

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

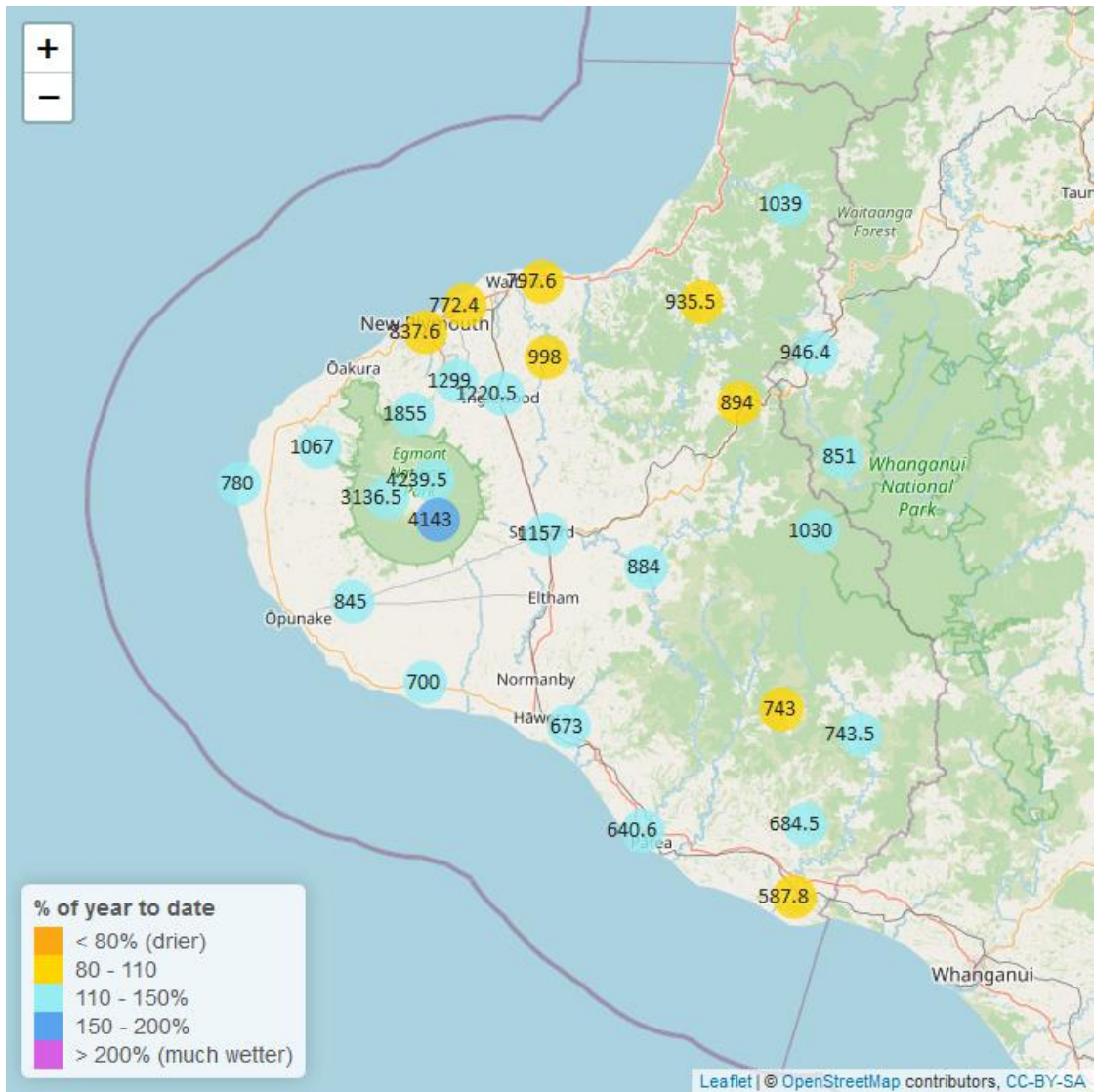


Table 1: Rainfall June and year to date totals for rain gauge sites in Taranaki.

Rain gauge	June			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	21	359.0	52.1	4239.5	139.7	61.1	1991
Dawson Falls	22	324.5	51.6	4143.0	150.6	69.7	1933
Kapoaiaia at Kahui Hut	21	330.5	59.1	3136.5	136.0	59.8	2006
Mangorei Upper at Forest Hill	17	195.0	52.9	1855.0	112.4	48.8	2018
Waiwhakaiho at Hillsborough	15	110.5	61.7	928.0	106.0	50.7	2013
Brooklands Zoo at New Plymouth	18	105.6	63.2	837.6	105.9	51.8	2012
Mangati at SH3	14	90.4	56.3	772.4	102.7	49.9	2013
Motunui M39 at Weston W3	14	77.6	45.8	797.6	106.9	50.6	1999
Waiwhakaiho at Egmont Village	19	147.5	62.0	1299.0	118.4	53.6	1991
Manganui at Everett Park	16	77.5	40.8	998.0	106.2	48.0	1987
Inglewood at Oxidation Ponds	15	123.0	53.4	1220.5	116.5	51.8	2000
Stony at Mangatete Bridge	17	111.5	58.2	1067.0	114.7	53.1	2004
Kapoaiaia at Lighthouse	17	67.4	47.4	780.0	116.4	56.1	1930
Taungatara at Eltham Rd	12	62.5	41.3	845.0	118.3	53.3	2005
Kaupokonui at Glenn Rd	15	56.5	47.2	700.0	130.2	59.7	1998
Patea at Stratford	18	73.5	39.3	1157.0	131.4	60.3	1999
Mangaehu at Bridge	14	44.5	28.0	884.0	120.5	55.5	1999
Kotare at OSullivans	16	72.5	37.5	1039.0	111.6	48.1	1998
Uruti at Kaka Rd	13	51.0	25.9	935.5	95.4	41.8	1991
Pohokura Saddle	14	48.0	26.6	894.0	102.8	44.8	1991
Omaru at Charlies	20	67.0	32.4	1030.0	124.4	56.6	2006
Omahine at Moana Trig	17	57.0	36.9	743.0	104.1	51.0	2007
Waitotara at Rimunui Station	16	36.5	26.3	743.5	120.0	53.9	1994
Waitotara at Ngutuwera	12	24.5	19.6	684.5	116.9	53.2	1999

Rain gauge	June			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	
Tawhiti at Duffys	14	51.0	48.9	673.0	132.8	60.8	1994
Patea at Bore 3	14	33.0	29.9	640.6	117.5	54.0	2006
Waitotara at Hawken Rd	12	54.4	50.0	587.8	99.6	48.7	2016
Whangamomona at Marco Road	16	48.0	24.5	946.4	112.8	48.1	2018
Whangamomona at Bridge to Somewhere	15	55.5	34.2	851.0	116.6	49.0	2018
Waitanguru at Mangaotaki	12	123.0	46.5	1268.0	116.5	49.7	1990

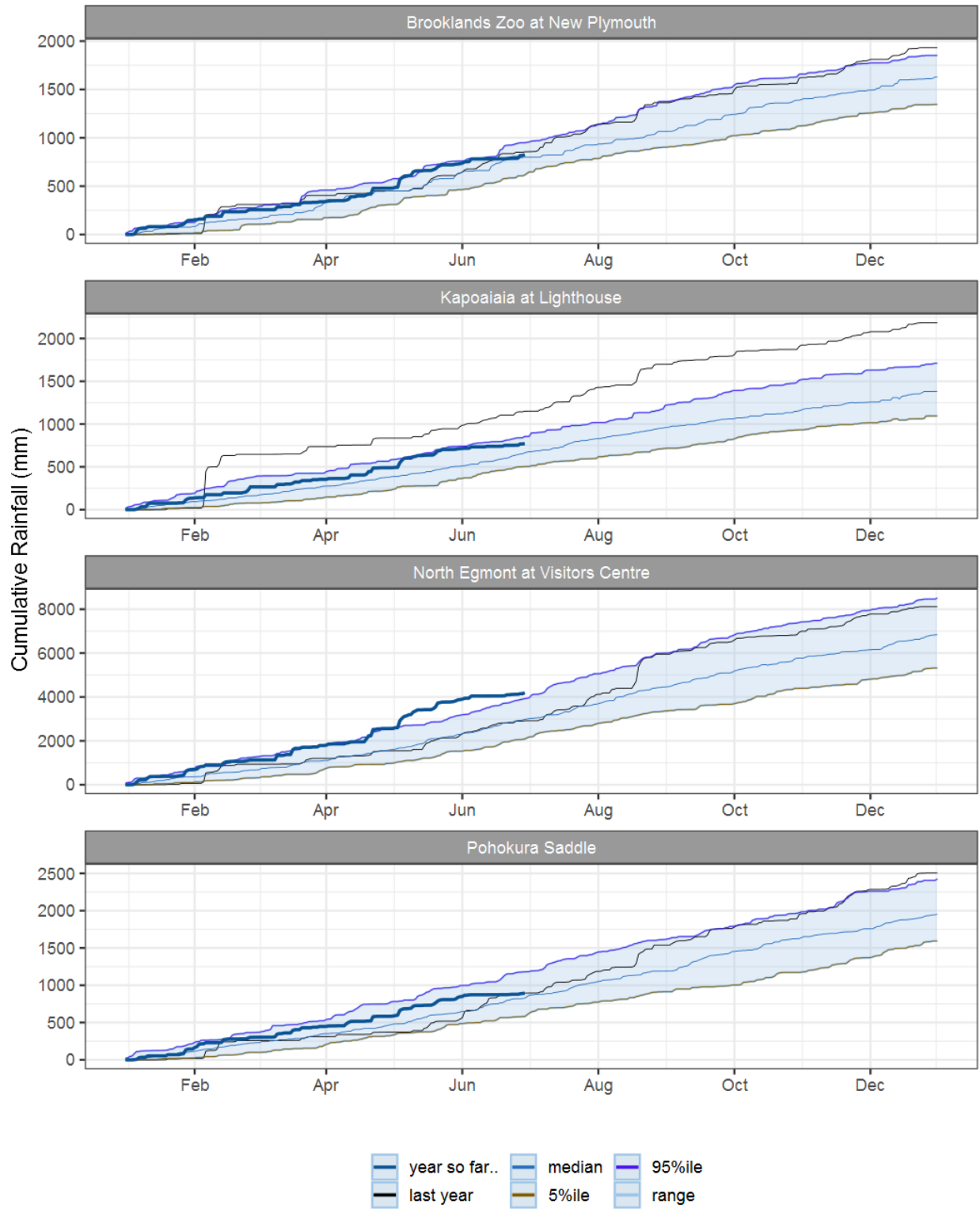


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki.

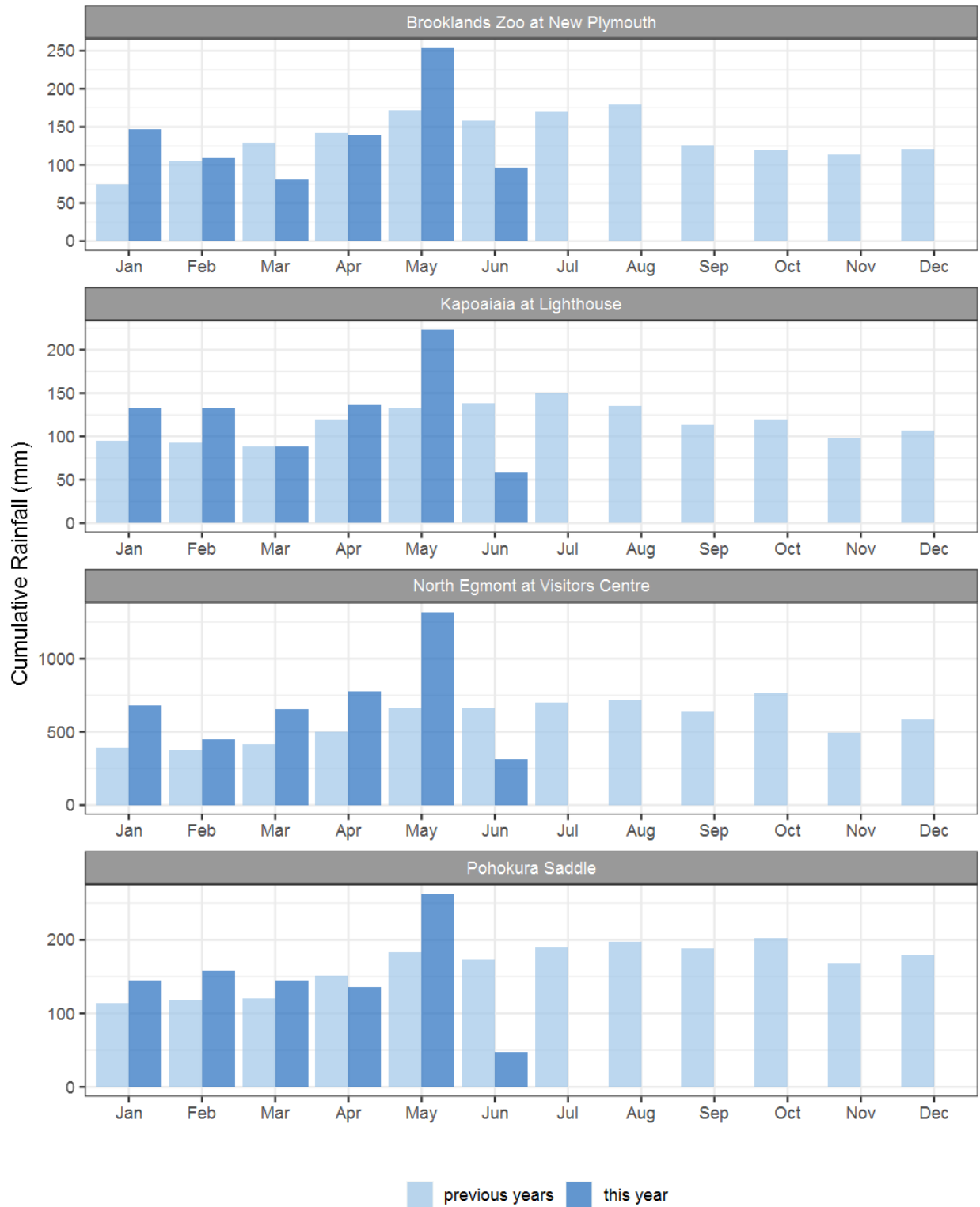


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months.

2. River Flow

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

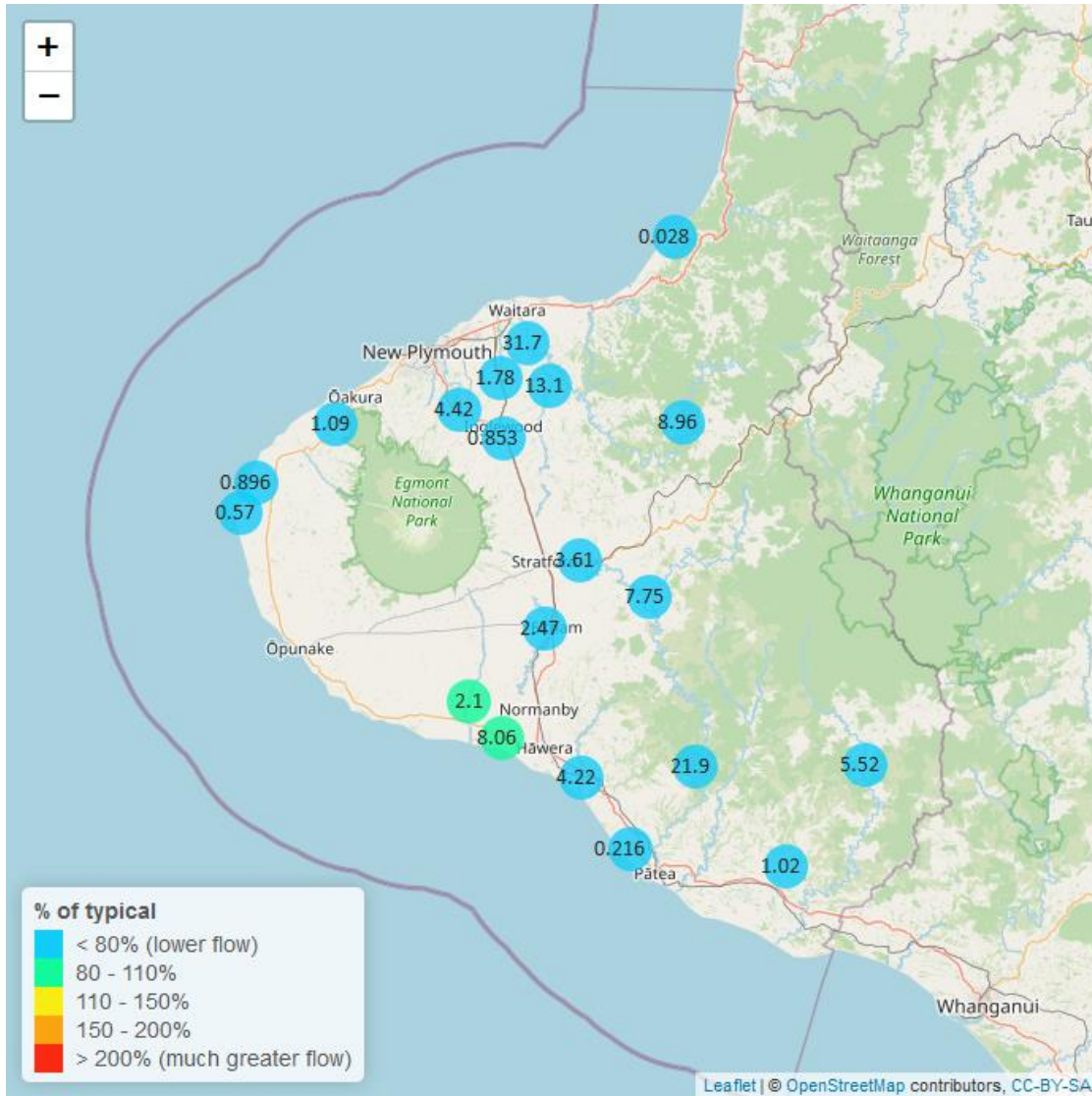


Table 2: Summary of high, low and mean flow for June and for June in all preceding years of record.

June 2023 - Recorded flows (m3/sec)								
River and Site	Highs		Lows		Mean		June maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kaikura below 7346	0.25	0.58	0.20	0.18	0.22	0.30	0.34	8
Kapoaiaia at Lighthouse	1.60	3.84	0.20	0.47	0.57	1.48	13.40	37
Kapuni at Normanby Rd	3.25	5.49	1.34	0.77	2.10	2.55	13.90	24
Mangaehu at Bridge	19.90	54.80	3.89	4.25	7.75	16.90	44.30	45

June 2023 - Recorded flows (m3/sec)								
River and Site	Highs		Lows		Mean		June maximum	Data years
	current month	historic	current month	historic	current month	historic		
Manganui at Everett Park	28.30	76.50	6.43	6.12	13.10	24.90	271.00	31
Mangaoraka at Corbett Rd	3.49	7.73	0.77	0.76	1.81	3.00	34.60	48
Mangati at SH3	0.26	0.50	0.13	0.05	0.19	0.19	1.15	10
Mangorei at Pipebridge	5.09	8.72	0.87	0.81	2.15	3.21	39.10	12
Moumahaki at Johnston Rd	1.97	9.60	0.71	0.60	1.02	3.02	3.29	5
Ngatoro at SH3	1.56	4.71	0.50	0.41	0.85	1.53	17.20	33
Patea at McColls Bridge	63.00	93.70	3.68	3.82	21.90	42.10	65.30	35
Patea at Skinner Rd	6.57	17.80	1.61	1.96	3.61	6.95	49.40	45
Tangahoe below Railway Bridge	6.41	16.60	3.03	2.43	4.22	7.14	7.96	5
Tawhiti at Duffys	1.94	1.88	1.22	0.26	1.50	0.86	2.48	37
Tawhiti below Meat Plant	0.93	1.41	0.78	0.32	0.87	0.78	1.00	13
Timaru at Tataraimaka	2.18	6.20	0.44	0.68	1.09	2.52	42.30	10
Waikaramarama at Bridge	0.08	0.78	0.01	0.03	0.03	0.21	0.17	5
Waingongoro at Eltham Rd	3.70	10.40	1.35	1.05	2.47	4.04	25.10	48
Waingongoro at SH45	11.50	23.20	5.04	2.86	8.06	9.97	39.90	42
Waiongana at SH3a	3.19	9.87	0.75	0.90	1.78	3.60	63.10	42
Waitara at Bertrand Rd	83.70	245.00	13.10	16.80	31.70	76.10	331.00	43
Waitara at Purangi Bridge	35.00	114.00	2.06	2.97	8.96	30.00	70.40	23
Waitotara at Rimunui Station	10.90	58.90	3.44	4.87	5.52	19.80	29.10	18
Waiwhakaiho at Egmont Village	10.30	27.90	2.34	2.55	4.42	9.33	74.80	43
Warea at Coast	1.62	4.48	0.50	0.61	0.90	1.76	1.74	6
Weraweraonga at 749 Mangawhio Rd	0.95	7.47	0.41	0.33	0.55	2.10	2.41	6

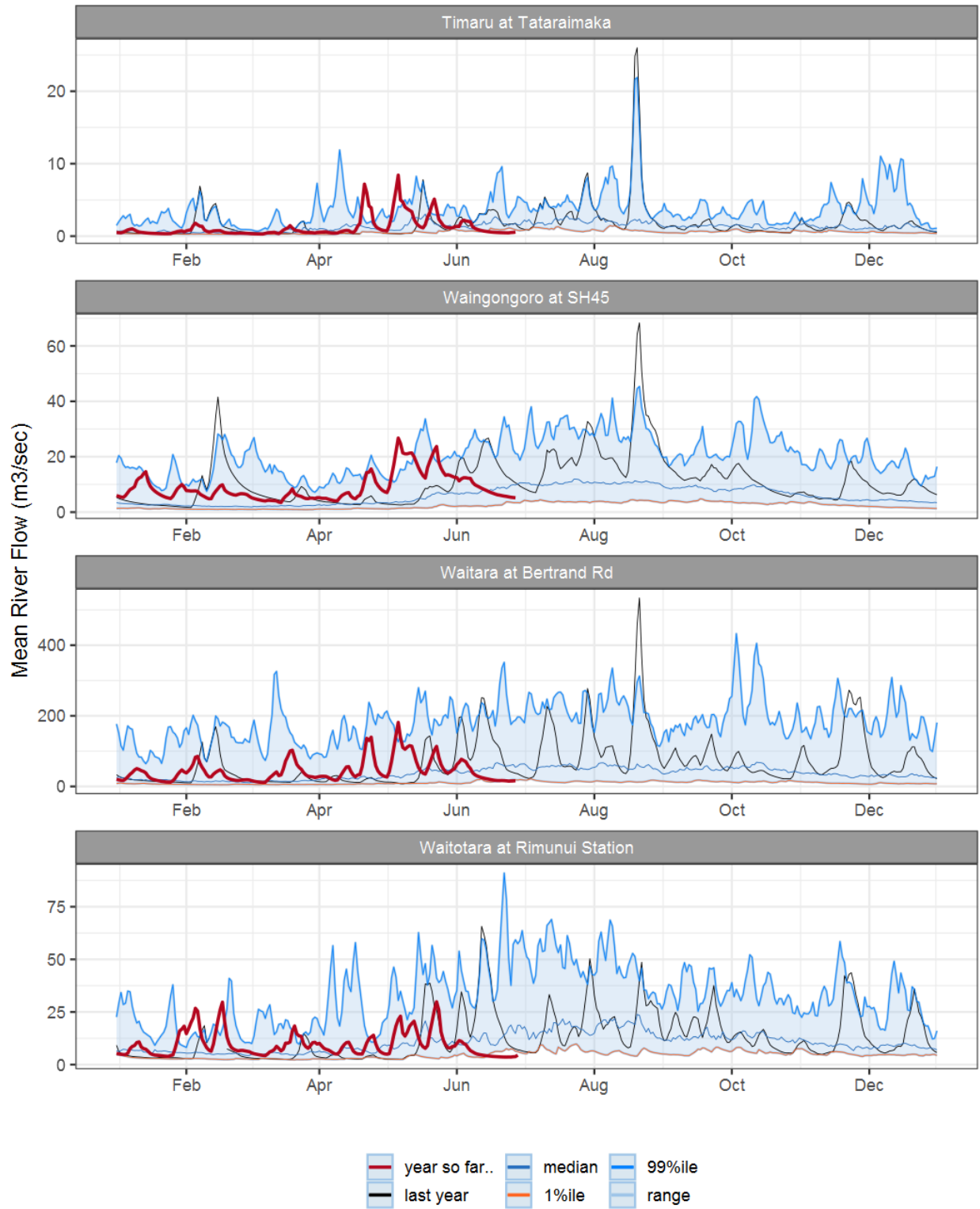


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

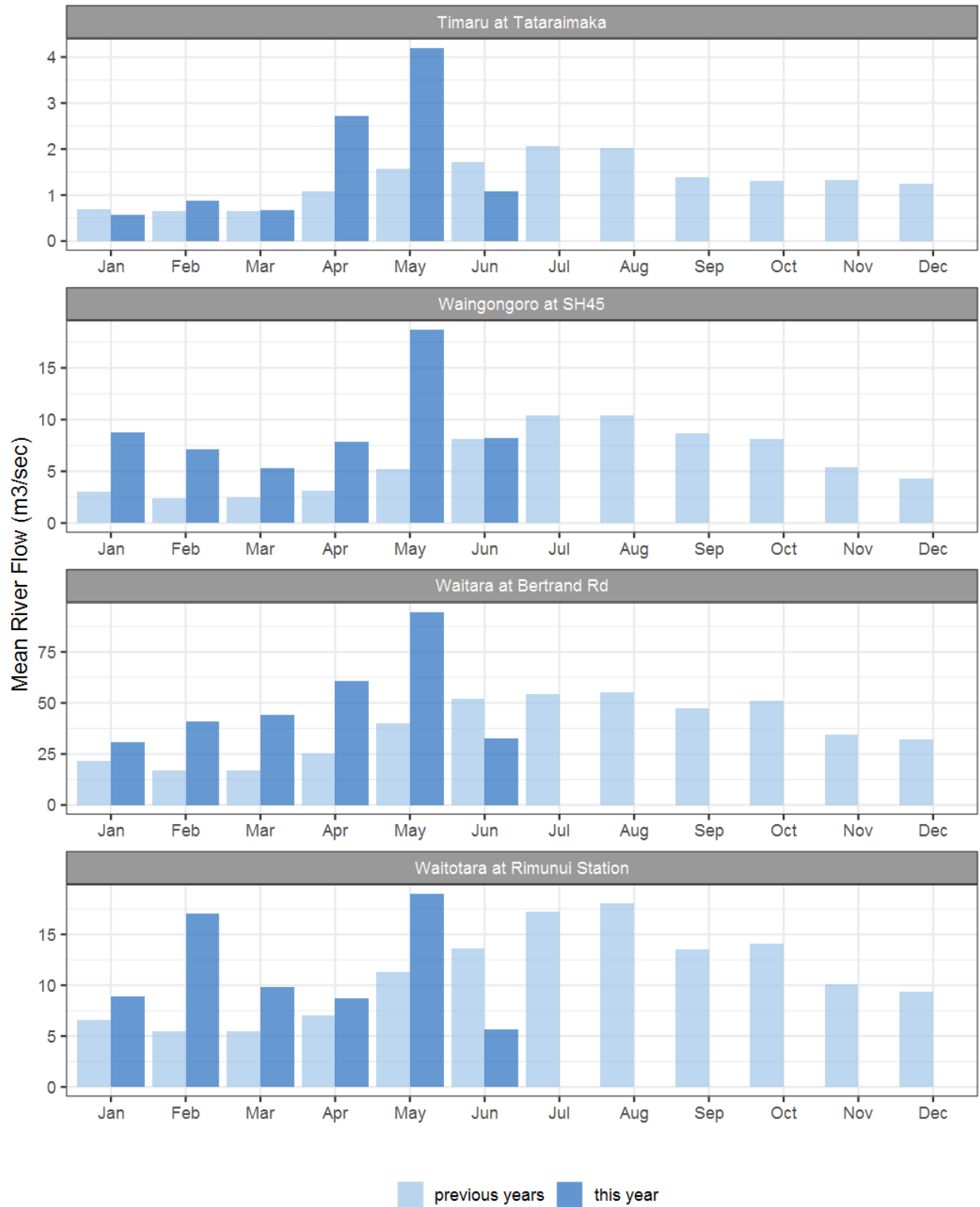


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

3. River Temperature

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

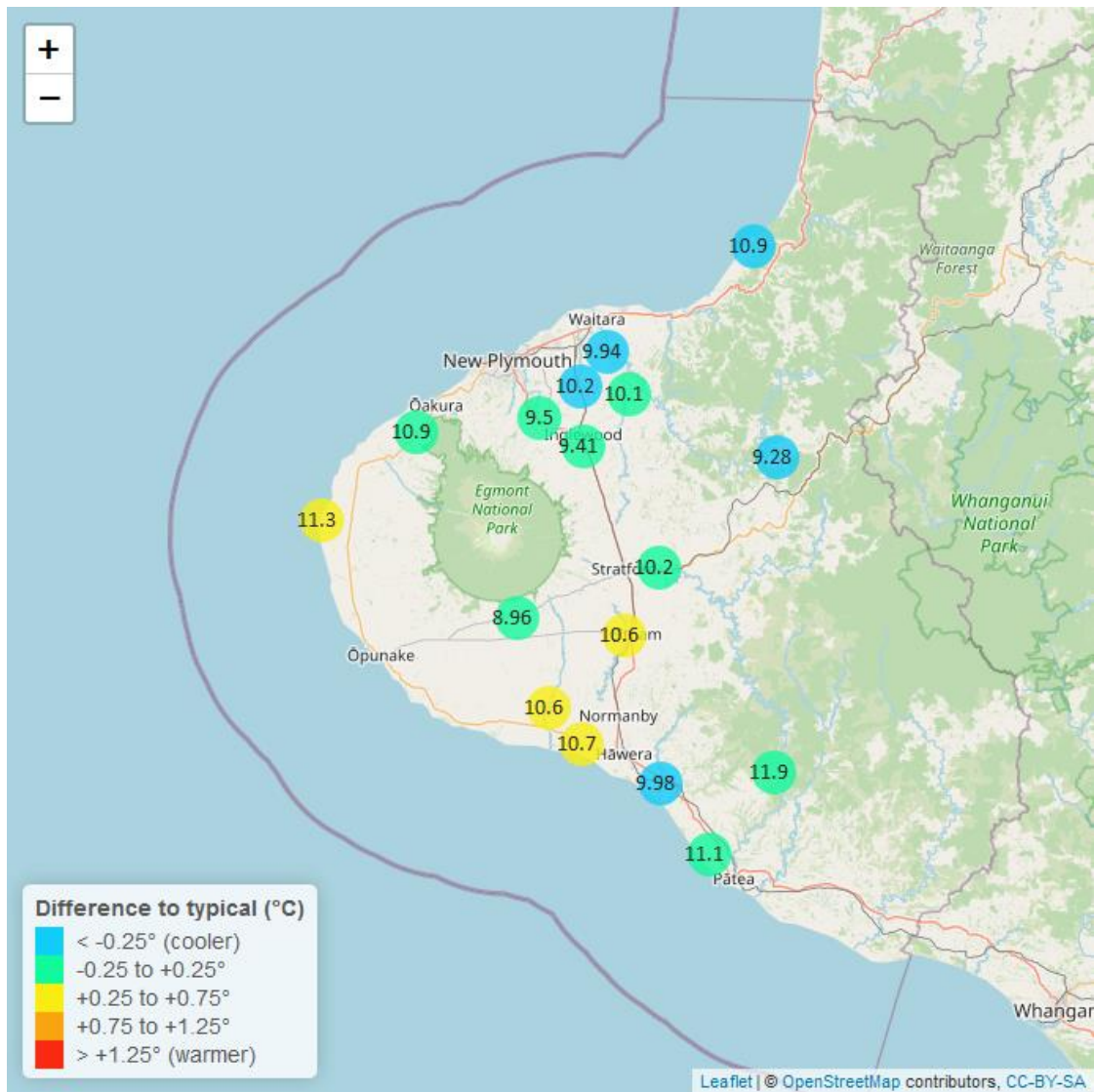


Table 3: Summary of high, low and mean river temperature for the June and for June in all preceding years of record.

June 2023 - River Temperatures (°C)								
Monitoring Site	Highs		Lows		Mean		June maximum	data years
	current month	historic	current month	historic	current month	historic		
Kaikura below 7346	12.9	13.0	9.01	8.83	11.10	11.20	14.1	8
Kapoaiaia at Lighthouse	13.8	13.4	9.18	7.54	11.30	10.80	14.7	24
Kapuni at Normanby Rd	12.8	12.1	8.62	7.21	10.60	9.88	13.5	24
Manganui at Everett Park	12.5	12.5	8.30	7.43	10.10	10.20	14.0	14
Mangaoraka at Corbett Rd	13.4	13.7	10.10	8.71	11.50	11.60	14.5	19
Mangati at SH3	15.1	15.4	12.10	11.20	13.40	13.40	16.0	10
Mangawheroiti Above Intake W.W	12.3	10.2	6.70	6.99	8.96	8.74	13.3	10
Mangorei at Pipebridge	12.6	12.6	8.88	8.32	10.60	10.60	13.8	7
Matau at Woolshed	11.8	12.3	7.00	7.52	9.28	10.20	13.1	5
Ngatoro at SH3	11.4	11.5	7.71	6.79	9.41	9.28	12.9	21
Patea at McColls Bridge	13.3	12.8	11.10	10.60	11.90	11.70	13.7	9
Patea at Skinner Rd	12.0	12.2	8.35	7.54	10.20	10.10	13.3	19
Tangahoe below Railway Bridge	12.6	12.4	7.79	7.87	9.98	10.40	13.5	5
Tawhiti at Duffys	13.5	12.9	10.20	7.61	11.60	10.60	14.2	19
Tawhiti below Meat Plant	13.0	13.2	9.23	7.91	11.00	10.80	14.0	24
Timaru at Tataraimaka	13.0	12.7	9.10	8.43	10.90	10.80	13.7	8
Waikaramarama at Bridge	12.8	13.2	9.03	8.82	10.90	11.40	14.4	5
Waingongoro at Eltham Rd	12.5	11.9	9.01	7.83	10.60	10.20	13.4	19
Waingongoro at SH45	12.9	12.5	8.96	7.73	10.70	10.40	13.7	18
Waiongana at SH3a	12.3	12.9	8.48	8.71	10.20	11.00	13.9	12
Waitara at Bertrand Rd	12.8	12.5	8.17	7.70	9.94	10.20	13.5	33
Waiwhakaiho at Egmont Village	11.4	11.7	7.90	6.60	9.50	9.29	12.9	31

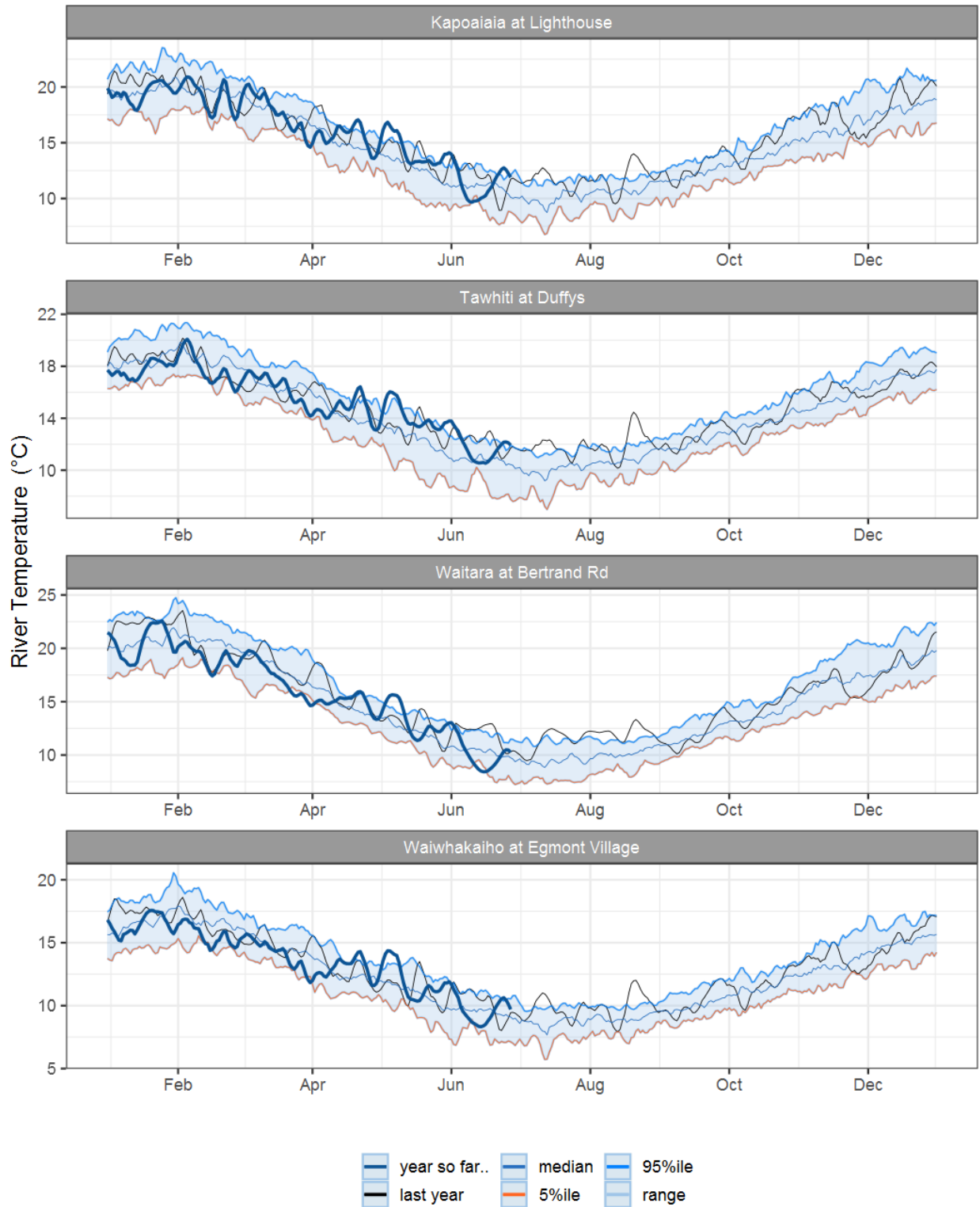


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

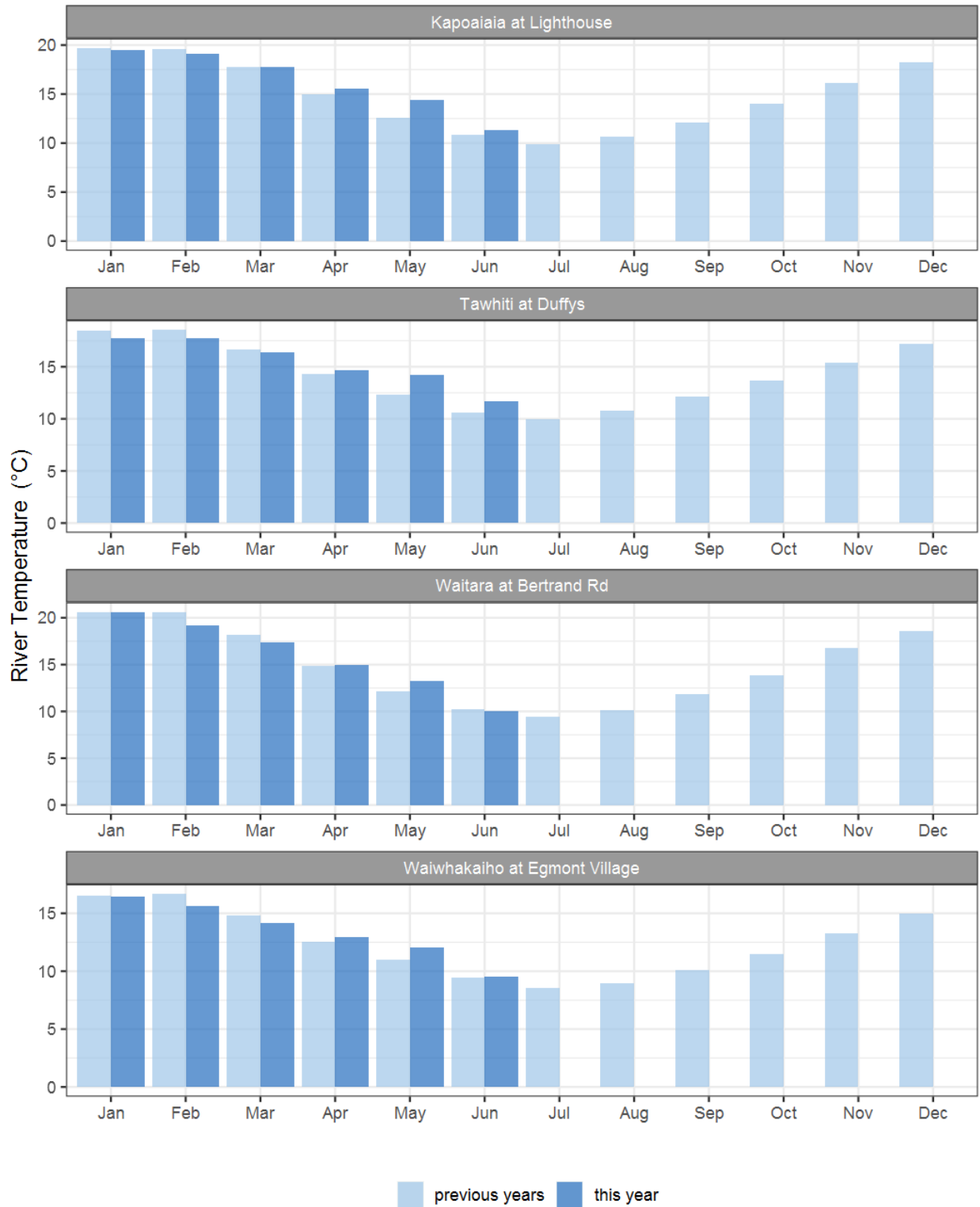


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

4. Air Temperature

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

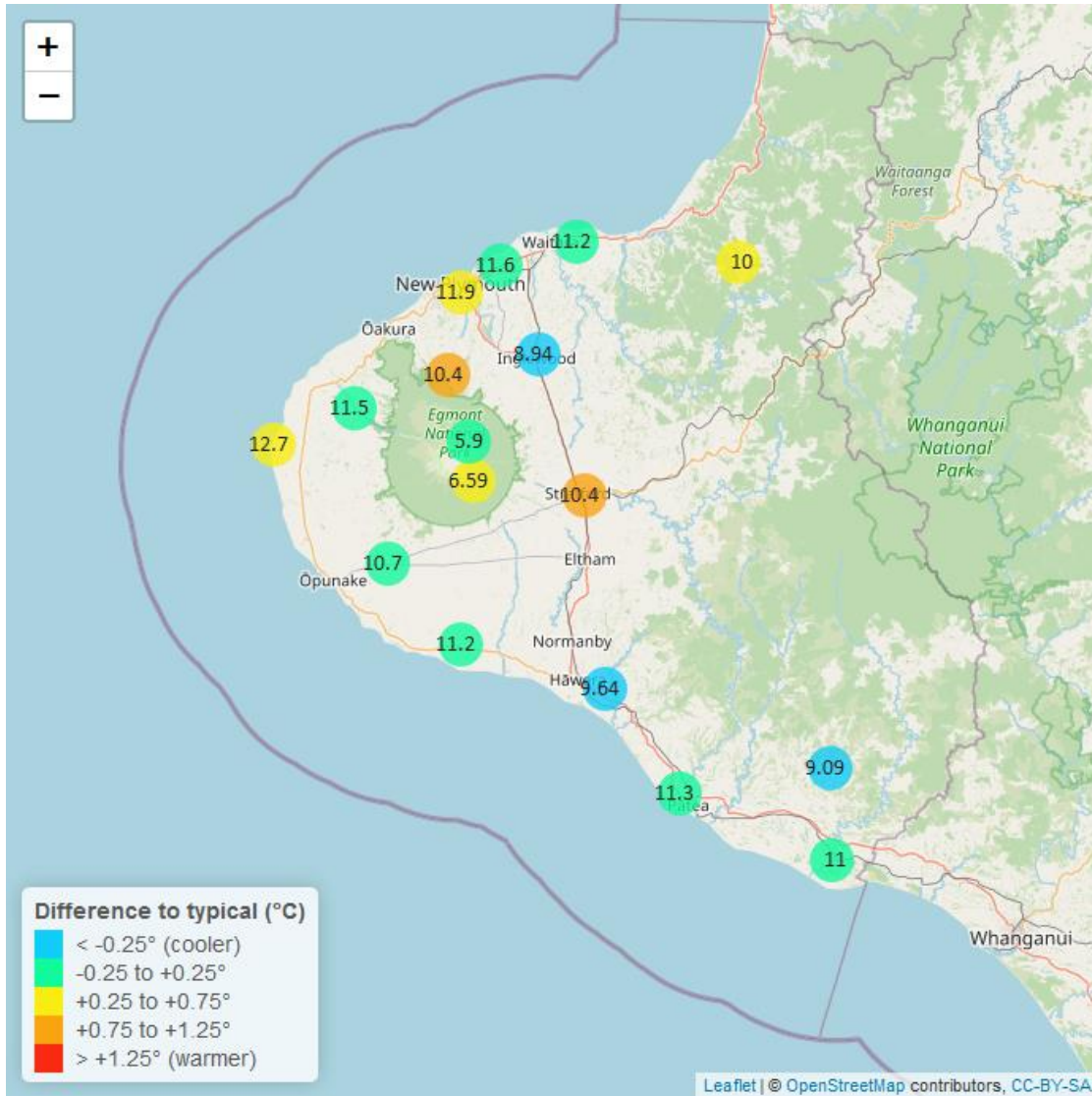


Table 4: Summary of high, low and mean air temperature for June and for June in all preceding years of record.

June 2023 - Air Temperature (°C)								
Monitoring Site	Highs		Lows		Mean		June maximum	data years
	current month	historic	current month	historic	current month	historic		
Brooklands Zoo at New Plymouth	16.50	16.2	6.19	5.80	11.90	11.60	21.0	11
Dawson Falls	9.97	10.0	3.14	1.41	6.59	5.99	13.3	8
Inglewood at Oxidation Ponds	13.80	14.7	2.50	3.20	8.94	9.72	17.7	11

June 2023 - Air Temperature (°C)								
Monitoring Site	Highs		Lows		Mean		June maximum	data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	16.50	15.9	7.76	6.80	12.70	12.40	17.6	11
Kaupokonui at Glenn Rd	15.50	15.9	5.09	4.58	11.20	11.30	17.3	8
Mangati at SH3	16.10	16.1	5.94	5.00	11.60	11.70	19.2	10
Mangorei Upper at Forest Hill	13.70	13.1	6.29	4.42	10.40	9.39	16.1	6
Motunui M39 at Weston W3	15.70	15.5	6.11	5.12	11.20	11.10	19.5	6
North Egmont at Visitors Centre	9.69	10.1	2.26	1.40	5.90	6.04	13.1	7
Patea at Bore 3	15.60	15.7	5.84	5.26	11.30	11.30	17.6	10
Patea at Stratford	15.20	14.4	5.50	3.76	10.40	9.65	19.5	11
Stony at Mangatete Bridge	15.50	15.4	6.49	6.04	11.50	11.30	19.4	7
Taungatara at Eltham Rd	15.00	15.0	5.51	4.83	10.70	10.80	17.1	8
Tawhiti at Duffys	15.70	15.7	1.51	1.25	9.64	10.30	17.9	10
Uruti at Kaka Rd	14.20	13.9	5.44	4.22	10.00	9.73	16.5	5
Waitotara at Hawken Rd	15.90	15.7	4.55	4.71	11.00	11.10	18.6	7
Waitotara at Ngutuwera	14.90	14.8	5.57	5.15	10.60	10.60	18.4	5
Waiwhakaiho at Hillsborough	15.70	15.3	7.28	6.51	11.80	11.50	18.9	11
Weraweraonga at 749 Mangawhio Rd	15.80	15.4	2.15	2.47	9.09	9.72	18.6	6

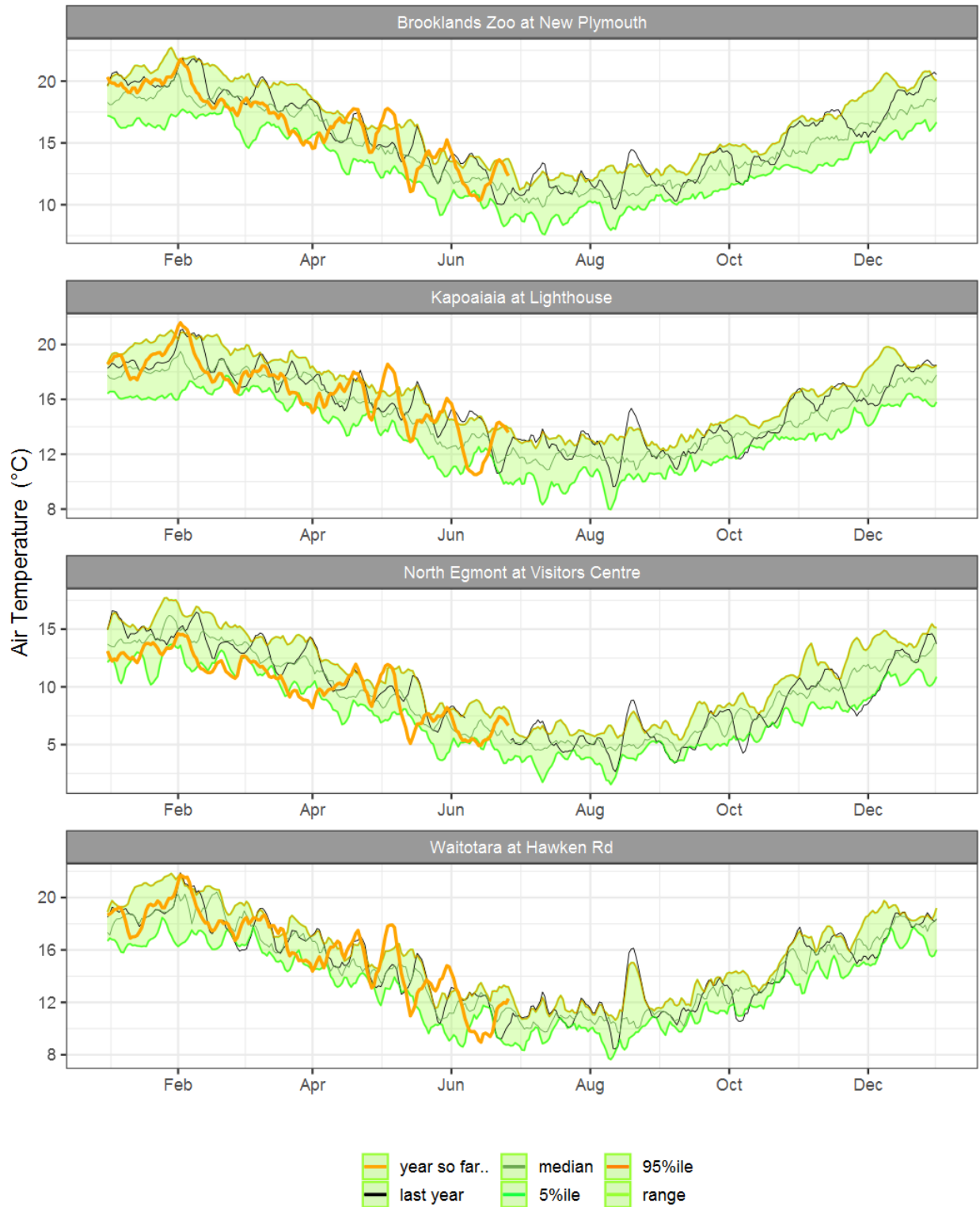


Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

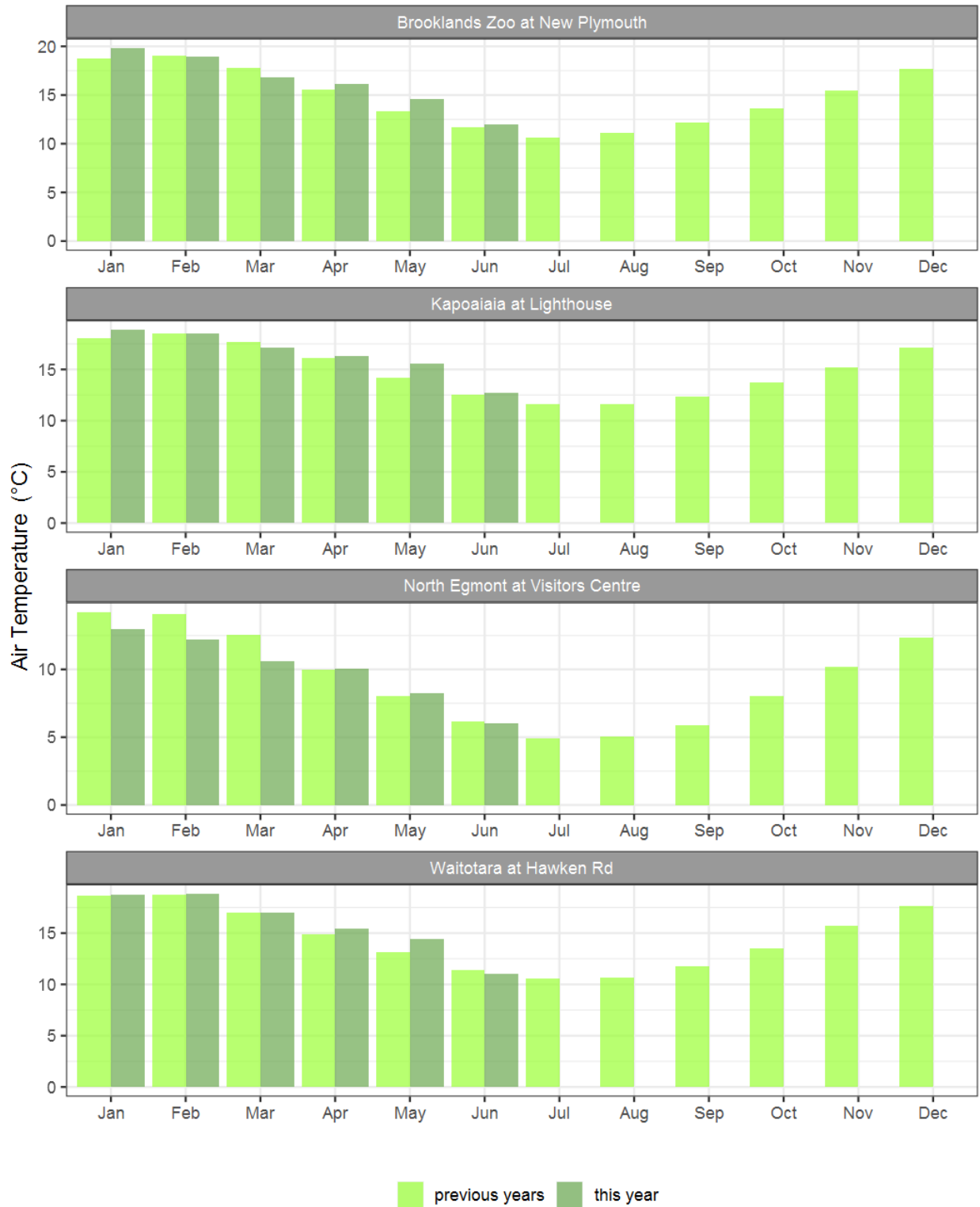


Figure 4.2: Monthly mean air temperature for June and the mean of all previously recorded months.

5. Soil Moisture

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

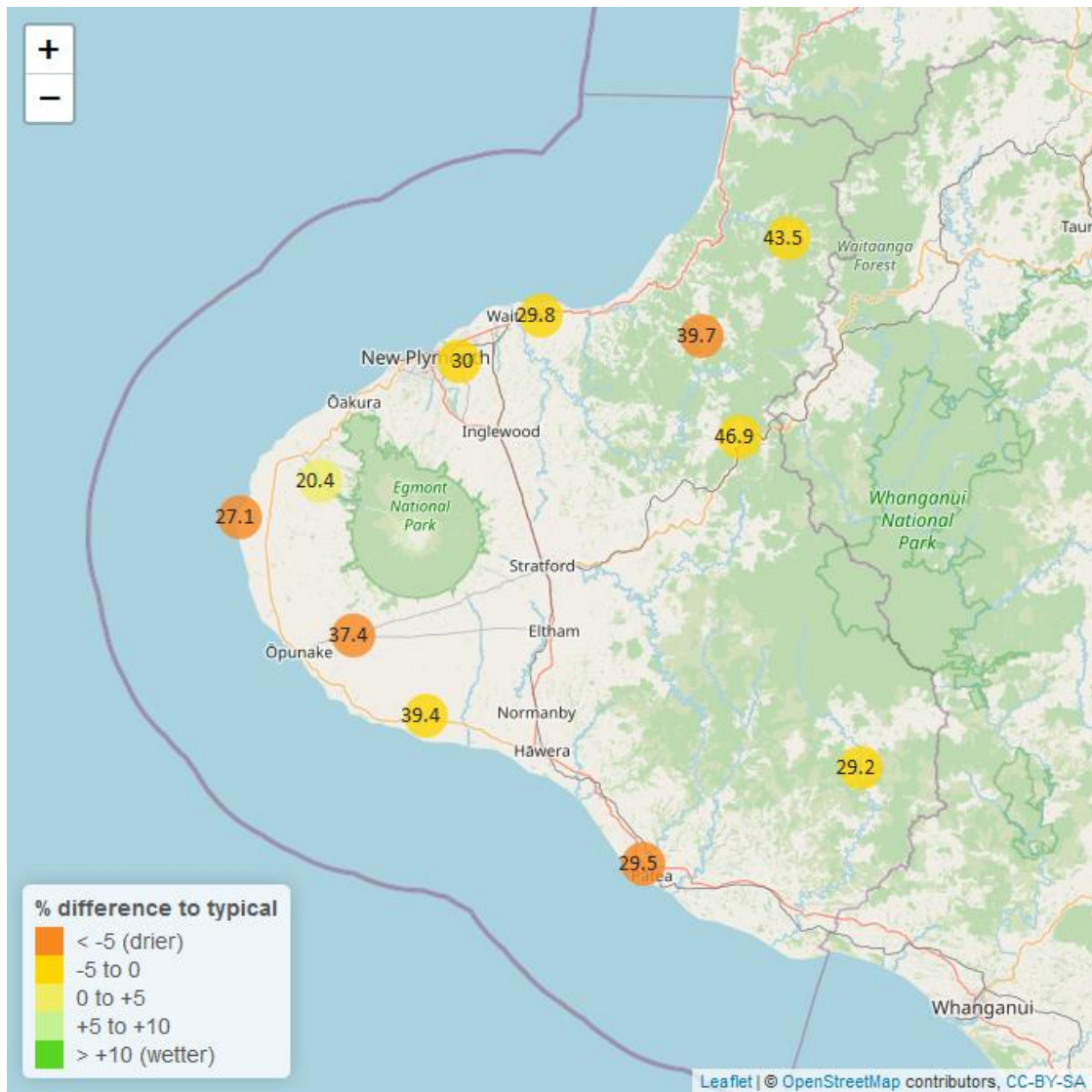


Table 5: Summary of high, low and mean soil moisture for this June and for June in all preceding years of record.

June 2023 - Soil Moisture (%)								
Monitoring Site	Highs		Lows		Mean		June maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	27.4	31.1	26.6	24.1	27.1	27.2	27.7	11
Kaupokonui at Glenn Rd	41.9	43.8	36.7	31.3	39.4	36.3	42.7	12
Kotare at OSullivans	47.7	48.7	41.2	36.3	43.5	41.7	52.9	11
Motunui M39 at Weston W3	31.1	32.1	29.0	27.2	29.8	30.1	31.7	10
Patea at Bore 3	30.6	33.7	28.7	26.6	29.5	29.2	31.6	7
Pohokura Saddle	50.8	51.7	44.4	39.4	46.9	44.7	53.1	9
Stony at Mangatete Bridge	24.7	23.8	18.0	12.6	20.4	18.3	28.0	7
Taungatara at Eltham Rd	39.5	44.2	36.4	27.8	37.4	37.4	40.9	10
Uruti at Kaka Rd	41.8	46.0	38.0	39.2	39.7	42.2	42.3	12
Waitotara at Rimunui Station	30.9	31.7	28.4	26.1	29.2	28.6	32.1	6
Waiwhakaiho at Hillsborough	31.9	33.2	28.6	25.1	30.0	29.2	34.4	11

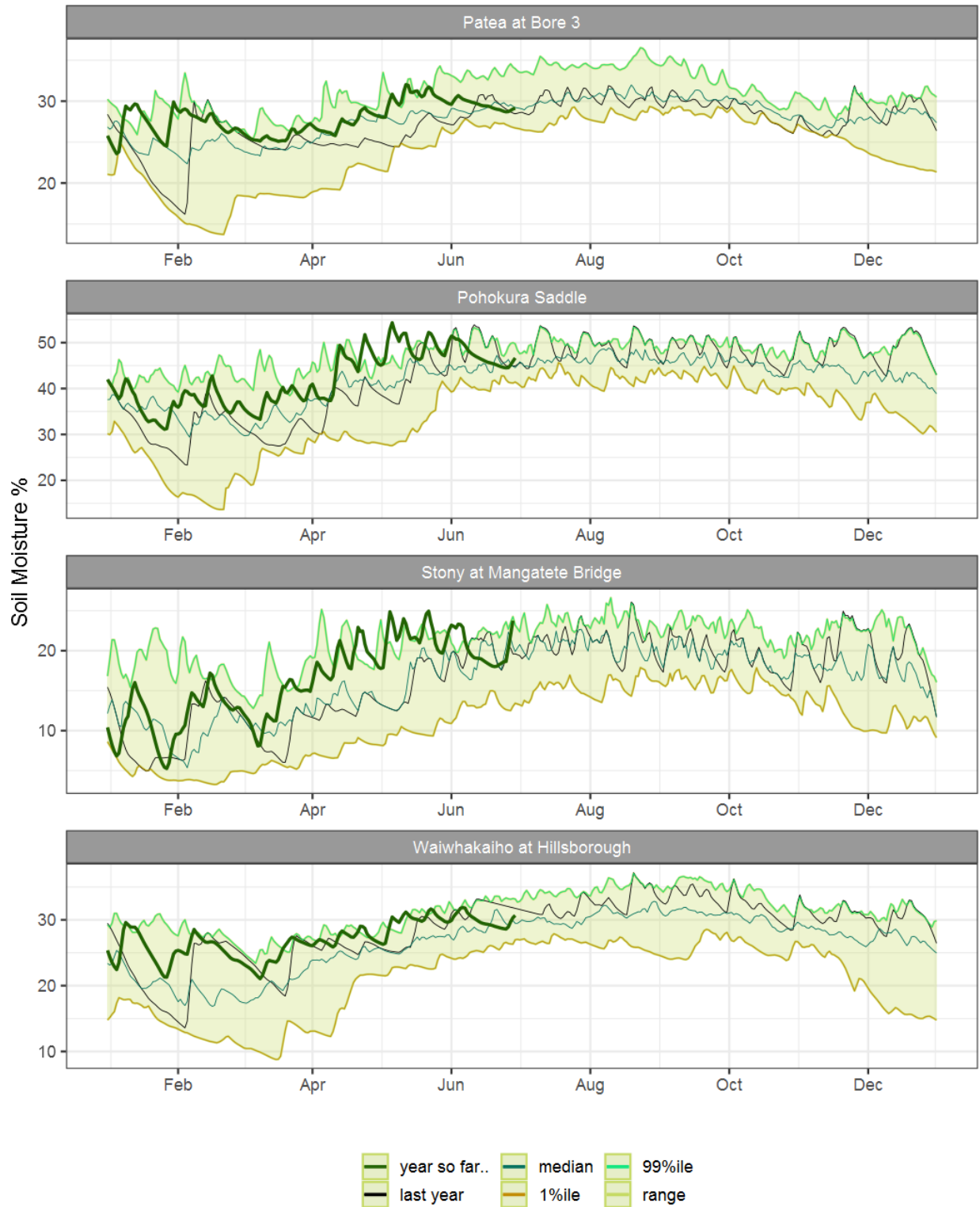


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.



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).

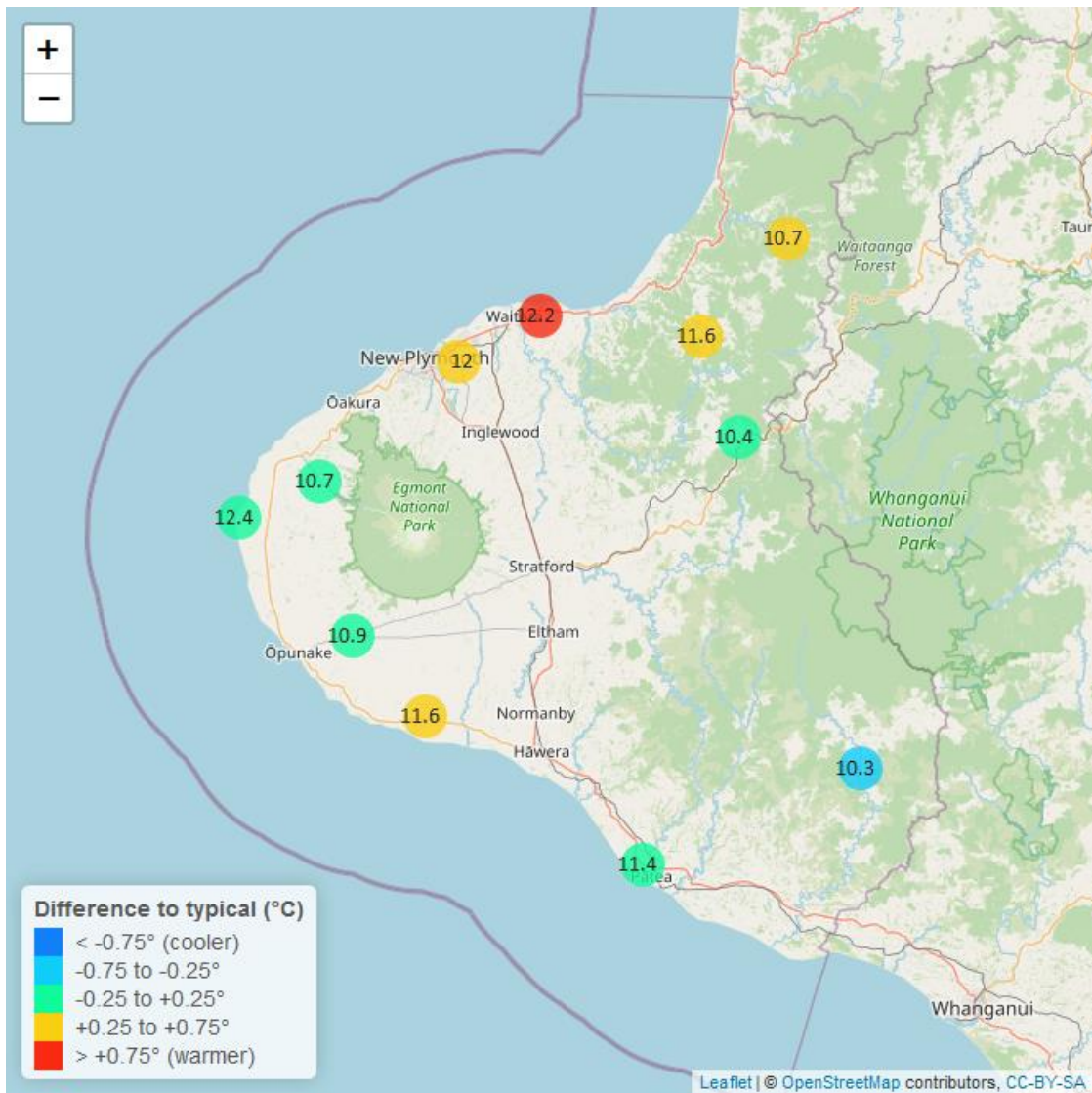


Table 6: Summary of high, low and mean soil temperature for this June and for June in all preceding years of record.

June 2023 - Soil Temperatures (°C)								
Monitoring Site	Highs		Lows		Mean		June maximum	data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	15.2	14.3	9.99	9.73	12.4	12.2	16.0	11
Kaupokonui at Glenn Rd	13.9	13.1	10.30	9.45	11.6	11.3	14.3	12
Kotare at OSullivans	13.3	12.6	8.72	7.22	10.7	10.3	13.8	11
Motunui M39 at Weston W3	14.5	13.4	10.90	8.71	12.2	11.2	15.1	10
Patea at Bore 3	13.5	13.2	9.96	9.21	11.4	11.4	14.1	7
Pohokura Saddle	12.9	12.1	8.89	8.36	10.4	10.5	13.3	9
Stony at Mangatete Bridge	13.4	12.8	8.80	8.10	10.7	10.6	14.1	6
Taungatara at Eltham Rd	13.4	12.9	9.22	9.09	10.9	11.1	15.9	10
Uruti at Kaka Rd	13.7	12.7	10.50	8.39	11.6	10.9	13.9	12
Waitotara at Rimunui Station	12.8	13.1	8.55	8.41	10.3	11.0	13.9	6
Waiwhakaiho at Hillsborough	14.2	13.4	10.80	9.63	12.0	11.6	14.6	11

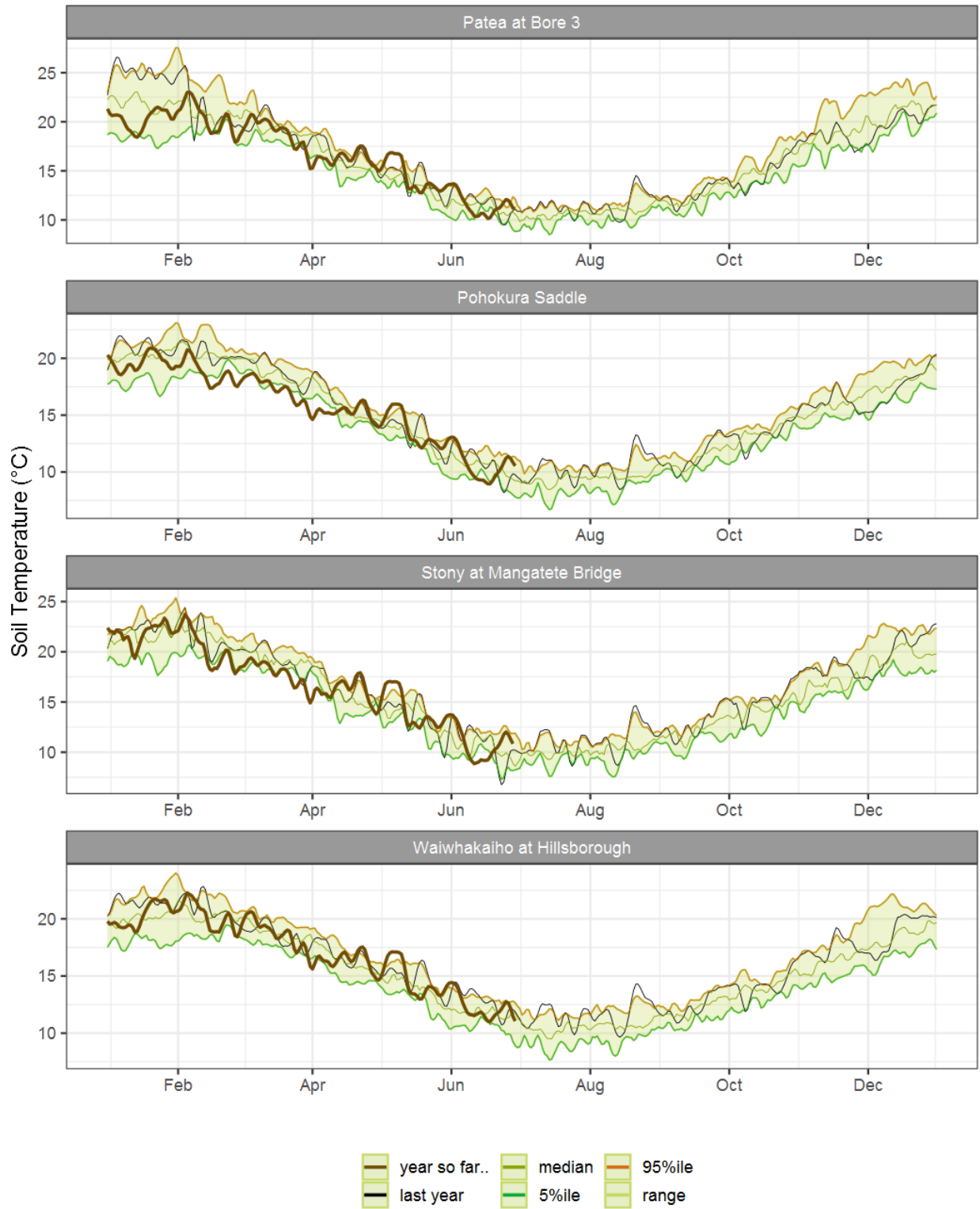


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.



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

7: Wind Speed (maximum gust)

Map 7: June mean of wind speed (maximum gust in each 10 minutes) with difference to long-term values (km/hr).

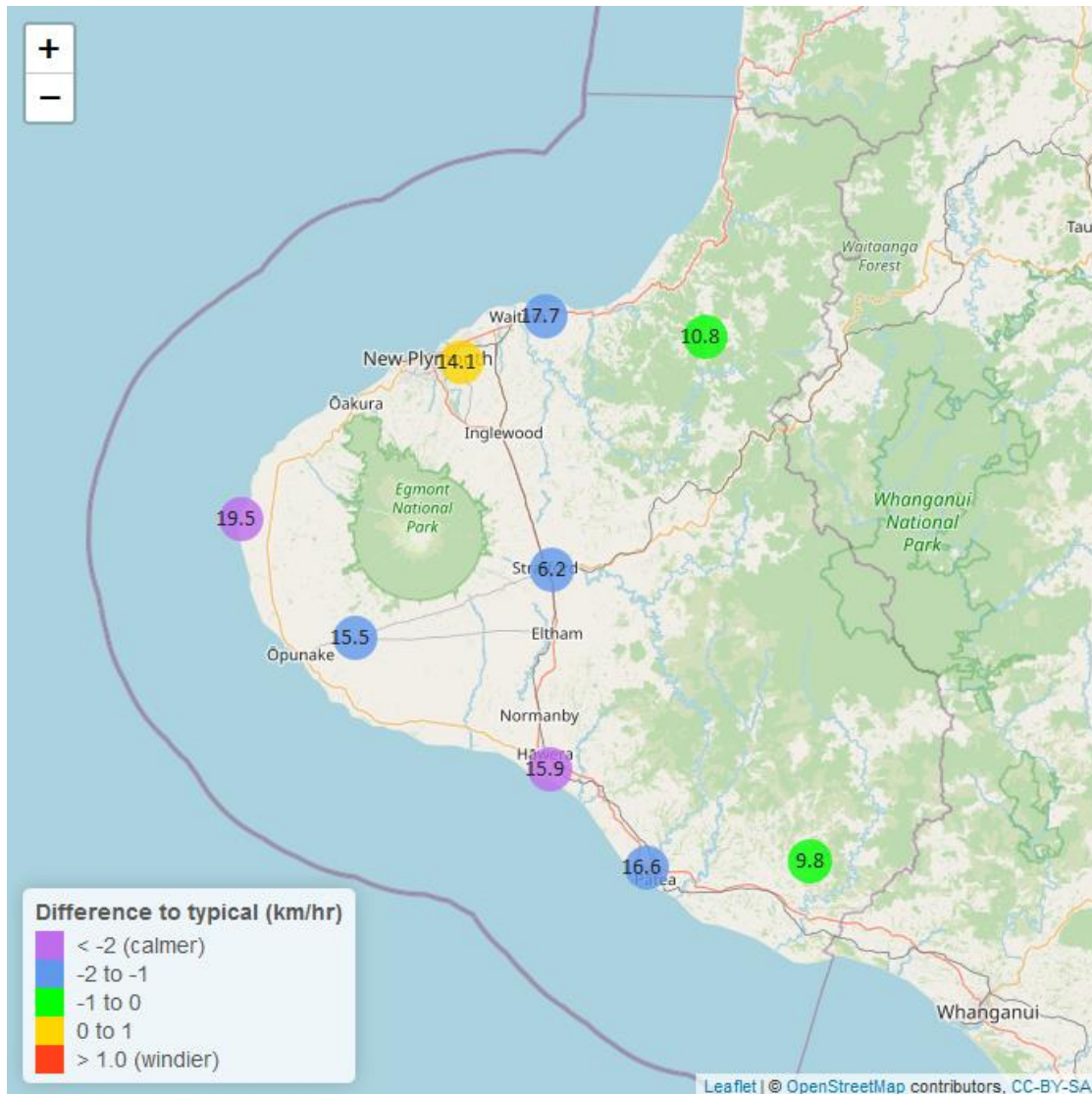


Table 7: Summary of high, low and mean wind speed for this June and for June in all preceding years of record.

June 2023 - Wind Speed (average) - (km/hr)								
Monitoring Site	Highs		Lows		Mean		June maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	31.5	38.0	4.63	5.56	15.9	18.50	52.8	18
Kapoaiaia at Lighthouse	40.4	43.0	6.55	6.84	19.5	22.30	57.4	24
New Plymouth AWS	38.9	40.7	7.36	5.56	17.7	19.30	52.8	15
Patea at Bore 3	36.1	38.6	6.49	6.25	16.6	18.30	50.4	7
Patea at Stratford	13.9	17.9	2.31	2.41	6.2	7.87	19.9	17
Taungatara at Eltham Rd	29.0	31.6	5.94	6.49	15.5	16.60	39.9	7
Uruti at Kaka Rd	21.8	24.6	2.79	3.46	10.8	11.60	30.7	24
Waitotara at Ngutuwera	23.6	22.6	2.71	2.00	9.8	10.70	32.9	25
Waiwhakaiho at Hillsborough	32.7	30.2	4.49	4.07	14.1	14.10	48.8	6

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

June 2023 - Wind Speed (Max. Gust) - (km/hr)								
Monitoring Site	Highs		Lows		Mean		June maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	75.9	77.8	18.5	20.4	39.8	47.3	79.6	18
Kapoaiaia at Lighthouse	69.2	84.8	18.2	22.2	40.9	52.9	80.6	23
New Plymouth AWS	81.5	81.5	20.4	18.5	43.0	48.4	88.9	15
Patea at Bore 3	68.6	77.0	17.7	18.1	39.7	45.1	76.4	7
Patea at Stratford	48.6	60.5	10.8	15.1	27.9	35.5	51.5	17
Taungatara at Eltham Rd	64.6	77.0	19.6	19.2	40.8	44.6	69.3	7
Uruti at Kaka Rd	60.5	73.8	21.6	18.0	38.8	41.4	67.0	23
Waitotara at Ngutuwera	72.0	70.2	15.8	16.2	41.3	40.4	88.2	25
Waiwhakaiho at Hillsborough	81.6	73.6	19.9	18.2	40.5	42.1	86.0	6

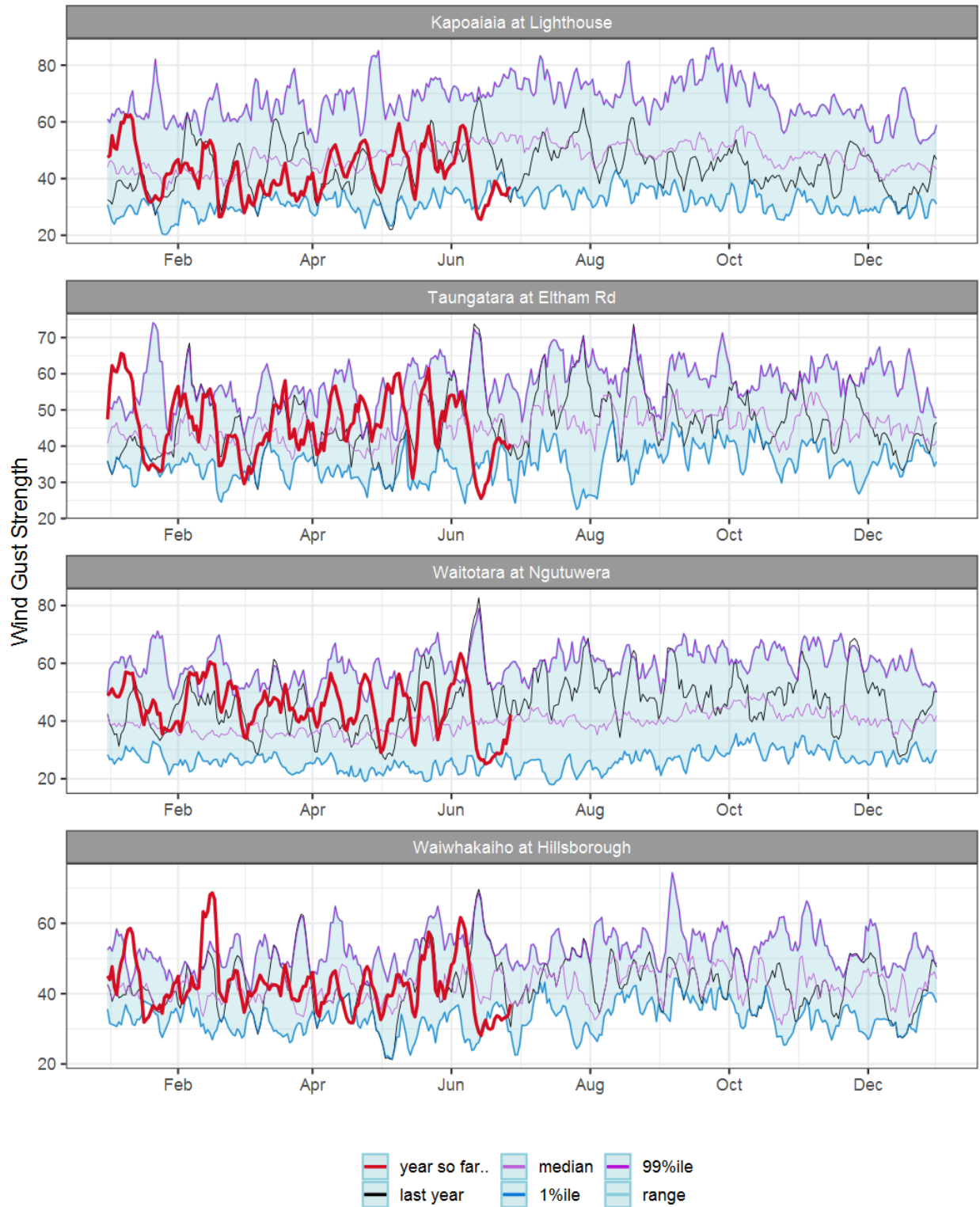


Figure 7.2: Running average Wind Gust Strength for selected sites, set in context of the historic record.

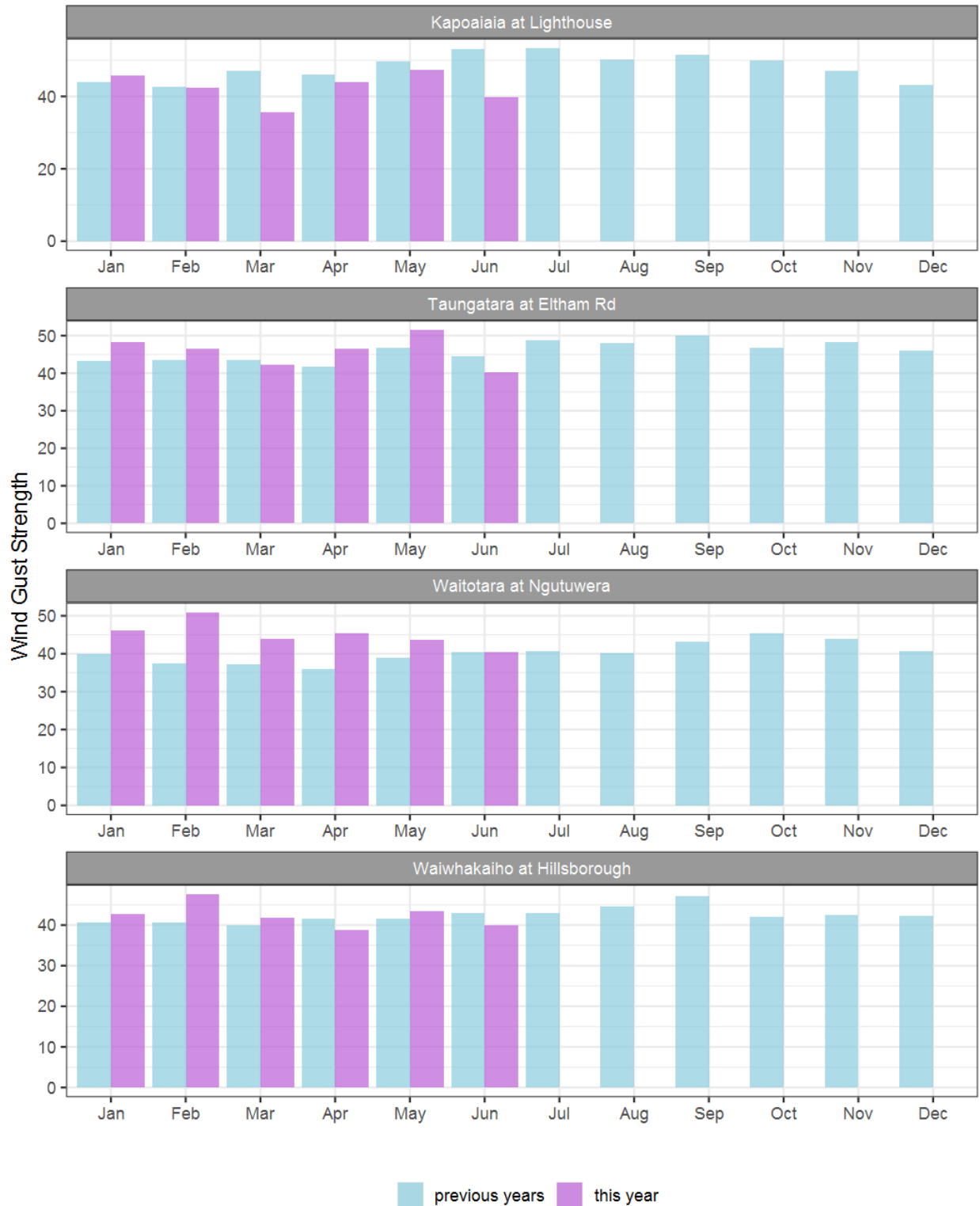


Figure 7.2: Monthly mean Wind Gust Strength for selected sites, in context to the mean of all previously recorded months.

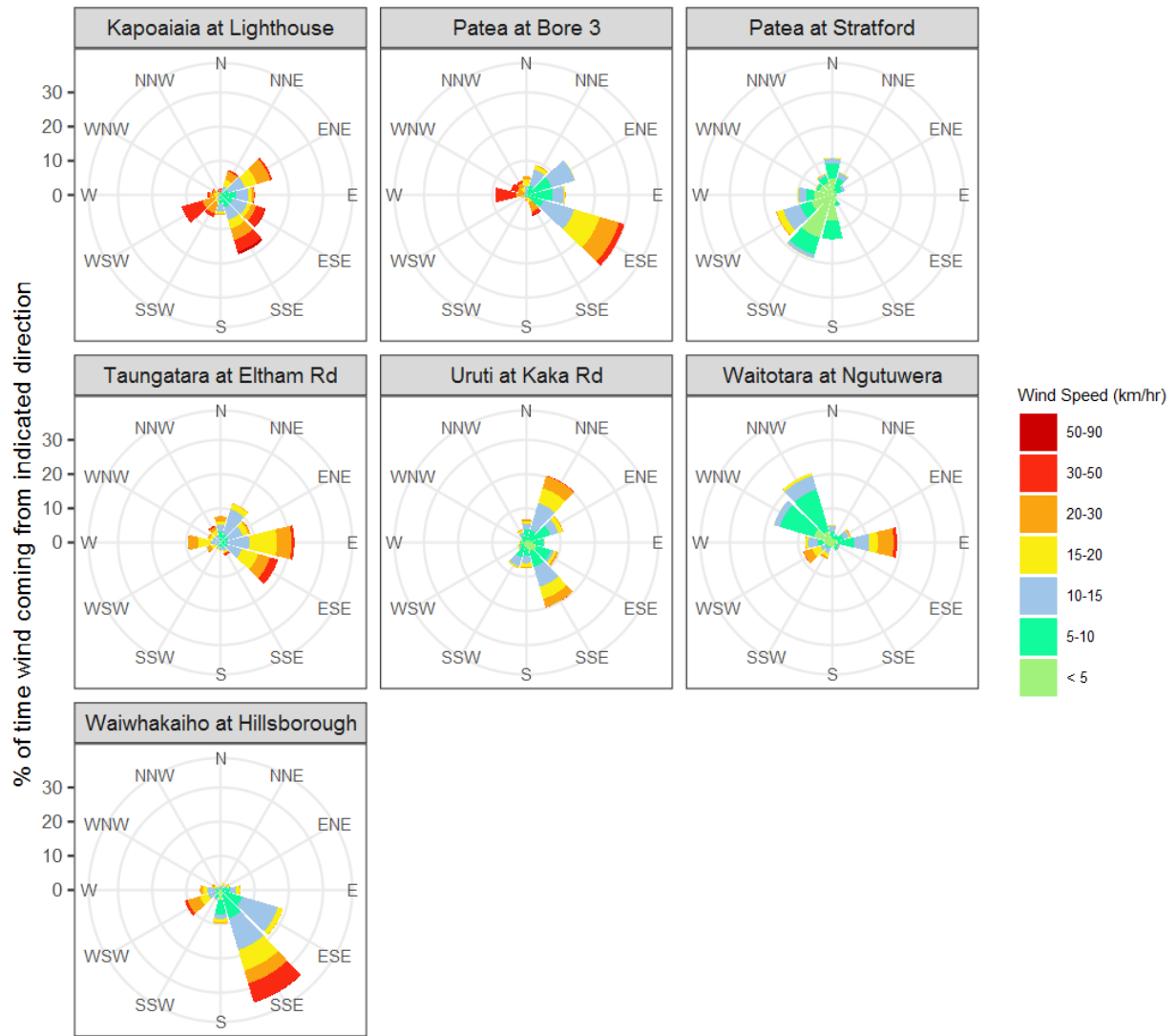


Figure 7.3: Wind roses for this month showing mean wind speed.

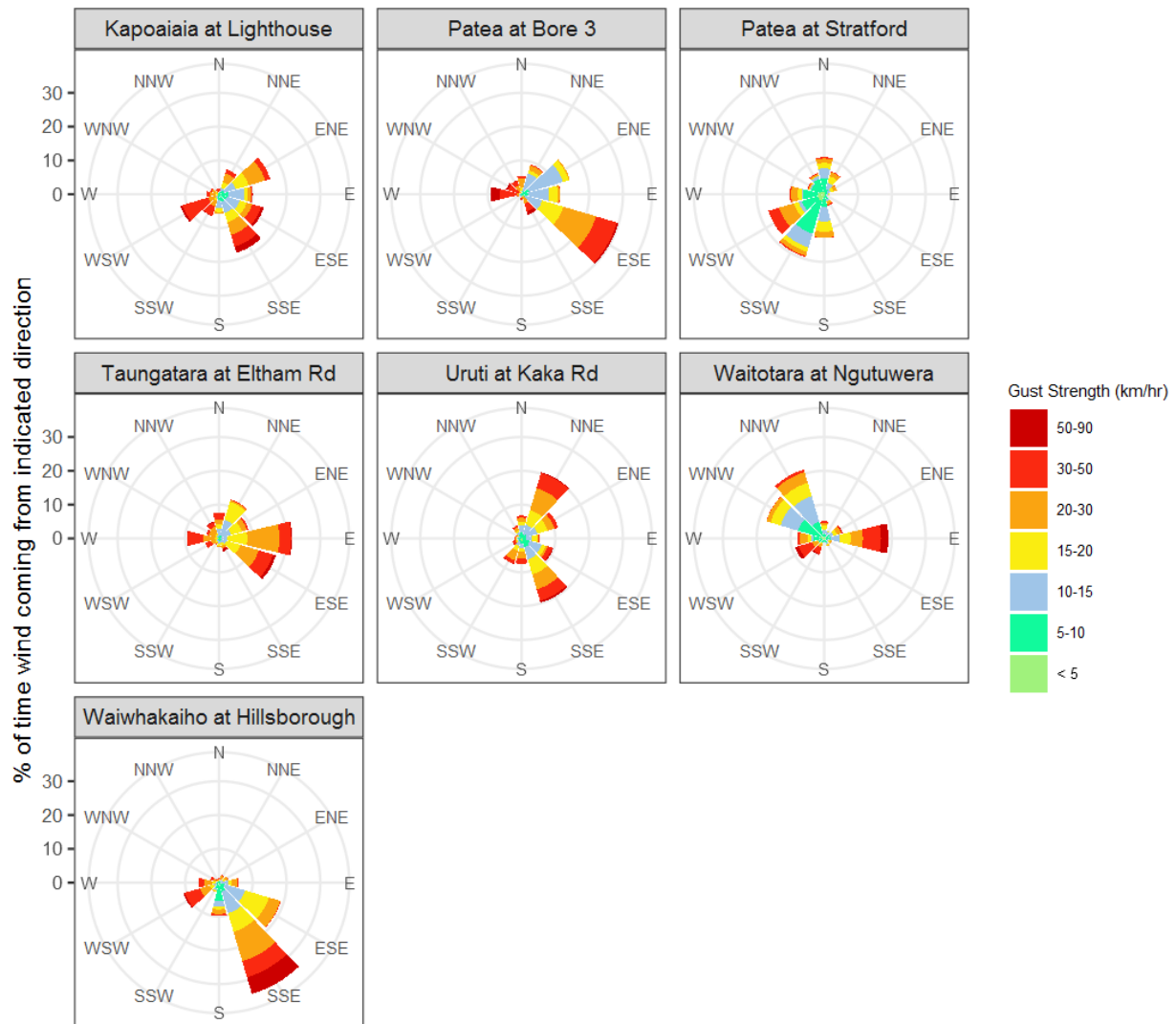


Figure 7.4: Wind roses for June for Wind Gust Strength.

Summary of month's conditions

Rainfall

On average rainfall for June was 74.9 mm, 58% less typical June rainfall, and ranging from 80% less rainfall at Waitotara at Ngutuwera, and 37% less rainfall at Brooklands Zoo at New Plymouth than a typical June.

Year to date rainfall ranges from 5% less rainfall at Uruti at Kaka Rd, and 45% more rainfall at Whanganui at Mataimona Trig, with an average of 16% more than normal. Compared to typical full year totals, on average sites have already received 52% of a typical year's rainfall, with the highest value at Hawera AWS, 62% of normal, whereas Uruti at Kaka Rd sits at 42% of the typical year's total.

River Flow

Mean river flows for June were 41.6% lower than typical values, low flows were 21% greater, and high flows 58.2% lower than typical values. The maximum river flow recorded in June was 331 m³/sec at Waitara at Bertrand Rd.

River Water Temperature

Mean river (non-mountain) water temperatures were 10.6°C, an average the same as long-term June values. Nighttime-low water temperatures were on average 0.8°C warmer than historic lows, and day-time high temperatures were on average 0.2°C warmer than historic highs. The maximum river water temperature recorded in June was 16°C at Mangati at SH3.

Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 10.3°C, which is the same as long-term June averages. Low air temperatures for June were on average 0.6°C warmer than the June average for previous years. Day-time high temperatures were on average 0.1°C warmer than historic highs. The maximum air temperature recorded in June was 21°C at Brooklands Zoo at New Plymouth.

Soil Moisture

The average soil moisture for June across sites in Taranaki Region was 33.9%. Soil moistures were on average 0.7% wetter than typical June values. On average, low soil moistures were 3.7% wetter than previous lows, and the highs were on average 2% drier than previous values for June.

Soil Temperature

June soil temperatures were generally 0.2°C warmer than long-term averages. Average nighttime low soil temperatures were 0.9°C warmer than recorded lows, and upper day-time soil temperatures were on average 0.7°C warmer than long-term June highs. The maximum soil temperature recorded in June was 16°C at Kapoiaia at Lighthouse.

Wind Speed (average and 10 minute gust)

June average wind speeds were 15 km/hr, with average gust strength of 40.6 km/hr, these were 1.4 km/hr lighter, and 4.7 km/hr weaker than the long-term average. Average calm weather wind speeds were 0.1 km/hr stronger than recorded lows, and windy conditions were on average 1.9 km/hr lighter than long-term June highs. The maximum wind gust recorded in June was 88.9 km/hr at New Plymouth AWS. Cape Egmont (Kapoaiaia at Lighthouse) is generally the windiest station the TRC monitors, and Stratford is often the calmest.

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 3 July 2023.