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Application no:

Date received:

Ministry for the Environment
Manatū Mō Te Taiao

Resource Management (National Environmental Standards for Air Quality) Regulations 2004 – Regulation 16A Exceptional Circumstances

APPLICATION FORM

Before completing this form please read section 3.8 of the 2011 User's Guide to the revised National Environmental Standards for Air Quality.

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1 Applicant details

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2 Details of exceedance event

Containment	PM_{10} (24-hour average)
Date of exceedance (*application must be received within 3 months from date of the exceedance*)	2 June 2026
Relevant airshed	Mount Maunganui Airshed - Rata Street site Bay of Plenty Regional Airshed – Ranch Road site

Monitoring station and technical specifications of monitor	**Rata Street, Mount Maunganui.** Location: 50m south of Rata Street, Mount Maunganui. Located within the Mount Maunganui Airshed (MMA).   Instrument specifications: Particulate Matter as PM_{10} – according to AS/NZS 3580.9.11:20224 'Determination of suspended particulate matter – PM_{10} beta attenuation monitors' using a Thermo model 5028i Beta Attenuation Monitor (BAM). The BAM operates with a full-scale measurement range of 0-10,000 µg/m^3. Watercare is accredited by IANZ for this method. **Ranch Road, Mount Maunganui.** Opposite 89 Ranch Road. On the northern boundary of the Mount Maunganui College fields. Located within the Bay of Plenty Regional Airshed (BOPRA).





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Summary of monitoring reading showing exceedance event	Rata Street: (PM_{10} 54 µg/m^3 – 2 June 2026) Ranch Road: (PM_{10} 90 µg/m^3 – 2 June 2026)
Analysis of baseline data	Refer to supporting documentation.
Source speciation or other analysis	Refer to supporting documentation.

Explanation of any previous exceedance event/s from this monitoring station in the past 5 years	**Rata Street:** Due to anthropogenic activities within the MMA, elevated PM_{10} levels are common. Consequently, values above the NES-AQ PM_{10} standard value have been recorded at the Bay of Plenty Regional Council's (Regional Council) Rata Street site within the past five years: • 14 July 2021 (Regional Council's investigation concluded the cause was particulates from the surface of neighbouring yard), • 1 December 2022 (Regional Council's investigation concluded the cause was particulates from neighbouring bulk solid material handling operation), • 12 December 2023 (Regional Council's investigation concluded the cause was possibly from neighbouring railway land), • 11 March 2024 (Regional Council's investigation concluded the cause was particulates from the surface of a neighbouring site). In each instance, Regional Council investigations concluded that the exceedance events were attributed to particulates from the surface of yards, or activities, at neighbouring operations. However, a strong influence can be seen in the monitoring record from the nearby marine environment when sea state conditions are conducive. Sea spray (sea salt) particles related to a specific weather pattern are considered to have been the cause of exceedances recorded at the Rata Street monitoring station on: • 9 and 10 June 2021, • 21 April 2022, • 18 and 19 August 2022, • 19 April 2023, • 11 April 2026. The Minister approved the Regional Council's exceptional circumstances applications for each of the exceedances. **Ranch Road:** This is a recently installed site (recording commenced March 2024) within the Mount Maunganui residential area in the BOPRA, adjacent to the MMA. Seven previous exceedance events have been recorded at this site: • 3 October 2024, • 17 April 2025, • 19 April 2025, • 4 July 2025, • 29 July 2025, • 31 December 2025, • 11 April 2026. The Minister approved the Regional Council's exceptional circumstances applications for each exceedance, agreeing that meteorological conditions conducive to elevated wave heights, and the transport and inland deposition of sea spray particles were responsible.	
Monitoring readings covering exceedance event	☒ Attached **X**	☐ Not attached

3 Details of exceptional circumstances

Exceptional circumstances leading to exceedance	☐ Localised impact on a monitor	☐ Anthropogenic extreme event	☒ Natural disaster or natural extreme event **X**	☐ Other
Explanation of circumstances leading to exceedance event	An increased presence of sea spray particles originating from an elevated sea state and onshore winds is considered to have been the cause of the exceedances occurring on 2 June 2026 at the Rata Street air quality monitoring station within the MMA, and at the Ranch Road monitoring site within the BOPRA.			

Reasons why these circumstances were beyond the reasonable control of the regional council	Meteorological conditions conducive to elevated wave heights, and the transport and inland deposition of sea spray particles were responsible for the recorded exceedances. These conditions are well beyond the reasonable control of the Regional Council. Page 43 of the "2011 Users' Guide to the revised National Environmental Standards for Air Quality 2011: Updated 2014 guide" (the Users' Guide) states: *"Generally, unforeseeable emergencies and natural disasters cannot be prevented or controlled and are likely to satisfy this criterion".* All evidence that we have examined points to sea spray particles being the source of the PM_{10} exceedances on 2 June 2026. In reference to the requirements of page 44 of the Users' Guide, these exceedances can credibly be considered an unplanned circumstance that could not reasonably be predicted or planned. The events causing the exceedance of the PM_{10} air standard on 2 June 2026 can be considered exceptional due to their nature as a weather event responsible for the exceedance. The events created a situation where salt spray particles were formed in abundance and then transported under suitable wind patterns, so a conducive weather event that directly led to the exceedance. Page 45 of the Users' Guide states that: *"The majority of exceptional circumstances are likely to be related to a natural disaster or extreme weather event…".* These exceedances are considered to have been caused by sea salt from unusually high waves being transported by winds as part of a weather event. Weather events are cited in the Users' Guide as an example of exceptional events. The RMA framework is based on the principle of sustainable management when making resource management decisions. There is no evidence that this event is related to poor resource management of air as a resource. It is considered that the source of the PM_{10} exceedance on 2 June 2026 is an increased ratio of sea salt particles within the local profile. This was generated by the elevated sea state and wind patterns associated with a weak complex depression system located to the east of the North Island, and then the presence of a sizable anticyclone system centred to the northwest of New Zealand. Both events pushed a northerly/northeasterly wind flow into the western area of the Bay of Plenty. This connected series of meteorological events provided a means of particle generation and transportation and appears to be not uncommon as evidenced both by past external SEM analysis and consideration of our expanding data collection. It is unreasonable to expect the Regional Council to control an emission when it originates from a specific weather pattern. The 2022 HAPINZ 3.0 report indicates that sea spray is a source of particulate matter within New Zealand. In the MMA, sea spray has been identified as a source through a variety of monitoring programmes. At the Rata Street site, it was a key contributor to two weather-related PM_{10} exceedances in June 2021, and further exceedances in April 2022, August 2022 (two), April 2023, and April 2026. All seven of these were considered exceptional circumstances by the Minister. The seven confirmed exceptional circumstances events since October 2024 at the Ranch Road monitoring station in the BOPRA is a further instance of a specific combination of meteorological events resulting in an exceedance of the PM_{10} standard in the Mount Maunganui area. The Regional Council's monitoring of air quality has led to an increasing body of historical data within the Mount Maunganui area, including the MMA (and increasingly at Ranch Road, within the BOPRA). This indicates that specific weather conditions can lead to increased salt spray and elevated PM_{10} readings, sometimes resulting in exceedances of the NES PM_{10} standard. For several earlier exceedances at the Rata Street monitoring site, we commissioned Scanning Electron Microscope (SEM) analysis of filter samples to contribute to exceptional circumstances applications. In addition, SEM analysis of filter samples was undertaken for three exceedances recorded at Ranch Road: In October 2024, because it was the first exceedance recorded at the site; for one of the July 2025 exceedances at the request of the Ministry to discount the possibility of a wintertime domestic heating PM signature; and the December 2025 event to more closely evaluate the $PM_{2.5}$ fraction. However, the cost to the ratepayer of this external analysis and the subsequent staff processing and evaluation is considerable. Therefore, given our growing datasets and understanding of the contributing causes of PM_{10} exceedances from specific meteorological

	events, we tend to commission such analysis only when the causes of an exceedance are more questionable. In the instance of these 2 June 2026 exceedances, we believe that the meteorological conditions recorded prior and up to the period 2 June strongly resemble those that accompanied the 14 earlier events at Rata Street and Ranch Road for which the Regional Council applied to, and received confirmation from, the Minister as exceptional circumstances. For the reasons outlined above we are requesting that these exceedances be considered an exceptional event because the exceedances were not foreseeable, not likely to reoccur, beyond the reasonable control of the council and not within the intent of the RMA framework.	
Supporting evidence **(eg, *meteorological report*)**	☒ Attached **X**	☐ Not attached

27 July 2026

Shane Iremonger

Principal Advisor, Science.

Reuben Fraser

General Manager, Regulatory Services.

Supporting documentation

Background

The Rata Street monitoring station is an integral part of the wider ambient air quality monitoring network within the MMA. The Ranch Road monitoring station is a more recent addition to the Regional Council's monitoring network and an integral part of the wider ambient air quality monitoring network adjacent to the MMA. Like all the sites within this network, it is operated by WaterCare Ltd under contract for the Regional Council. Quality assessed and controlled data is provided from WaterCare on a following month basis. The data used in this supporting document is part of that monthly delivery QA/QC data batch.

Located at the most northerly and eastern-most positions within the network (Figure 1) means that the Rata Street, and Ranch Road sites, respectively, are fully exposed to a wide range of anthropogenic and natural sources.



Figure 1. Ambient air quality monitoring sites within the Mount Maunganui Airshed.

Table 1. Rata Street PM_{10} exceedances.

Date	***PM_{10} 24-hour average***
6/12/2019	*53µg/m³ **
31/01/2020	*68µg/m³*
17/03/2020	*87µg/m³*
9/06/2021	*58µg/m³ **
10/06/2021	*53µg/m³ **
14/07/2021	*62µg/m³*
21/4/2022	*53µg/m³ **
18/08/2022	*64µg/m³ **
19/08/2022	*73µg/m³ **
1/12/2022	*80µg/m³*
19/04/2023	*51µg/m³ **
12/12/2023	*65 µg/m³*
11/3/2024	*52 µg/m³*
11/04/2026	*57 µg/m³ **
2/06/2026	*54µg/m³ ***

** Caused by an exceptional circumstance and approved by the Minister.*
*** Subject to a current exceptional circumstance application.*

Table 2. Ranch Road PM_{10} exceedances.

Date	***PM_{10} 24-hour average***
03/10/2024	*61µg/m³ **
17/04/2025	*56µg/m³ **
19/04/2025	*51µg/m³ **
04/07/2025	*65µg/m³ **
29/07/2025	*56µg/m³ **
31/12/2025	*56µg/m³ **
11/04/2026	*56µg/m³ **
2/06/2026	*90µg/m³ ***

** Caused by an exceptional circumstance and approved by the Minister.*
*** Subject to a current exceptional circumstance application.*

The PM_{10} exceedances can be seen in the full daily timeseries plot (Figure 2).

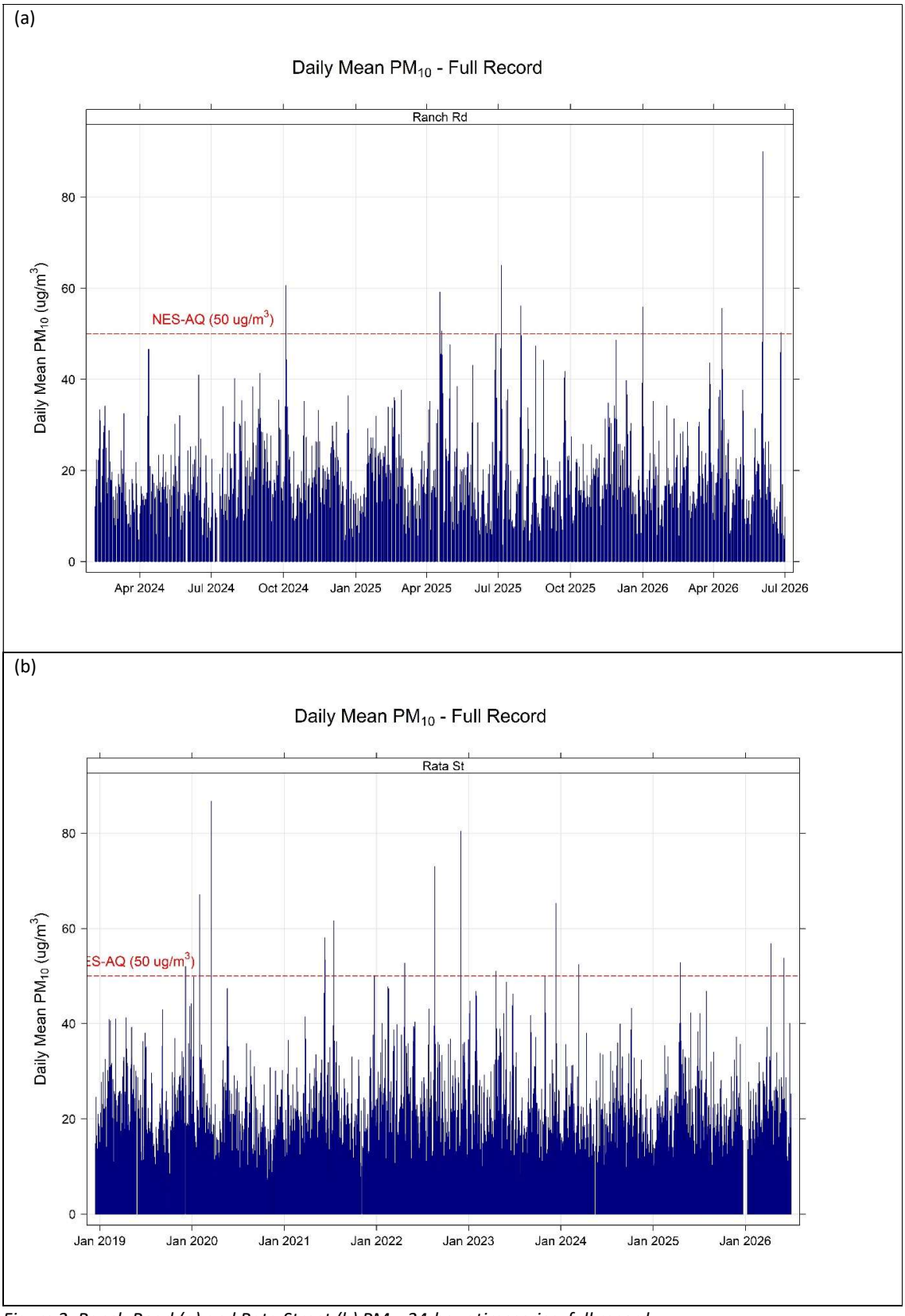


Figure 2. Ranch Road (a) and Rata Street (b) PM_{10} 24-hour timeseries, full record.

Like all ambient air quality monitoring sites located within urban areas, the full timeseries (Figure 3) from several Mount Maunganui monitoring sites exhibits considerable variability. The only real difference from other urban areas is the absence of a dominant wintertime domestic heating signature, such as that shown at the Regional Council monitoring site in Rotorua. Analysis shows that the opposite is often the case with the Mount Maunganui sites, where an elevated summer pattern can be statistically defined, which is a result of climatic/meteorological drivers, coupled with anthropogenic activity.

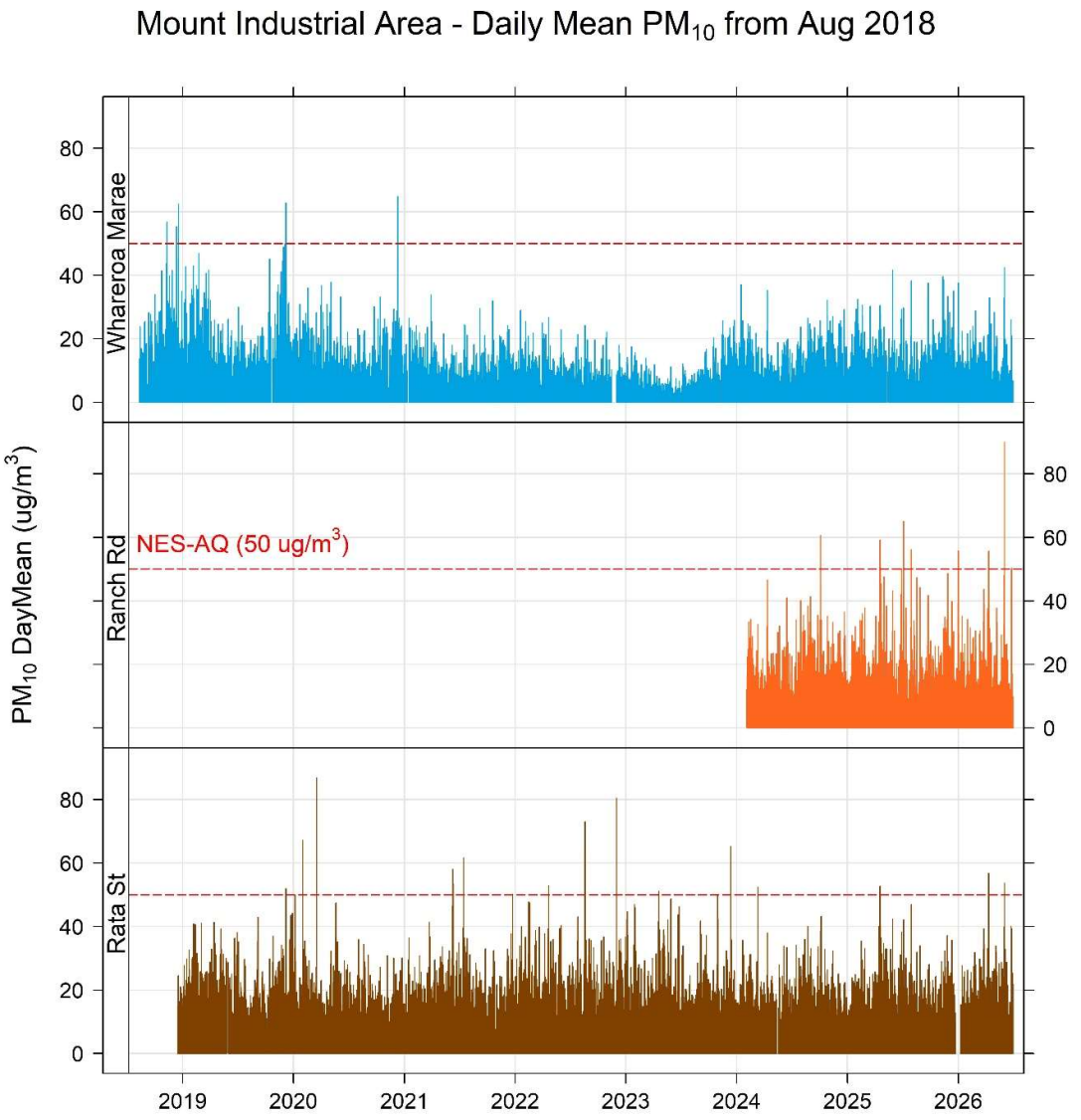


Figure 3. Full PM_{10} data for a selection of sites within the Mount Maunganui Airshed and Ranch Road.

Polar plots for the mean and maximum statistics for the full record of data at Ranch Road (Figure 4) show a dominant pattern whereby higher concentrations are experienced at the site when winds are from the southern quadrant, and typically when wind speeds are higher; this latter point aligns well with general particle transport theory. Other sectors of the compass do show occasions of elevated values, but winds from the coastal sector typically have low particle concentration loads in comparison.

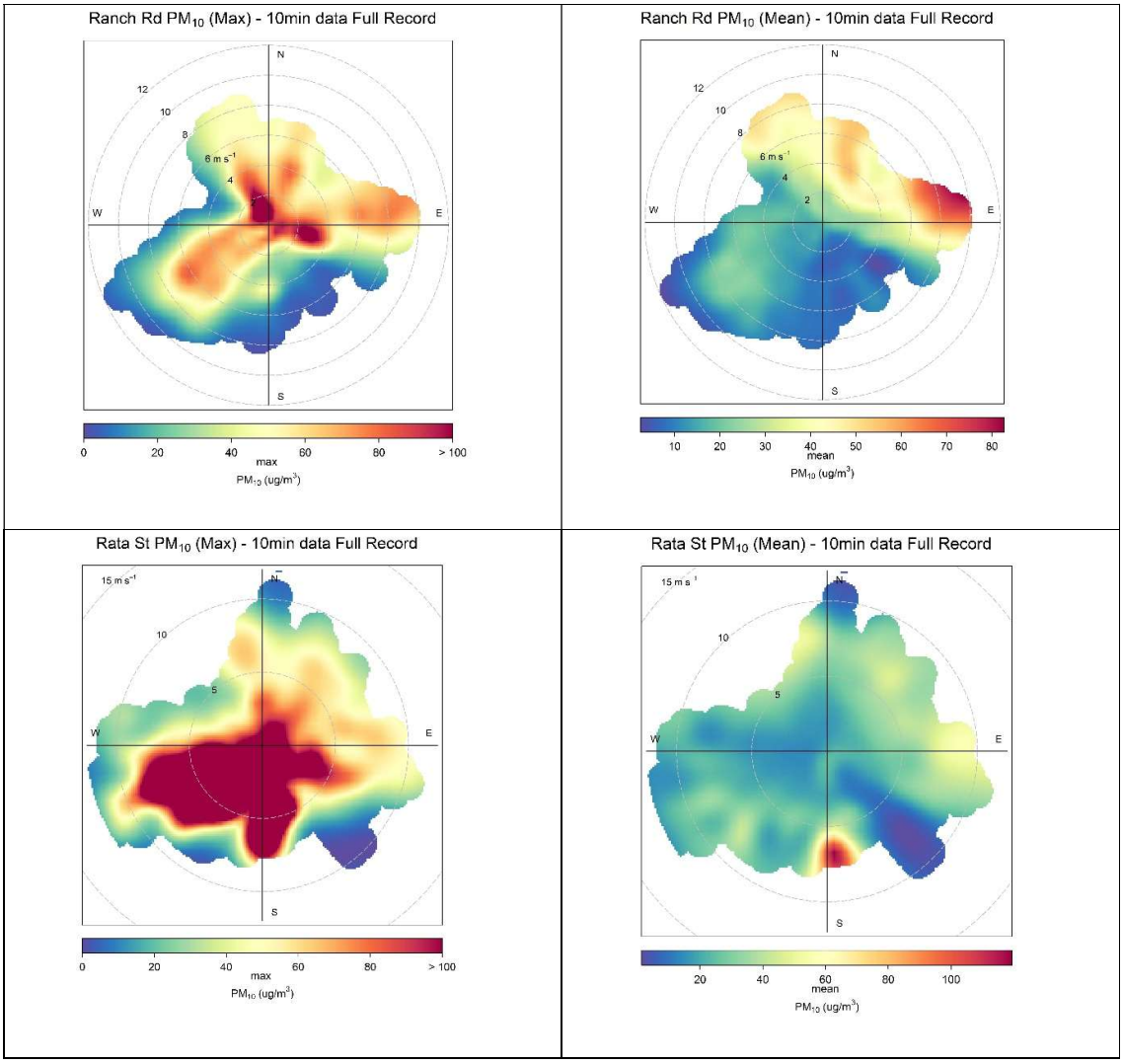


Figure 4. Full record polar plots for both the mean and maximum statistics for Ranch Road and Rata Street.

The spatial aspect can be seen in Figure 5 when the polar plot (from Figure 4) is overlaid on a recent aerial image. Major anthropogenic particle sources are to the south/south-west and coastal sources are in an arc from the north through to the east.

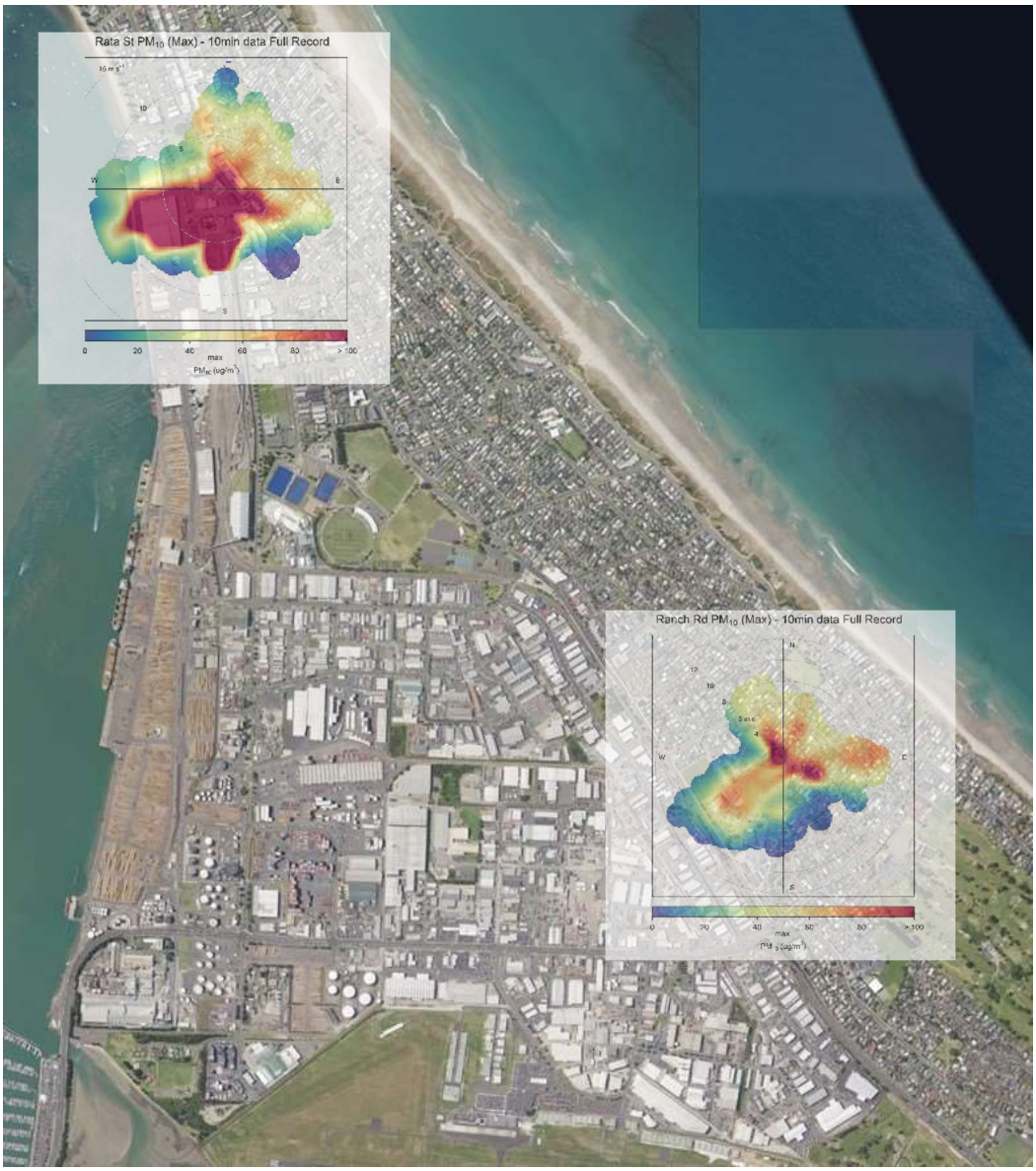


Figure 5. The Rata Street and Ranch Road full record polar plots overlaid on aerial imagery to show source locations.

2 June 2026 PM_{10} exceedance events

The following information builds on the background information in the previous section and is more specific to the PM_{10} exceedance events recorded at the Rata Street and Ranch Road monitoring stations on 2 June 2026.

Wind direction for the 2 June was investigated and shown to be within the northerly/northeasterly quadrant (Figure 6). This is a band that is away from the industrial sources of PM_{10}, and potential upwind sources are traffic roadways, residential areas, and the Bay of Plenty coastal environment.

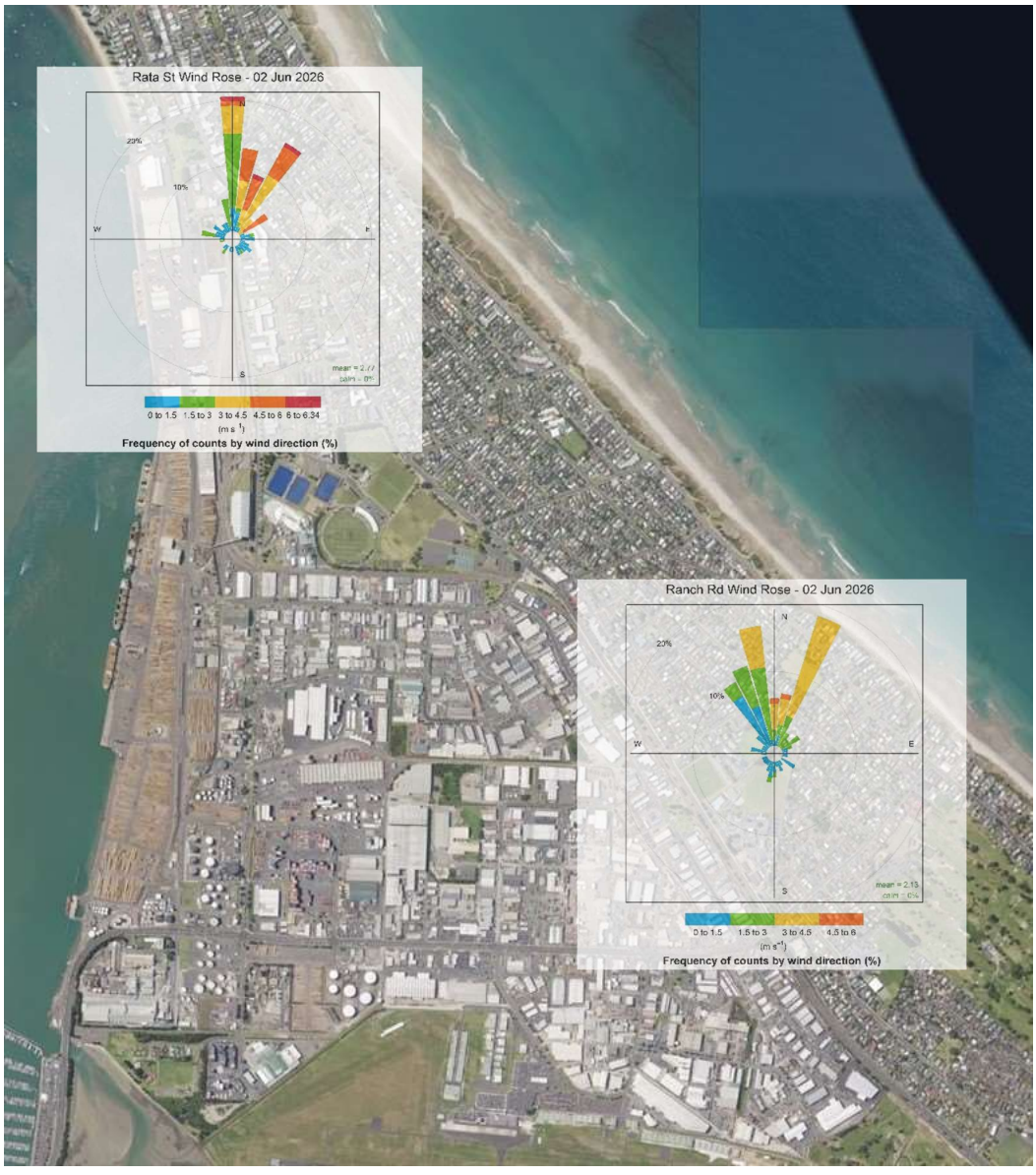
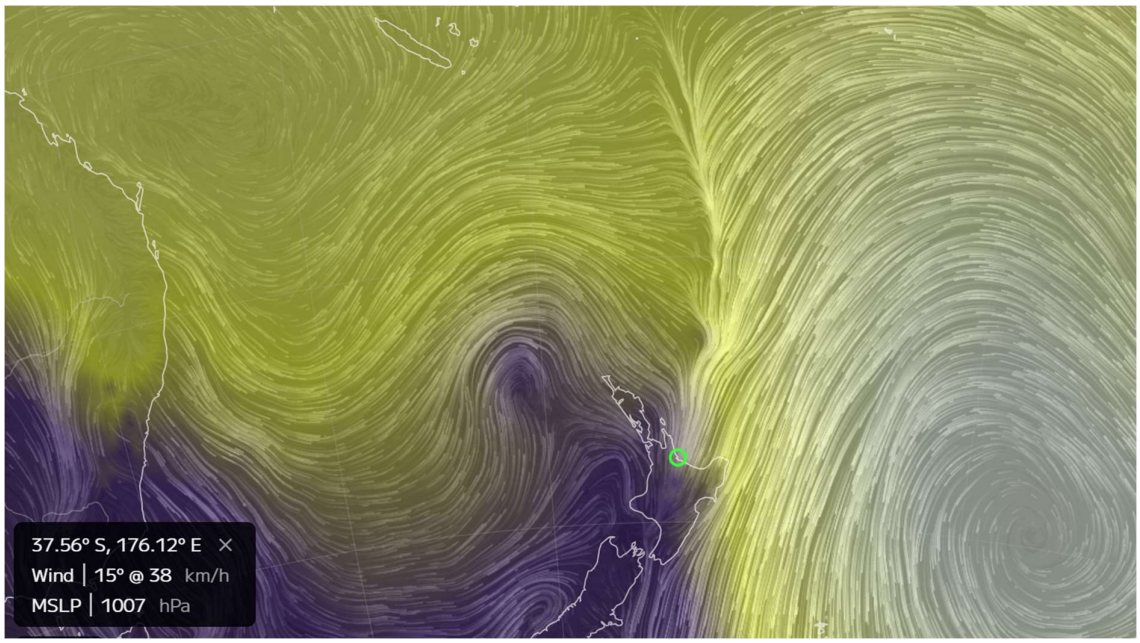


Figure 6. Windroses for 2 June 2026.

The wind flow over the Bay of Plenty is shown in the following maps (Figure 7). They show several important features and drivers related to the exceedance event. Firstly, the presence of a depression located to the east of the Bay of Plenty for several days, and a substantial anticyclone to the northwest of the North Island. The resulting wind flow over the Bay of Plenty is a predominately northerly/northeasterly one with a substantial fetch which creates a sea state which will be discussed further in this section.

(a)



(b)

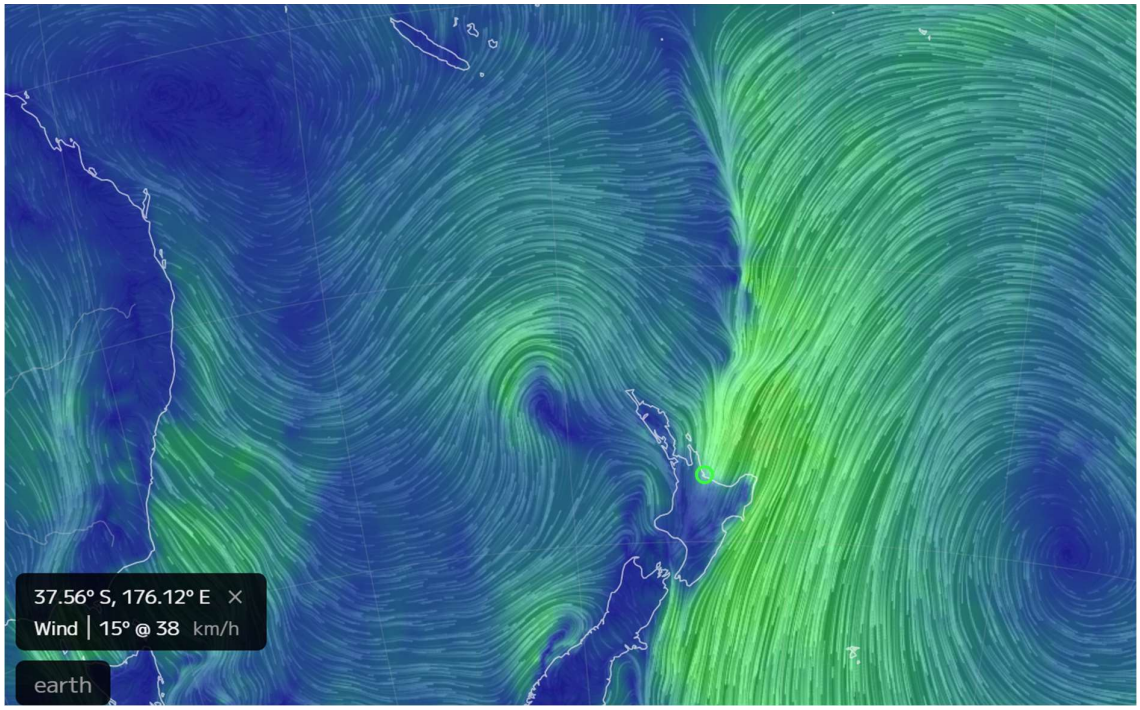


Figure 7. Modelled maps for the period of interest (a) surface pressure, (b) wind.

PM_{10} 24-hour datasets from the MMA sites and Ranch Road (Figure 8) show an increase in PM_{10} concentration over a period leading up to and including the date of the exceedance. It should be noted that individual site locations are not quite equidistant from the coastline (as shown in Figure 1), therefore the same general patterns of increasing concentrations may apply to all datasets, but site-specific concentrations will vary, which is commonly seen in widespread particulate event such as those associated with sea spray events.

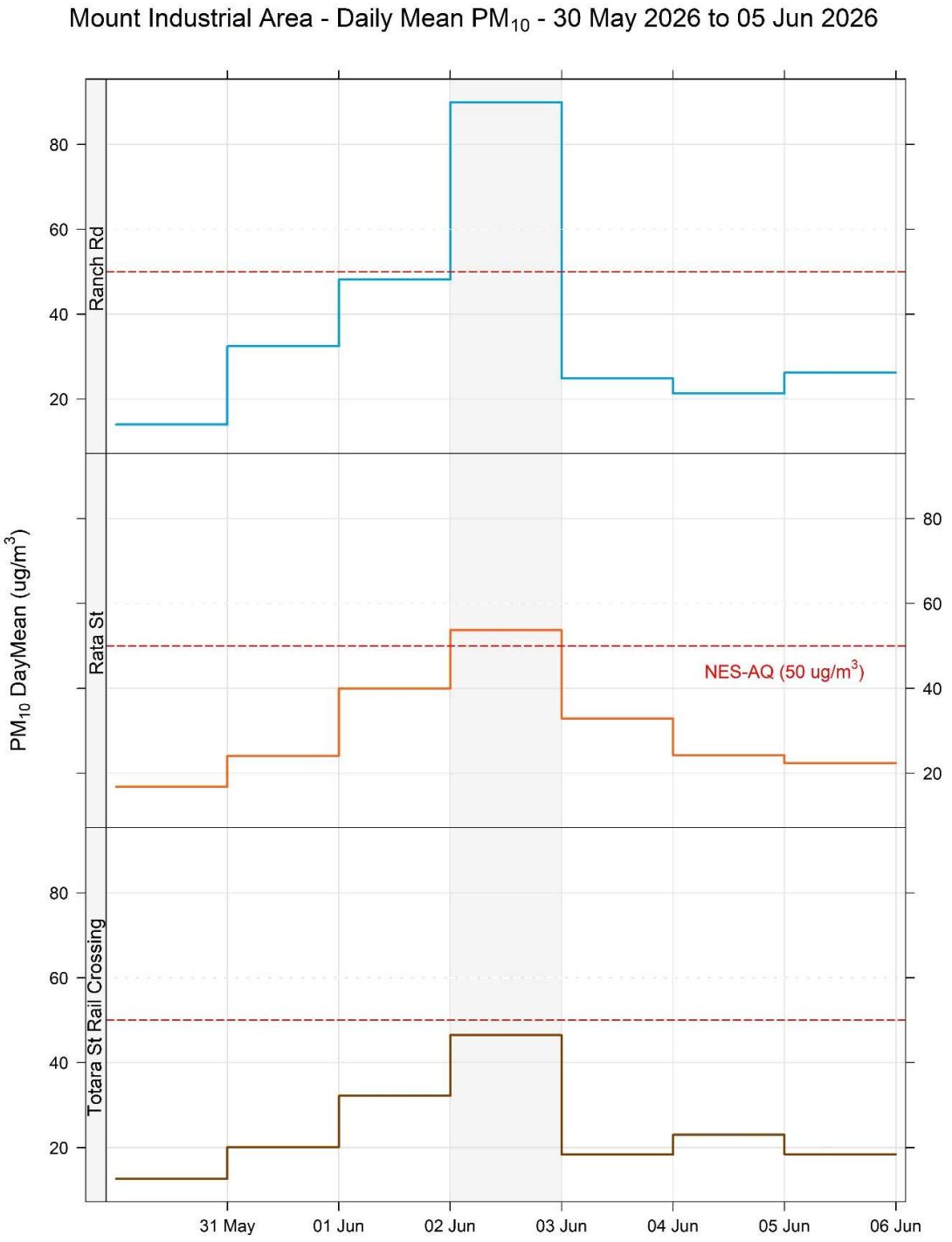
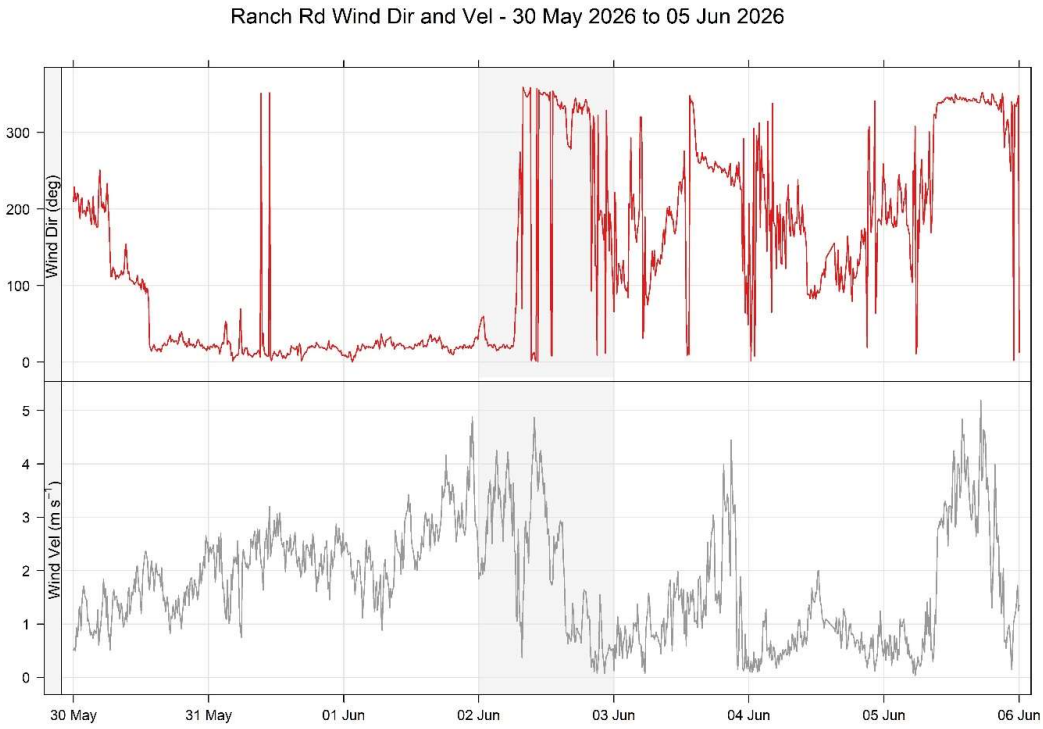


Figure 8. Daily PM_{10} plots for MMA sites Rata Street and Totara Street, and Ranch Road in BOPRA.

The Ranch Road timeseries for the event is shown in Figure 9. The plot shows a developing level on particle concentrations which peak during the day of the exceedance and then decline during a period of following precipitation. The northerly/northeasterly wind direction relates well with the location of the coastal environment. This northerly/northeasterly /increasing concentration relation is further demonstrated with the polar plots in Figure 10, with high values recorded when the easterly wind flow is present.



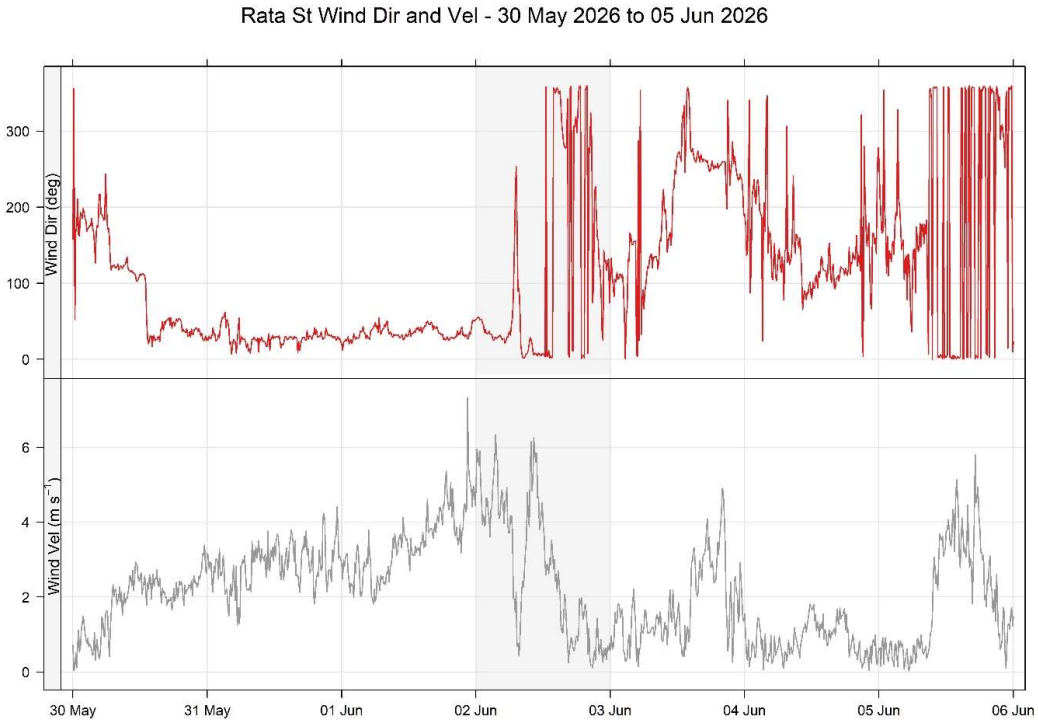


Figure 9. Wind speed and wind direction for 08 to 15 April 2026 at Rata Street and Ranch Road

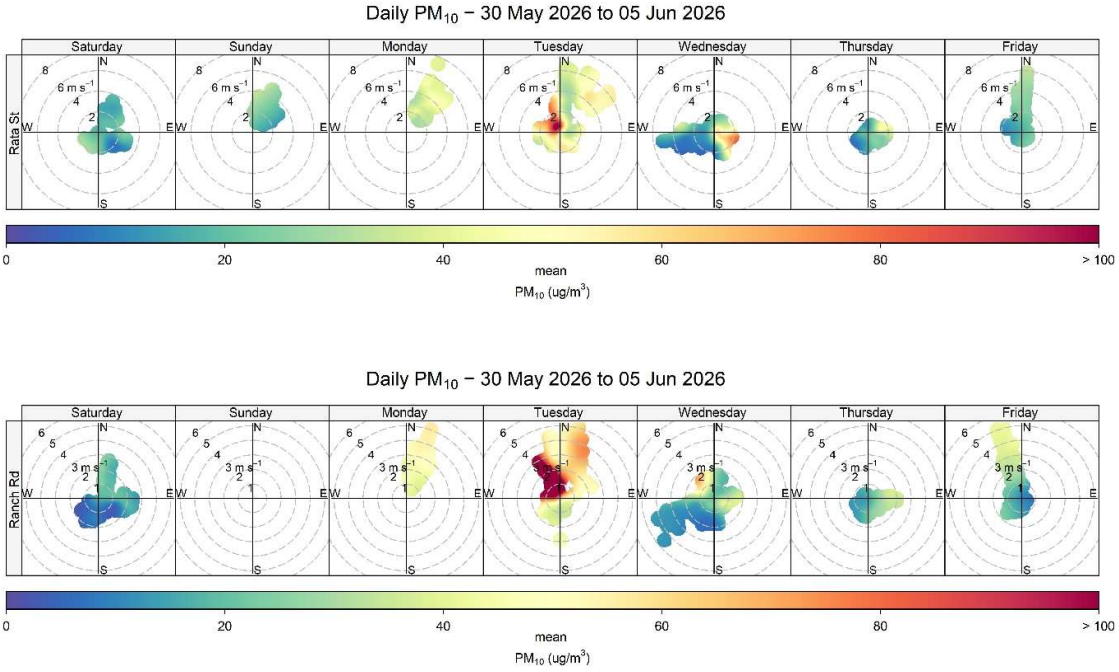


Figure 10. Polar plots for Rata Street (top) and Ranch Road (bottom) for 2 June event and adjacent days.

In addition to traditional air quality datasets, several other parameters have been checked as part of this investigation. Wave parameters from a wave buoy located within the Bay of Plenty, approximately 10km off the coastline, were also examined. As can be seen in Figure 11 and 12, during the time of the PM_{10} exceedance an elevated sea state event was present within the Bay of Plenty. This was elevated enough to result in areas of significant coastal shoreline erosion within the western Bay of Plenty. It is this elevated sea state (in combination with strong onshore winds) that generated a source of natural sea spray particles that persisted and accumulated over several days leading into and during the day of the exceedance. Note the effect of precipitation on the PM_{10} concentration, an effect of "scrubbing" particulate matter from the airmass which is well documented within the scientific literature.

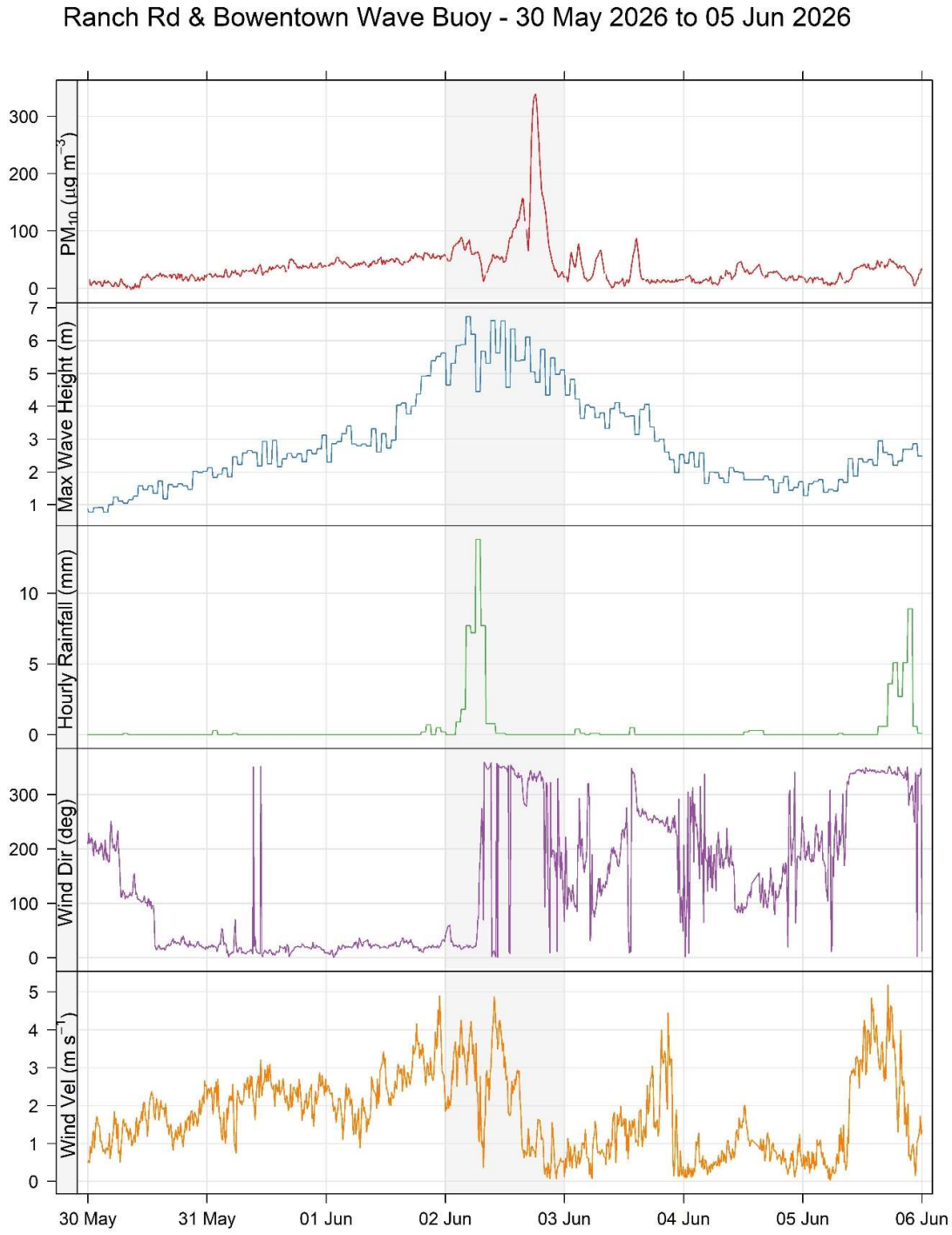


Figure 11. Ranch Road air quality and wave data for the event.

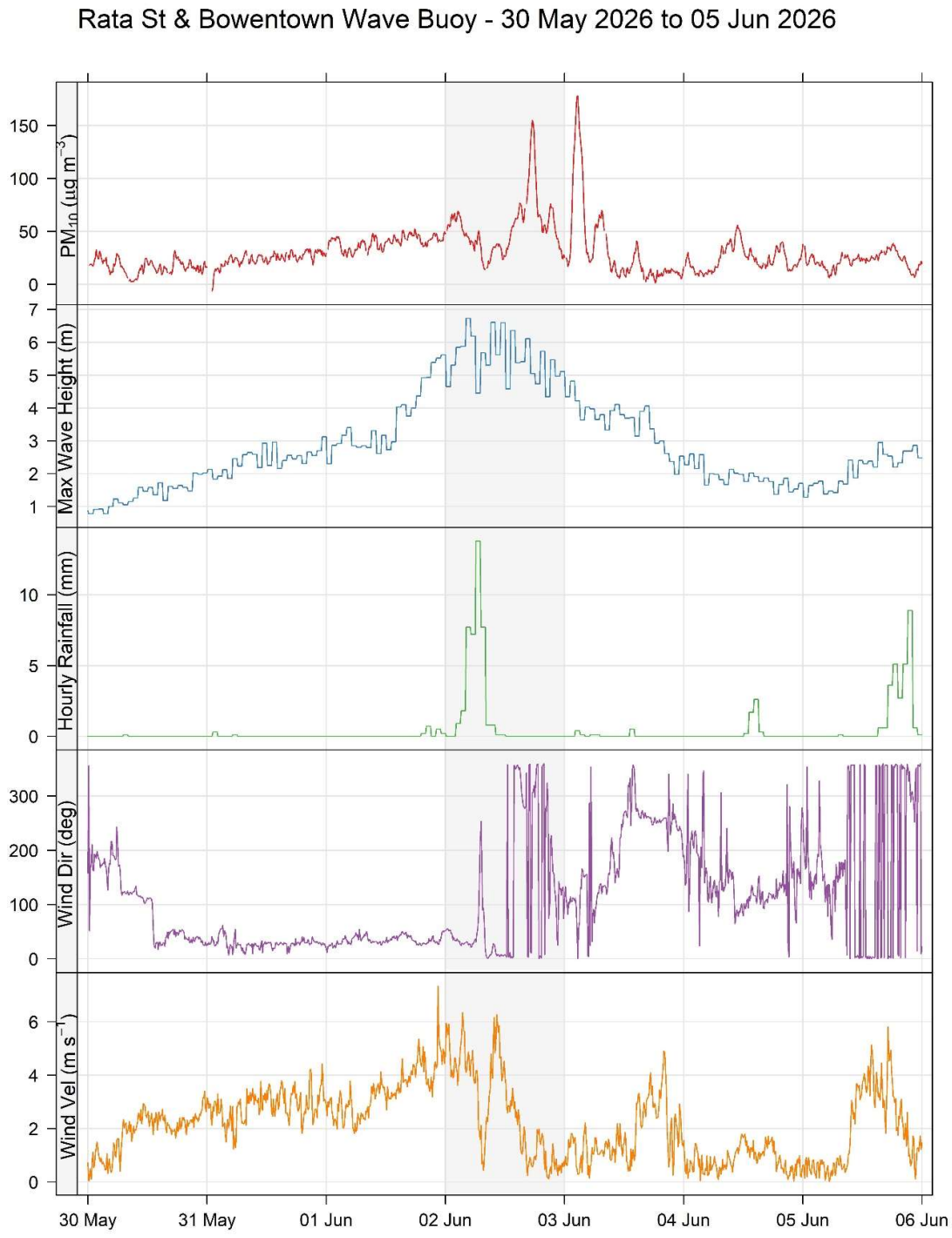


Figure 12. Rata Street air quality and wave data for the event.

Further Council Officer observations were made shortly after the events in the neighbourhood to the north of the site. These were focussed on any potential particulate source activities that could have given rise to a period of several days of elevated PM_{10} readings. No activities were identified and, furthermore, the Council's Pollution Hotline recorded no calls that could be related to such activities either.

SEM Analysis

For several earlier exceedances at both the Rata Street and Ranch Road monitoring sites, the Regional Council commissioned Scanning Electron Microscope (SEM) analysis of filter samples to support exceptional circumstances applications. However, the cost of this external analysis to the ratepayer, along with the subsequent staff time required for processing and evaluation, is considerable.

Therefore, given our growing datasets and improved understanding of the contributing causes of PM_{10} exceedances from specific meteorological events, such analysis is now typically commissioned only when the causes of an exceedance are less clear. The meteorological conditions recorded prior and up to the period 2 June closely resemble those that accompanied the 14 earlier events at Rata Street and Ranch Road that the Minister accepted as exceptional circumstances. Accordingly, and taking the above factors into account, no SEM analysis was undertaken.

Conclusion

The information presented within this supporting document demonstrates a pattern of recorded ambient air quality and meteorological data, on 2 June (and preceding days) that is in line with the influencing factor of a natural coastal environment source (sea spray-derived particles). This presence of natural particles resulted in concentrations of PM_{10} recorded at the Rata Street and Ranch Road monitoring sites that exceeded the 24-hour standard of 50µg/m^3 on 2 June and an increase in PM_{10} concentrations in the preceding days, with the entire PM_{10} "event" being the result of an elevated sea state. This phenomenon appears to be not uncommon as our datasets (and analysis) continue to grow and develop as the Council commits significant resources to managing the air quality within the Mount Maunganui area, especially within the MMA.

