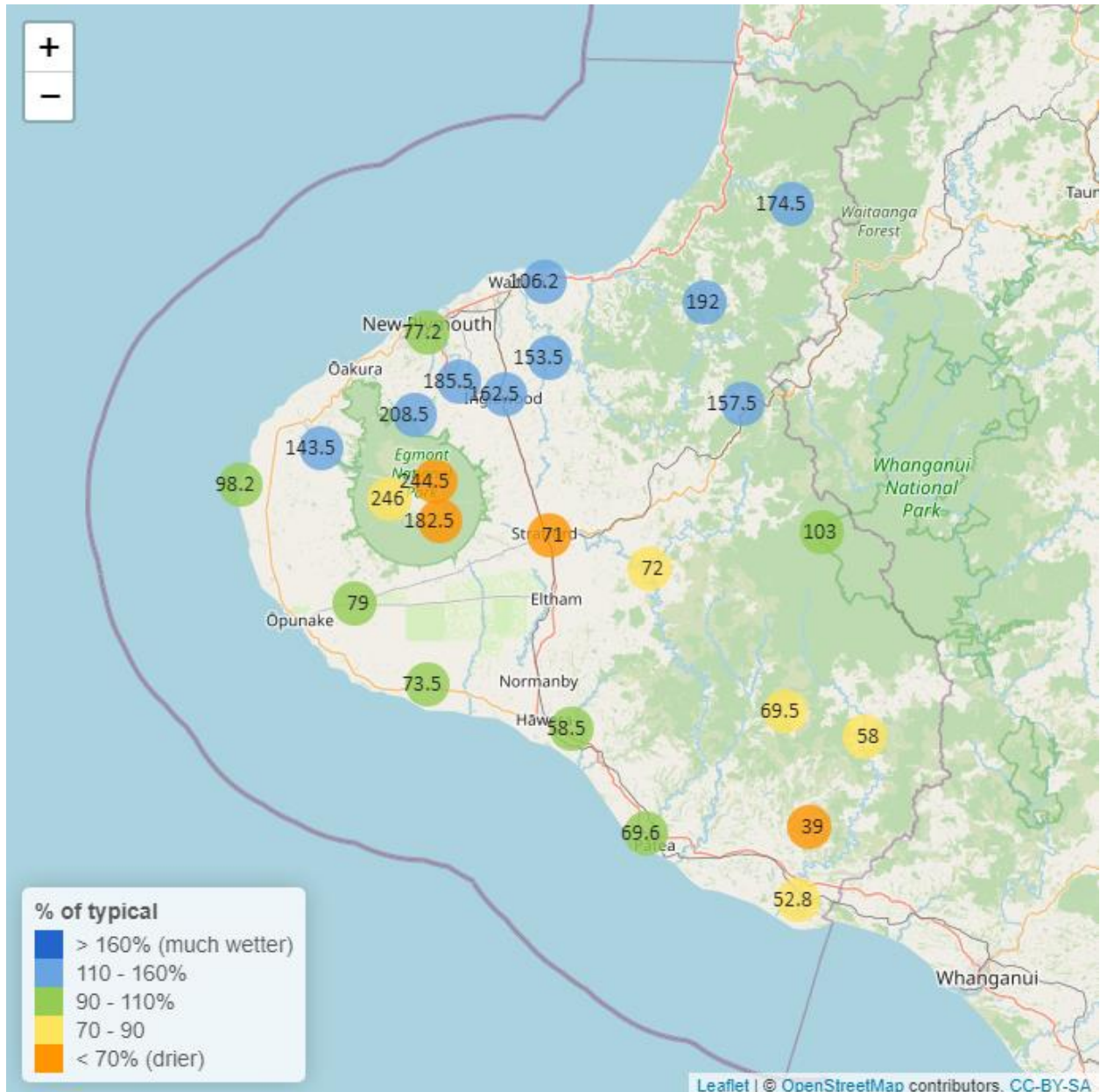


# Taranaki Regional Council Monthly Rainfall and Environmental Data Report for January 2024

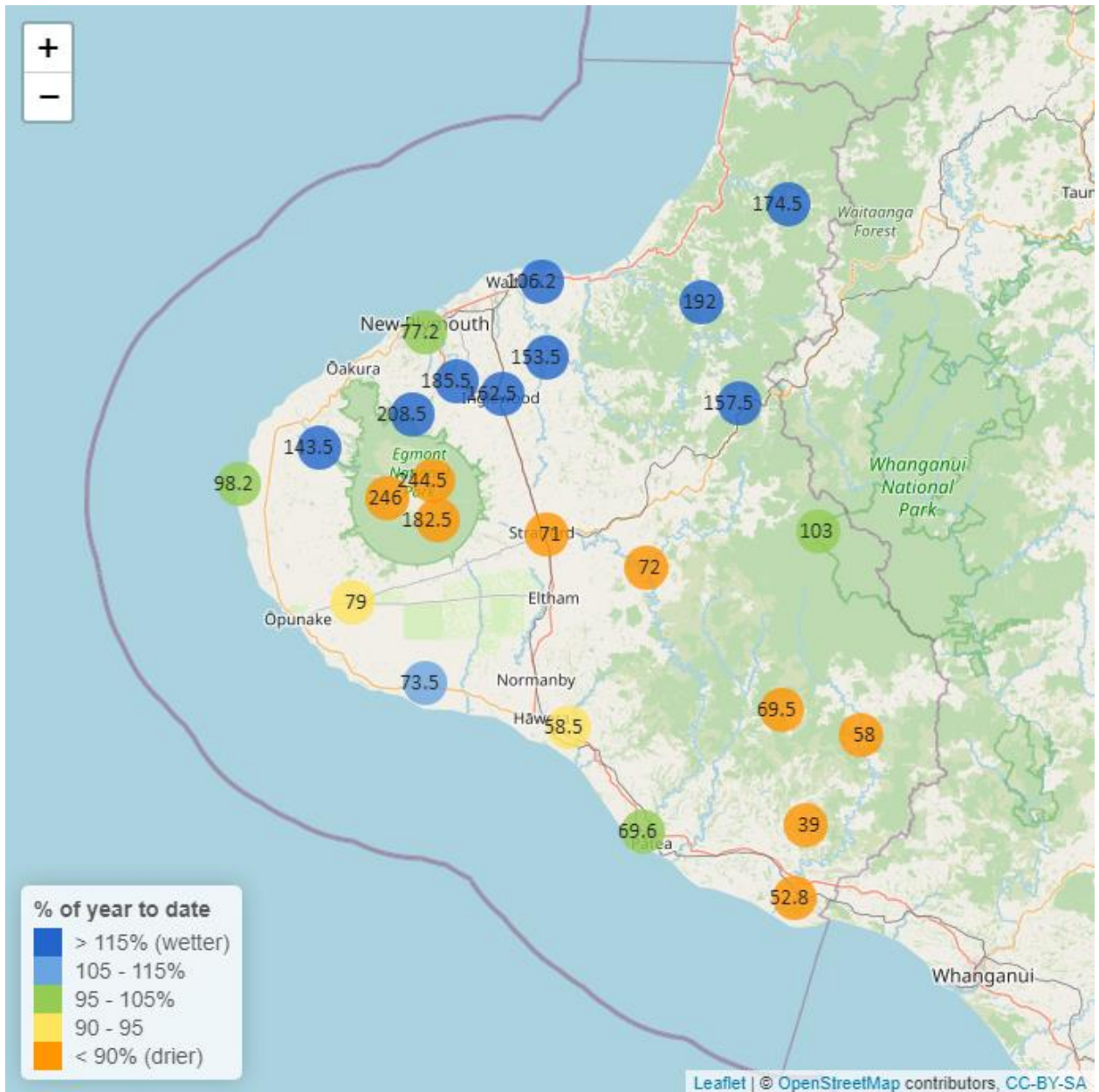
Note: The data presented here are provisional data only and may change as a result of quality control at a later date.

## 1. Rainfall

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



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



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

Rain gauge	January			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	18	244.5	61.2	244.5	61.2	3.5	1991
Dawson Falls	17	182.5	54.4	182.5	54.4	3.1	1933
Kapoaiaia at Kahui Hut	22	246.0	81.6	246.0	81.6	4.7	2006
Mangorei Upper at Forest Hill	13	208.5	127.8	208.5	127.8	5.6	2018
Waiwhakaiho at Hillsborough	10	88.5	90.5	88.5	90.5	4.8	2013
Brooklands Zoo at New Plymouth	15	77.2	95.5	77.2	95.5	4.8	2012
Motunui M39 at Weston W3	12	106.2	119.1	106.2	119.1	6.7	1999
Waiwhakaiho at Egmont Village	13	185.5	132.9	185.5	132.9	7.6	1991
Manganui at Everett Park	15	153.5	118.4	153.5	118.4	7.4	1987
Inglewood at Oxidation Ponds	14	162.5	127.6	162.5	127.6	6.9	2000
Stony at Mangatete Bridge	15	143.5	134.5	143.5	134.5	7.2	2004
Kapoaiaia at Lighthouse	13	98.2	102.0	98.2	102.0	7.1	1930
Taungatara at Eltham Rd	13	79.0	90.0	79.0	90.0	5.0	2005
Kaupokonui at Glenn Rd	11	73.5	105.9	73.5	105.9	6.3	1998
Patea at Stratford	13	71.0	65.2	71.0	65.2	3.6	1999
Mangaehu at Bridge	12	72.0	85.4	72.0	85.4	4.5	1999
Kotare at OSullivans	15	174.5	124.8	174.5	124.8	8.1	1998
Uruti at Kaka Rd	13	192.0	139.1	192.0	139.1	8.6	1991
Pohokura Saddle	14	157.5	137.3	157.5	137.3	7.9	1991
Omaru at Charlies	13	103.0	98.5	103.0	98.5	5.6	2006
Omahine at Moana Trig	13	69.5	72.2	69.5	72.2	4.1	2007

	January			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	10	58.0	71.6	58.0	71.6	4.2	1994
Waitotara at Ngutuwera	11	39.0	46.8	39.0	46.8	3.0	1999
Tawhiti at Duffys	12	58.5	91.8	58.5	91.8	5.3	1994
Patea at Bore 3	12	69.6	97.9	69.6	97.9	5.9	2006
Waitotara at Hawken Rd	10	52.8	79.8	52.8	79.8	4.4	2016

## 1.2 Long-term data patterns

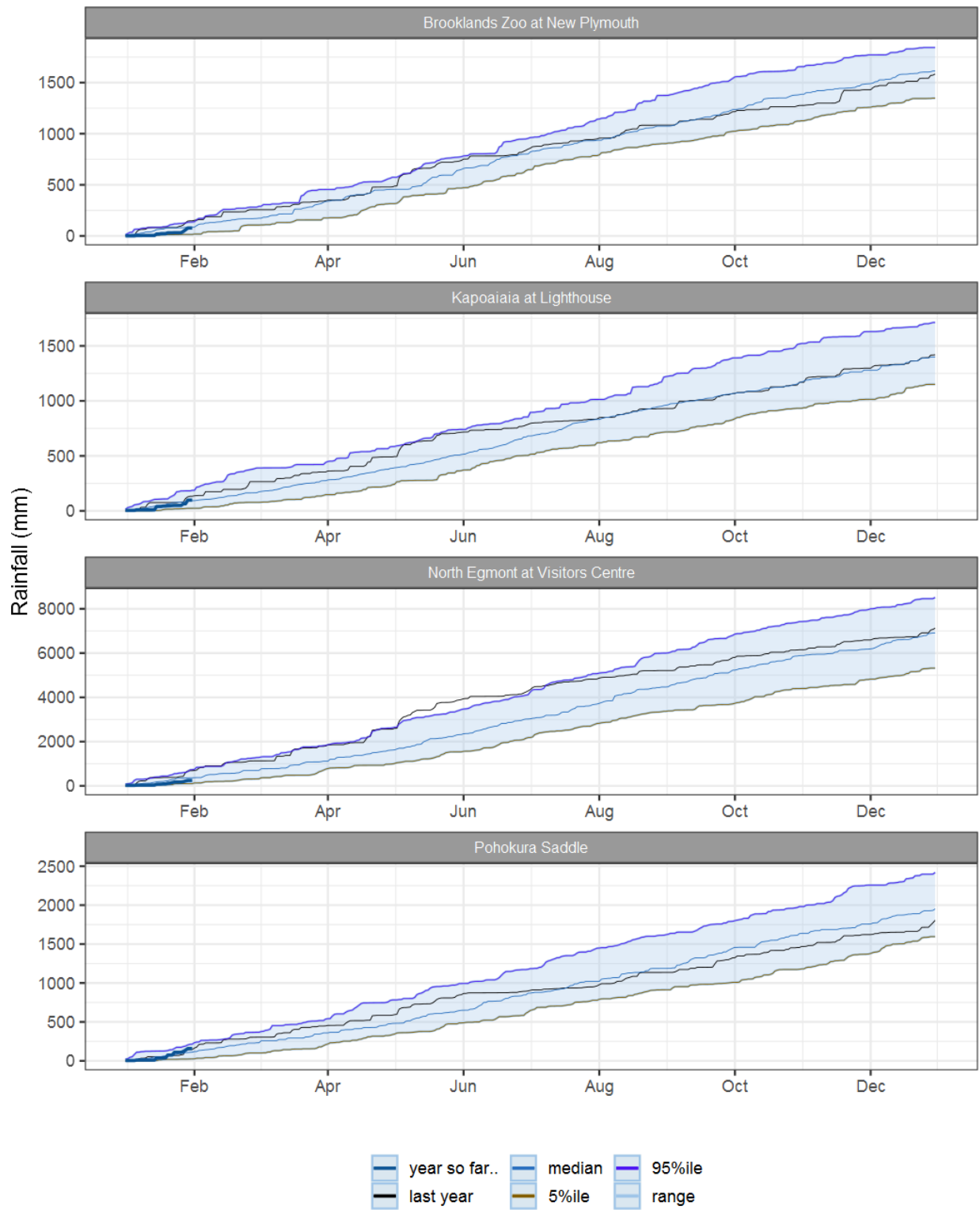


Figure 1.1: This year's and last year's data set in context of historic record at selected rain gauge sites in Taranaki.

### 1.3 Monthly Bar Charts

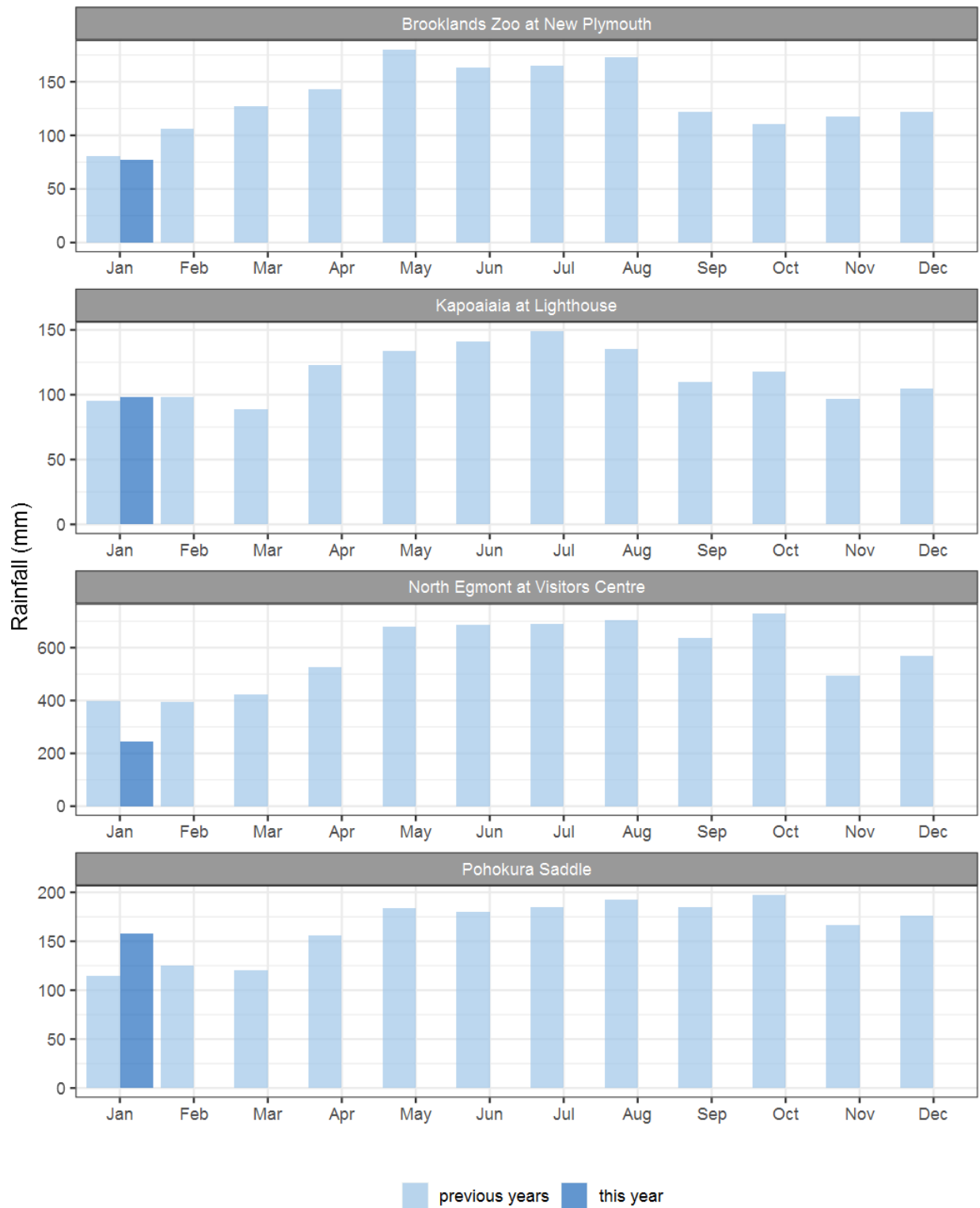
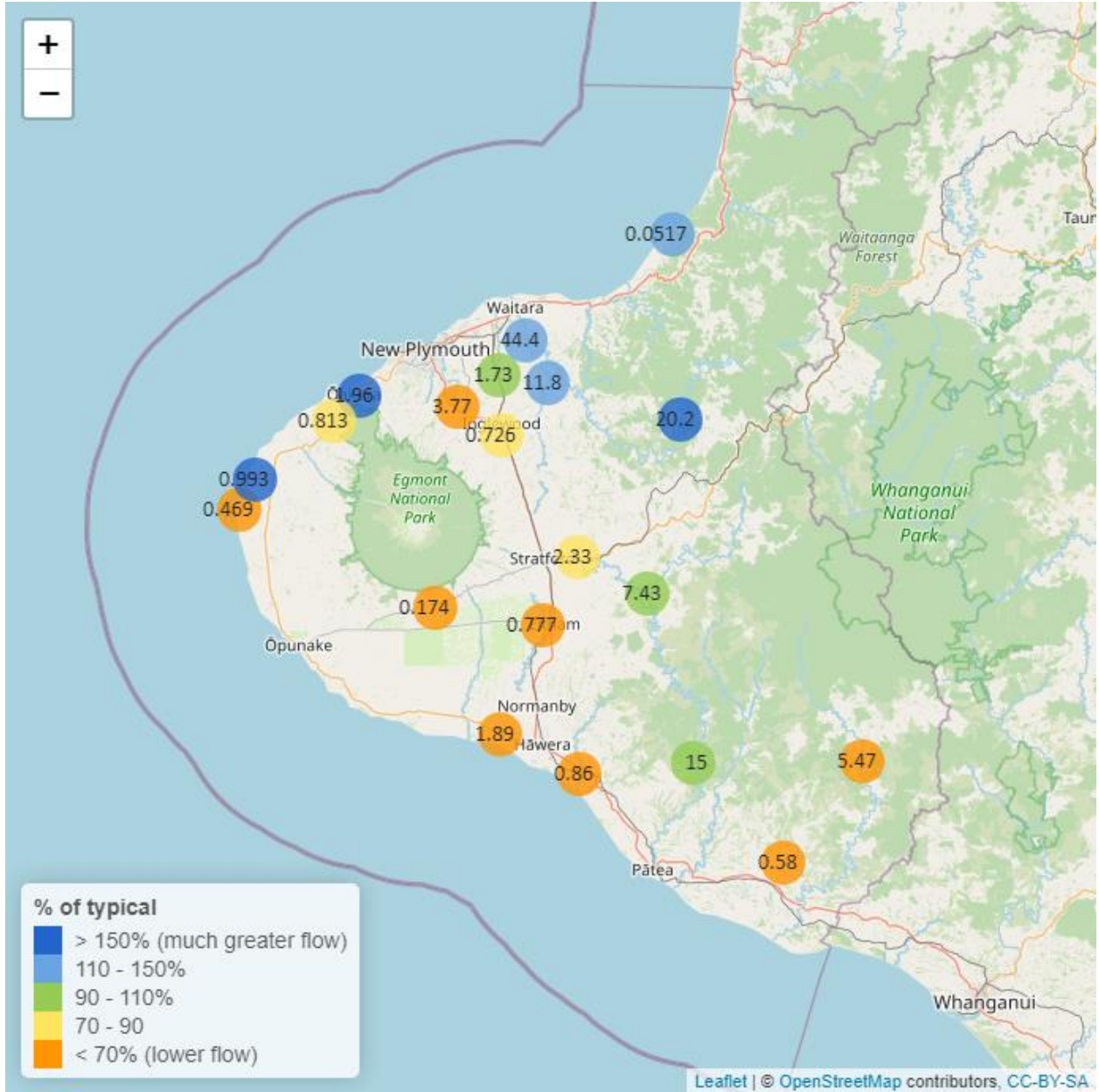


Figure 1.2: Monthly rainfall totals for this month and the mean of all previously recorded months.

## 2. River Flow

Map 2: January 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 January and for January in all preceding years of record.**

January 2024 - Recorded flows (m3/sec)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	1.46	1.72	0.19	0.27	0.47	0.72	9.08	37
Mangaehu at Bridge	26.60	22.50	2.61	2.22	7.43	7.56	74.40	45
Manganui at Everett Park	30.70	30.40	5.76	3.60	11.80	10.60	113.00	32
Mangawheroiti Above Intake W.W	0.21	0.62	0.15	0.14	0.17	0.29	0.34	11
Moumahaki at Johnston Rd	1.57	2.13	0.29	0.36	0.58	0.92	5.05	6
Ngatoro at SH3	1.42	2.40	0.43	0.27	0.73	0.91	10.30	34
Oakura at Victoria Rd	4.49	2.41	0.90	0.47	1.96	1.02	25.40	5
Patea at McColls Bridge	50.90	53.50	2.94	1.95	15.00	15.30	66.20	35
Patea at Skinner Rd	5.38	8.48	1.04	0.73	2.33	2.90	9.33	45
Tangahoe below Railway Bridge	1.90	6.01	0.57	1.12	0.86	2.51	6.02	6
Timaru at Tataraimaka	1.77	2.25	0.44	0.31	0.81	0.97	6.37	10
Waikaramarama at Bridge	0.18	0.10	0.01	0.01	0.05	0.04	3.60	5
Waingongoro at Eltham Rd	1.38	4.62	0.44	0.44	0.78	1.58	3.91	49
Waingongoro at SH45	2.74	10.90	1.29	1.39	1.89	3.93	10.60	43
Waiongana at SH3a	3.99	5.01	0.69	0.43	1.73	1.70	36.30	43
Waitara at Bertrand Rd	146.00	106.00	13.10	7.19	44.40	33.20	386.00	43
Waitara at Purangi Bridge	79.00	36.80	2.16	0.60	20.20	11.10	302.00	24
Waitotara at Rimunui Station	12.10	20.60	3.01	3.06	5.47	8.77	58.10	19
Waiwhakaiho at Egmont Village	7.94	15.70	2.06	2.10	3.77	5.71	57.80	43
Warea at Coast	2.25	0.87	0.51	0.34	0.99	0.58	9.11	7



## 2.2 Long-term data patterns

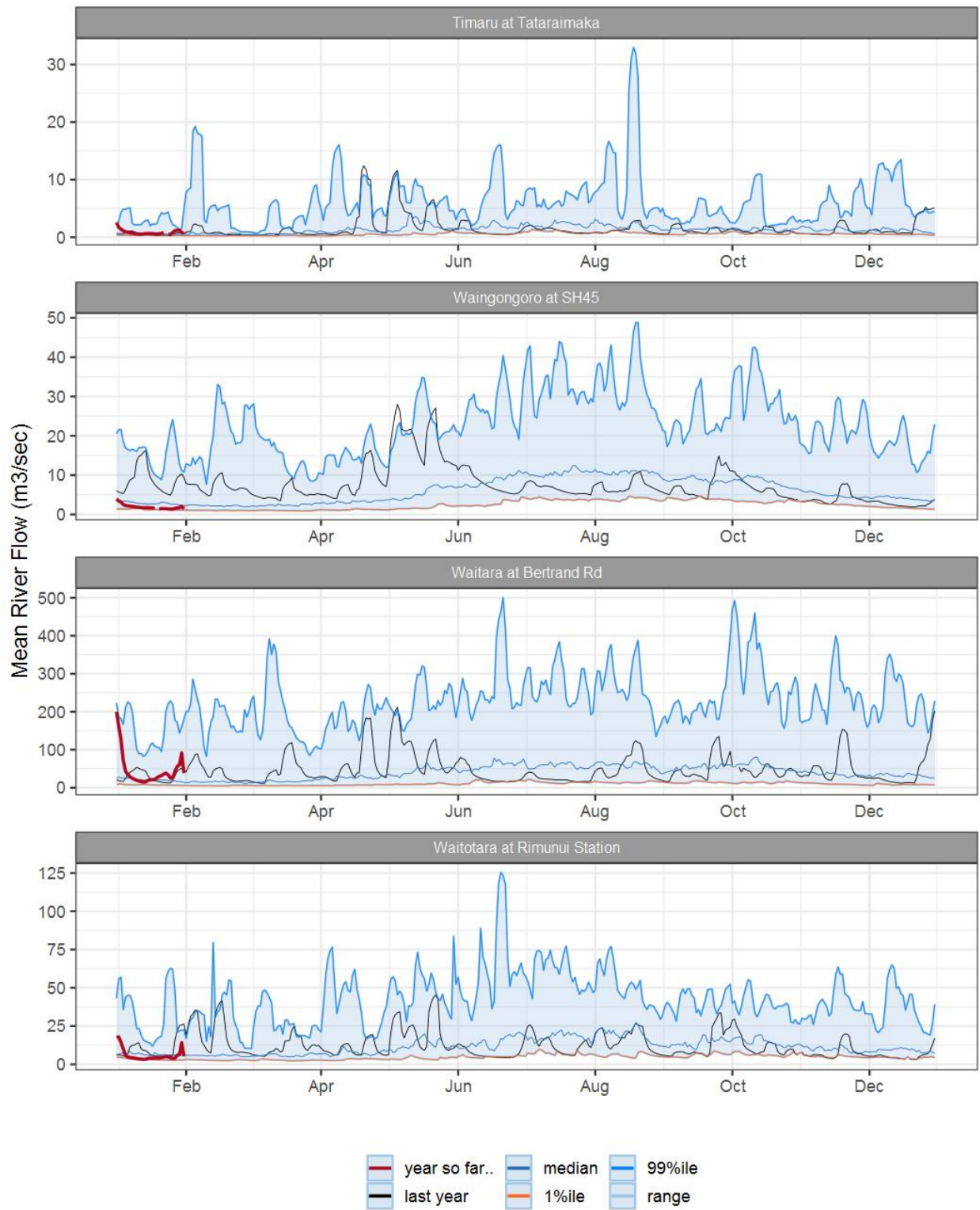


Figure 2.1: Running average river flows for selected sites, set in context of the historic record.

### 2.3 Monthly Bar Charts

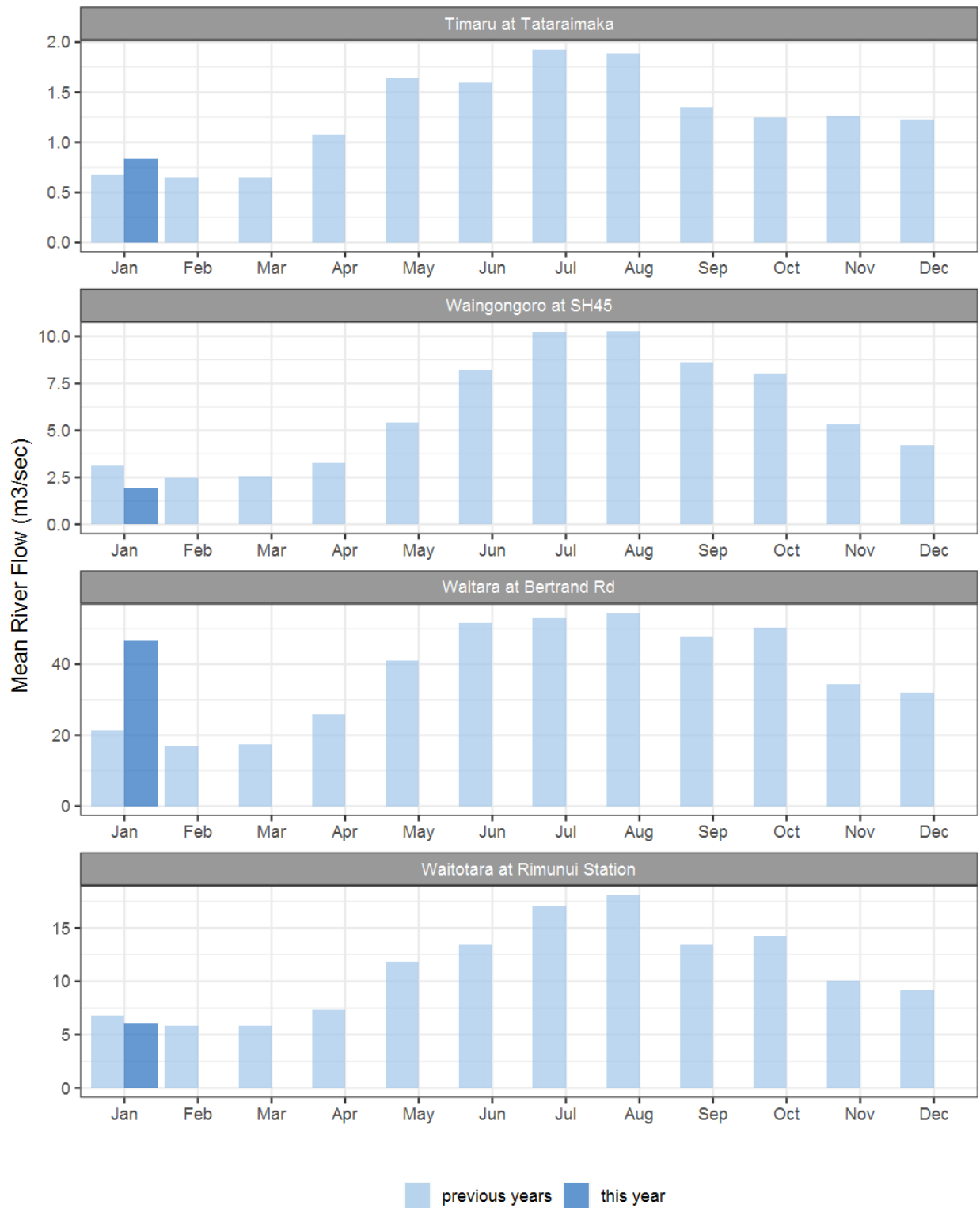
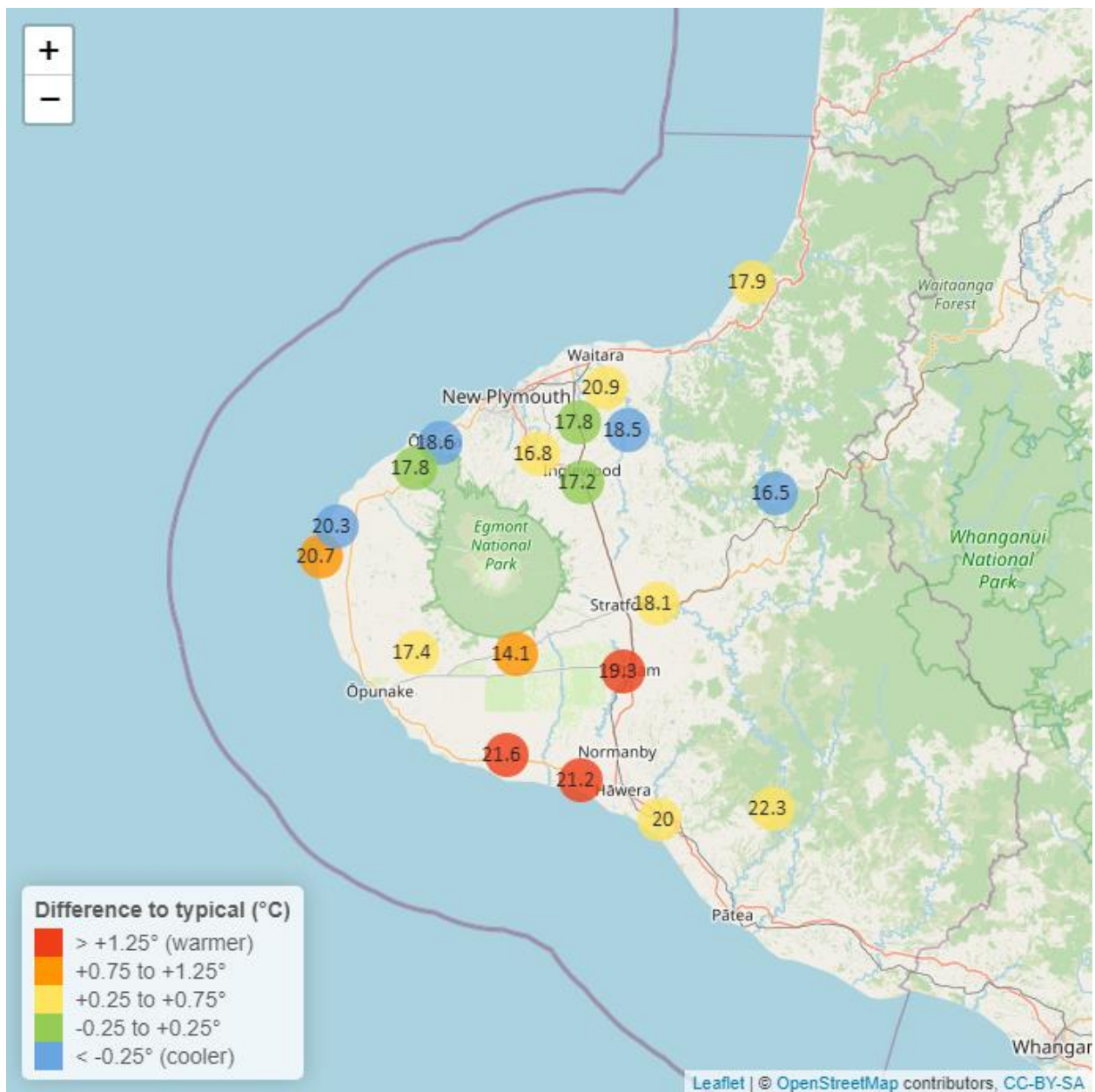


Figure 2.2: Monthly mean river flow for this month and the mean of all previously recorded months.

### 3. River Temperature

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



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

January 2024 - River Temperature (°C)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	25.6	24.3	16.3	15.8	20.7	19.7	26.9	25
Kaupokonui at Glenn Rd_COMBINED	27.4	24.2	16.5	15.3	21.6	19.6	28.9	34
Manganui at Everett Park	22.0	22.4	15.1	15.4	18.5	18.9	23.3	15
Mangawheroiti Above Intake W.W	16.8	16.0	11.9	10.9	14.1	13.3	19.4	11
Matau at Woolshed	20.1	22.2	13.6	14.1	16.5	17.5	21.3	6
Ngatoro at SH3	20.3	20.4	13.8	13.8	17.2	17.2	21.1	25
Oakura at Victoria Rd	22.3	22.8	14.7	15.6	18.6	19.2	24.3	5
Patea at McColls Bridge	25.4	24.4	20.3	19.1	22.3	21.7	26.1	9
Patea at Skinner Rd	21.9	21.2	14.7	14.1	18.1	17.4	23.4	20
Tangahoe below Railway Bridge	24.0	22.9	16.5	16.4	20.0	19.5	25.6	6
Timaru at Tataraimaka	21.2	21.3	14.6	14.0	17.8	17.7	22.9	10
Waiaua 2 at Barraclough Opuā	22.8	21.8	13.1	12.5	17.4	16.9	24.8	5
Waikaramarama at Bridge	20.4	19.7	15.3	15.2	17.9	17.5	21.3	6
Waingongoro at Eltham Rd	23.6	21.5	15.4	14.0	19.3	17.5	25.1	19
Waingongoro at SH45	25.5	22.9	17.8	15.8	21.2	19.4	26.7	19
Waiongana at SH3a	21.2	21.3	14.6	14.5	17.8	17.7	23.1	12
Waitara at Bertrand Rd	24.5	23.8	17.1	17.1	20.9	20.4	25.7	35
Waiwhakaiho at Egmont Village	20.0	19.9	13.5	13.1	16.8	16.4	21.1	31
Warea at Coast	25.4	25.1	15.5	16.3	20.3	20.6	26.8	5

### 3.2 Long-term data patterns

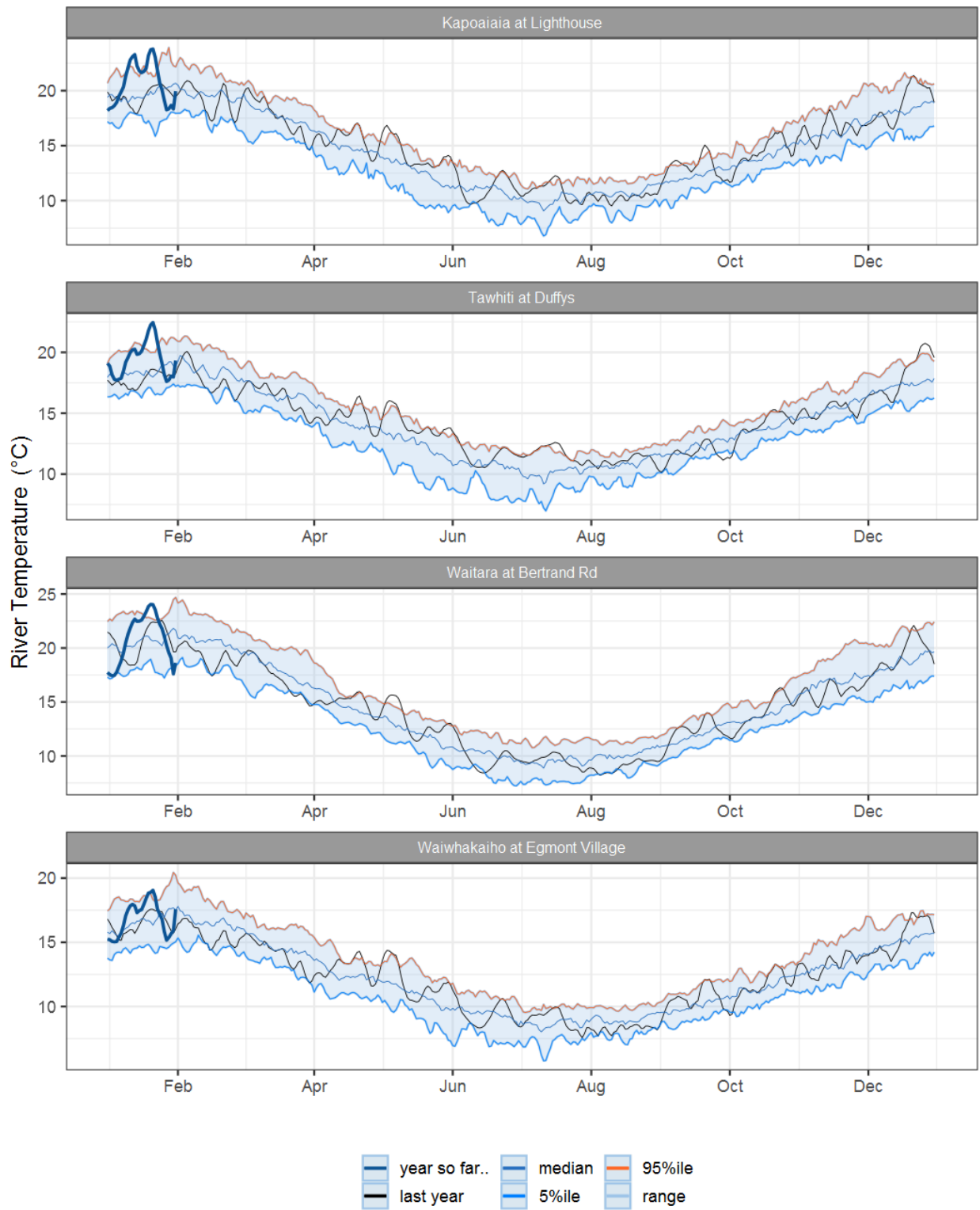


Figure 3.1: Running average river temperature for selected sites, set in context of the historic record.

### 3.3 Monthly Bar Charts

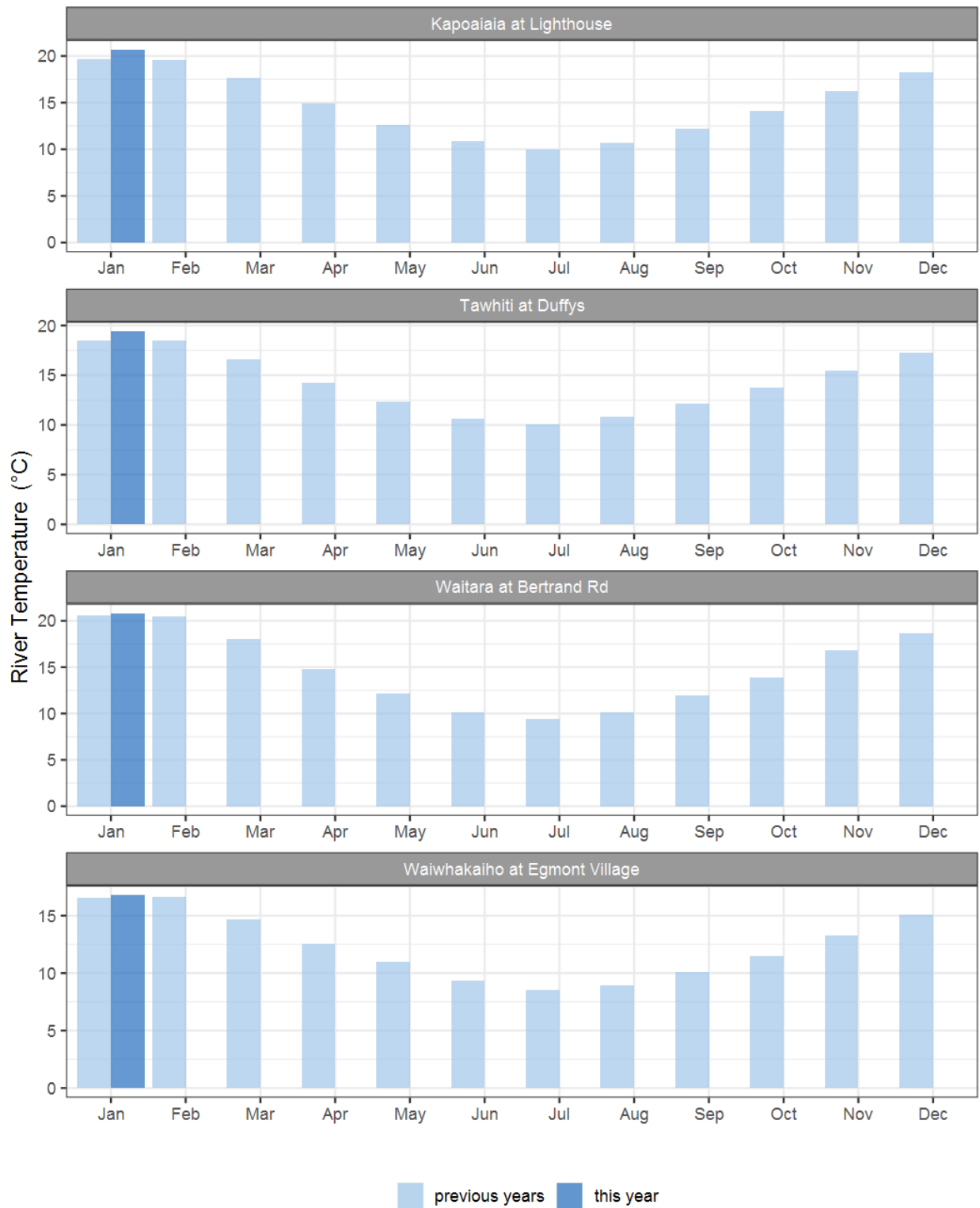
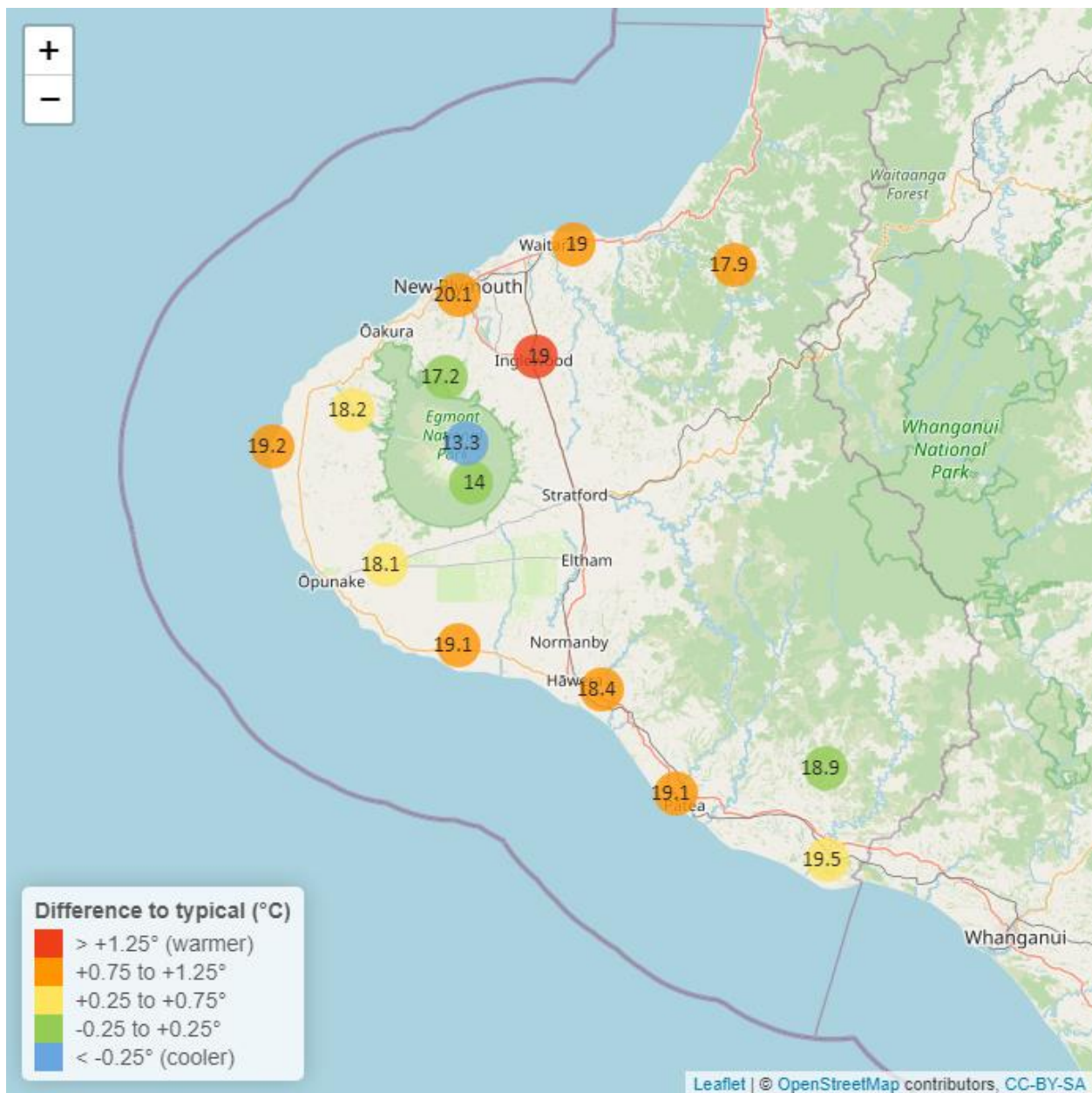


Figure 3.2: Monthly mean river temperature for this month and the mean of all previously recorded months.

## 4. Air Temperature

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



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

January 2024 - Air Temperature (°C)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Brooklands Zoo at New Plymouth	27.3	25.2	13.00	12.90	20.1	19.0	29.6	11
Dawson Falls	20.0	20.7	7.83	7.48	14.0	14.0	22.7	8
Inglewood at Oxidation Ponds	26.2	25.2	11.60	10.90	19.0	17.7	28.7	12
Kapoaiaia at Lighthouse	23.7	22.2	14.10	13.60	19.2	18.2	25.7	11
Kaupokonui at Glenn Rd	25.3	23.6	13.10	12.10	19.1	18.1	28.0	9
Mangorei Upper at Forest Hill	22.8	22.7	11.80	11.80	17.2	17.1	25.1	6
Motunui M39 at Weston W3	24.2	23.2	13.00	12.70	19.0	18.2	27.3	7
North Egmont at Visitors Centre	18.9	20.2	6.80	8.26	13.3	14.1	22.4	9
Patea at Bore 3	24.2	23.2	13.80	12.50	19.1	18.0	28.7	12
Stony at Mangatete Bridge	23.7	23.1	12.40	12.40	18.2	17.8	25.8	8
Taungatara at Eltham Rd	23.5	22.7	12.60	12.30	18.1	17.5	27.2	8
Tawhiti at Duffys	24.8	23.3	10.70	10.10	18.4	17.5	28.2	10
Uruti at Kaka Rd	24.3	22.7	12.10	11.60	17.9	17.0	26.8	5
Waitotara at Hawken Rd	25.1	24.2	13.30	12.90	19.5	18.8	30.3	8
Weraweraonga at 749 Mangawhio Rd	26.3	25.2	11.20	11.10	18.9	18.7	29.4	6



## 4.2 Long-term data patterns

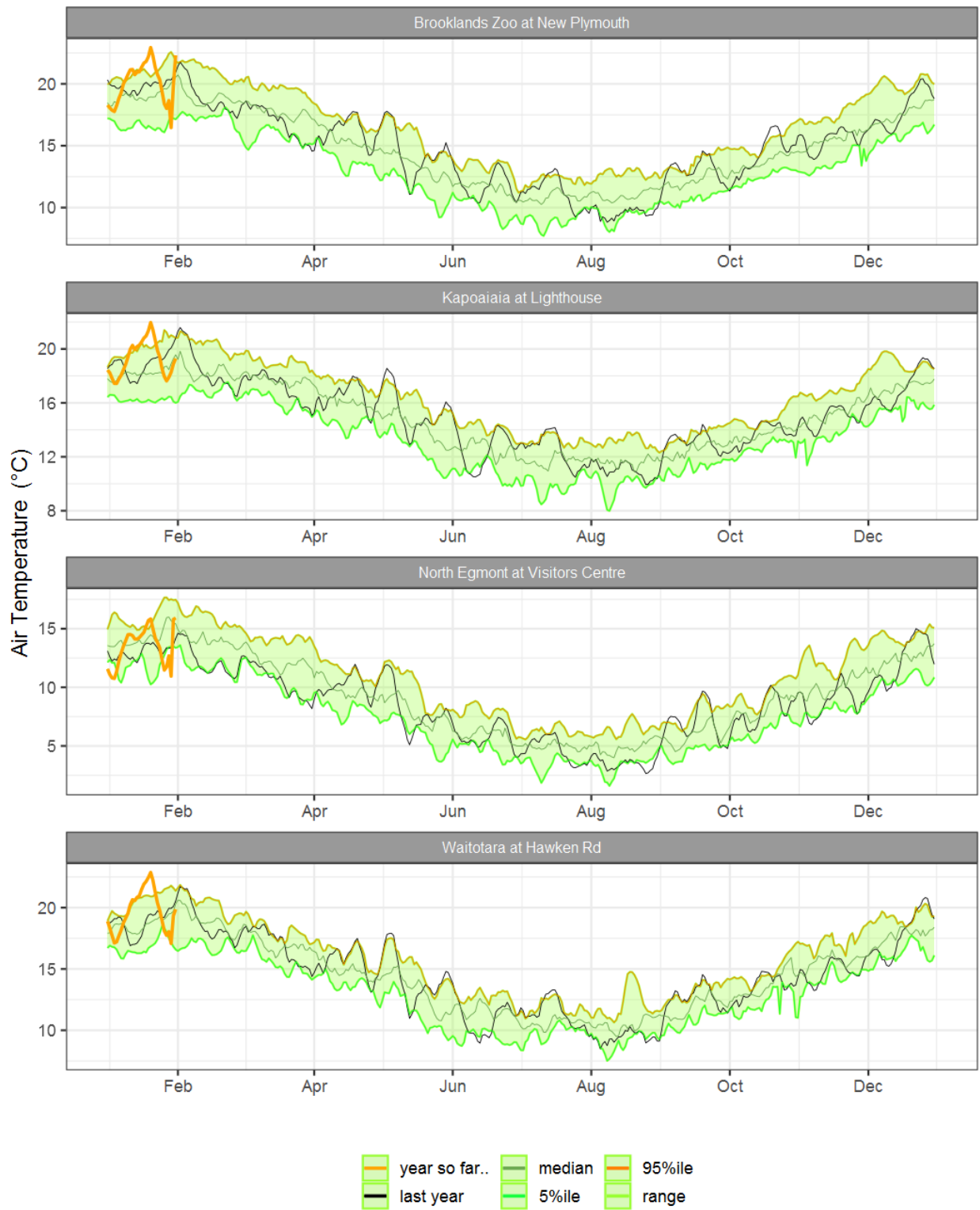


Figure 4.1: Running average air temperature for selected sites, set in context of the historic record.

### 4.3 Monthly Bar Charts

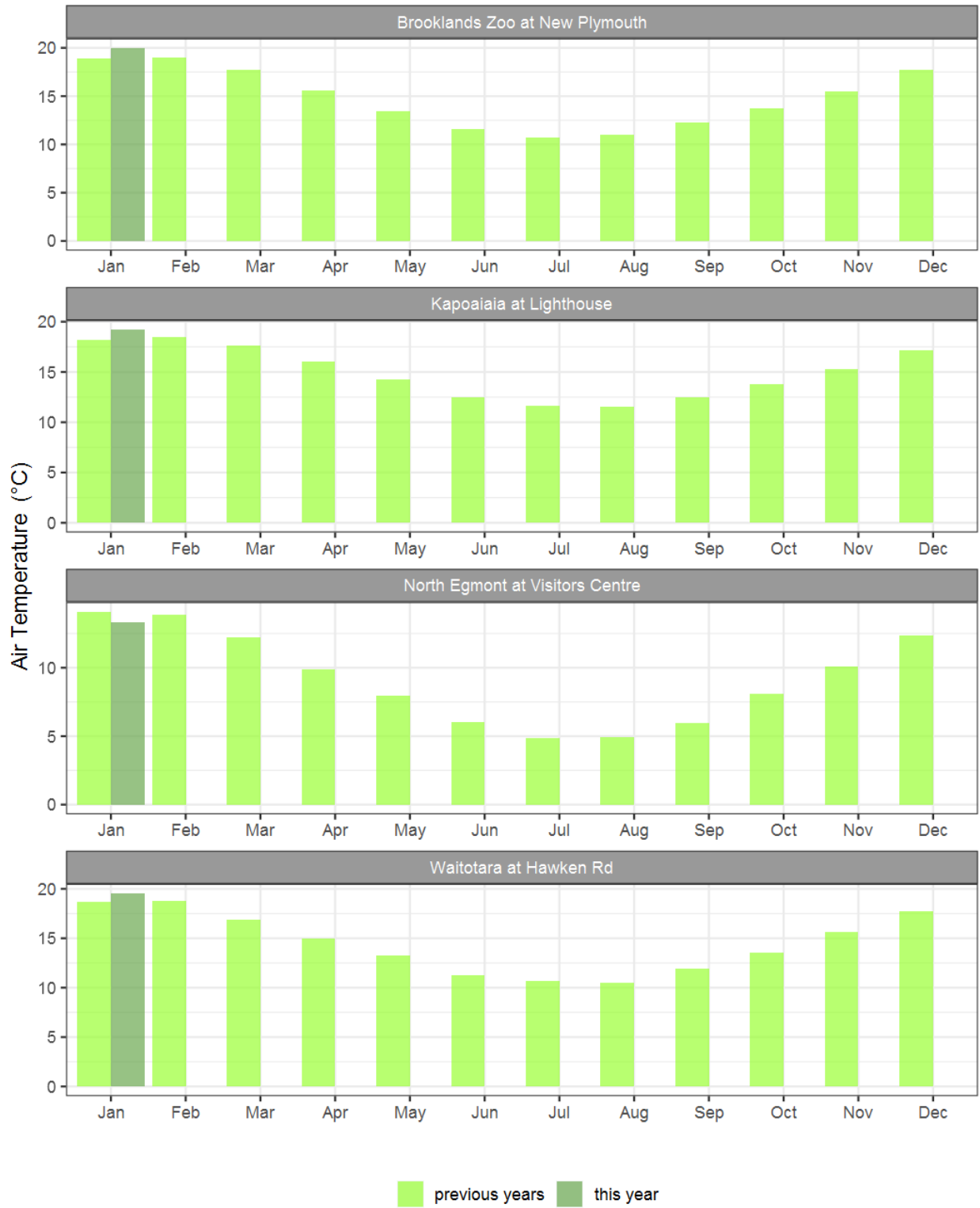
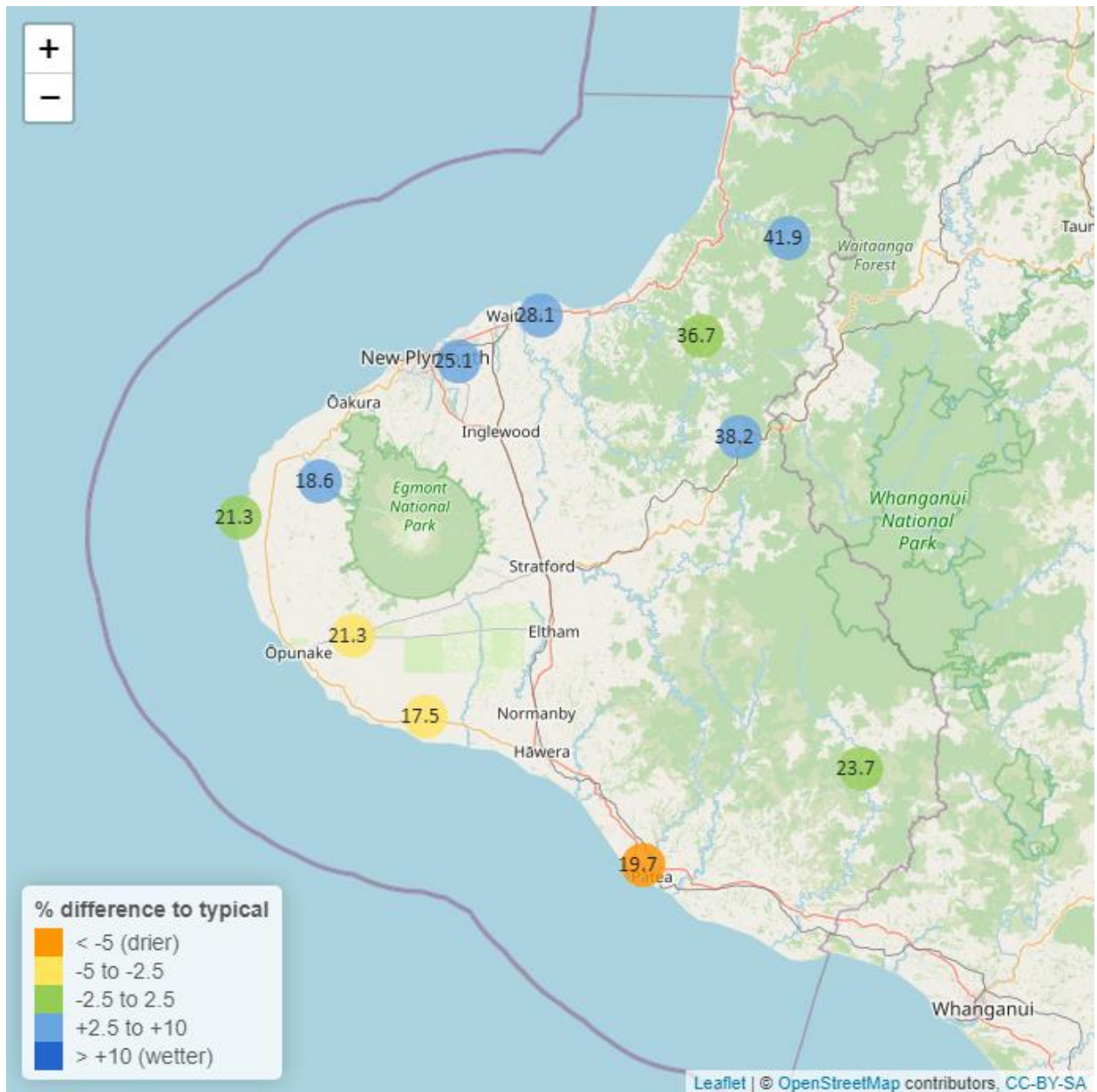


Figure 4.2: Monthly mean air temperature for January and the mean of all previously recorded months.

## 5. Soil Moisture

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



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

January 2024 - Soil Moisture (%)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	23.7	26.4	20.0	9.63	21.3	19.1	24.1	12
Kaupokonui at Glenn Rd	22.6	34.3	13.3	11.70	17.5	21.9	23.7	13
Kotare at OSullivans	49.2	43.9	34.1	21.50	41.9	34.3	58.5	11
Motunui M39 at Weston W3	31.6	30.0	25.8	13.90	28.1	22.8	33.0	10
Patea at Bore 3	21.9	29.9	18.0	17.70	19.7	24.9	22.1	7
Pohokura Saddle	43.7	44.2	33.1	20.40	38.2	34.8	46.6	9
Stony at Mangatete Bridge	23.9	20.1	14.4	4.26	18.6	10.7	31.8	8
Taungatara at Eltham Rd	27.1	38.7	17.0	12.10	21.3	24.5	27.8	10
Uruti at Kaka Rd	39.9	43.8	33.2	19.80	36.7	34.6	40.5	12
Waitotara at Rimunui Station	27.3	26.8	21.8	18.40	23.7	23.0	29.2	7
Waiwhakaiho at Hillsborough	28.6	29.7	21.6	15.20	25.1	22.1	29.8	11

## 5.2 Long-term data patterns

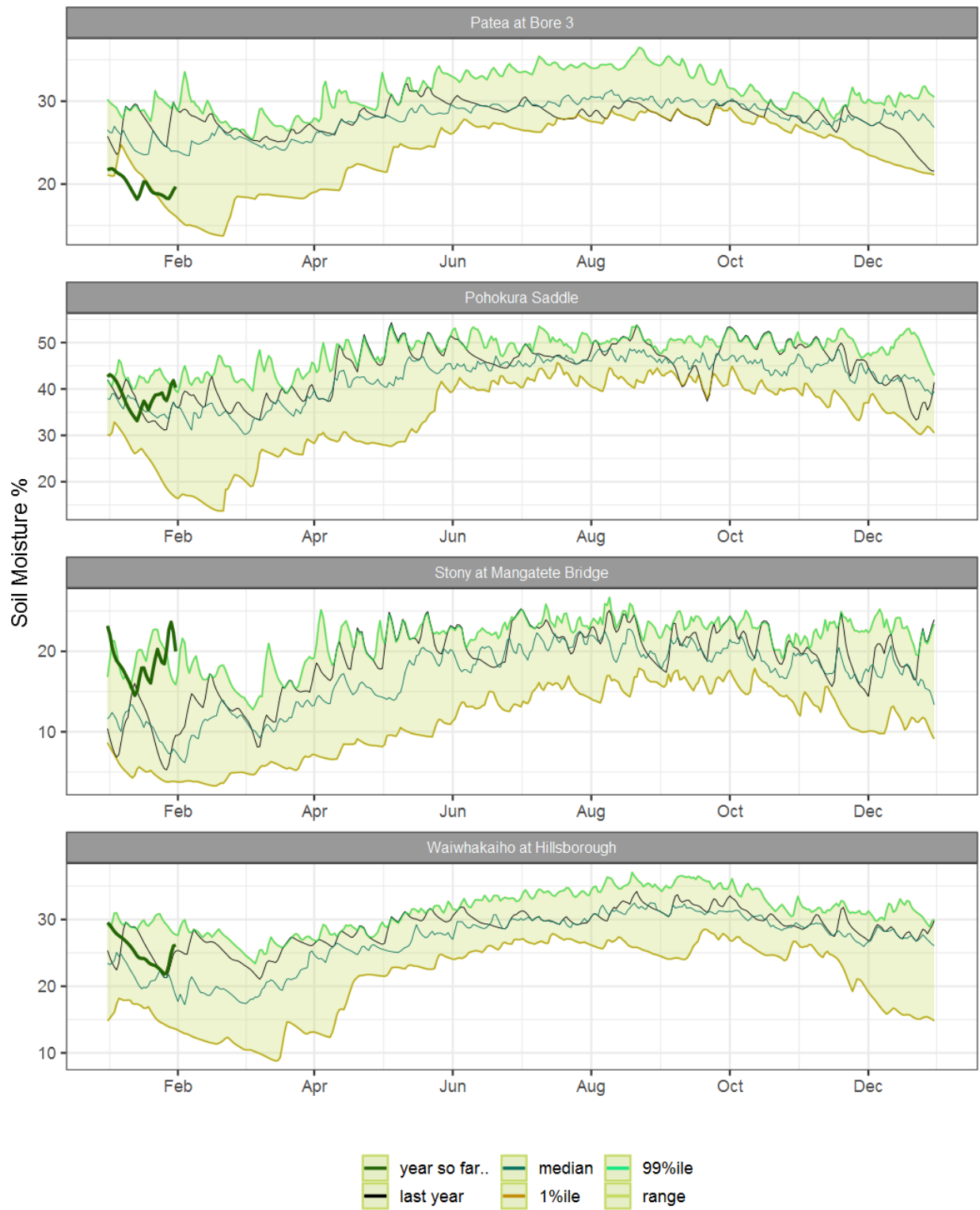


Figure 5.1: Running average soil moisture for selected sites, set in context of the historic record.

### 5.3 Monthly Bar Charts

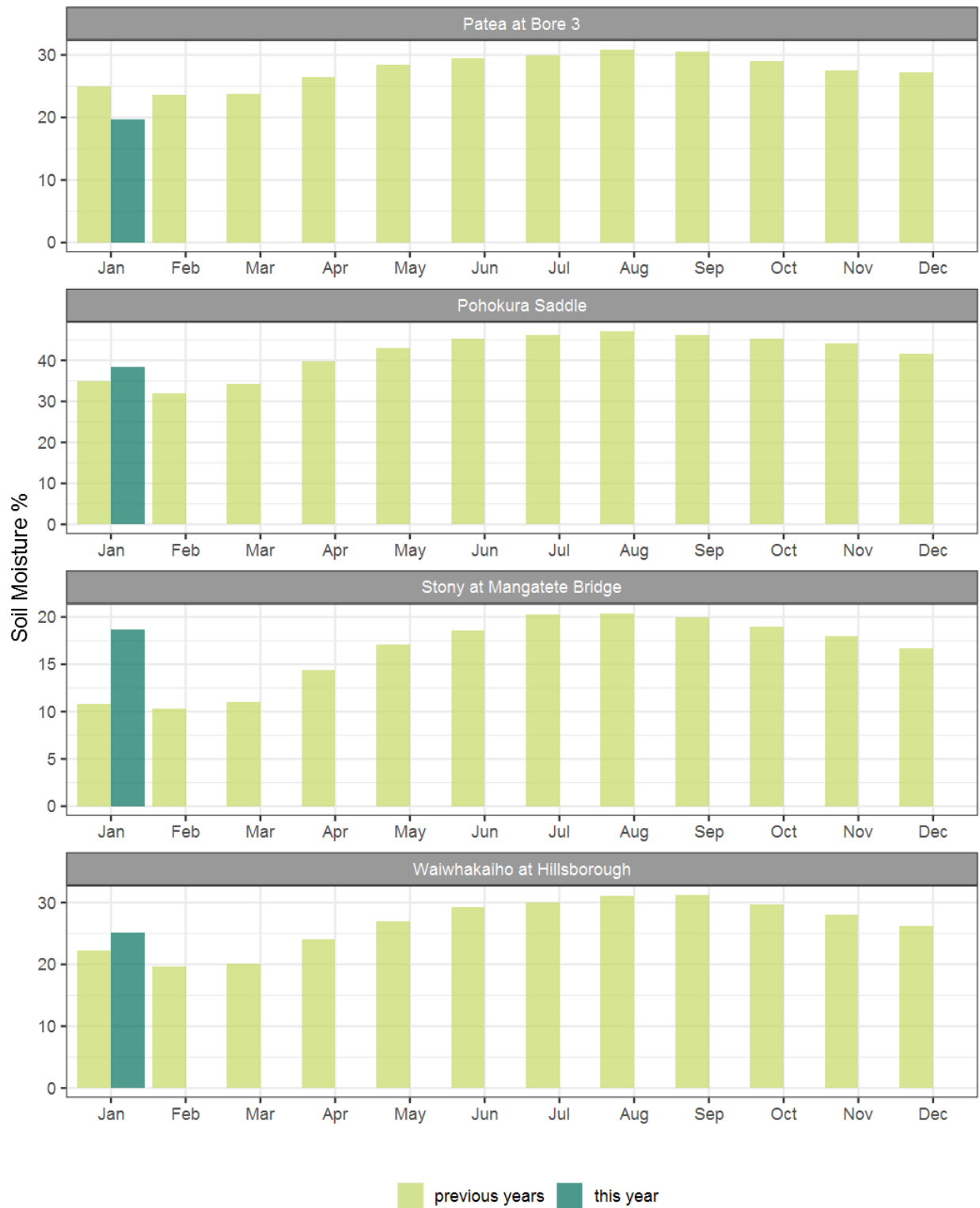
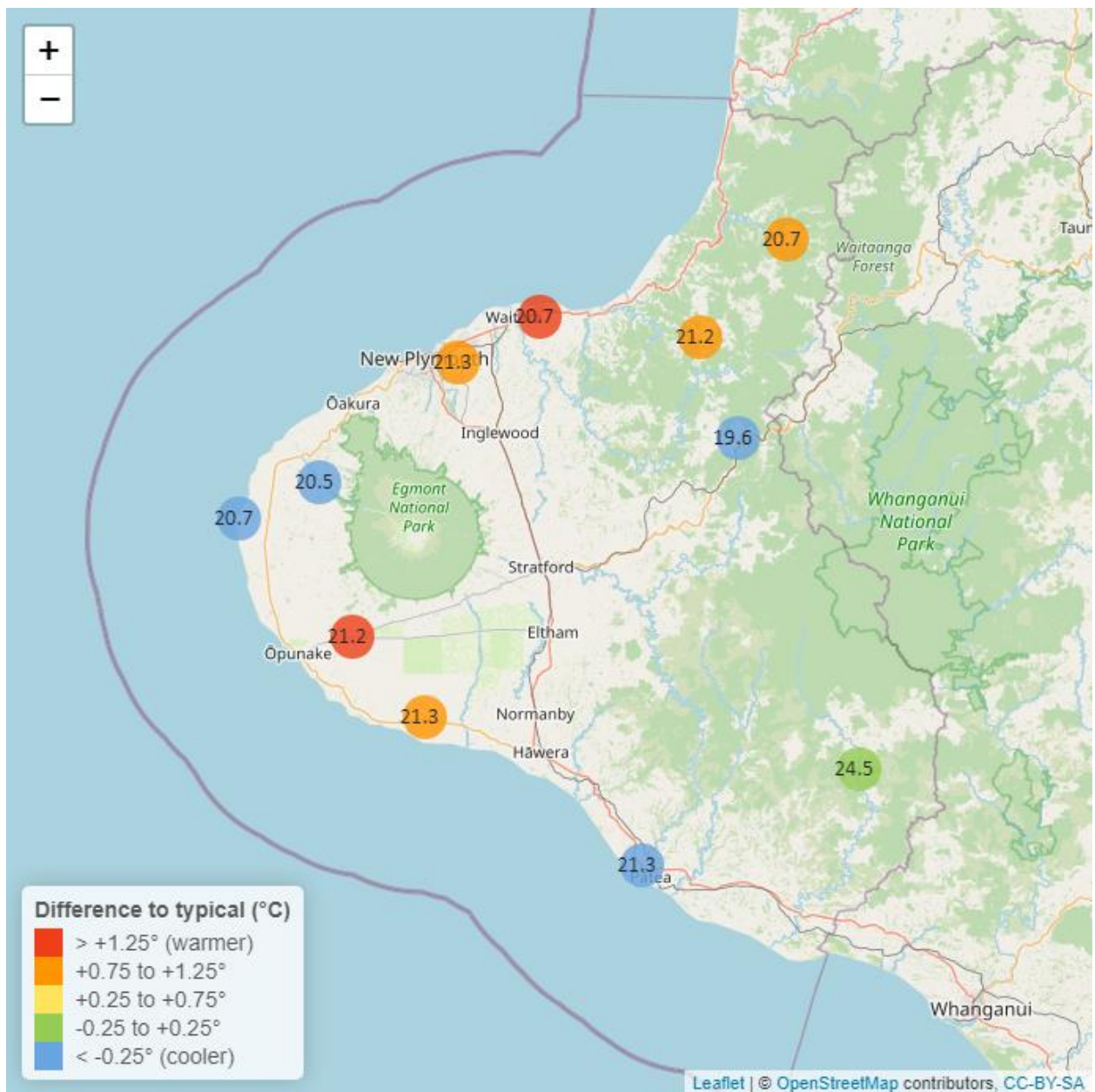


Figure 5.2: Monthly mean soil moisture for this month and the mean of all previously recorded months.

## 6. Soil Temperature

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



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

January 2024 - Soil Temperatures (°C)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Kapoaiaia at Lighthouse	23.2	24.6	18.4	18.2	20.7	21.2	24.3	12
Kaupokonui at Glenn Rd	23.8	24.0	19.2	17.7	21.3	20.3	24.4	13
Kotare at OSullivans	22.3	22.6	18.6	16.3	20.7	19.6	22.7	11
Motunui M39 at Weston W3	23.1	22.0	18.7	16.4	20.7	19.2	23.9	10
Patea at Bore 3	23.9	26.7	19.0	17.6	21.3	21.7	24.8	7
Pohokura Saddle	21.6	22.0	17.5	17.3	19.6	19.9	22.5	9
Stony at Mangatete Bridge	23.4	24.3	18.6	18.1	20.5	21.3	23.9	7
Taungatara at Eltham Rd	24.6	23.2	18.2	16.8	21.2	19.9	25.8	10
Uruti at Kaka Rd	22.5	22.4	19.8	17.5	21.2	20.1	22.6	12
Waitotara at Rimunui Station	27.5	27.3	21.6	21.6	24.5	24.3	28.3	6
Waiwhakaiho at Hillsborough	23.6	22.6	18.8	17.6	21.3	20.1	24.3	11



## 6.2 Long-term data patterns

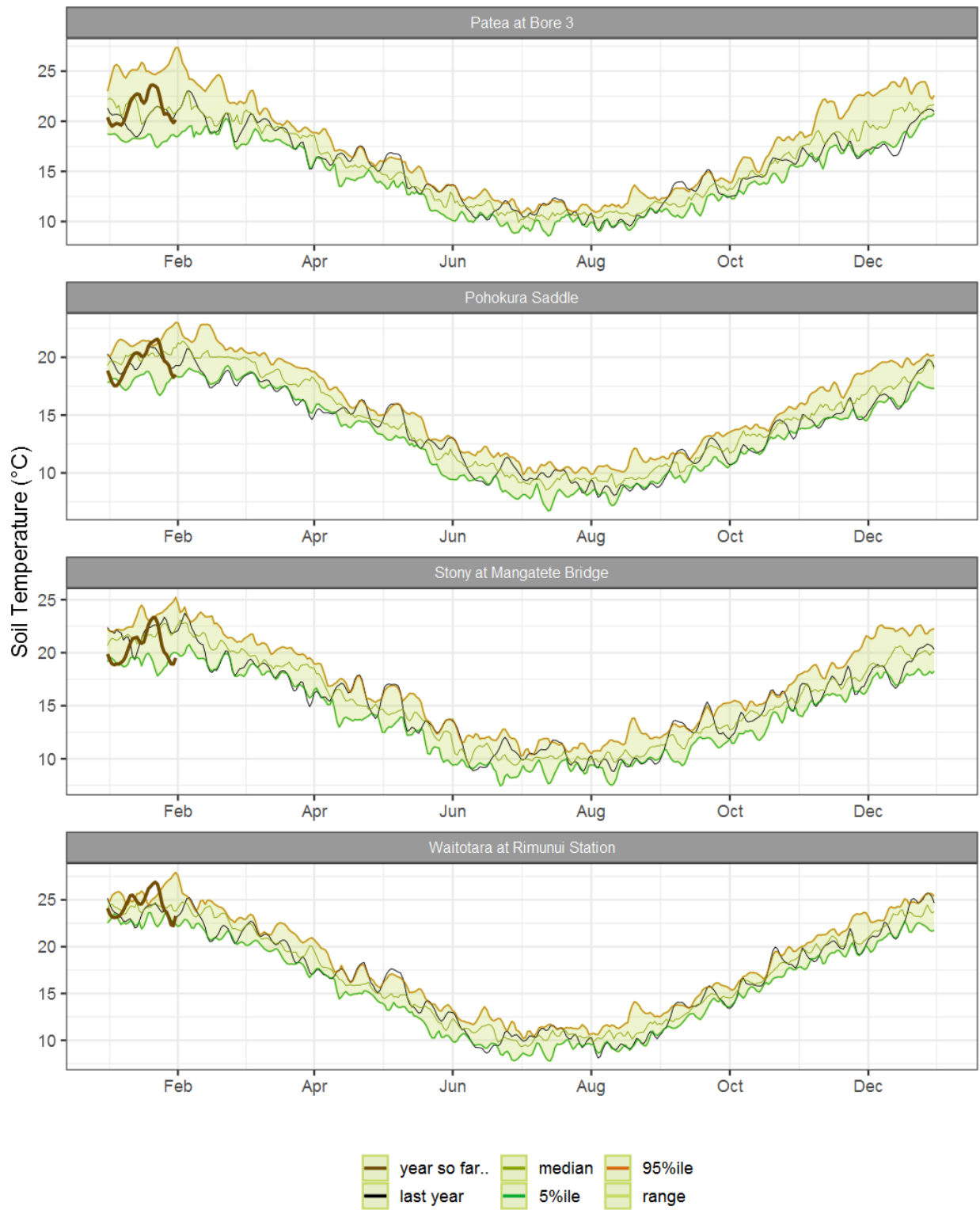


Figure 6.1: Running average soil temperature for selected sites, set in context of the historic record.

### 6.3 Monthly Bar Charts

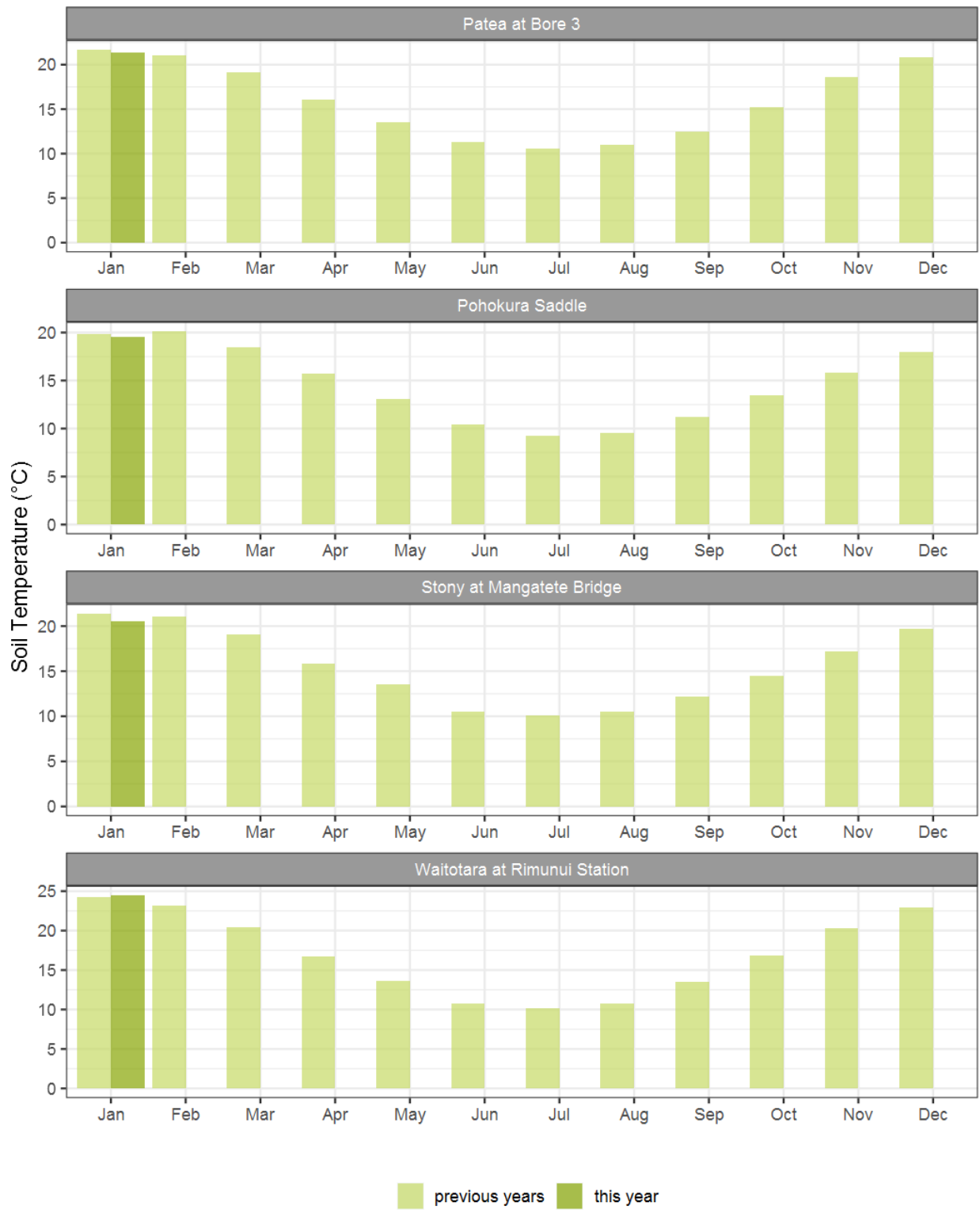
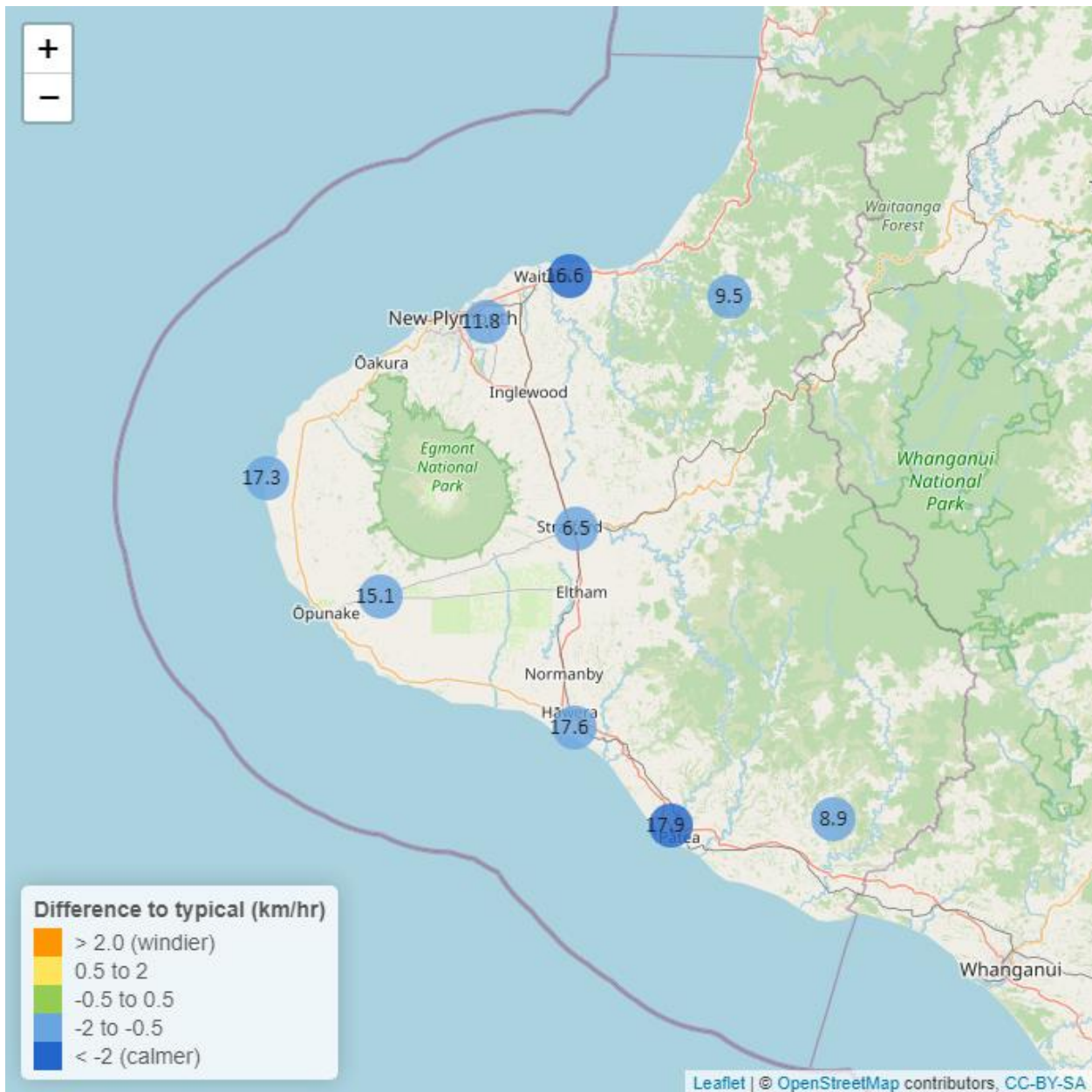


Figure 6.2: Monthly mean soil temperature for this month and the mean of all previously recorded months.

## 7. Wind Speed and Maximum Gusts

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



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

January 2024 - Wind Speed (average) - (km/hr)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	32.4	37.0	6.48	4.63	17.6	18.90	49.1	19
Kapoaiaia at Lighthouse	35.0	39.0	5.96	5.80	17.3	19.00	50.9	25
New Plymouth AWS	34.3	38.9	5.56	5.56	16.6	19.50	47.2	16
Patea at Bore 3	34.8	40.0	5.55	5.94	17.9	21.00	46.6	8
Patea at Stratford	15.2	18.5	1.98	1.93	6.5	7.95	25.2	18
Taungatara at Eltham Rd	29.5	31.2	5.54	6.07	15.1	16.70	38.1	8
Uruti at Kaka Rd	21.0	22.1	2.74	3.61	9.5	10.40	27.3	26
Waitotara at Ngutuwera	17.5	21.8	2.68	1.74	8.9	10.20	26.4	24
Waiwhakaiho at Hillsborough	28.0	29.9	3.29	3.48	11.8	13.80	39.4	6

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

January 2024 - Wind Gusts (Maximum) - (km/hr)								
River and Site	Highs		Lows		Mean		January maximum	Data years
	current month	historic	current month	historic	current month	historic		
Hawera AWS	68.5	71.3	24.1	24.1	42.8	45.8	70.4	19
Kapoaiaia at Lighthouse	65.5	74.1	20.3	20.2	38.2	43.4	75.7	25
New Plymouth AWS	66.7	72.2	24.1	24.1	40.1	45.2	68.5	16
Patea at Bore 3	71.5	73.1	25.1	24.7	43.3	47.0	72.8	8
Patea at Stratford	50.8	59.0	19.1	21.2	31.0	36.6	52.9	18
Taungatara at Eltham Rd	66.3	71.5	25.6	25.5	42.1	43.9	72.9	8
Uruti at Kaka Rd	59.8	67.3	26.3	22.6	37.3	38.2	74.5	25
Waitotara at Ngutuwera	75.6	66.8	25.9	21.0	44.1	40.0	95.4	24
Waiwhakaiho at Hillsborough	71.5	67.0	21.1	23.8	36.5	40.9	78.3	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

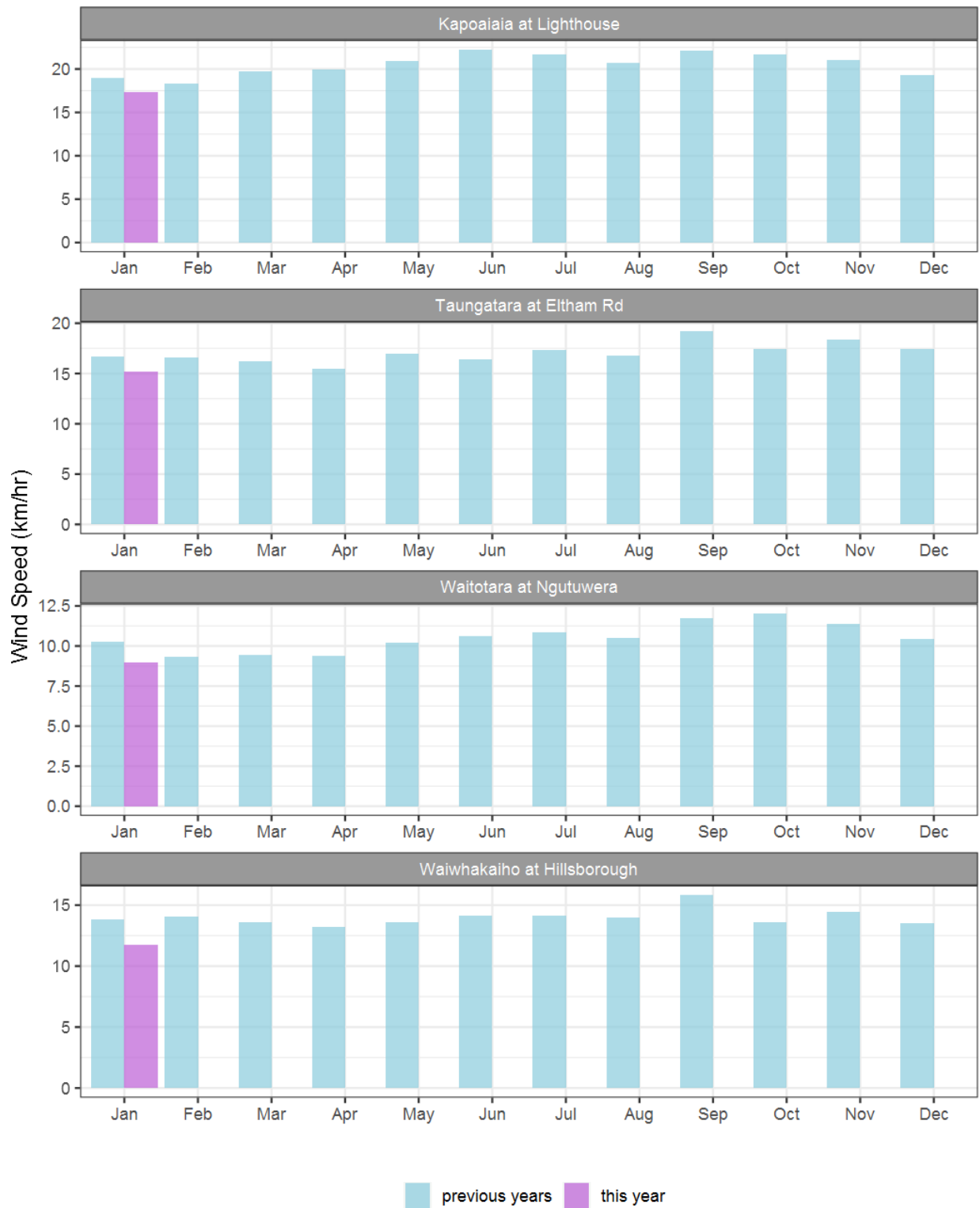


Figure 7.2: Monthly mean wind speed (km/hr) for selected sites, relative to the mean of all previously recorded months.

## 7.4 Wind roses for January 2024

### Average windspeed

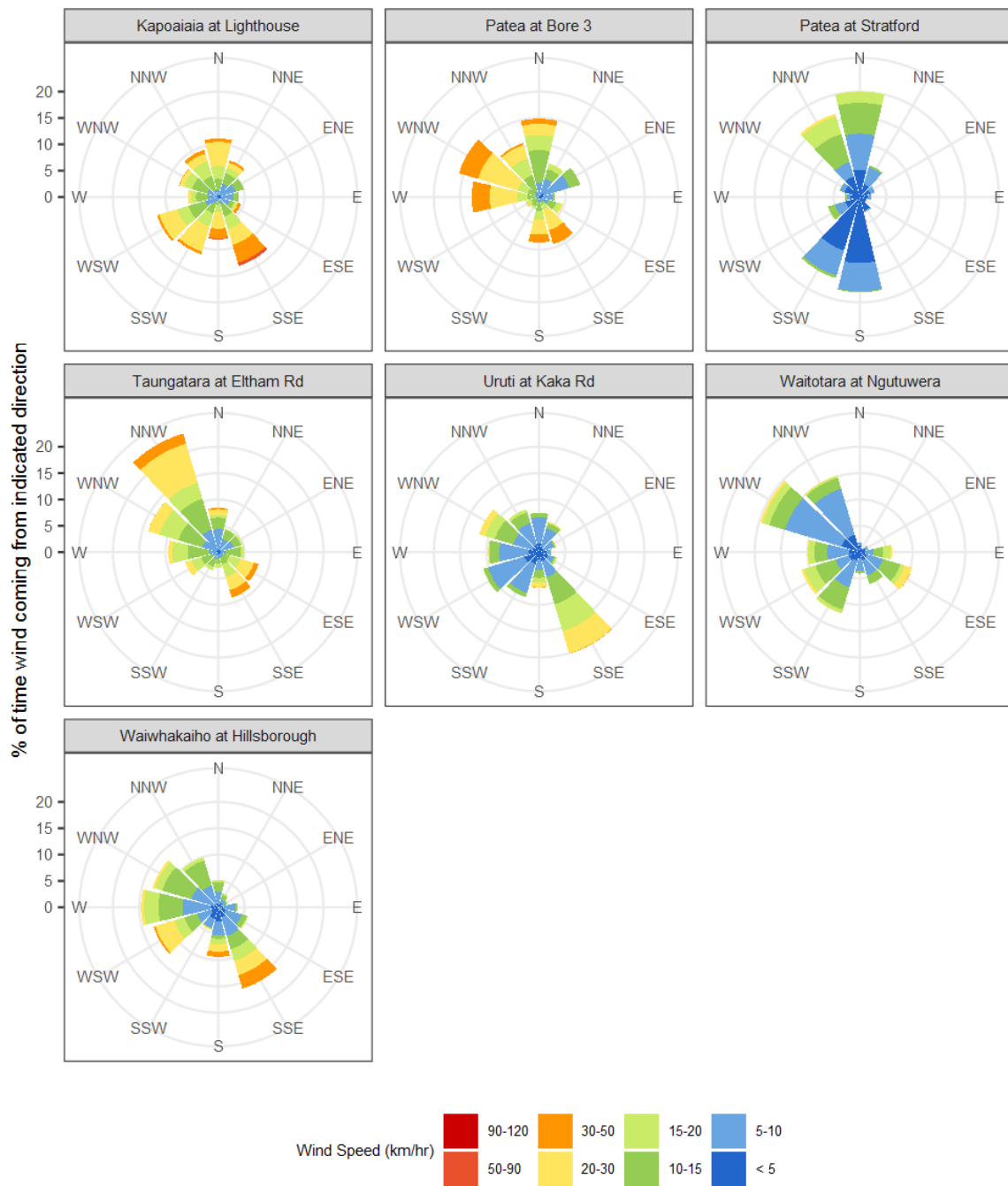


Figure 7.3: Wind roses for January for average wind speed (km/hr).

## Maximum gust strength

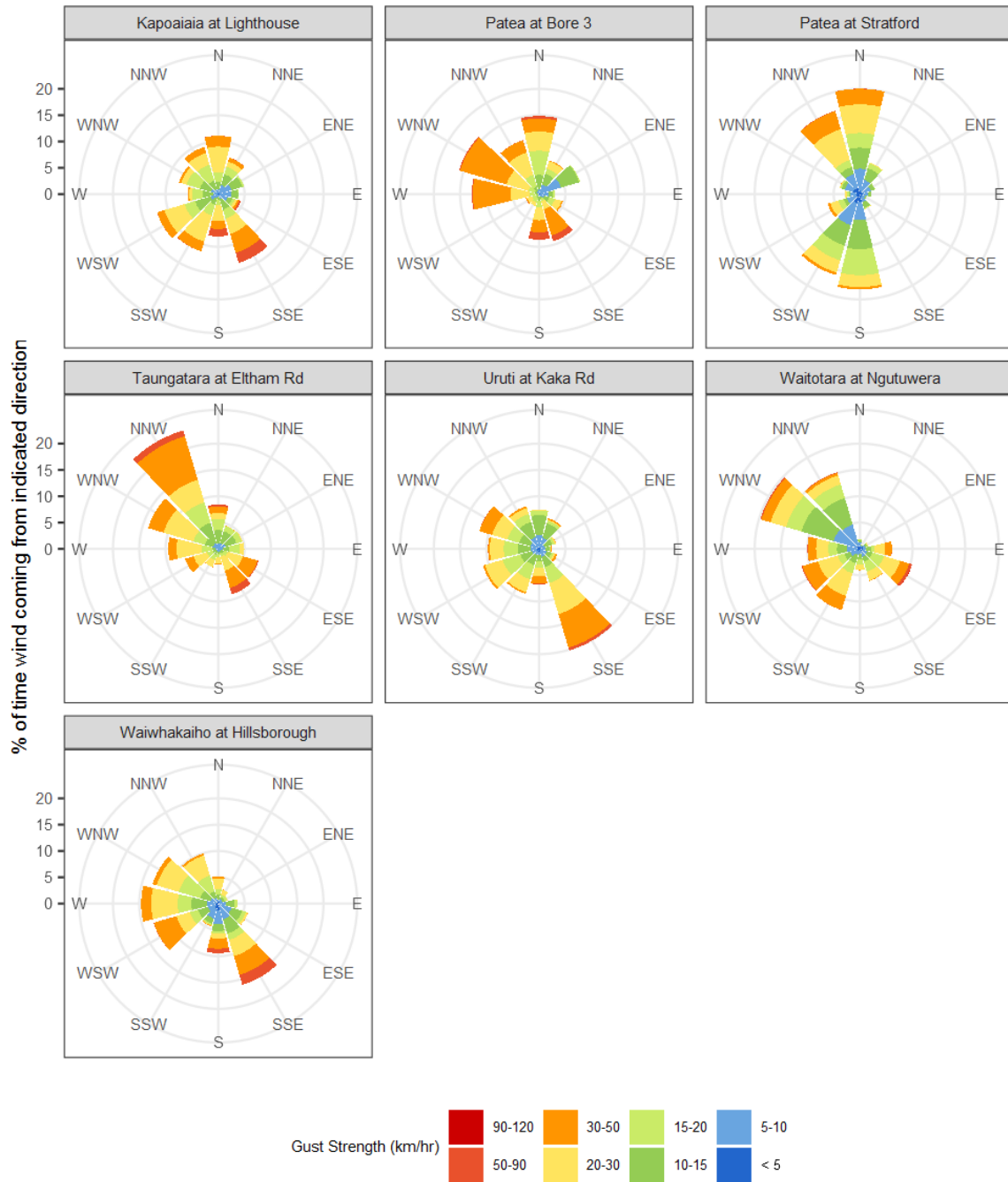


Figure 7.4: Wind roses for January for maximum wind gust (km/hr).



## 8. Summary of month's conditions

### Rainfall

On average January rainfall was 108.4 mm, 2% more than usual, ranging from 53% less rain at Waitotara at Ngutuwera, and 39% more than at Uruti at Kaka Rd. In January, the north to south gradient in rainfall observed in December 2023 has persisted, with even rainfall on Mount Taranaki being 55-60% of usual values.

Compared to typical full year totals, on average sites have already received 6% of a typical year's rainfall.

### River Flow

Mean river flows for January were 7.7% lower than typical values, low flows were 36.7% greater, and high flows 10.3% lower than typical values. The maximum river flow recorded in January was 386m<sup>3</sup>/sec at Waitara at Bertrand Rd. River flows in the southern ring plain area were particularly low, with the consequence river water temperatures in certain southern streams and rivers were particularly high.

### River Water Temperature

Mean river (non-mountain) water temperatures were 18.8°C, an average of 0.4°C warmer than long-term January values. Night-time-low water temperatures were on average 0.4°C warmer than historic lows, and day-time high temperatures were on average 0.6°C warmer than historic highs. The maximum river water temperature recorded in January was 28.9°C at Kaupokonui at Glenn Rd.

### Air Temperature

The average air temperature for the region (excluding Te Maunga sites) was 18.2°C, which is 0.6°C warmer than long-term January averages. Low air temperatures for January were on average 0.3°C warmer than the January average for previous years. Day-time high temperatures were on average 0.9°C warmer than historic highs. The maximum air temperature recorded in January was 30.3°C at Waitotara at Hawken Rd.

### Soil Moisture

The average soil moisture for January across sites in Taranaki region was 26.6%. Soil moistures were on average 1.8% wetter than typical January values. On average, low soil moistures were 8% wetter than previous lows, and the highs were on average 2.6% drier than previous values for January.

### Soil Temperature

January soil temperatures were generally 0.5°C warmer than long-term averages. Average nighttime low soil temperatures were 1.2°C warmer than recorded lows, and upper day-time soil temperatures were on average 0.2°C cooler than long-term January highs. The

maximum soil temperature recorded in January was 28.3°C at Waitotara at Rimunui Station.

### Wind Speed (average and 10 minute gust)

January average wind speeds were 14.3km/hr, with average gust strength of 40.5km/hr, these were 1.9km/hr lighter, and 2.5km/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 3.4km/hr lighter than long-term January highs. The maximum wind gust recorded in January was 95.4km/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: 8 February, 2024.