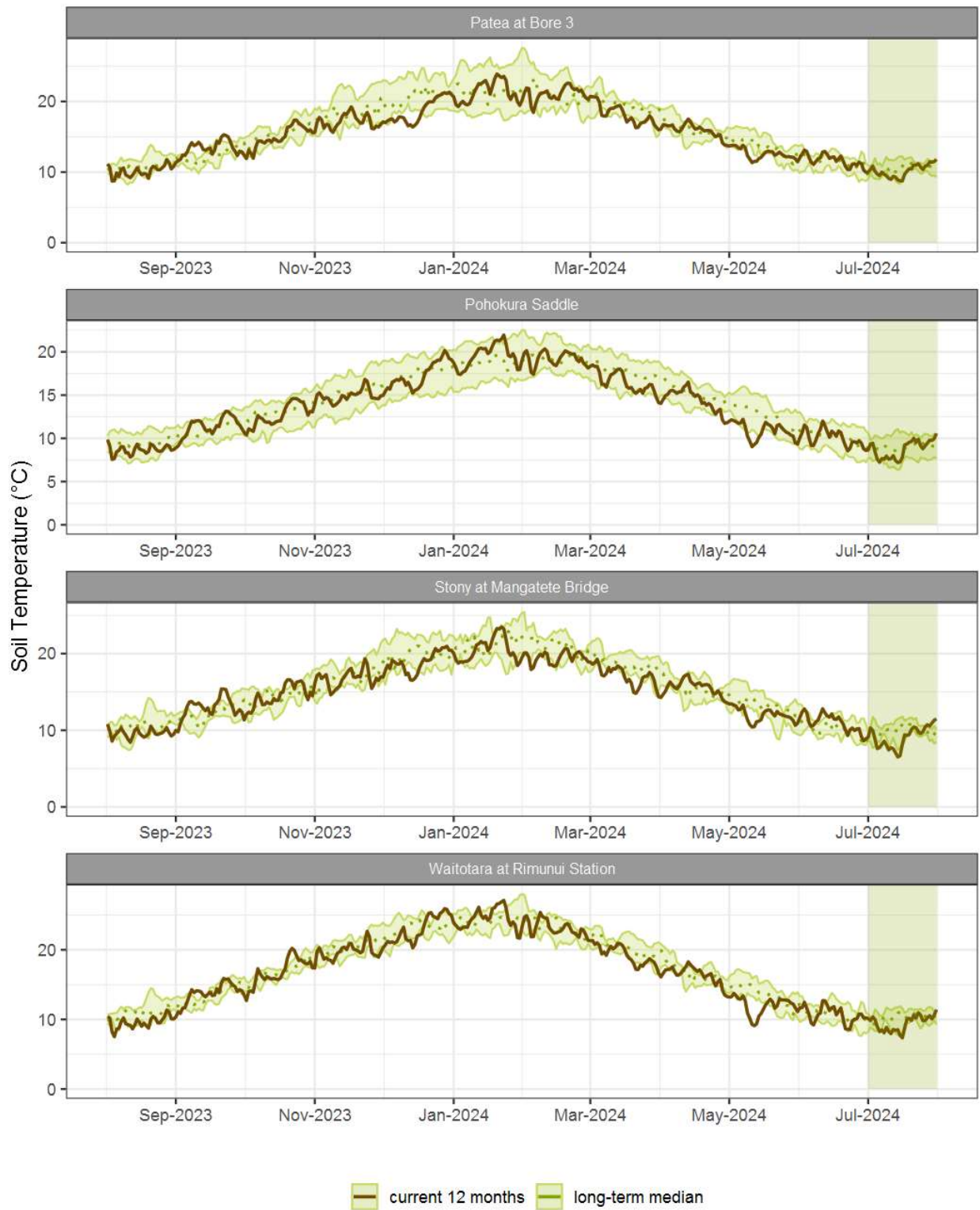


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.

6.3 Monthly Bar Charts

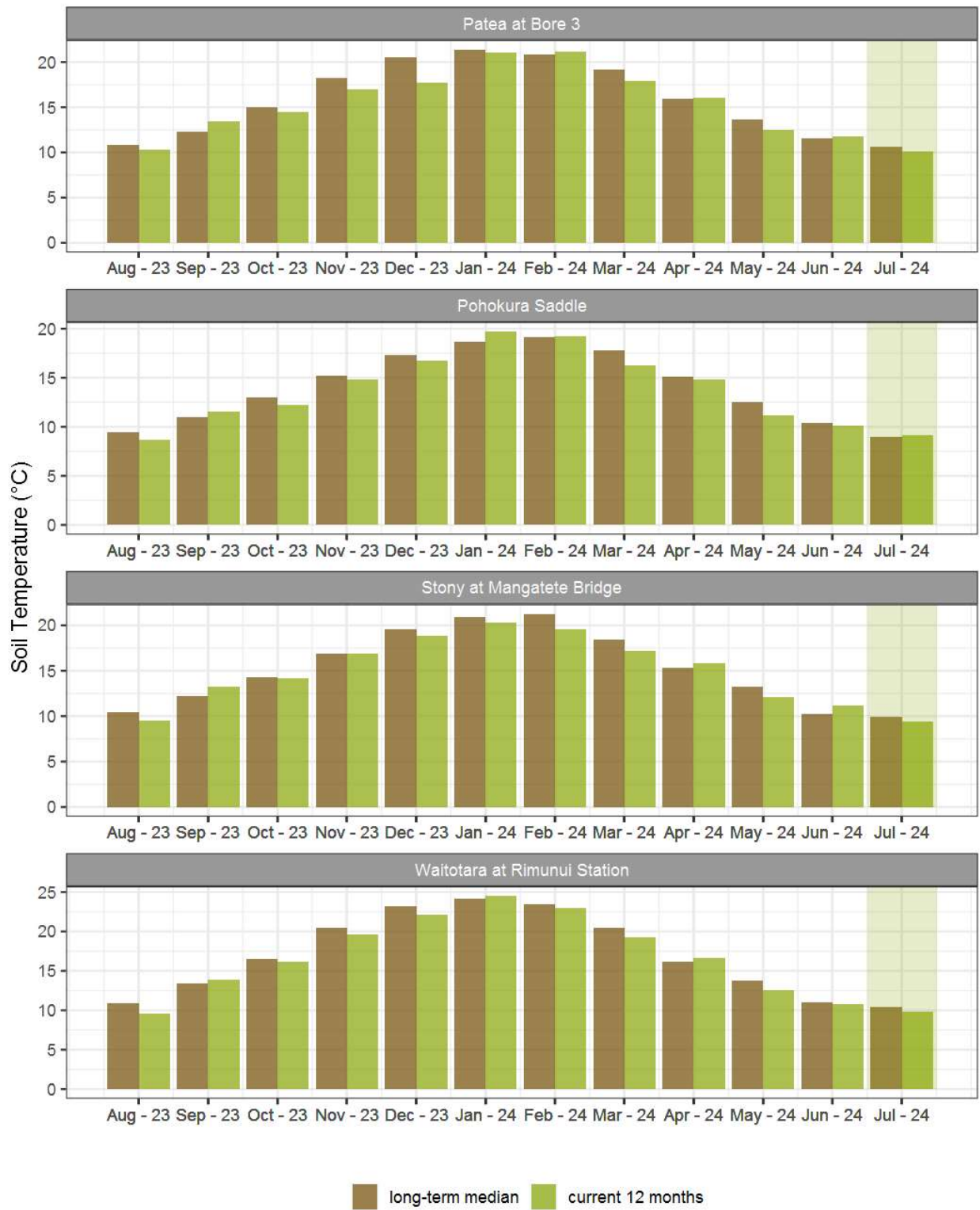


Figure 6.2: Monthly mean soil temperature for this month and the mean of all previously recorded months.

7. Wind Speed and Maximum Gusts

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

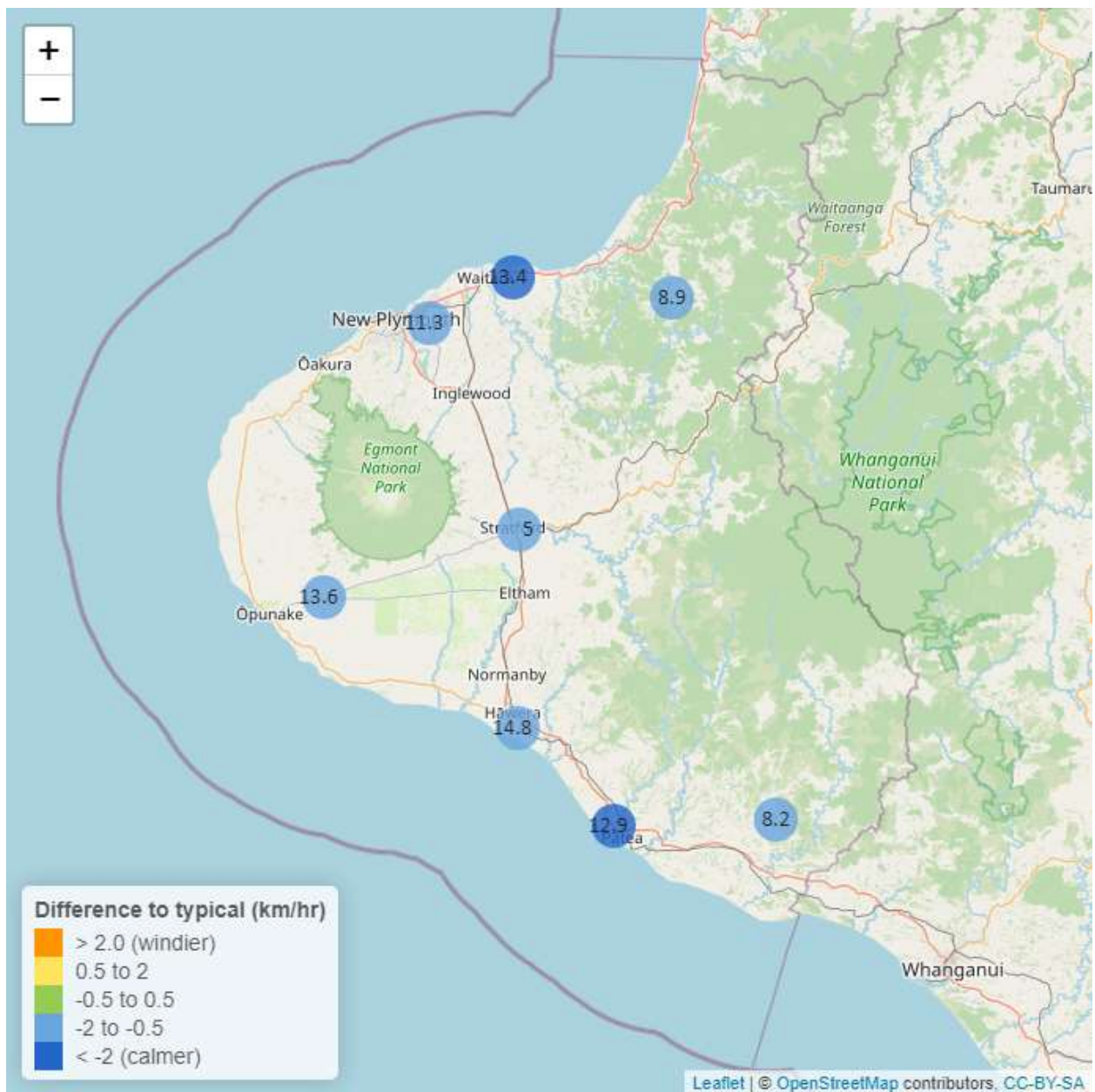


Table 7: Summary of high, low and mean wind speed for July and for July in all preceding years of record.

July 2024 - Wind Speed (average) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	July maximum	Data years
Hawera AWS	32.41	38.89	6.48	5.56	14.8	15.74	46.30	19
New Plymouth AWS	35.19	42.60	5.56	5.56	13.4	16.67	49.08	16
Patea at Bore 3	33.24	43.54	6.09	6.83	12.9	17.93	47.82	8
Patea at Stratford	15.42	18.79	2.29	2.41	5.0	6.63	26.82	18
Taungatara at Eltham Rd	32.20	34.51	5.95	6.48	13.6	15.26	49.15	8
Uruti at Kaka Rd	20.82	25.71	3.31	3.32	8.9	10.13	46.77	25
Waitotara at Ngutuweru	19.74	24.08	2.87	2.02	8.2	9.51	28.02	26
Waiwhakaiho at Hillsborough	29.28	29.01	4.40	4.22	11.3	12.69	41.85	7

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

July 2024 - Wind Gusts (Maximum) - (km/hr)								
	Highs		Lows		Mean			
Site	current month	historic	current month	historic	current month	historic	July maximum	Data years
Hawera AWS	75.93	83.34	22.22	20.37	38.9	46.30	77.78	19
New Plymouth AWS	70.38	87.04	25.93	20.37	42.6	46.30	77.78	16
Patea at Bore 3	73.10	85.50	15.20	21.70	40.9	48.05	75.60	8
Patea at Stratford	55.44	65.88	12.96	15.80	27.0	35.20	70.20	18
Taungatara at Eltham Rd	77.80	88.30	16.70	21.90	37.7	45.15	92.20	8
Uruti at Kaka Rd	61.92	76.68	18.72	19.72	31.0	39.30	90.72	24
Waitotara at Ngutuweru	69.48	75.24	16.92	16.40	41.8	39.60	72.00	26
Waiwhakaiho at Hillsborough	60.20	73.00	19.40	20.40	39.4	44.20	67.30	7

7.2 Long-term data patterns

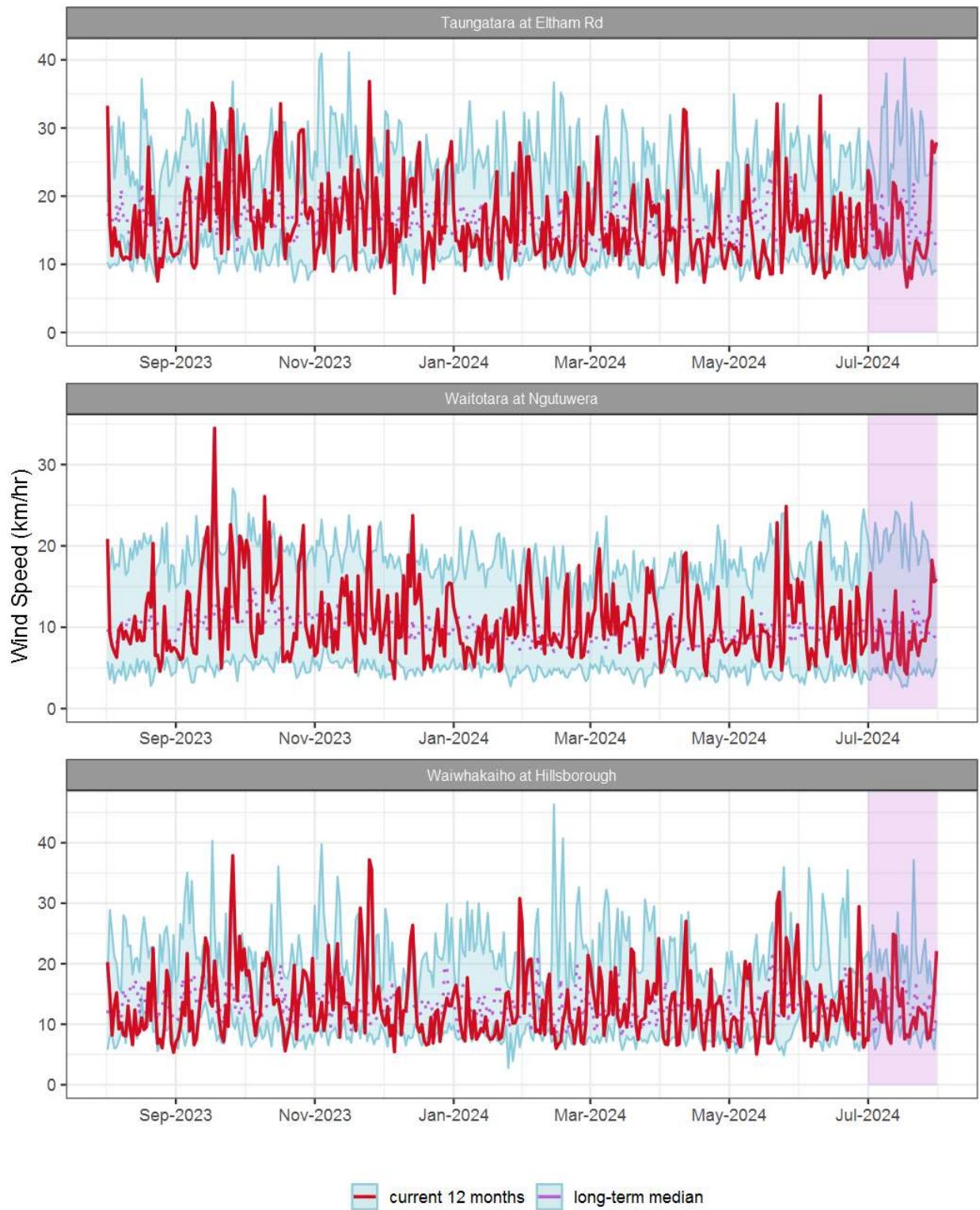


Figure 7.1: Running average wind speed (km/hr) for selected sites, set in context of the historic record.

7.3 Monthly Bar Charts

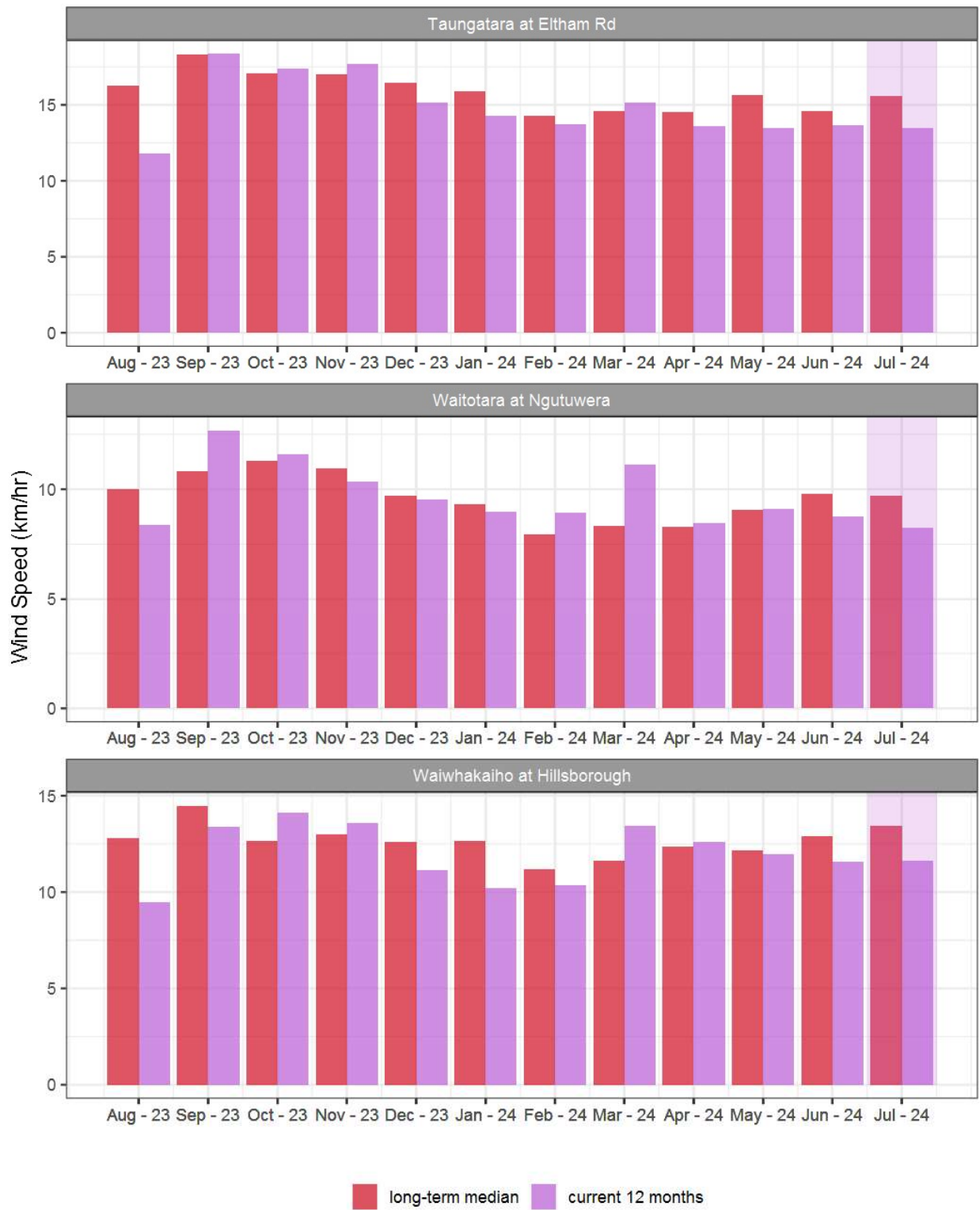


Figure 7.2: Monthly mean wind speed (km/hr) for selected sites, relative to the mean of all previously recorded months.

7.4 Wind roses for July 2024

Average windspeed

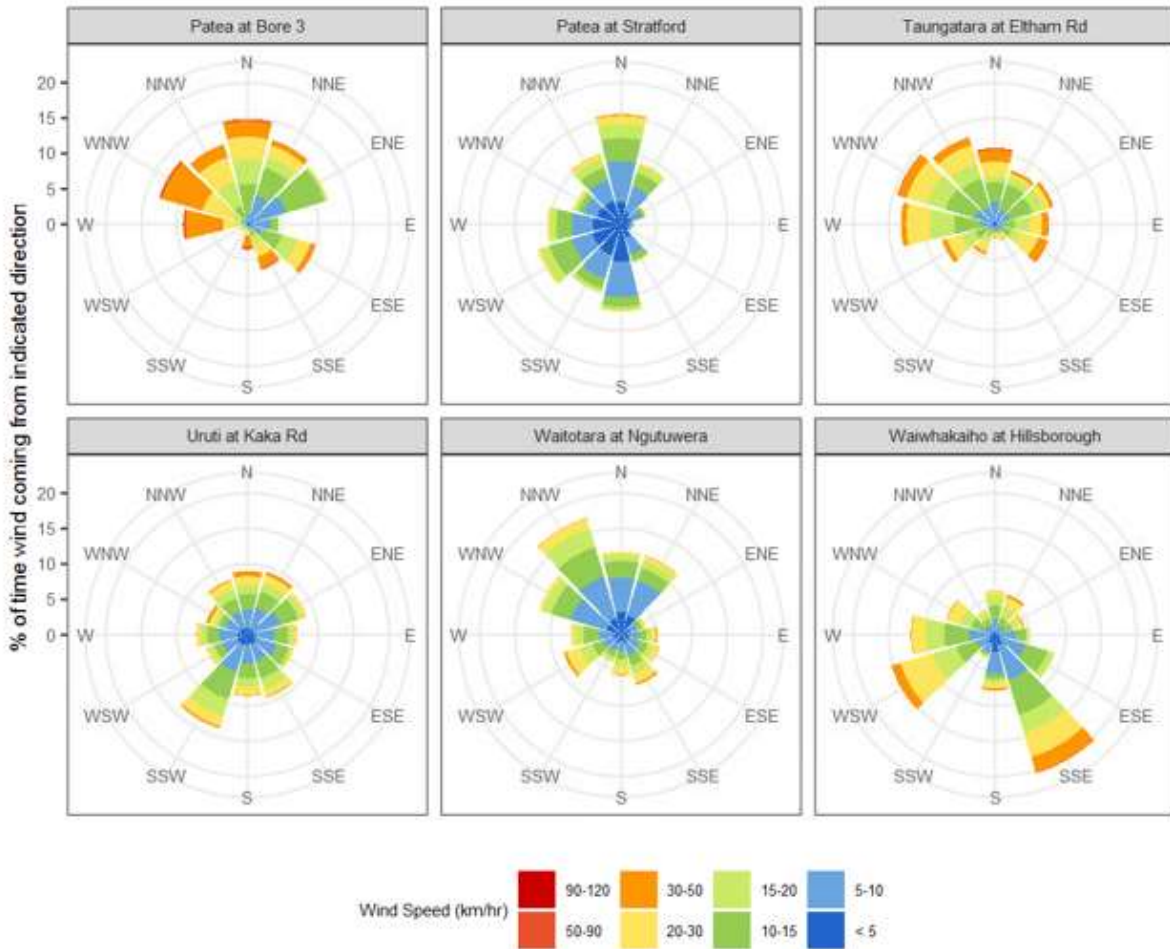


Figure 7.3: Wind roses for July for average wind speed (km/hr).

Maximum gust strength

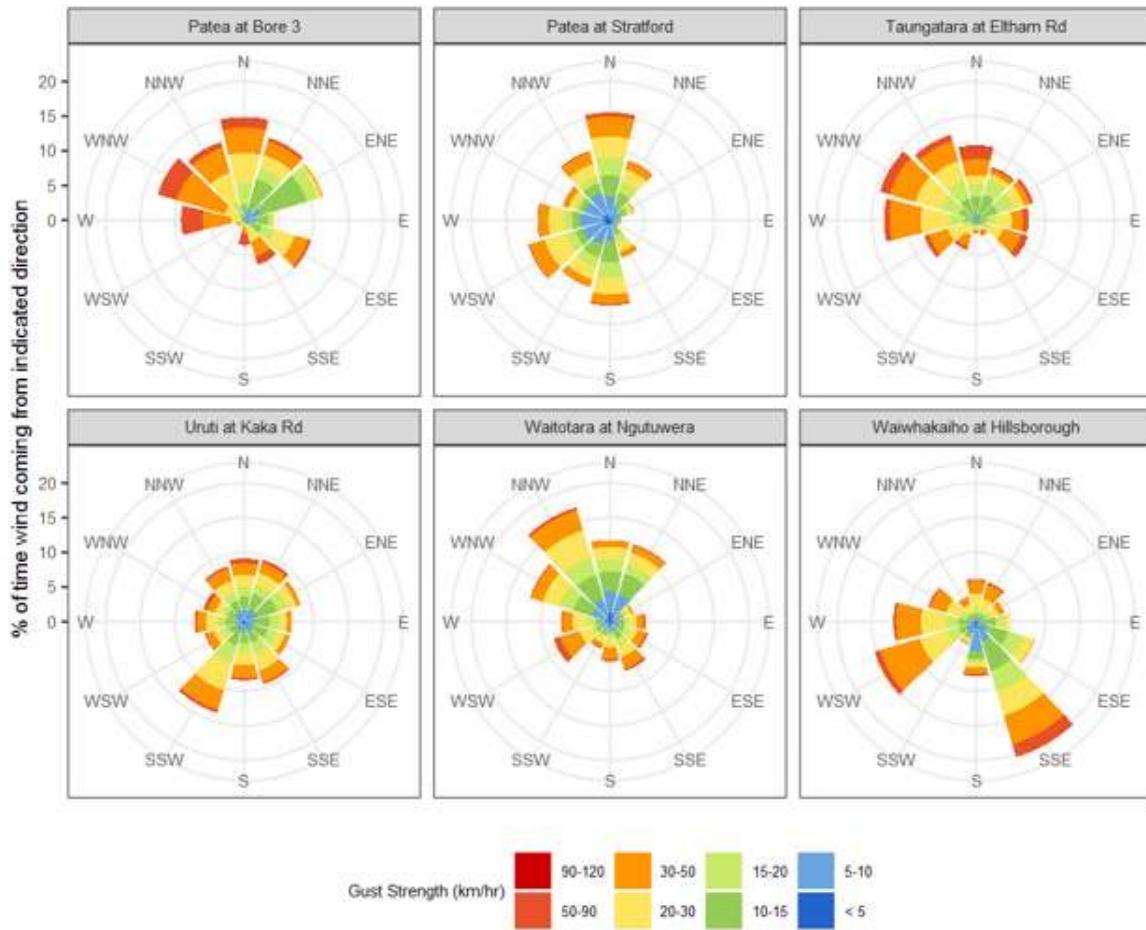


Figure 7.4: Wind roses for July for maximum wind gust (km/hr).

8. Summary of month's conditions

Rainfall

On average July rainfall was 135.2mm, 23% less than usual. Among all locations, Taungatara at Eltham Rd had the lowest rainfall compared to its average, with 39% less rain, while Dawson Falls had the highest, with 9% more than usual.

Year-to-date rainfall is lowest at Waitotara at Hawken Rd with 41% less rainfall than normal, Motunui M39 at Weston W3 has had the highest year to date rainfall with 4% less normal rainfall, on average there has been 23% less than normal across all rain gauges. Compared to typical full year totals, on average sites have already received 43% of a typical year's rainfall, with the highest value at Motunui M39 at Weston W3, 55% of normal, whereas Waitotara at Ngutuwera sits at 35% of the typical year's total.

River Flow

Mean river flows for July were 47.1% lower than typical values, low flows were 6.1% lower, and high flows 50.2% lower than typical values. The maximum river flow recorded in July was 665.4m³/sec at Waitara at Bertrand Rd, on 1 July.

River Water Temperature

Mean river (non-mountain) water temperatures were 9.4°C, an average of 0.4°C cooler than long-term July values. Nighttime-low water temperatures were on average 0.2°C cooler than historic lows, and day-time high temperatures were on average 0.7°C cooler than historic highs. The maximum river water temperature recorded in July was 13.2°C at Warea at Coast, on 26 July.

Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 9.7°C, which is 0.2°C cooler than long-term July averages. Low air temperatures for July were on average 0.2°C cooler than the July average for previous years. Day-time high temperatures were on average 0.1°C cooler than historic highs. The maximum air temperature recorded in July was 17.6°C at Brooklands Zoo at New Plymouth, on 18 July.

Soil Moisture

The average soil moisture for July across sites in Taranaki region was 33.7%. Soil moistures were on average 0.7% drier than typical July values. On average, low soil moistures were 3.3% wetter than previous lows, and the highs were on average 4.2% drier than previous values for July.

Soil Temperature

July soil temperatures were generally the same as long-term averages. Average nighttime low soil temperatures were 0.4°C warmer than recorded lows, and upper day-time soil temperatures were on average 0.3°C cooler than long-term July highs. The maximum soil temperature recorded in July was 15.6°C at Kapoaiaia at Lighthouse, on 27 July.

Wind Speed (average and 10 minute gust)

July average wind speeds were 11km/hr, with average gust strength of 37.4km/hr, these were 2km/hr lighter, and 5.6km/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 4.9km/hr lighter than long-term July highs. The maximum wind gust recorded in July was 92.2 km/hr at Taungatara at Eltham Rd, on 1 July.

Notes: Maximum values mentioned in the summary of month's conditions (Section 8) are the actual recorded minimum or maximums. In the tables, low and high values represent the lower and upper 5th percentiles of the historical record for each site, except for wind gust and soil moisture, which use the lower and upper 1st percentiles. Percentile values in the tables provide a clearer indication of the general upper and lower range of the historical data for comparison with the current month. The start year (when records began) for each site and variable, listed in the respective tables, indicates the length of data used to compute historical highs, lows and "typical values." Sites with a longer data record generally offer a more reliable comparison to current year values.

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