

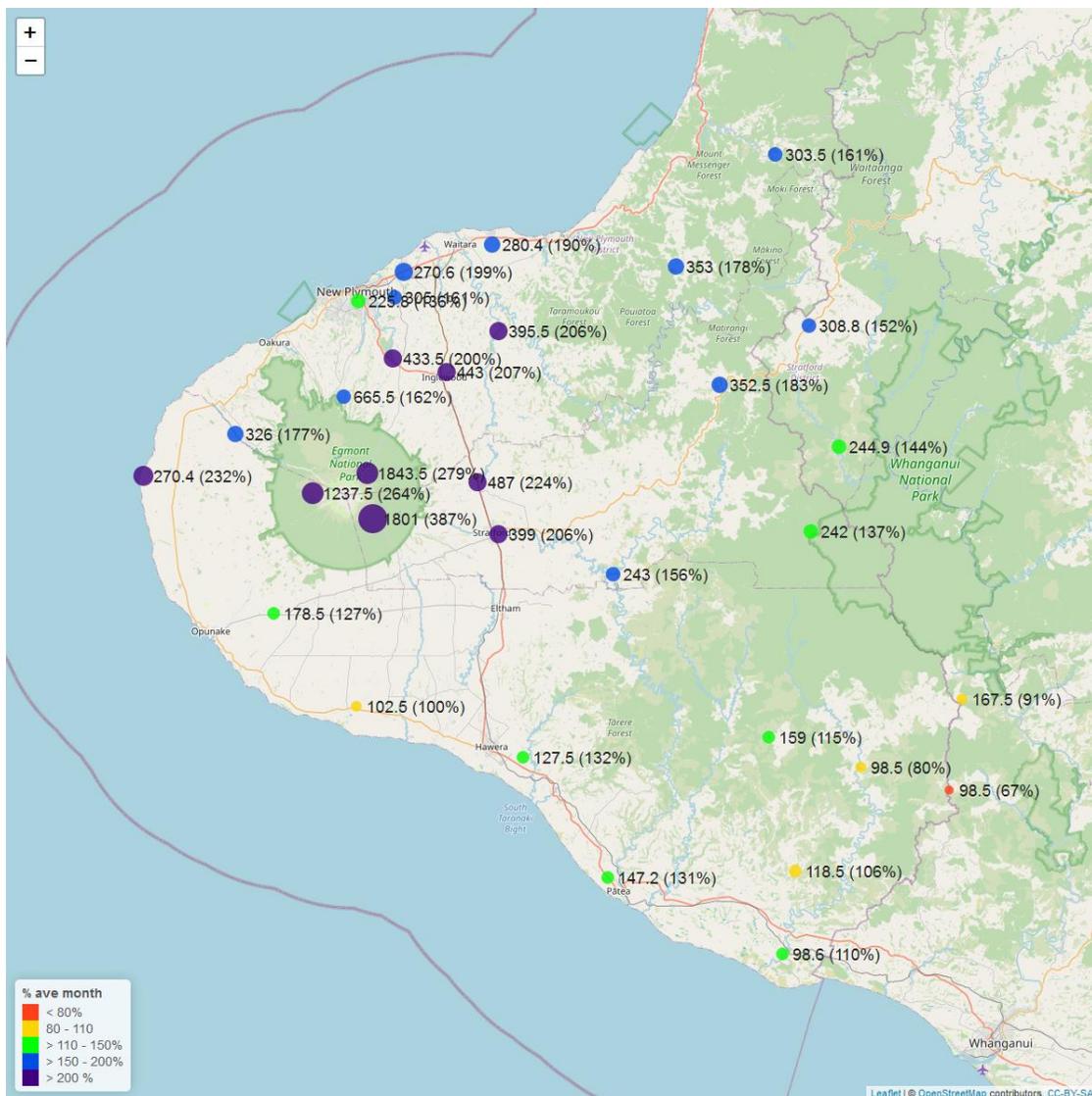
Taranaki Regional Council Monthly Rainfall and Environmental Data Report for August 2022

02 September, 2022

Provisional Data Only. Note: some sites record a number of parameters

1. Rain gauge values throughout the region

Note: Taranaki co-owns rain-gauges with Horizons, so we can assess rainfalls right-out over the Eastern Hill Country.



Map1: Rain gauge sites

Table 1: Rainfall monthly and year to date totals at 27 rain gauge sites in Taranaki.

Rain Gauge	August			Year to Date			Records Began
	# days with rain	Total Rainfall (mm)	% of typical month	Total to date (mm)	% of typical year to date	% of typical full year	
North Egmont at Visitors Centre	19	1843.5	279	5954.5	139	89	1991
Dawson Falls	20	1801.0	387	6322.0	211	140	1933
Kapoaiaia at Kahui Hut	20	1237.5	264	4526.5	143	92	2006
Mangorei Upper at Forest Hill	16	665.5	162	3240.5	139	91	2017
Waiwhakaiho at Hillsborough	16	305.0	161	1615.5	133	91	2012
Brooklands Zoo at New Plymouth	17	225.8	136	1363.2	131	88	2011
Mangati at SH3	15	270.6	199	1364.2	146	98	2013
Motunui M39 at Weston W3	16	280.4	190	1360.2	130	86	1998
Waiwhakaiho at Egmont Village	18	433.5	200	2263.0	152	96	1990
Manganui at Everett Park	19	395.5	206	1721.0	129	83	1987
Inglewood at Oxidation Ponds	18	443.0	207	1969.5	136	86	1999
Stony at Mangatete Bridge	17	326.0	177	1804.5	146	96	2004
Kapoaiaia at Lighthouse	18	270.4	232	1697.2	205	140	1930
Taungatara at Eltham Rd	19	178.5	127	1504.0	158	102	2005
Kaupokonui at Glenn Rd	14	102.5	100	1064.0	147	94	1998
Patea at Stratford	16	399.0	206	1753.5	143	94	1998
Mangaehu at Bridge	18	243.0	156	1440.5	145	93	1998
Manganui at SH3 Midhirst	16	487.0	224	1526.7	113	70	1990
Kotare at OSullivans	19	303.5	161	1548.0	117	72	1998
Uruti at Kaka Rd	17	353.0	178	1745.0	130	80	1990
Pohokura Saddle	17	352.5	183	1537.5	126	79	1990
Omaru at Charlies	21	242.0	137	1465.5	127	84	2005
Omahine at Moana Trig	16	159.0	115	1277.5	132	88	2006

Rain Gauge	August			Year to Date			Records Began
	# days with rain	Total Rainfall (mm)	% of typical month	Total to date (mm)	% of typical year to date	% of typical full year	
Waitotara at Rimunui Station	14	98.5	80	1063.5	125	79	1993
Waitotara at Ngtuwera	17	118.5	106	1030.0	129	81	1998
Tawhiti at Duffys	15	127.5	132	1015.5	145	93	1993
Patea at Bore 3	21	147.2	131	1061.6	144	93	2005
Waitotara at Hawken Rd	16	98.6	110	989.4	147	96	2016
Ahuahu at Te Tuhi Junction	19	98.5	67	1165.5	138	86	2018
Whanganui at Mataimona Trig	21	167.5	91	1335.5	131	80	2018
Whangamomona at Marco Road	20	308.8	152	1491.9	121	80	2018
Whangamomona at Bridge to Somewhere	18	244.9	144	1293.5	121	78	2018
Whanganui at Pipiriki	17	141.0	98	983.0	120	76	2018
Ohura at Waitewhena Airstrip	16	224.4	110	1492.5	128	80	2019
Ohura at Waikaka	20	167.5	83	1340.0	125	79	2019
Whanganui at Kirikau	22	181.6	100	858.6	89	54	2019
Lower Retaruke	20	155.8	92	1007.2	130	77	2019
Whanganui at Te Rewa	13	66.1	62	821.5	140	85	2019
Matarawa at Matarawa Valley	16	71.6	96	749.5	152	86	2019
Waitanguru at Mangaotaki	15	271.0	105	1896.0	119	76	1989
Hawera AWS	22	122.0	118	1057.4	151	99	2005

2. River Flow at 8 sites in Taranaki



Map2: Flow sites

Table 2: Summary of maximum, minimum and mean flow for the current reporting month and the same month for all preceding years of record.

Recorded flows (m3/sec)								
River and Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Waitara at Bertrand Rd	1494.04	1219.43	24.76	7.98	179.60	80.86	42	1980

Recorded flows (m3/sec)								
River and Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Manganui at Everett Park	785.89	908.16	3.68	3.91	50.44	27.11	31	1991
Waiwhakaiho at SH3	377.96	402.75	2.76	1.94	22.35	10.60	42	1980
Waiongana at SH3a	129.29	119.98	1.27	0.42	8.30	3.79	42	1980
Waingongoro at Eltham Rd	114.96	148.38	1.94	0.64	11.20	4.48	47	1975
Punehu at Pihama*	24.82	37.94	0.88	0.37	3.02	1.84	52	1970
Tawhiti at Duffy's Farm	9.76	16.30	1.40	0.28	2.56	1.48	37	1985
Whenuakura at Nicholson Rd	112.04	228.19	7.08	2.48	22.38	16.13	39	1983

3. River Temperature at 8 sites throughout the region



Map3: Temperature Measurement Stations

Table 3: Summary of maximum, minimum and mean river temperature for the current reporting month and the same month for all preceding years of record.

Monthly River Temperatures (°C)								
River and Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Kapoiaiaia	15.22	15.13	7.20	4.81	11.90	10.67	24	1998
Kapuni	13.50	14.70	7.56	5.10	10.94	9.88	23	1999

Monthly River Temperatures (°C)								
River and Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Mangaoraka	14.82	14.70	9.18	7.00	12.56	11.30	18	2004
Patea (Skinner)	14.03	12.80	7.81	4.60	11.12	9.76	18	2004
Timaru	13.98	14.37	7.91	6.24	11.50	10.34	9	2013
Waingongoro (Eltham)	13.49	12.80	7.96	5.42	11.04	9.87	18	2000
Waitara	13.93	13.30	10.68	5.45	12.13	10.16	33	1981
Waiwhakaiho	12.94	13.07	6.32	4.40	9.98	8.89	33	1980

4. Air Temperature at 17 sites throughout the region



Map4: Temperature Measurement Stations

Table 4: Summary of maximum, minimum and mean air temperature for the current reporting month and the same month for all preceding years of record.

Monthly Air Temperatures (°C)								
Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Dawson Falls	13.51	13.50	-0.37	-2.03	6.26	5.16	7	2015
Brooklands (NP)	19.88	20.40	1.63	1.07	12.01	11.05	10	2012

Monthly Air Temperatures (°C)								
	Maximum		Minimum		Mean			
Site	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years	Years of record	Records Began
Hillsborough	17.53	18.28	2.04	0.98	11.66	10.83	10	2012
Inglewood	18.96	18.64	-1.97	-1.85	10.29	9.36	11	2011
Cape Egmont	17.50	17.24	4.11	0.38	12.43	11.56	10	2012
Kaupokonui (Manaia)	19.70	19.02	2.31	-1.58	11.73	10.68	7	2015
Mangati (Bell Block)	17.40	19.29	1.51	-0.69	11.87	11.20	9	2013
Mangorei (Bushline)	15.00	15.56	1.81	0.37	9.85	8.50	5	2017
Motunui	17.11	17.72	1.77	1.02	11.44	10.82	6	2016
Ngutuwera	18.29	17.66	1.58	-0.51	11.08	10.05	4	2018
North Egmont	12.10	13.82	-1.70	-3.06	5.65	5.03	7	2015
Patea	19.27	18.87	2.51	-0.29	11.64	10.52	10	2012
Mangatete Rd (Okato)	15.91	17.95	2.15	0.69	11.03	10.41	6	2016
Te Kiri	20.32	17.29	2.61	-0.20	11.11	10.08	7	2015
Whareroa	18.51	18.74	-1.02	-3.53	10.91	9.92	9	2013
Uruti (Okoki)	16.18	16.64	2.31	0.69	10.21	9.07	4	2018
Waitotara (Coast)	20.26	19.20	2.10	-0.16	11.83	10.65	6	2016

5. Soil Moisture at 11 sites throughout the region



Table 5: Summary of maximum, minimum and mean soil moisture for the current reporting month and the same month for all preceding years of record.

Monthly Soil Moisture Extremes (%)								
Site	Maximum		Minimum		Mean		Years of record	Records Began
	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years		
Hillsborough	41.37	39.93	30.29	23.89	33.45	30.71	10	2012
Kaka Rd (Okoki)	46.31	50.57	38.16	37.85	40.90	43.53	11	2011
Kapoiaia (Cape Egmont)	35.20	41.40	28.84	21.59	30.67	28.10	11	2011

Monthly Soil Moisture Extremes (%)								
	Maximum		Minimum		Mean			
Site	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years	Years of record	Records Began
Kaupokonui (Manaia)	47.72	52.84	16.76	31.30	41.51	38.06	11	2011
Kotare (Tongaporutu)	56.66	59.89	39.35	34.20	44.09	44.18	10	2012
Mangatete Rd (Okato)	33.44	35.26	13.90	12.98	20.95	20.02	6	2016
Motunui	35.82	36.07	30.07	27.91	32.03	31.54	9	2013
Patea	35.88	42.00	28.89	24.89	30.33	30.68	6	2016
Pohokura Saddle	55.54	55.03	43.69	36.47	48.97	45.69	8	2014
Rimunui (Waitotara Valley)	32.72	34.89	27.03	25.37	29.11	28.90	5	2017
Te Kiri	41.48	57.30	29.72	27.09	32.60	39.51	9	2013

6: Soil Temperature at 11 sites throughout the region

Table 6: Summary of maximum, minimum and mean soil temperature for the current reporting month and the same month for all preceding years of record.

Monthly Soil Temperatures (°C)								
	Maximum		Minimum		Mean			
Site	August 2022	August all previous years	August 2022	August all previous years	August 2022	August all previous years	Years of record	Records Began
Hillsborough	14.71	13.60	9.15	7.33	11.90	10.78	10	2012
Kaka Rd (Okoki)	13.90	13.01	9.94	5.20	11.67	10.04	11	2011
Kapoaiiaia (Cape Egmont)	16.31	15.99	8.35	7.33	12.66	11.48	11	2011
Kaupokonui (Manaia)	16.84	13.50	9.40	7.60	12.02	10.64	11	2011
Kotare (Tongaporutu)	14.58	14.76	8.82	4.28	11.63	9.72	10	2012
Mangatete Rd (Okato)	15.10	13.20	7.80	6.10	11.53	10.47	6	2016
Motunui	15.23	12.67	9.39	7.40	12.22	10.33	9	2013
Patea	15.41	14.06	8.62	6.74	11.75	10.85	6	2016
Pohokura Saddle	13.60	12.35	7.84	6.18	10.75	9.54	8	2014
Rimunui (Waitotara Valley)	16.15	13.93	7.47	7.19	11.60	10.86	5	2017
Te Kiri	15.30	14.10	8.40	6.00	11.46	10.34	9	2013

Summary of months conditions

Rainfall

August was exceptionally wet, with many rain-gauges collecting more than twice the typical rain for the month. The average was 176.6% of the long-term average, and ranged from 80% at Rimunui Station to 387% at Dawson Falls. Rainfall was elevated on the Maunga (approaching nearly 2000 mm) and northern hill country. Rainfall was somewhat lower than average in the south-east of the region.

Year to date rainfall is sitting between 113% (Manganui at SH3 Midhirst) and 211% (Dawson Falls) with an average of 141.7% of normal. Cape Egmont remains at around 211% of normal to date and has already received 95% of a typical years rain in 8 months.

River Flow

Mean river flows for August were high like July, and generally above typical August averages at around 2.05 times normal long-term averages. The minimum flows were all well above typical August lows (at 2.43 times typical low flows). Maximum flows at the 7 sites were all below (on average 98.9% of) historical recorded August values; only the Waitara at Bertrand Road had a greater flow than previous peaks, prompting civil defence and TRC preparations for flood response.

River Water Temperature

Mean river water temperatures were an average of 1.3°C above long-term August values. Nighttime-low water temperatures were on average 1.7°C above historic lows, this fits a general trend to warmer nighttime temperatures throughout the region. Peak temperatures were similar to historic highs (as in July).

Air Temperature

The average air temperature for the region, excluding Te Maunga, was 11°C, which is 0.9°C higher than the long term August average. Minimum air temperatures for August were on average 1.9°C above previously recorded lows.

Soil Moisture

Mean soil moistures for August were close to typical values. On average, minimum soil moistures were 0.34% above previous lows, and the maxima were generally similar to previous highs. The average range for soil moisture was 12.3%. Note that we have brought the start year for soil moisture analysis forward at a number of sites, this is to eliminate inconsistent data periods (caused by upgrading of sensors and changes in their location – please contact us if you require further information about this).

Soil Temperature

Like July, August soil temperatures were generally 1.3°C above the long-term average. Nighttime minimum soil temperatures were on average 2.2°C above recorded minima, and maximum August soil temperatures were on average 1.5°C above long-term maximum August values.

Report date 02 September, 2022.