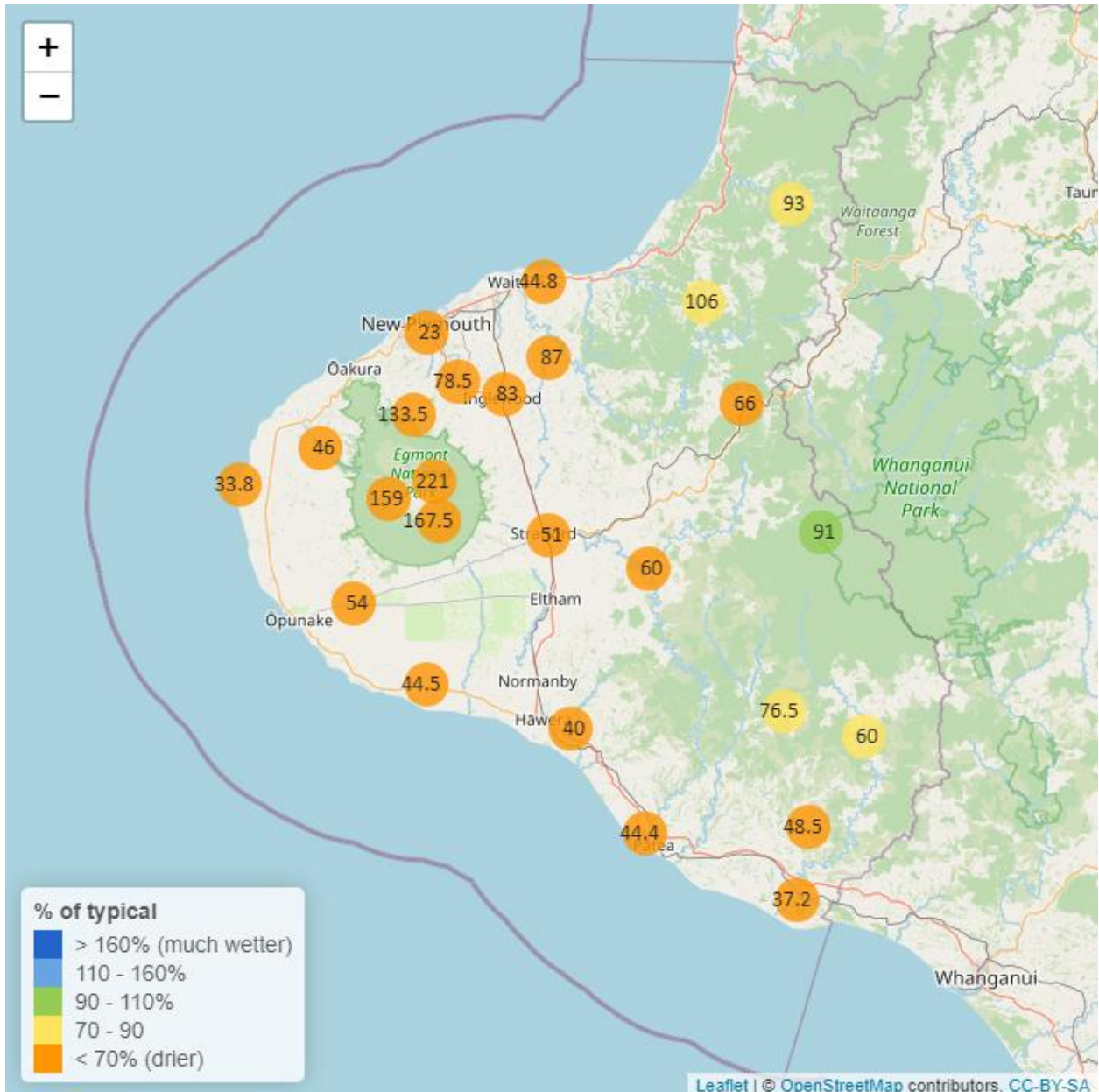


# Taranaki Regional Council Monthly Rainfall and Environmental Data Report for February 2024

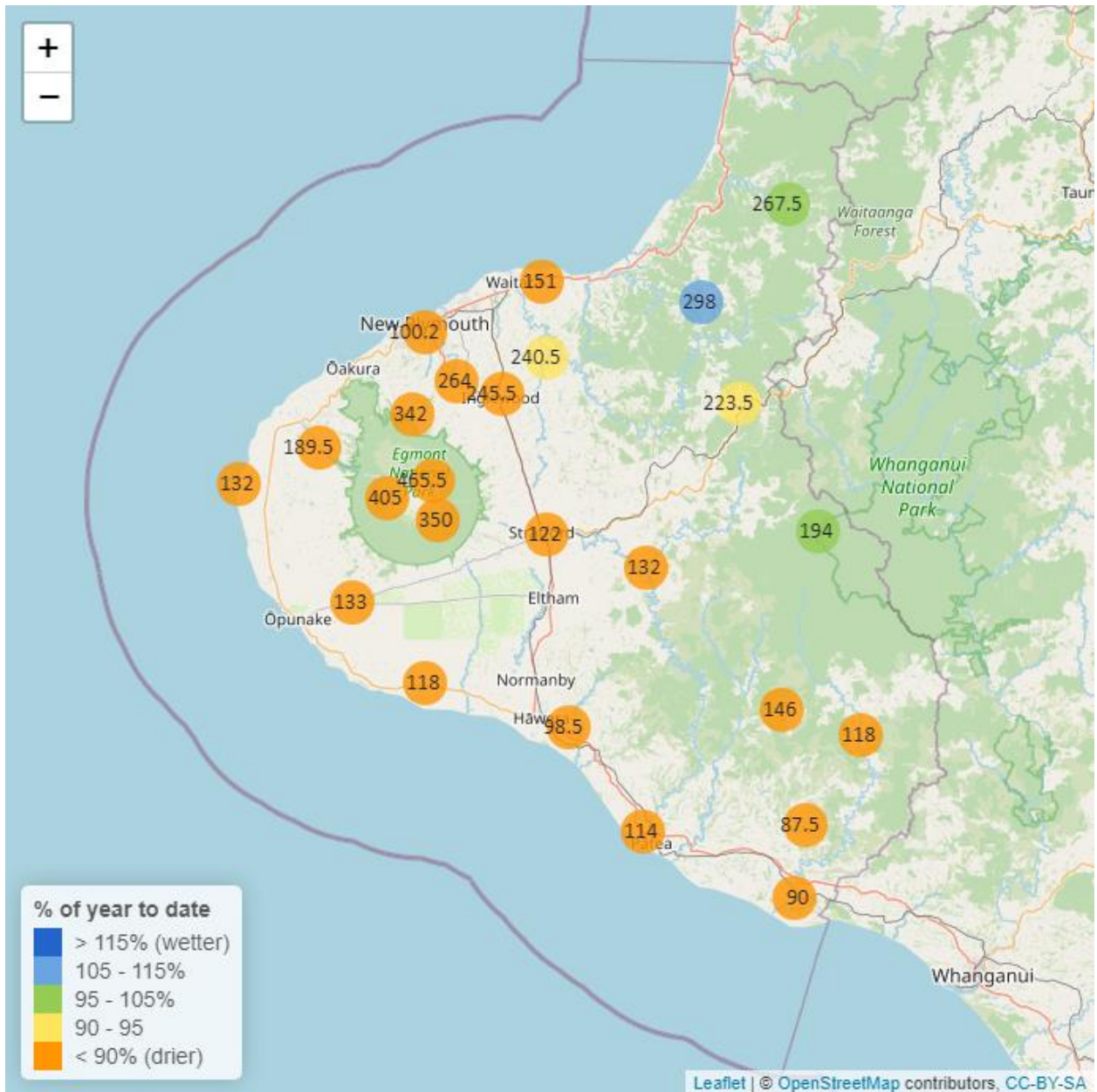
Note: The data presented here are provisional data only and may change as a result of quality control at a later date.

## 1. Rainfall

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



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



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

Rain gauge	February			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	13	221.0	56.8	465.5	59.1	6.7	1991
Dawson Falls	10	167.5	49.9	350.0	52.1	5.9	1933
Kapoaiaia at Kahui Hut	15	159.0	60.4	405.0	71.7	7.7	2006
Mangorei Upper at Forest Hill	11	133.5	52.4	342.0	81.8	9.1	2018
Waiwhakaiho at Hillsborough	9	58.0	52.7	146.5	70.5	8.0	2013
Brooklands Zoo at New Plymouth	6	23.0	21.6	100.2	53.5	6.2	2012
Motunui M39 at Weston W3	9	44.8	44.1	151.0	79.1	9.6	1999
Waiwhakaiho at Egmont Village	8	78.5	49.6	264.0	88.7	10.9	1991
Manganui at Everett Park	12	87.0	68.6	240.5	93.8	11.6	1987
Inglewood at Oxidation Ponds	8	83.0	55.5	245.5	88.7	10.4	2000
Stony at Mangatete Bridge	7	46.0	31.8	189.5	75.4	9.5	2004
Kapoaiaia at Lighthouse	7	33.8	35.4	132.0	68.8	9.5	1930
Taungatara at Eltham Rd	7	54.0	61.9	133.0	76.0	8.4	2005
Kaupokonui at Glenn Rd	5	44.5	65.2	118.0	85.8	10.1	1998
Patea at Stratford	10	51.0	41.2	122.0	51.7	6.1	1999
Mangaehu at Bridge	11	60.0	53.6	132.0	67.3	8.3	1999
Kotare at OSullivans	9	93.0	76.2	267.5	102.1	12.4	1998
Uruti at Kaka Rd	11	106.0	76.4	298.0	107.7	13.4	1991
Pohokura Saddle	13	66.0	53.5	223.5	93.9	11.2	1991
Omaru at Charlies	11	91.0	91.5	194.0	95.1	10.6	2006
Omahine at Moana Trig	12	76.5	73.1	146.0	72.7	8.6	2007

	February			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	8	60.0	72.5	118.0	72.0	8.6	1994
Waitotara at Ngutuwera	8	48.5	60.9	87.5	53.7	6.8	1999
Tawhiti at Duffys	6	40.0	56.9	98.5	73.5	8.9	1994
Patea at Bore 3	5	44.4	59.2	114.0	78.0	9.6	2006
Waitotara at Hawken Rd	7	37.2	36.2	90.0	53.3	7.6	2016

## 1.2 Long-term data patterns

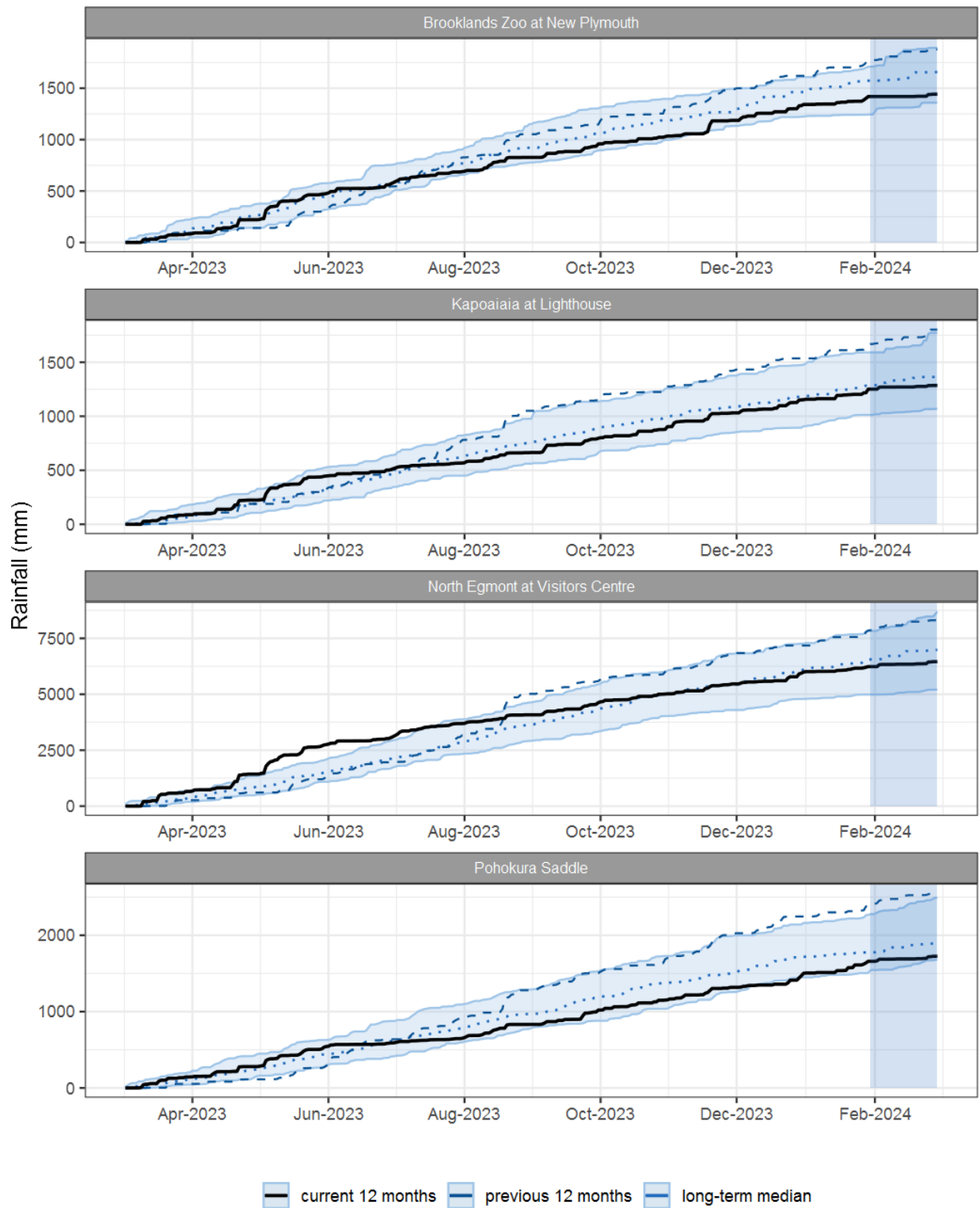


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki (note: the shaded area covers the current reporting month).

### 1.3 Monthly Bar Charts

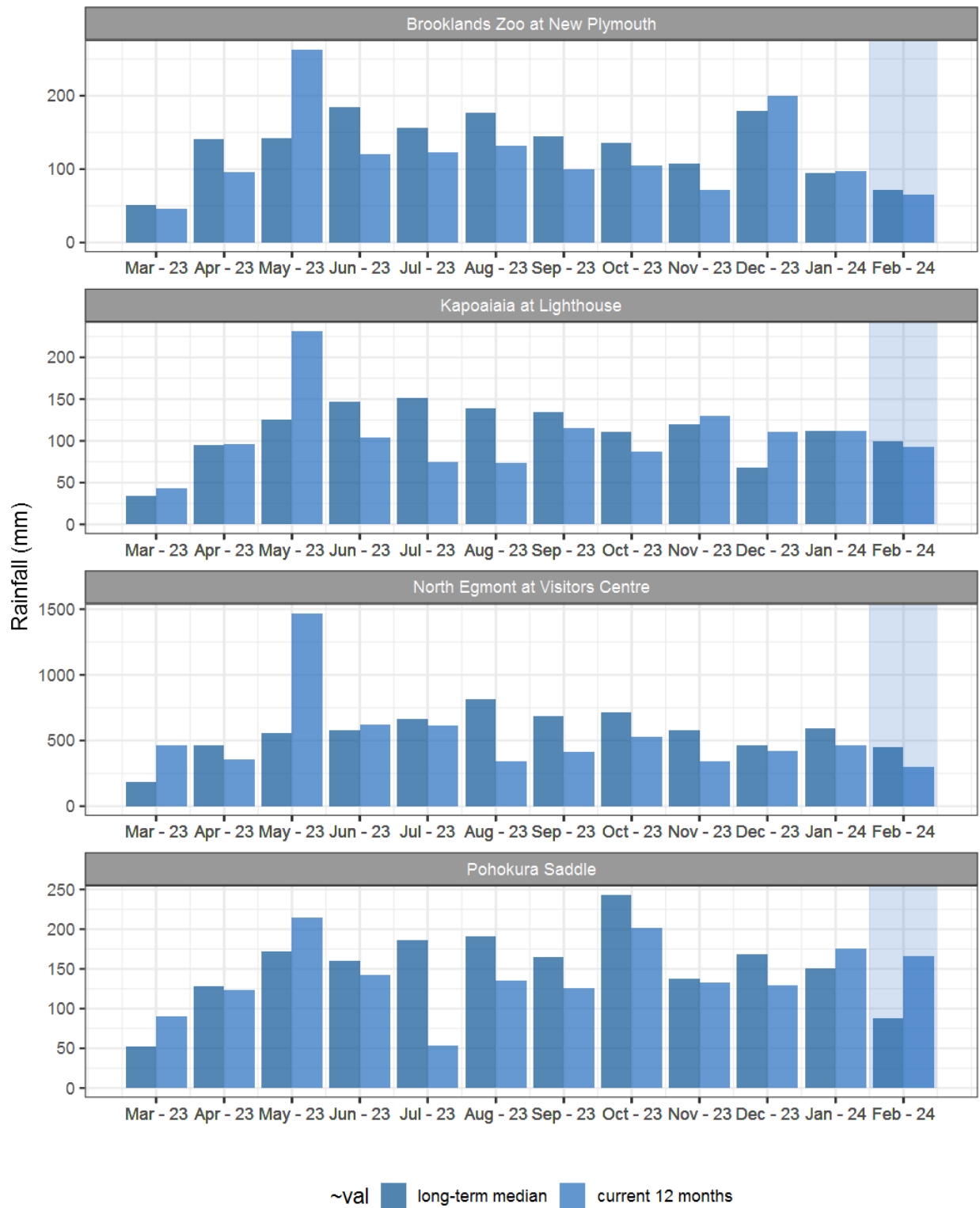
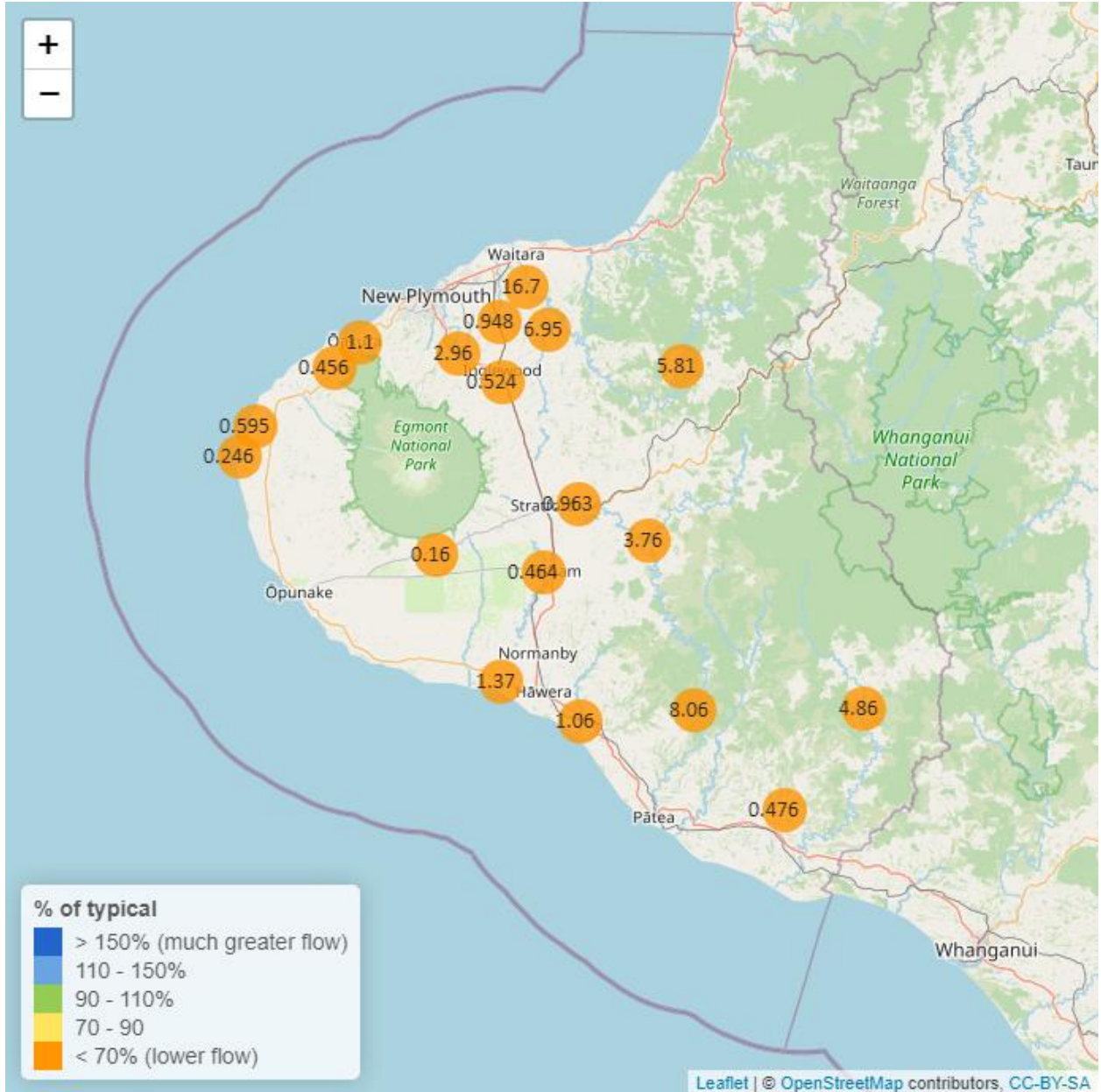


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months (note: the shaded area covers the current reporting month).



## 2. River Flow

Map 2: February mean river flows (m<sup>3</sup>/sec), with difference as percentage of long-term mean.



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

February 2024 - Recorded flows (m3/sec)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	0.49	1.85	0.17	0.24	0.25	0.73	2.32	37
Mangaehu at Bridge	10.80	24.40	1.97	1.83	3.76	7.36	31.70	46
Manganui at Everett Park	13.90	39.30	4.82	2.98	6.95	12.90	28.30	31
Mangawheroiti Above Intake W.W	0.21	0.57	0.14	0.12	0.16	0.29	0.47	11
Moumahaki at Johnston Rd	1.51	6.72	0.26	0.36	0.48	2.56	3.05	6
Ngatoro at SH3	1.01	1.71	0.35	0.23	0.52	0.77	4.75	34
Oakura at Victoria Rd	2.37	6.39	0.60	0.32	1.10	2.31	12.40	5
Patea at McColls Bridge	28.90	58.10	2.92	1.83	8.06	17.50	57.00	35
Patea at Skinner Rd	2.02	8.46	0.66	0.60	0.96	2.80	2.97	45
Tangahoe below Railway Bridge	1.71	16.90	0.80	0.89	1.06	5.25	4.75	6
Timaru at Tataraimaka	0.80	3.05	0.33	0.27	0.46	1.50	2.45	10
Waingongoro at Eltham Rd	0.80	3.99	0.30	0.36	0.46	1.45	3.10	49
Waingongoro at SH45	1.90	9.60	1.15	1.08	1.37	3.59	4.05	43
Waiongana at SH3a	2.10	5.36	0.53	0.35	0.95	1.72	8.44	43
Waitara at Bertrand Rd	34.80	129.00	7.61	5.69	16.70	32.70	76.30	43
Waitara at Purangi Bridge	22.90	47.20	1.27	0.43	5.81	11.40	56.50	24
Waitotara at Rimunui Station	15.90	19.30	2.63	2.67	4.86	7.53	38.90	18
Waiwhakaiho at Egmont Village	6.02	14.00	1.94	1.93	2.96	5.57	47.90	43
Warea at Coast	1.16	2.45	0.38	0.25	0.60	0.96	2.74	8



## 2.2 Long-term data patterns

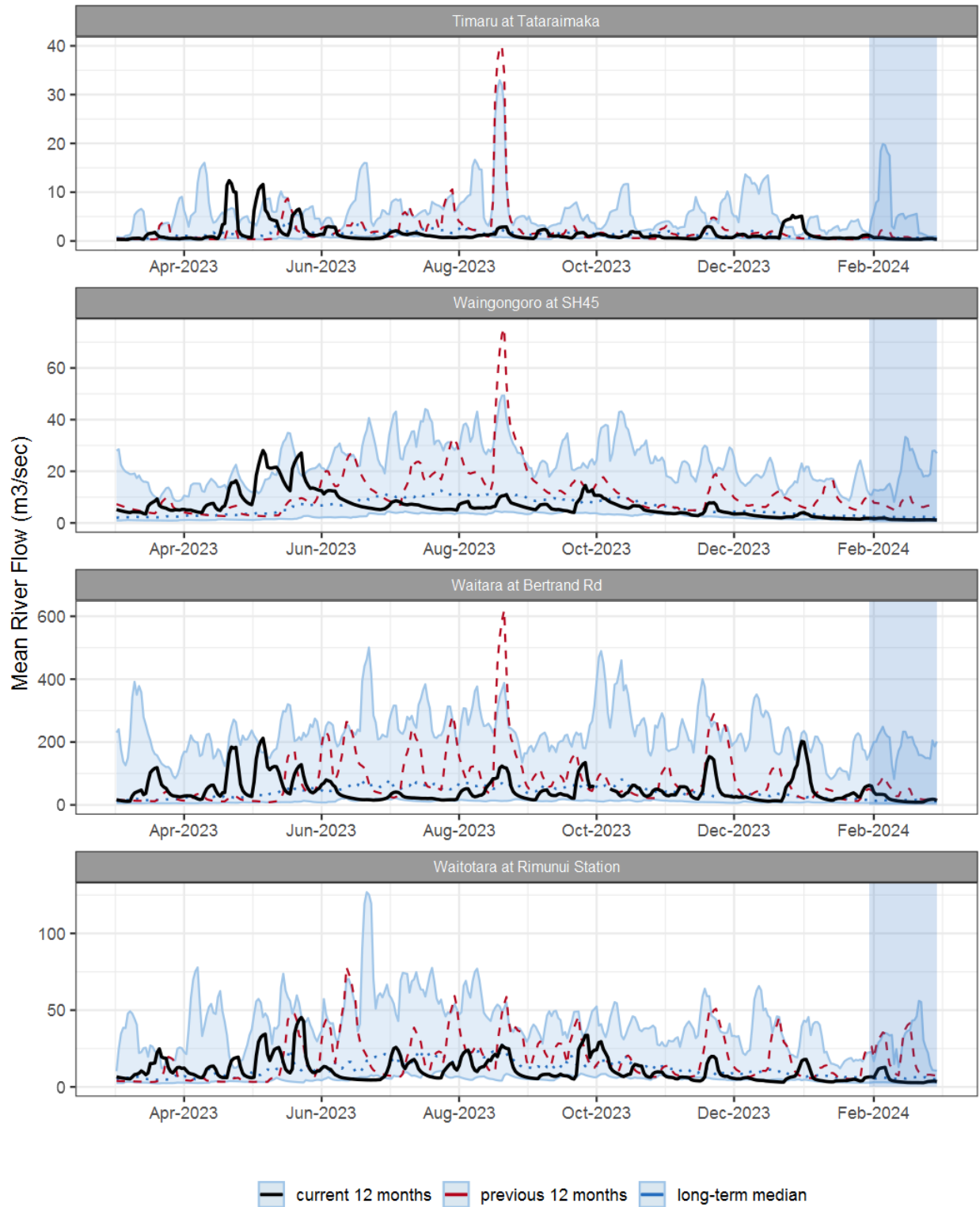


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

## 2.3 Monthly Bar Charts

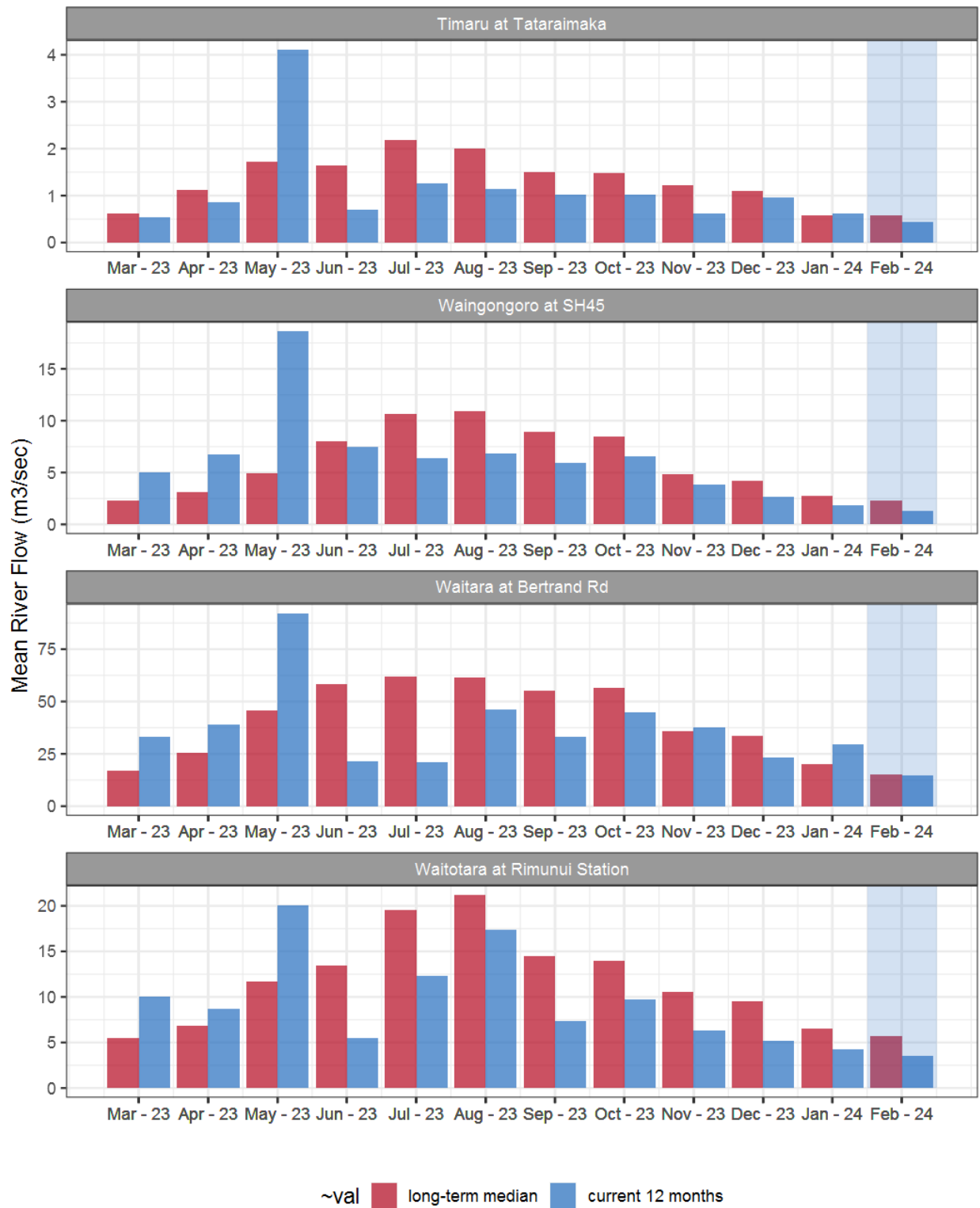
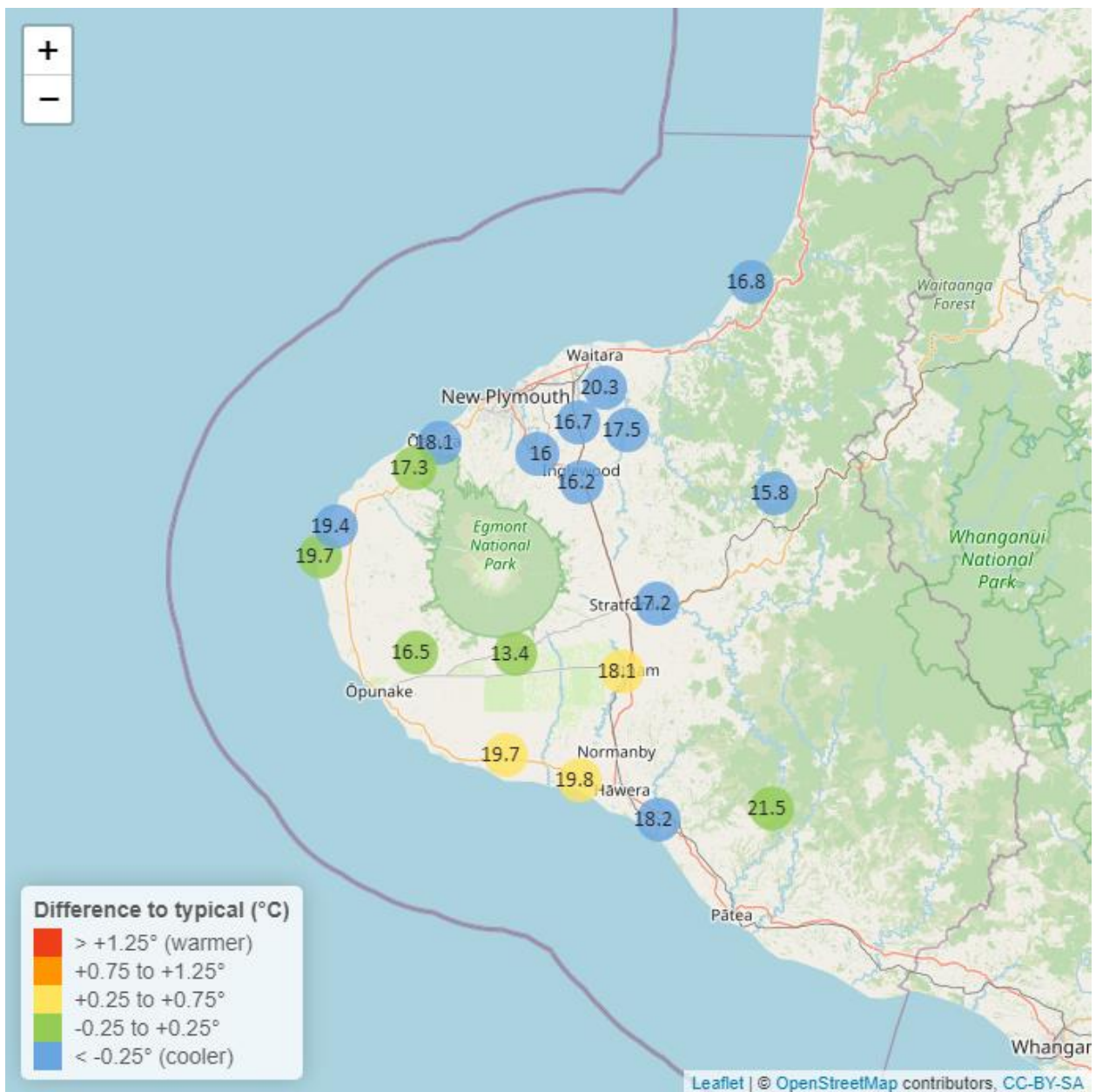


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

### 3. River Temperature

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



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

February 2024 - River Temperature (°C)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	23.3	23.8	16.5	15.7	19.7	19.6	24.9	23
Kaupokonui at Glenn Rd_COMBINED	24.7	23.6	15.6	15.4	19.7	19.4	26.2	32
Manganui at Everett Park	19.7	22.2	15.0	15.7	17.5	18.8	20.4	15
Mangawheroiti Above Intake W.W	15.7	15.9	11.2	11.1	13.4	13.3	16.6	11
Matau at Woolshed	18.7	20.6	12.8	13.8	15.8	17.0	20.2	6
Ngatoro at SH3	18.5	20.1	13.6	14.1	16.2	17.1	19.3	22
Oakura at Victoria Rd	20.8	22.4	15.6	15.4	18.1	18.6	21.9	5
Patea at McColls Bridge	23.1	24.3	19.8	18.7	21.5	21.7	23.8	9
Patea at Skinner Rd	19.7	20.8	14.1	14.4	17.2	17.5	20.2	20
Tangahoe below Railway Bridge	21.0	22.1	14.8	15.8	18.2	18.8	22.3	6
Timaru at Tataraimaka	19.7	20.6	14.9	14.9	17.3	17.5	20.5	9
Waiaua 2 at Barraclough Opuia	21.4	21.4	12.6	12.3	16.5	16.5	22.8	4
Waikaramarama at Bridge	18.5	19.4	14.6	15.1	16.8	17.3	19.1	6
Waingongoro at Eltham Rd	20.9	20.9	15.2	14.5	18.1	17.7	21.8	20
Waingongoro at SH45	22.4	22.4	17.3	15.6	19.8	19.2	23.3	18
Waiongana at SH3a	19.2	21.0	13.9	14.7	16.7	17.7	20.1	12
Waitara at Bertrand Rd	22.0	23.8	18.5	17.4	20.3	20.6	22.7	37
Waiwhakaiho at Egmont Village	18.3	19.6	13.3	13.5	16.0	16.5	19.6	30
Warea at Coast	23.4	24.5	15.8	15.4	19.4	20.0	25.2	5

### 3.2 Long-term data patterns

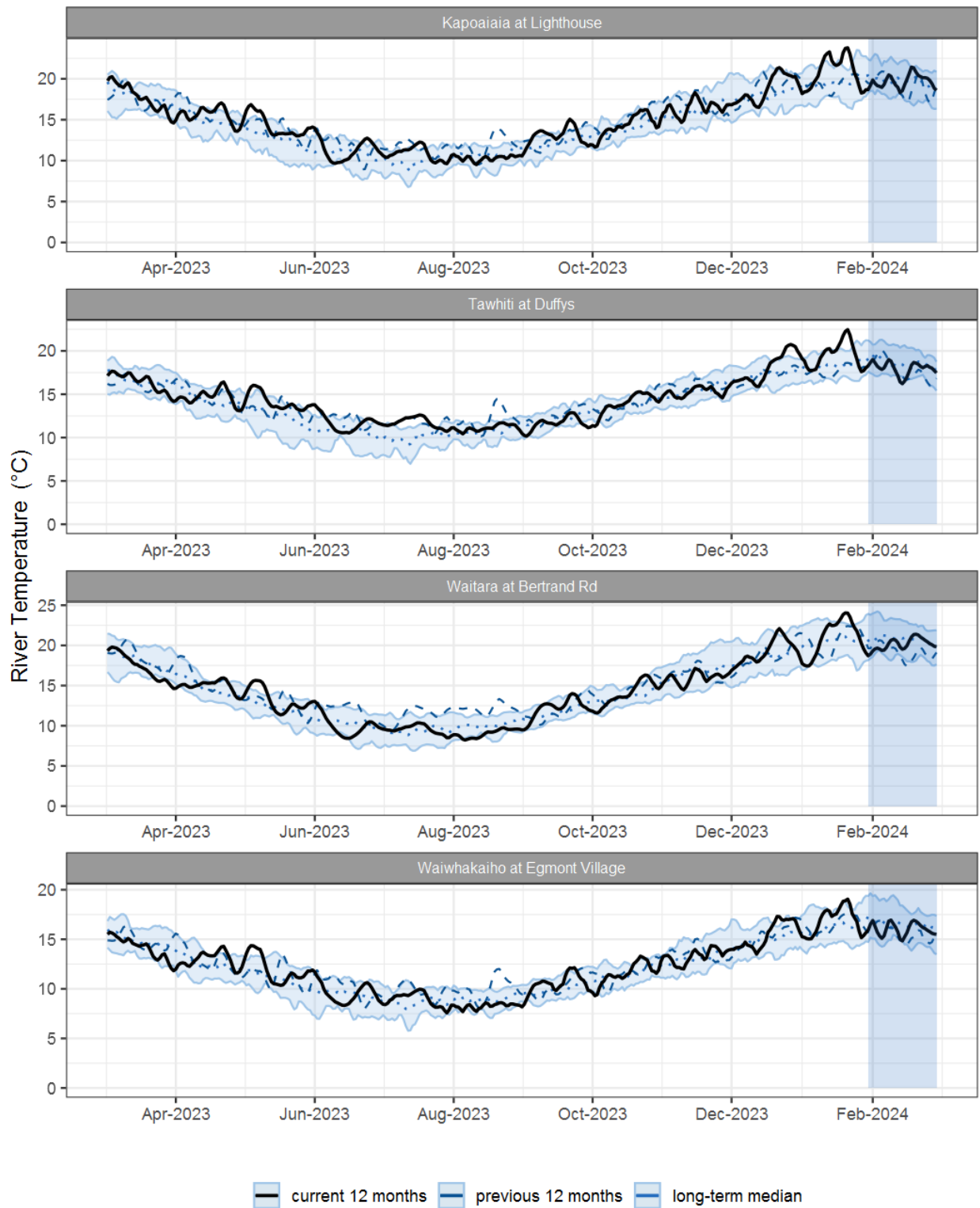


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

### 3.3 Monthly Bar Charts

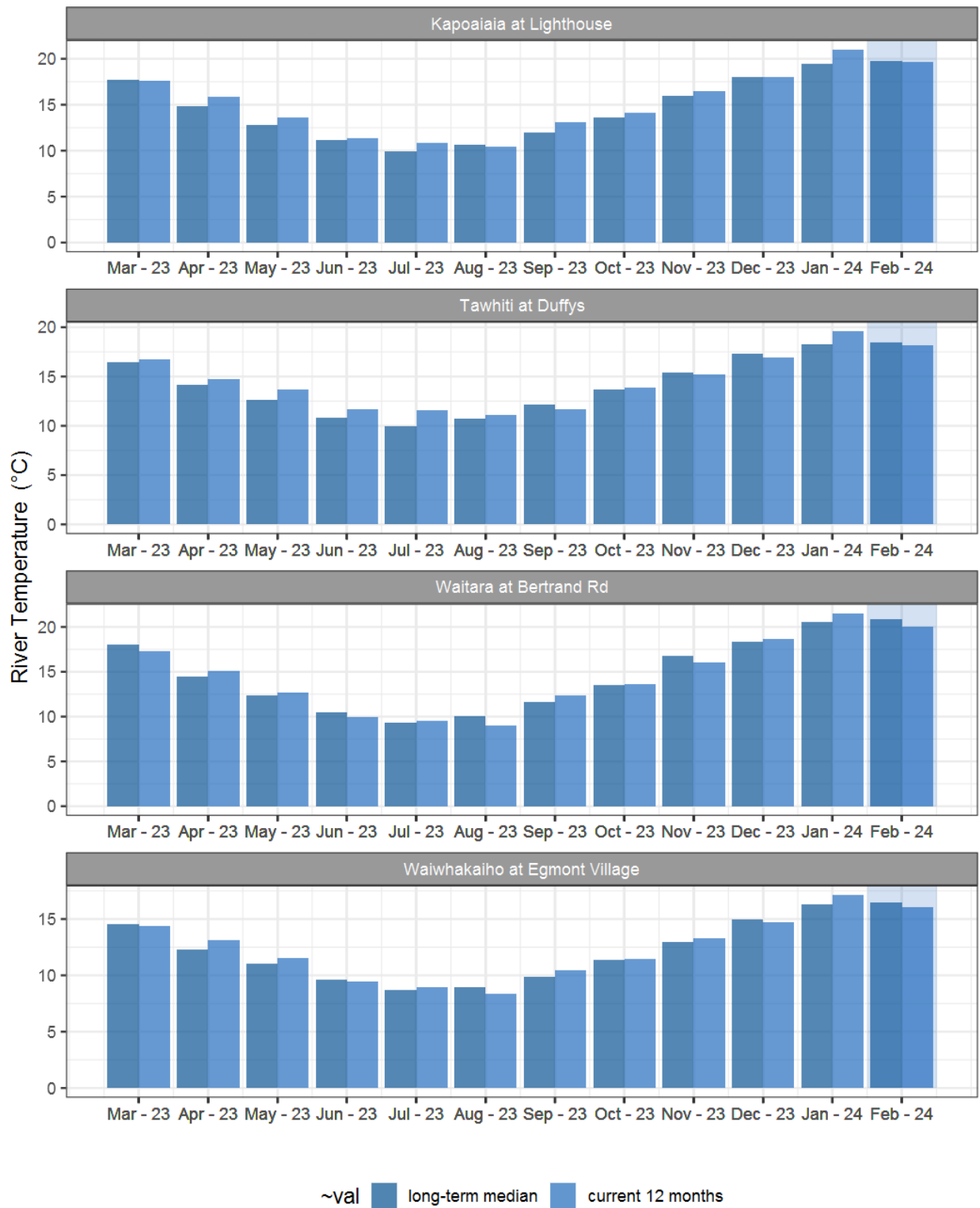
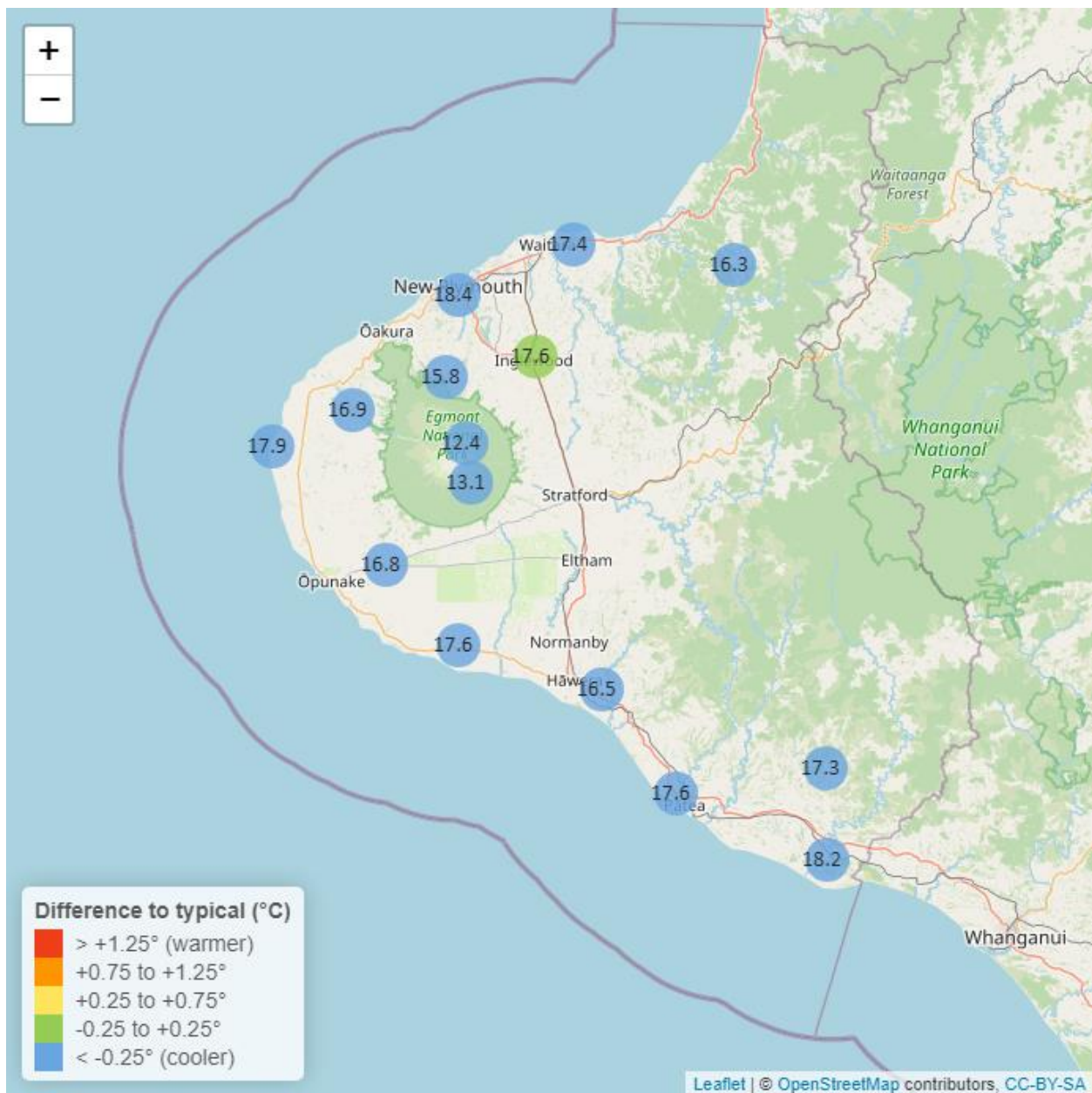


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

## 4. Air Temperature

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





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

February 2024 - Air Temperature (°C)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Brooklands Zoo at New Plymouth	24.1	25.2	12.20	12.90	18.4	19.0	28.6	12
Dawson Falls	19.5	19.7	7.25	7.98	13.1	13.9	22.5	8
Inglewood at Oxidation Ponds	24.6	24.9	10.90	10.80	17.6	17.7	28.7	12
Kapoaiaia at Lighthouse	21.5	22.8	13.30	13.20	17.9	18.5	23.3	11
Kaupokonui at Glenn Rd	23.2	24.2	11.70	11.90	17.6	18.2	25.2	9
Mangorei Upper at Forest Hill	20.7	21.7	10.60	11.40	15.8	16.8	24.1	6
Motunui M39 at Weston W3	21.9	23.3	11.70	12.30	17.4	18.2	25.0	7
North Egmont at Visitors Centre	18.6	19.5	6.93	8.18	12.4	13.9	20.8	9
Patea at Bore 3	22.1	23.8	12.70	12.40	17.6	18.1	23.9	12
Stony at Mangatete Bridge	21.8	23.5	12.00	12.30	16.9	18.1	25.5	8
Taungatara at Eltham Rd	21.3	23.2	11.70	11.70	16.8	17.7	24.0	8
Tawhiti at Duffys	22.5	23.6	8.18	9.18	16.5	17.5	24.6	10
Uruti at Kaka Rd	21.4	23.0	11.40	11.60	16.3	17.2	25.1	5
Waitotara at Hawken Rd	23.4	24.7	12.40	12.60	18.2	18.8	25.8	7
Weraweraonga at 749 Mangawhio Rd	24.6	25.2	9.65	10.20	17.3	17.9	26.4	5

## 4.2 Long-term data patterns

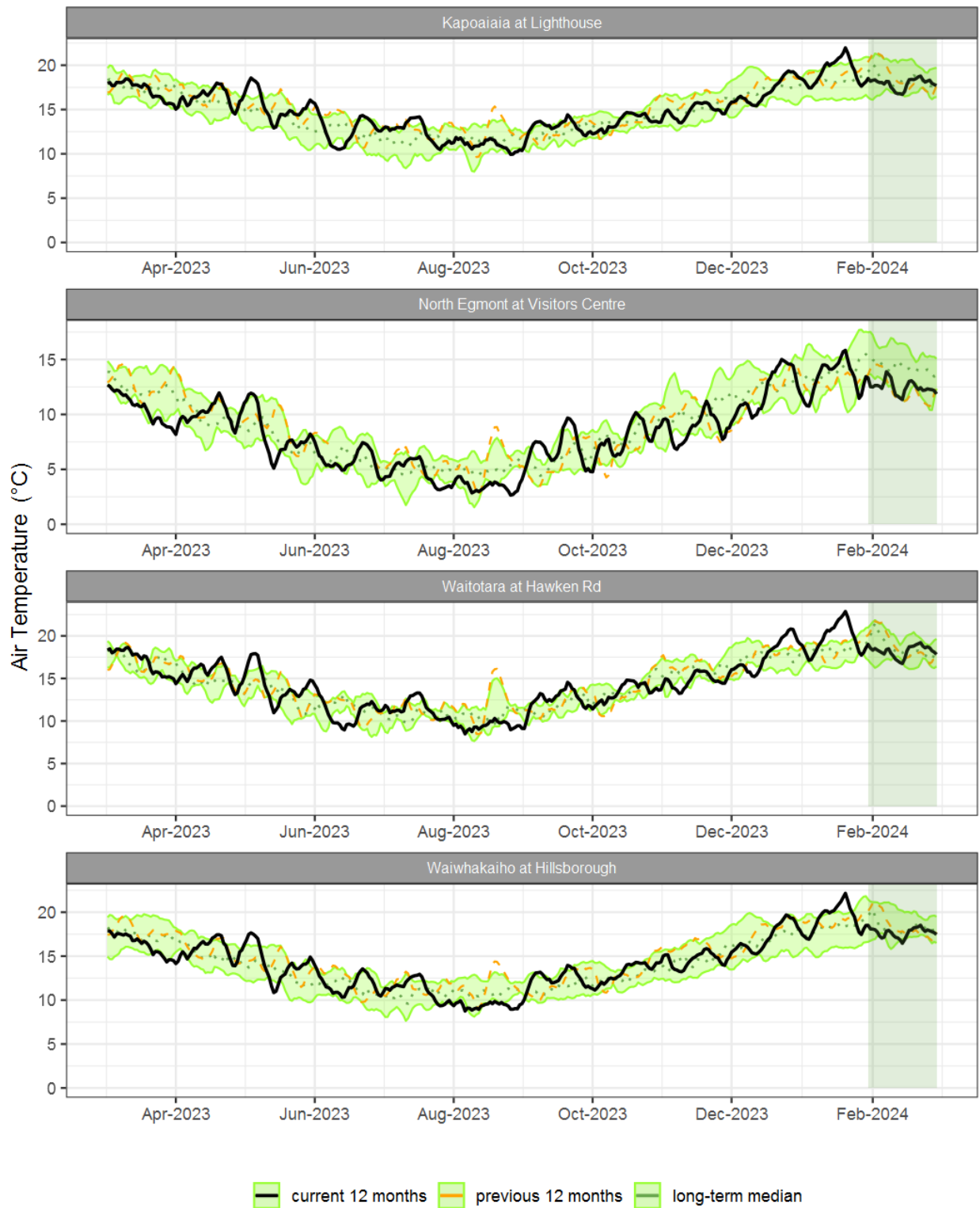


Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

### 4.3 Monthly Bar Charts

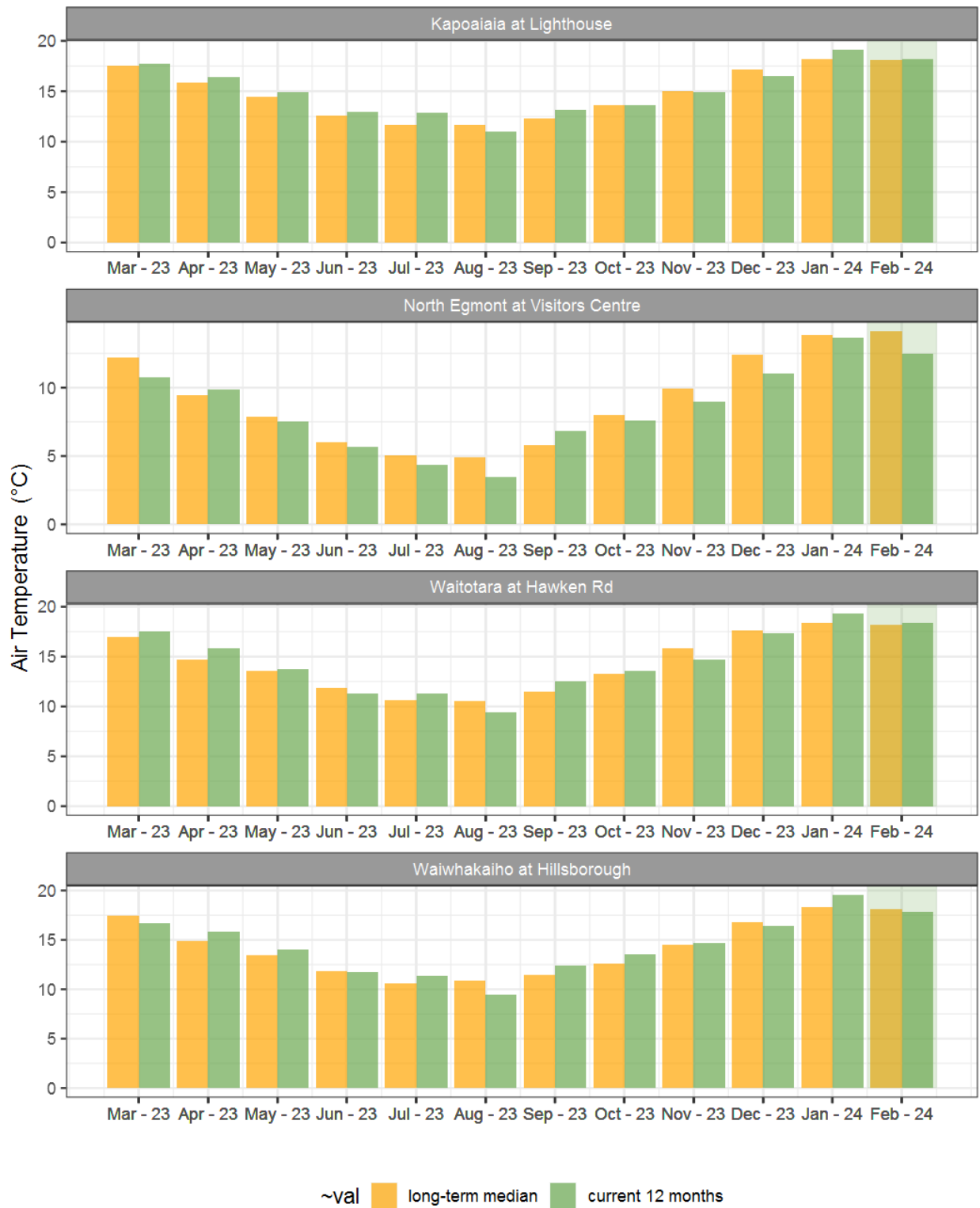
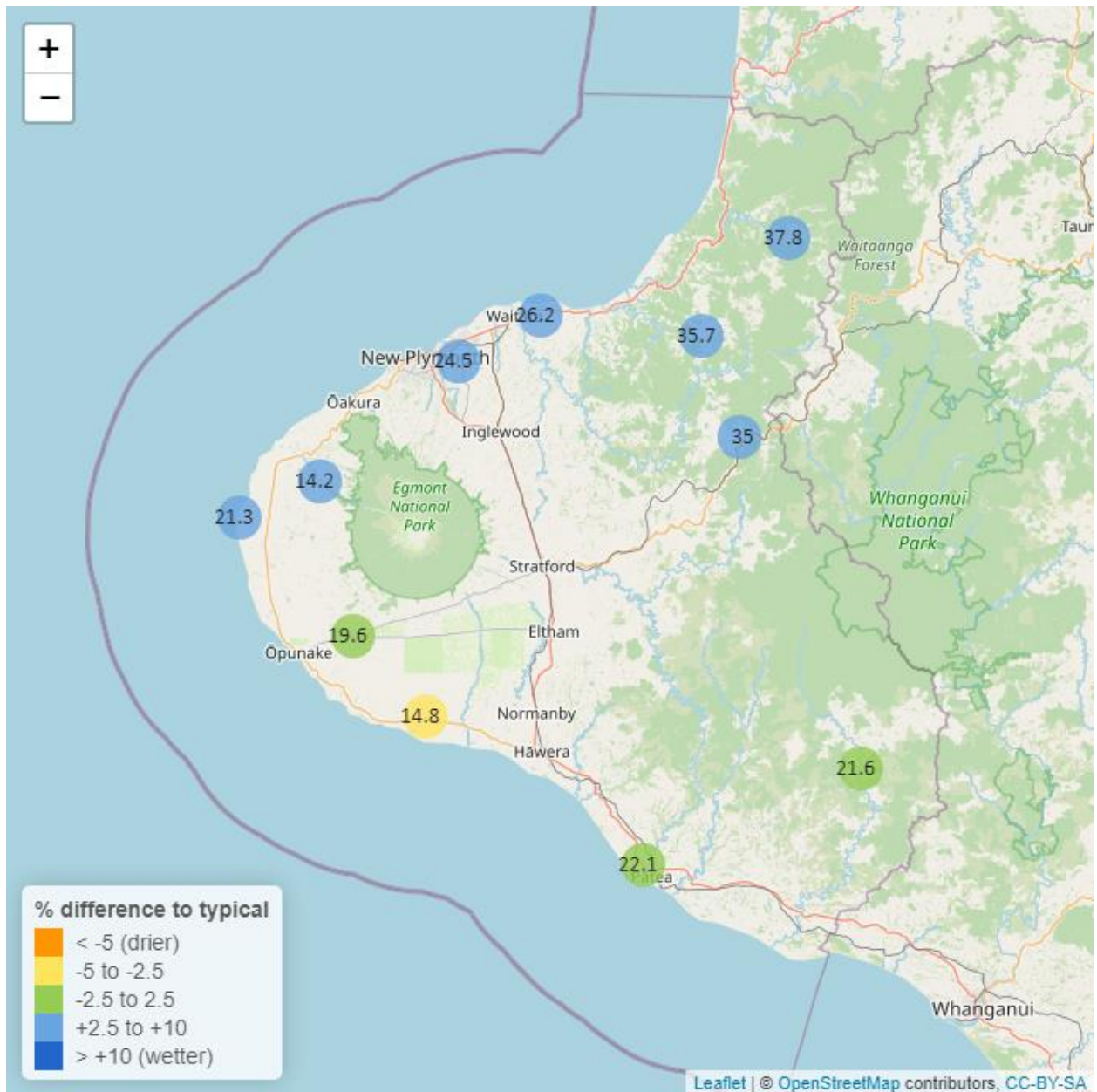


Figure 4.2: Monthly mean air temperature for February and the mean of all previously recorded months.

## 5. Soil Moisture

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



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

February 2024 - Soil Moisture (%)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	23.3	28.2	19.10	9.34	21.3	17.8	23.6	12
Kaupokonui at Glenn Rd	19.2	32.0	12.40	9.05	14.8	19.4	19.5	12
Kotare at OSullivans	47.4	41.5	30.40	20.60	37.8	31.1	54.0	12
Motunui M39 at Weston W3	28.9	30.0	23.60	11.40	26.2	21.6	29.2	10
Patea at Bore 3	23.7	29.7	19.50	14.10	22.1	23.5	24.3	7
Pohokura Saddle	42.8	43.9	30.70	15.60	35.0	31.9	45.2	9
Stony at Mangatete Bridge	19.8	17.8	9.96	3.58	14.2	10.3	21.3	8
Taungatara at Eltham Rd	26.4	35.3	14.90	12.60	19.6	22.0	27.8	10
Uruti at Kaka Rd	39.2	42.3	32.50	17.00	35.7	31.5	39.7	12
Waitotara at Rimunui Station	25.5	27.7	19.20	14.30	21.6	21.3	26.7	6
Waiwhakaiho at Hillsborough	27.2	27.9	22.50	11.80	24.5	19.7	28.4	11

## 5.2 Long-term data patterns

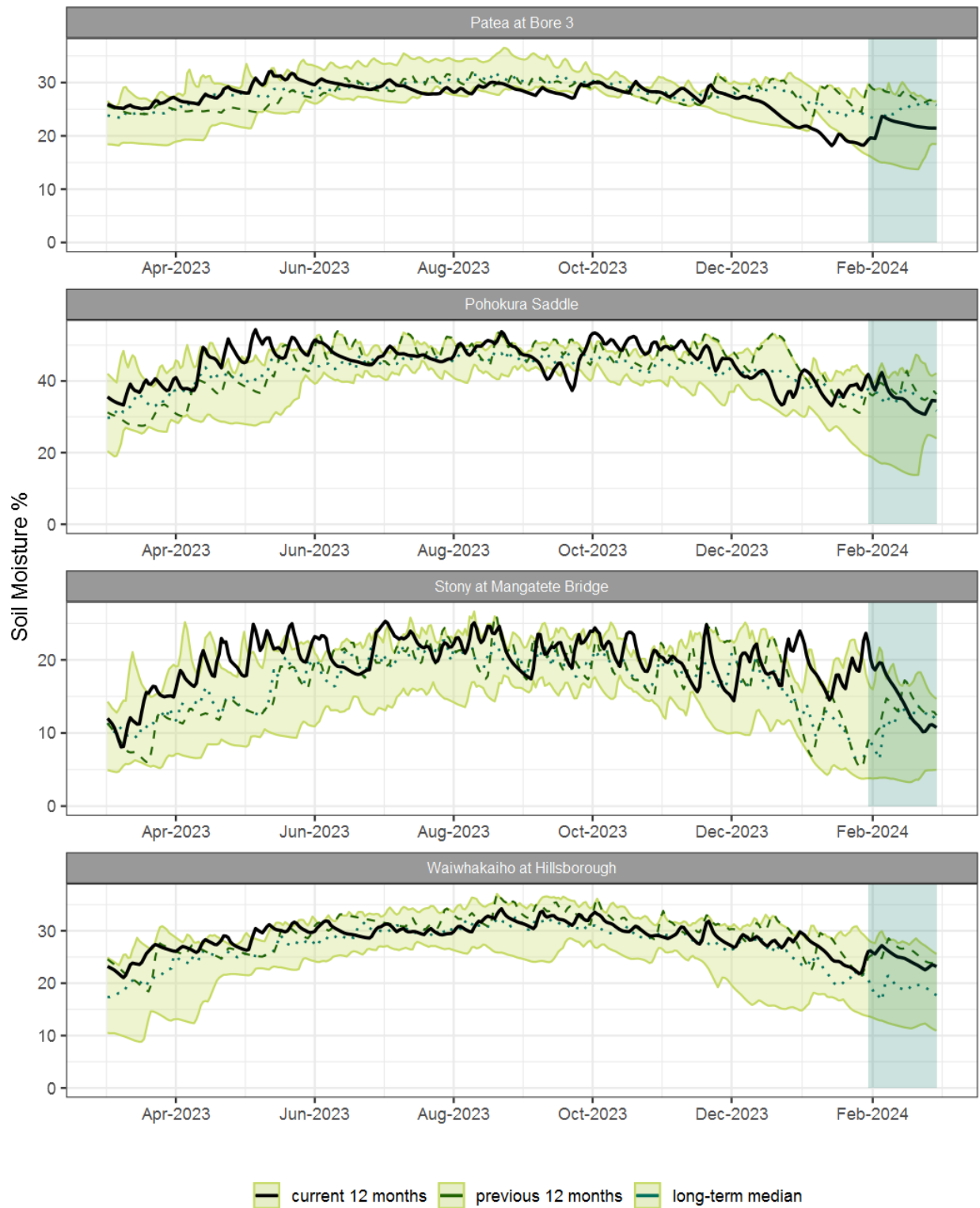


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.

### 5.3 Monthly Bar Charts

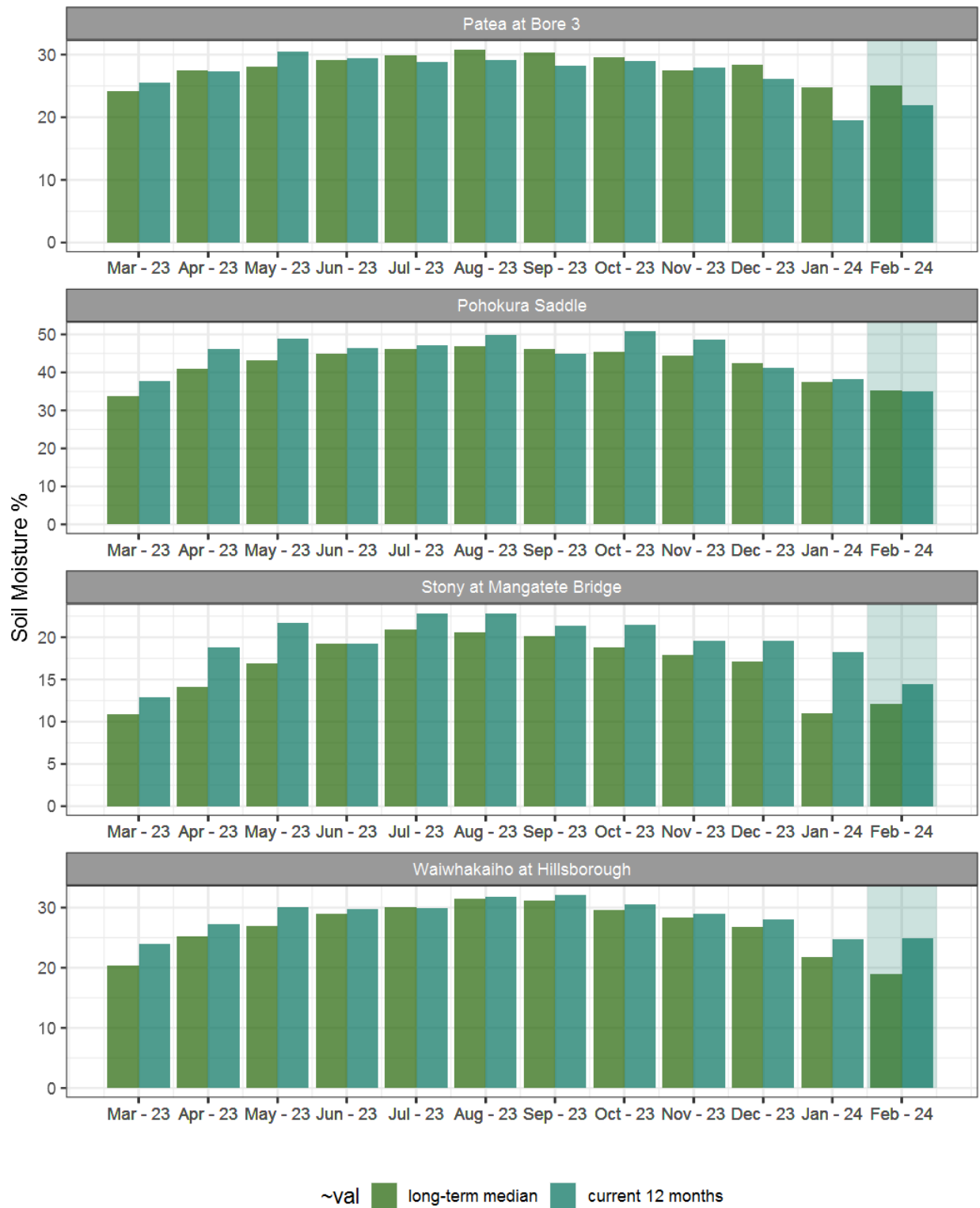
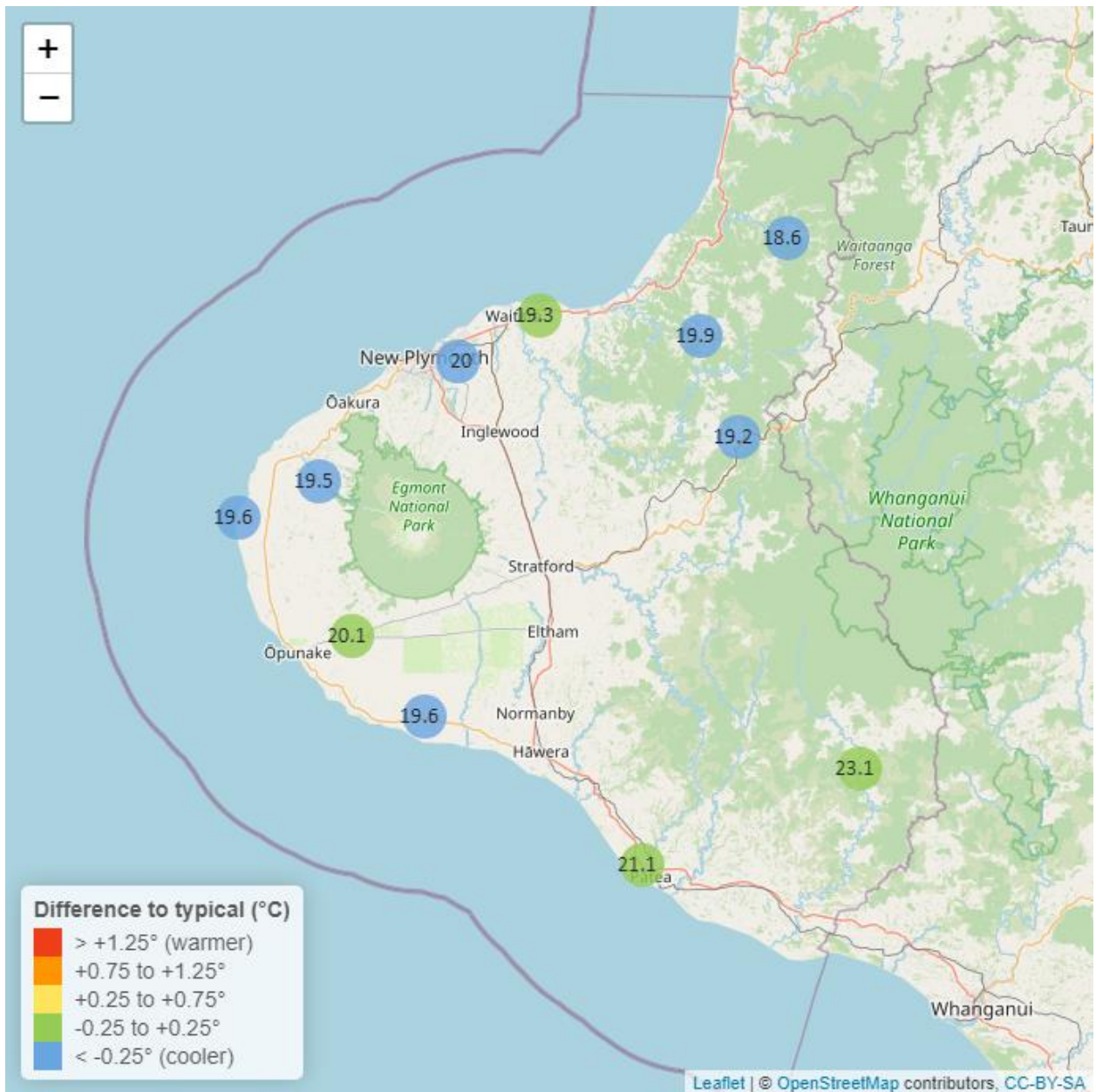


Figure 5.2: Monthly mean soil moisture for this month and the mean of all previously recorded months.



## 6. Soil Temperature

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



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

February 2024 - Soil Temperatures (°C)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	21.5	24.5	17.4	18.9	19.6	21.5	22.0	12
Kaupokonui at Glenn Rd	20.8	23.9	18.1	18.1	19.6	20.5	21.1	12
Kotare at OSullivans	19.8	22.4	17.6	17.4	18.6	19.7	20.1	12
Motunui M39 at Weston W3	20.2	21.7	17.9	17.1	19.3	19.3	20.5	10
Patea at Bore 3	22.9	25.3	19.0	17.9	21.1	21.0	23.8	7
Pohokura Saddle	20.4	22.0	17.7	17.9	19.2	20.1	20.7	9
Stony at Mangatete Bridge	20.8	24.2	17.9	18.1	19.5	21.1	21.2	7
Taungatara at Eltham Rd	22.6	22.5	17.6	17.3	20.1	19.9	23.4	10
Uruti at Kaka Rd	20.8	22.2	19.2	18.1	19.9	20.2	20.9	12
Waitotara at Rimunui Station	25.8	26.1	20.8	20.2	23.1	23.0	27.6	5
Waiwhakaiho at Hillsborough	21.2	22.5	18.6	18.1	20.0	20.3	21.6	11

## 6.2 Long-term data patterns

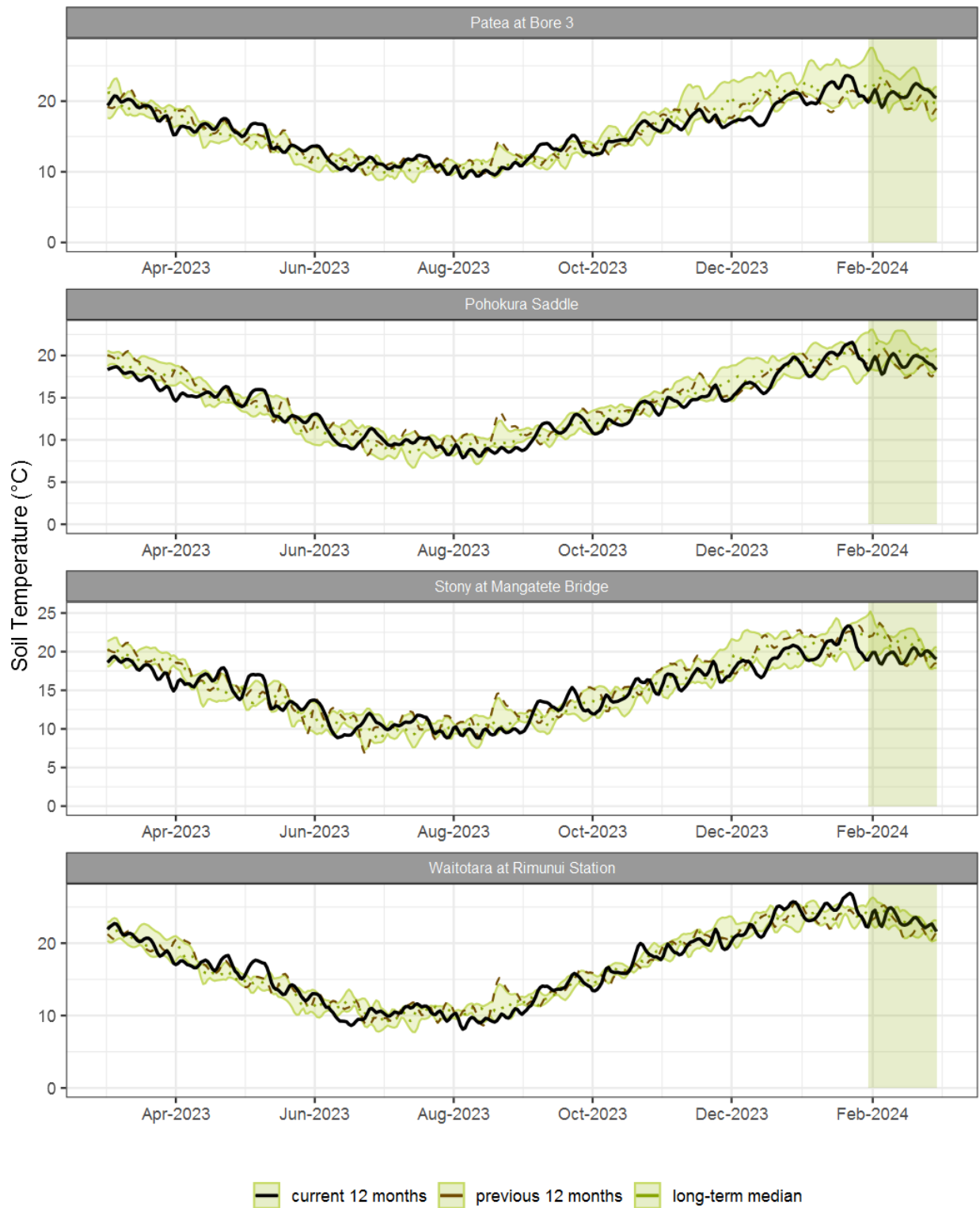


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.

### 6.3 Monthly Bar Charts

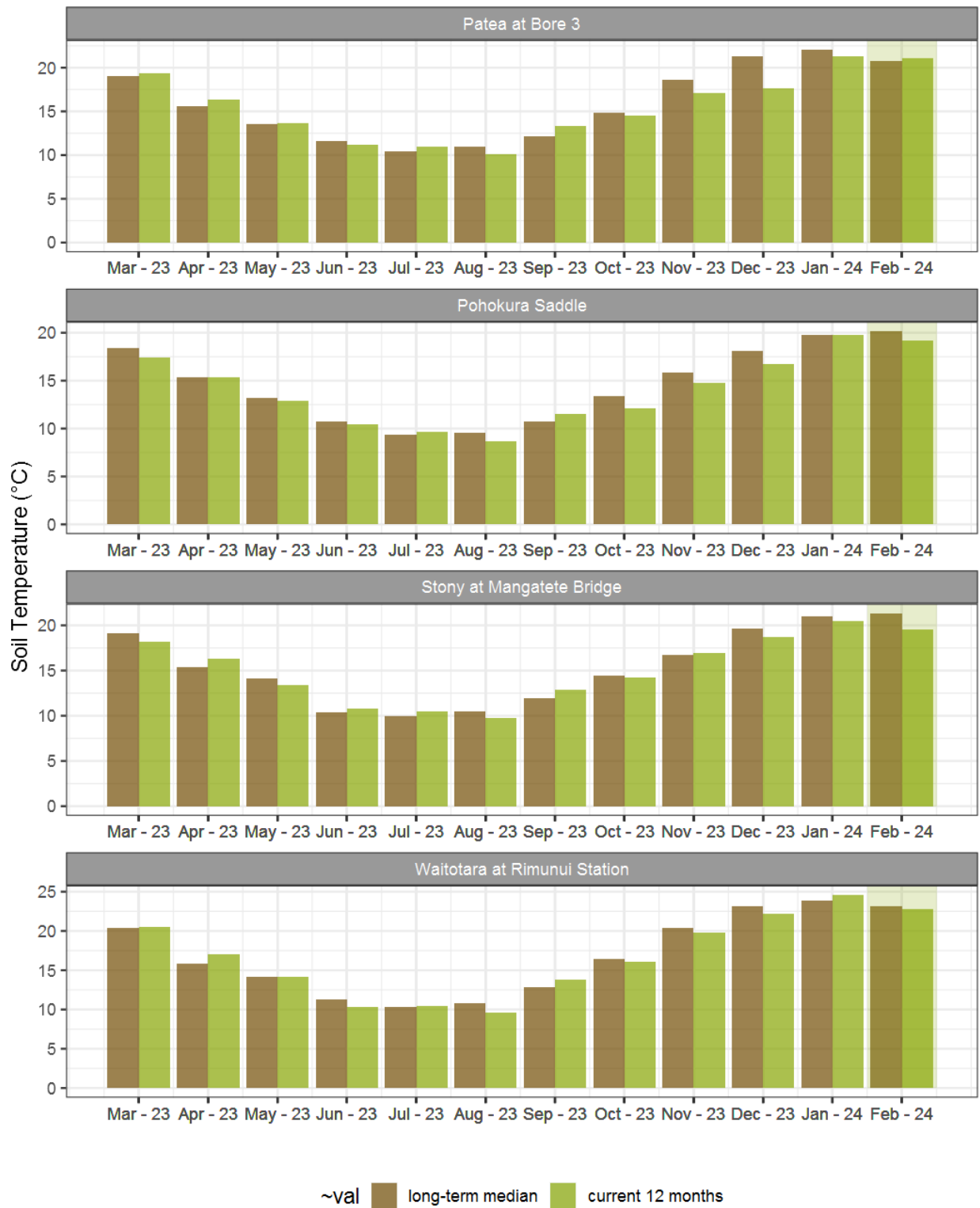
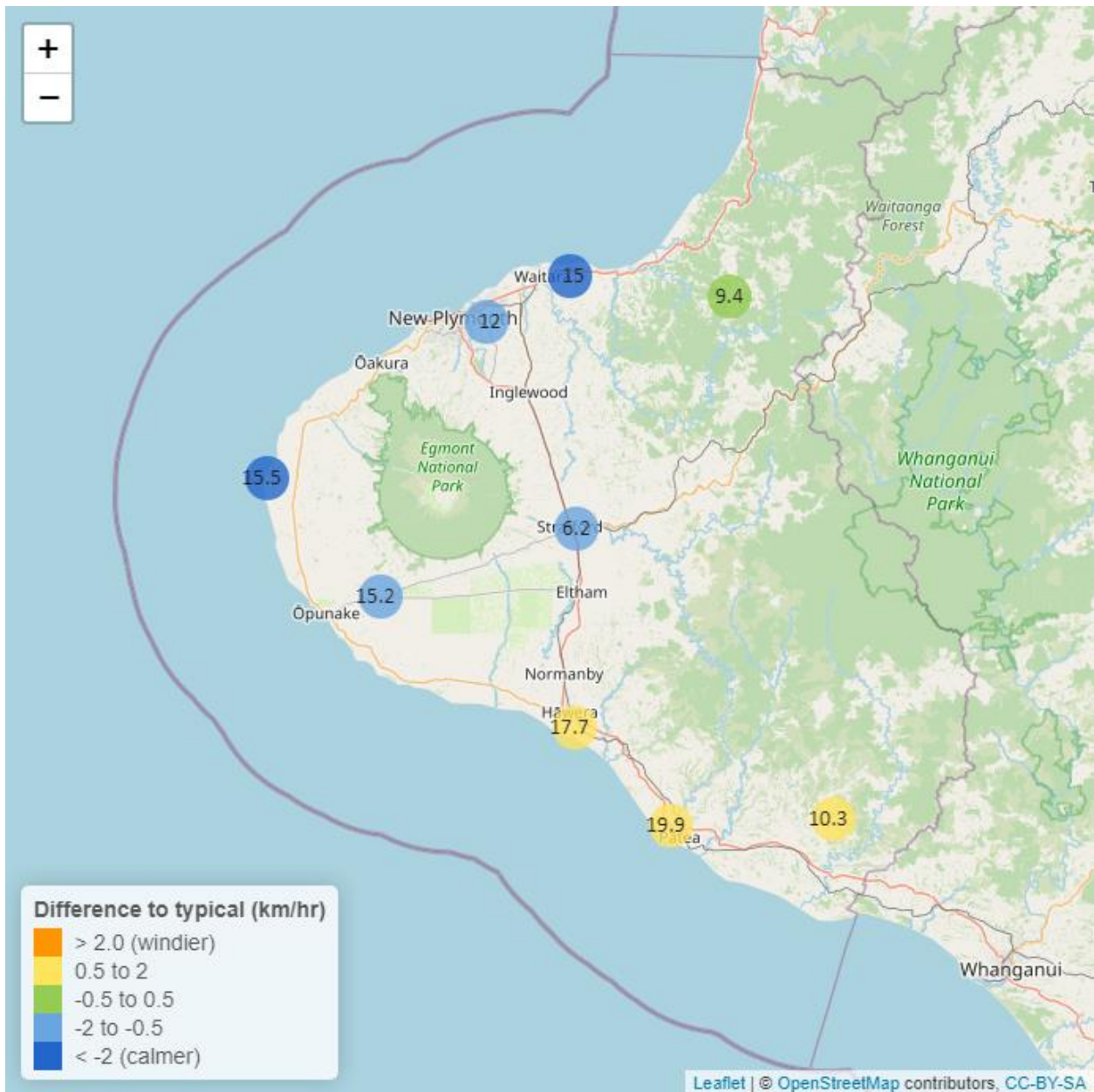


Figure 6.2: Monthly mean soil temperature for this month and the mean of all previously recorded months.

## 7. Wind Speed and Maximum Gusts

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



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

February 2024 - Wind Speed (average) - (km/hr)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	30.6	34.3	8.10	3.70	17.7	17.00	40.7	19
Kapoaiaia at Lighthouse	33.0	39.0	5.38	5.39	15.5	18.60	49.2	23
New Plymouth AWS	31.5	37.0	3.64	5.56	15.0	17.80	46.3	16
Patea at Bore 3	36.5	37.3	7.37	5.69	19.9	19.00	55.0	8
Patea at Stratford	14.7	15.8	1.82	1.76	6.2	6.78	30.5	18
Taungatara at Eltham Rd	30.9	33.9	6.55	6.24	15.2	16.60	50.2	8
Uruti at Kaka Rd	19.8	21.2	2.56	3.17	9.4	9.84	35.8	27
Waitotara at Ngutuwera	20.9	20.7	3.00	1.55	10.3	9.42	30.4	25
Waiwhakaiho at Hillsborough	26.0	31.9	4.05	3.72	12.0	14.00	39.4	6

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

February 2024 - Wind Gusts (Maximum) - (km/hr)								
River and Site	Highs		Lows		Mean		February maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	57.4	64.8	24.1	24.1	40.6	42.7	59.3	19
Kapoaiaia at Lighthouse	62.8	77.7	18.5	19.8	35.2	43.1	88.2	22
New Plymouth AWS	53.7	70.4	14.0	24.1	35.9	42.2	61.1	16
Patea at Bore 3	80.4	71.2	24.3	23.2	46.0	45.1	94.0	8
Patea at Stratford	63.7	54.4	19.4	19.4	32.8	33.1	77.8	17
Taungatara at Eltham Rd	72.5	77.4	28.0	24.3	41.0	43.9	85.8	8
Uruti at Kaka Rd	76.7	65.5	22.7	22.3	38.3	36.2	84.2	25
Waitotara at Ngutuwera	105.0	65.2	30.6	20.1	54.7	37.8	129.0	24
Waiwhakaiho at Hillsborough	56.9	73.6	22.7	22.6	39.0	42.0	75.0	6

## 7.2 Long-term data patterns

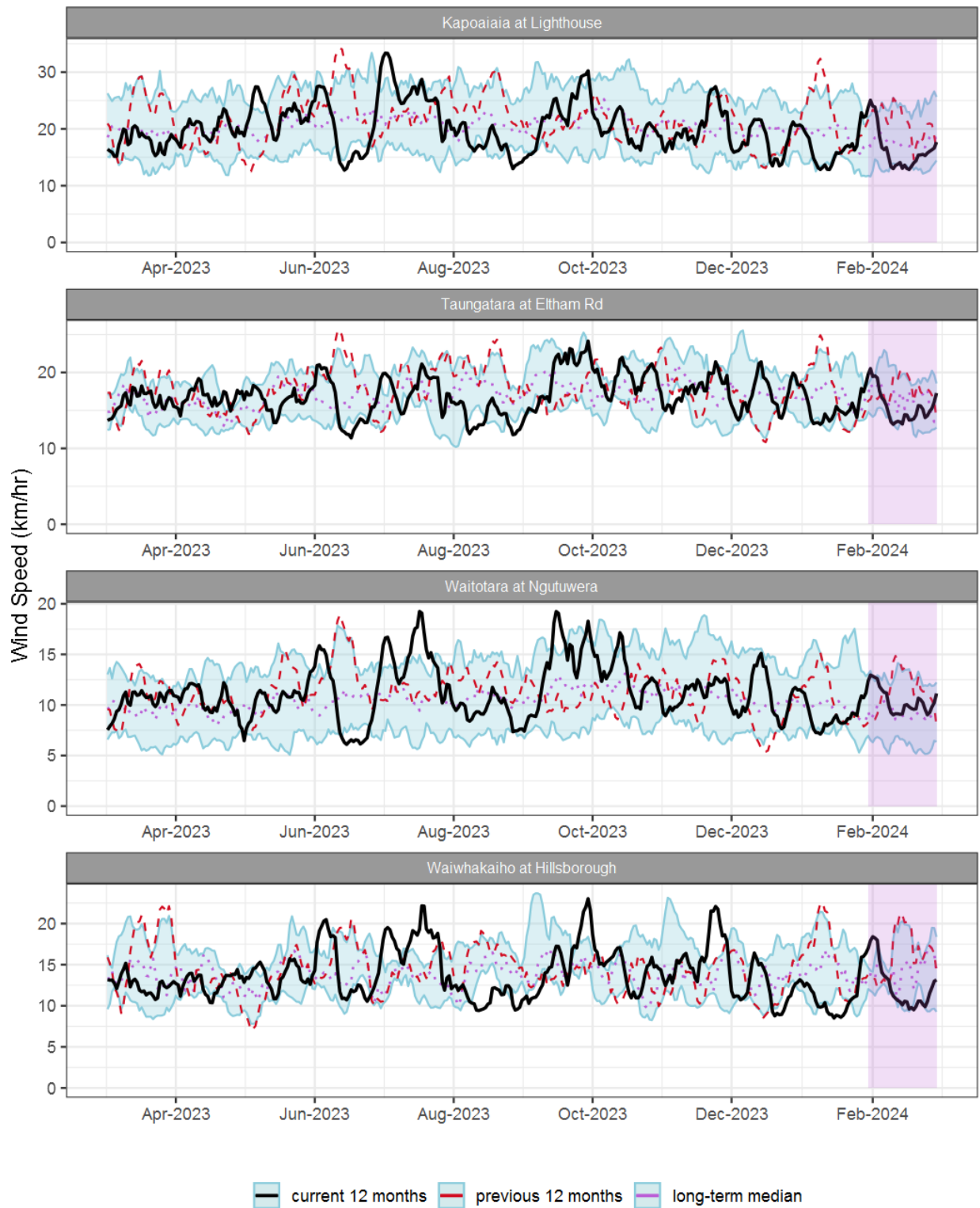


Figure 7.1: Running average wind speed (km/hr) for selected sites, set in context of the historic record.



### 7.3 Monthly Bar Charts

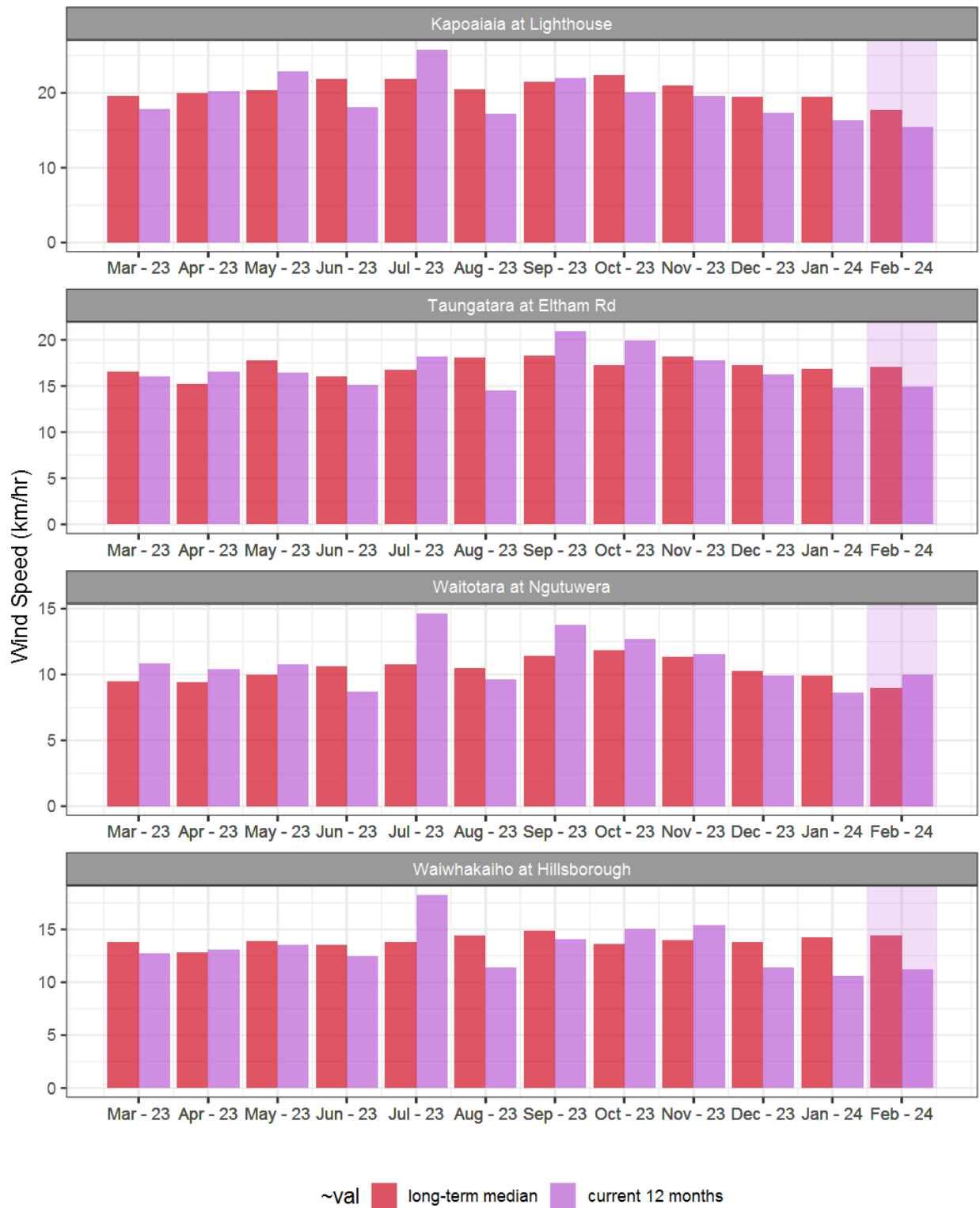


Figure 7.2: Monthly mean wind speed (km/hr) for selected sites, relative to the mean of all previously recorded months.

## 7.4 Wind roses for February 2024

### Average windspeed

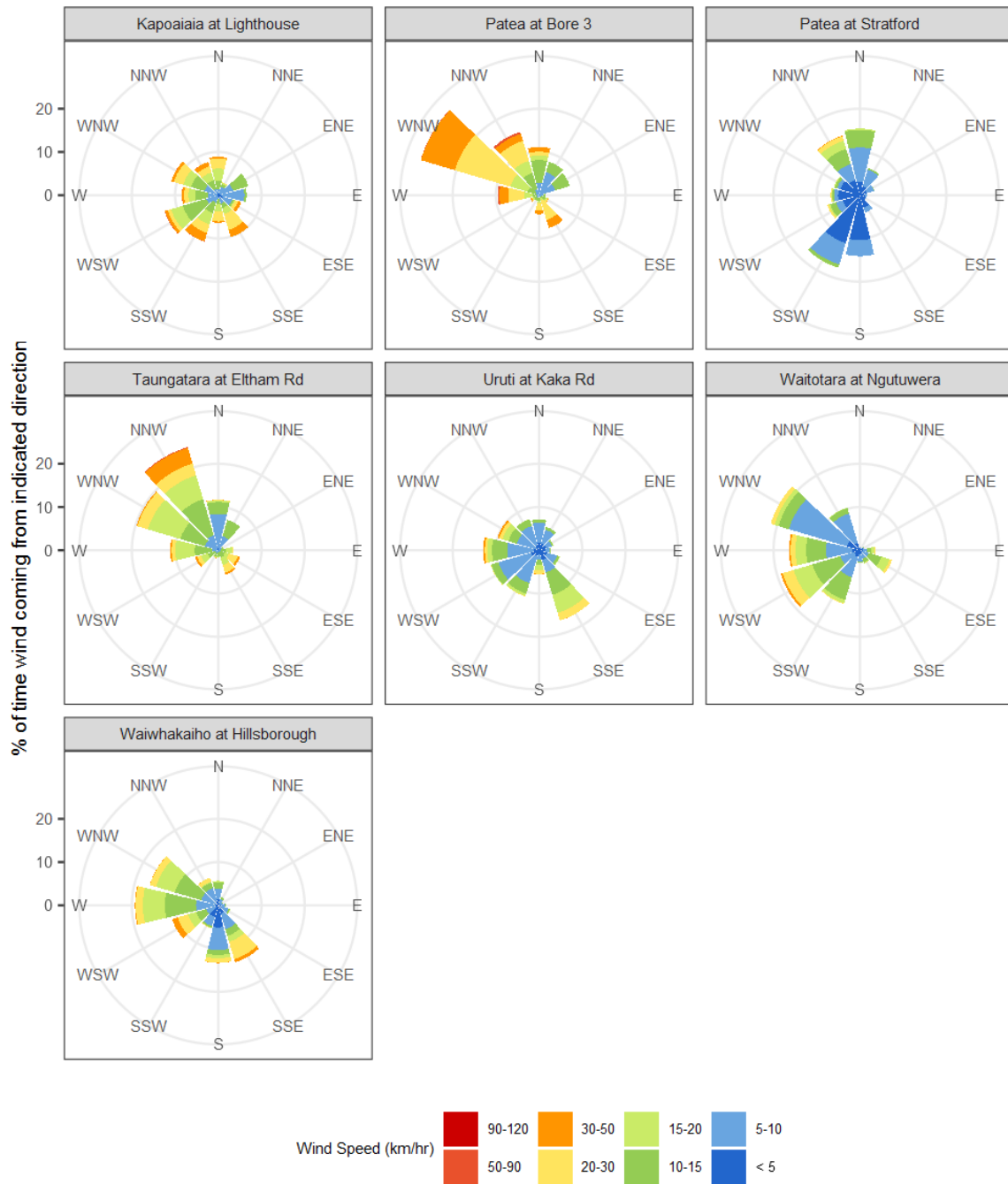


Figure 7.3: Wind roses for February for average wind speed (km/hr).

## Maximum gust strength

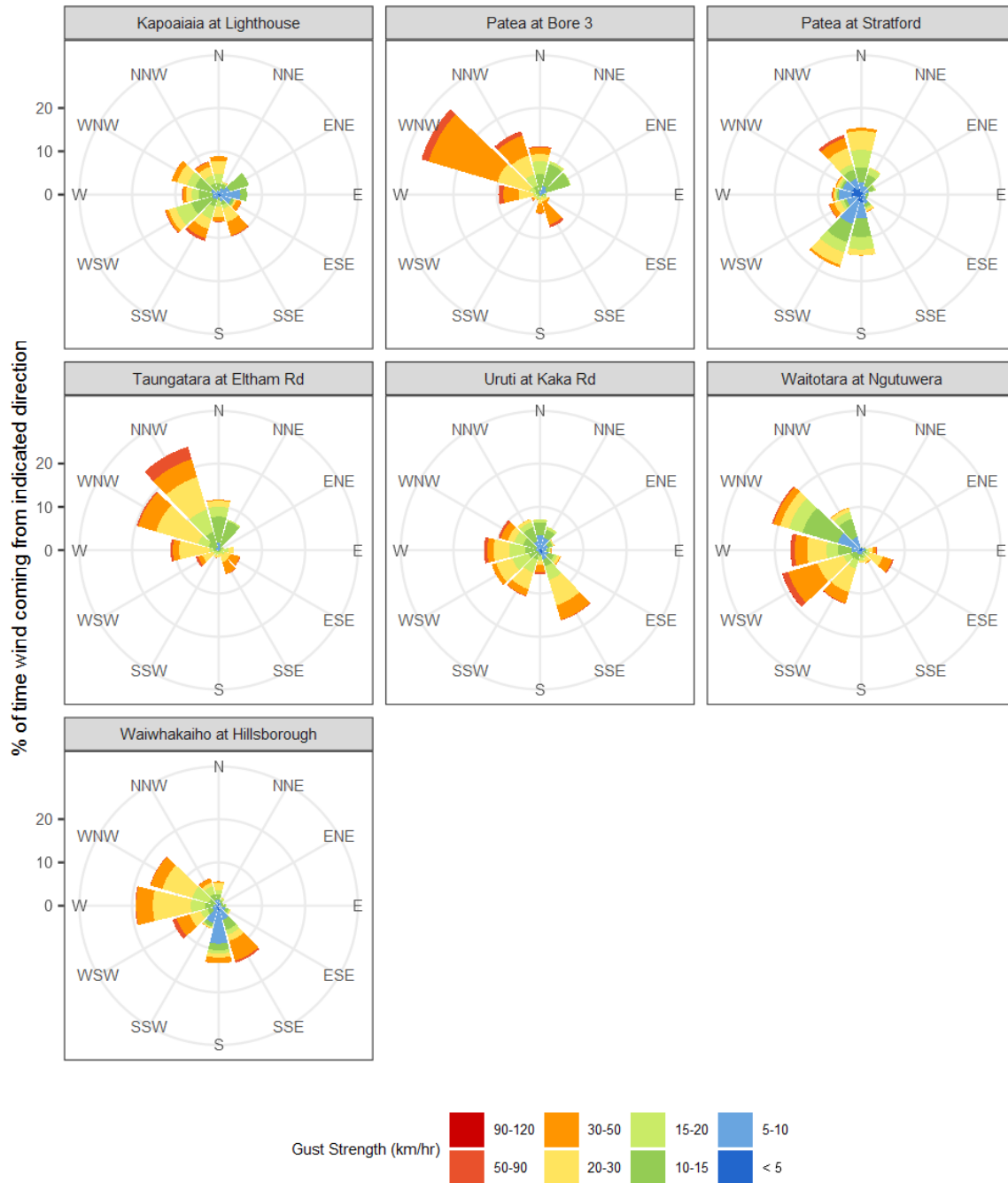


Figure 7.4: Wind roses for February for maximum wind gust (km/hr).

## 8. Summary of month's conditions

### Rainfall

On average February rainfall was 63.5mm, 44% less than usual, ranging from 78% less rain at Brooklands Zoo at New Plymouth, and 8% less at Omaru at Charlies.

Year to date rainfall ranges from 48% less rainfall at Patea at Stratford, and 8% more rainfall at Uruti at Kaka Rd, with an average of 22% less than normal. Compared to typical full year totals, on average sites have only received 9% of a typical years rainfall, with the highest value at Uruti at Kaka Rd, 13% of normal, whereas Patea at Stratford sits at 6% of the typical years total.

### River Flow

Mean river flows for February were 51.3% lower than typical values, low flows were 15.5% greater, and high flows 59.3% lower than typical values. The maximum river flow recorded in February was 76.3m<sup>3</sup>/sec at Waitara at Bertrand Rd.

### River Water Temperature

Mean river (non-mountain) water temperatures were 17.8°C, an average of 0.4°C cooler than long-term February values. Nighttime-low water temperatures were on average the same as historic lows, and day-time high temperatures were on average 1.2°C cooler than historic highs. The maximum river water temperature recorded in February was 26.2°C at Kaupokonui at Glenn Rd.

### Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 16.7°C, which is 0.8°C cooler than long-term February averages. Low air temperatures for February were on average 0.4°C cooler than the February average for previous years. Day-time high temperatures were on average 1.2°C cooler than historic highs. The maximum air temperature recorded in February was 28.7°C at Inglewood at Oxidation Ponds.

### Soil Moisture

The average soil moisture for February across sites in Taranaki region was 24.8%. Soil moistures were on average 2.1% wetter than typical February values. On average, low soil moistures were 8.7% wetter than previous lows, and the highs were on average 3% drier than previous values for February.

### Soil Temperature

February soil temperatures were generally 0.6°C cooler than long-term averages. Average nighttime low soil temperatures were 0.2°C warmer than recorded lows, and upper day-time soil temperatures were on average 1.9°C cooler than long-term February highs. The maximum soil temperature recorded in February was 27.6°C at Waitotara at Rimunui Station.

## Wind Speed (average and 10 minute gust)

February average wind speeds were 14.4km/hr, with average gust strength of 41.3km/hr, these were 0.9km/hr lighter, and 0.3km/hr weaker than the long-term average. Average calm weather wind speeds were 0.7km/hr stronger than recorded lows, and windy conditions were on average 3.3km/hr lighter than long-term February highs. The maximum wind gust recorded in February was 129km/hr at Waitotara at Ngutuwera.

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: 17 March, 2024.