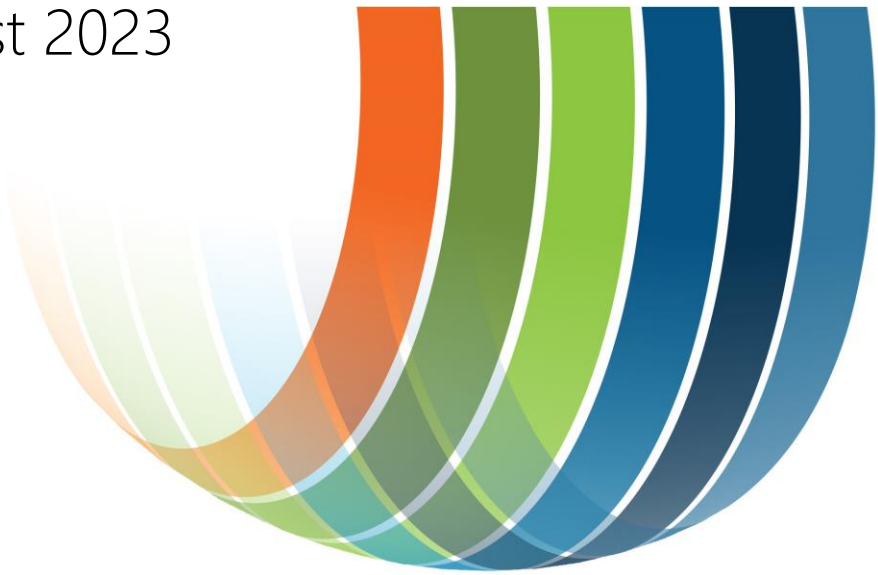
Peak population study

for Thames-Coromandel District Council

August 2023



Infometrics

Economics put simply

Authorship

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Executive summary

Introduction

Infometrics has been commissioned by Thames-Coromandel District Council (TCDC) to analyse Thames-Coromandel's peak population over the 2022/23 summer period. The District experiences a strong and distinct peak in population over this period as holidaymakers spend time and money in the District. TCDC has commissioned peak population studies in the past, and this report represents a continuation of previous reports, most recently for the 2020/21 summer.

Strong tourism recovery before the storms…

The 2022/2023 summer was notable for being the first in which international visitors could freely enter and exit New Zealand since the start of the COVID-19 pandemic in March 2020. New Zealand reopened its borders in mid-2022 and international visitor numbers have steadily recovered since. Tourism expenditure across Coromandel RTO (including Thames-Coromandel and Hauraki districts) showed signs of a solid recovery heading into the 2022/23 summer. Tourism expenditure in November 2022 was 36% higher than November 2021, and December 2022 was 3% higher than December 2021. However, after storm events, spending in January 2023 was down 29% and February 2023 down 33%.

…then the wettest summer on record

The summer of 2022/23 in Thames Coromandel was marked by a sequence of four severe weather events including Cyclone Hale and Cyclone Gabrielle. The events were disruptive to summer recreation in their own right, however, the cumulative effect of a close-coupled series of heavy rain was devastation of infrastructure. Over the December-February summer period, Thames received a total of 592mm of rain, and Whitianga 1,053mm. This is the wettest summer on record for both towns, with records going back as far as 1936 at Thames and 1941 for Whitianga.

Peak population on New Year's Eve

The peak day for population in Thames-Coromandel over the 2022/23 summer was the 31st of December, which is consistent with previous peak population studies. The timing of the peak population is indicated by cell phone data and corroborated by peaks in water supply, wastewater, and traffic volumes around the peak day. Cell phone data, which records the daily population at 3am, indicates a peak on the 1st of January, which is consistent with the population peaking for NYE celebrations and visitors staying in the district overnight. Water use in Thames-Coromandel peaked on the 31st of December, indicating a peak population causing peak consumption. Wastewater processing experienced a broad peak level over the 28th of December to 2nd of January.

Population peaks in East Coast settlements

Water supply and wastewater data shows that population peaks occurred in a number of settlements, predominantly on the East Coast of Thames-Coromandel. Peaks were measured by comparing peak water supply and wastewater on the 31st of December

(water supply) and 1st of January (wastewater) to the start of December. Water supply peaks were greatest in Pauanui (158%), Onemana (92%), Whitianga (61%), Tairua (57%), and much lower in Thames (16%). Wastewater peaks were greatest in Onemana (232%), Whitianga (42%) and to a lesser extent Coromandel (34%). The size of the peak can differ depending on how it is measured, as water supply and wastewater networks often have differing coverage areas. Data quality issues prevented analysis for some settlements.

Peak population was 2.22 times larger

Cell phone data indicates that the population in the Coromandel RTO area swelled on the peak day to 2.22 times the normal population. The population grew from 63,000 at the start of December 2022 to 143,500 on NYE. This cannot be apportioned between Thames-Coromandel or Hauraki Districts, but it is likely that most of this peak took place in Thames-Coromandel given the particularly low number of permanent residents per dwelling. Previous peak population studies found the peak population on NYE to be 116,300 (2020/21), 126,300 (2016/17), 120,874 (2009/10), 137,700 (2007/08) and 142,375 (2003/04).

Occupancy jumped from 1.5 persons per dwelling to 3.9

Across the Coromandel RTO area, occupancy is relatively low at 1.5 residents per dwelling, reflecting the high prevalence of unoccupied holiday houses in the area. This occupancy rate swelled to 3.9 people per dwelling on the peak day of the 31st of December 2022. Given the higher prevalence of holiday houses in Thames-Coromandel, it is likely that occupancy was even higher in Thames-Coromandel, especially in settlements on the North and East of the peninsula. Conversely, water supply and wastewater data show no increase in demand associated with NYE in Thames township.

Peak population fell quickly in January, and stayed away

Forecasts of impending poor weather over 4-6 January appears to have encouraged visitors to leave the district early, with Westbound (outbound) traffic flows over SH25A tracking 9% higher over 1-5 January than in previous years, despite Eastbound (inbound) traffic over 27-31 December being only 2% higher.

Briefer peak population

Overall, the peak population was briefer than previous summers. In 2021/22, the daily population across Coromandel RTO exceeded 100,000 for 15 days continuously around NYE; however, this level was only exceeded for ten days in 2022/23. The population exceed 100,000 again for Auckland Anniversary weekend in 2021, however, there was little increase in population for Auckland Anniversary weekend in 2023 given that it coincided with severe weather.

Introduction

Infometrics has been commissioned by Thames-Coromandel District Council (TCDC) to analyse Thames-Coromandel's peak population over the 2022/23 summer period. The District experiences a strong and distinct peak in population over this period as holidaymakers spend time and money in the District. The peak in population generates additional demand for council services which requires special consideration in council planning and operations. TCDC has commissioned peak population studies in the past, and this report represents a continuation of previous reports, most recently for the 2020/21 summer.

The summer of 2022/23 in Thames Coromandel was marked by a sequence of four severe weather events. The events were disruptive to summer recreation in their own right, however, the cumulative effect of a close-coupled series of heavy rain was devastation of infrastructure across the district.

The focus of this report is the Thames-Coromandel District, however, some of the data coverage varies, with some data available at a settlement level, and other data covering the Coromandel Regional Tourism Organisation (RTO) area which includes both the TCDC area and Hauraki District. Differences in data coverage mean that the focus of this report is understanding the 2022/23 peak population, with limited comparison to previous peak population reports.

Key events of summer 2022/23

The summer of 2022/23 in Thames Coromandel was marked by a sequence of four severe weather events. The events were disruptive to summer recreation in their own right, however, the cumulative effect of a close-coupled series of heavy rain was devastation of infrastructure across the district. The events were:

- Heavy rain over 4-6 January 2023, predominantly on the East Coast with 120mm of rain falling in Whitianga and 19mm falling in Thames.
- Ex tropical Cyclone Hale over 9-11 January, with 93mm falling in Thames and 141mm falling in Whitianga.
- Severe weather over 26-31 January (Auckland Anniversary weekend), with 158mm falling in Thames and 236mm in Whitianga.
- Cyclone Gabrielle over 11-13 February, with 194mm falling in Thames and 234mm in Whitianga.

Over the December-February summer period, Thames received a total of 592mm of rain, and Whitianga 1,053mm. This is the wettest summer on record for both towns, with records going back as far as 1936 at Thames and 1941 for Whitianga.

Weather disruption throughout the summer period saw 27,000 event tickets cancelled, most notably 10,000+ tickets for the Greenstone Concert in Whitianga.

Heavy rainfall forced widespread road closures throughout the district, most notably SH25A and the alternative Tapu-Coroglen Road. SH25A was subject to intermittent closures and restrictions over 11-27 January 2023, and was fully closed on the 27th of January. SH25A is not expected to reopen until early 2024.

Analysis of summer 2022/23

Resident population of 33,700

Thames-Coromandel District had 33,700 residents in 2022, with the wider Coromandel RTO accounting for 55,900, including 22,200 in Hauraki District (Table 1). Residents are defined as having their primary residence within the area – this means that owners of holiday houses in the district are not counted as residents. Some holiday house owners may have moved to permanently occupy their holiday houses as they retire or adoption of remote working during the pandemic made residing in Thames Coromandel more suitable. In this case, the holiday house owners would be counted as growth in the resident population, indicating their area of residence in the Census or in the address provided for government services, such IRD, MSD or health.

Table 1

Population per dwelling

Source: Infometrics, based on Stats NZ and Data Ventures

Area	Dwellings	Residents population dwelling (2022)	Peak population per dwelling (2022/23)
Thames-Cormandel District	27,270	1.2	
Hauraki District	9,861	2.3	
Coromandel RTO	37,131	1.5	3.9

The two districts differ substantially in the number of dwellings, and residents per dwelling. In Thames-Coromandel, holiday houses are far more prevalent, with 49% of dwellings estimated as unoccupied at any one time, compared to 14% in Hauraki, based on the 2018 Census. The higher number and proportion of unoccupied dwellings in Thames-Coromandel means that the majority of Coromandel RTO's peak population is likely to be accommodated in Thames-Coromandel. However, the distribution of the peak population within the RTO area cannot be quantified for 2022/23 as available cell phone data covers the RTO area overall without specific insights on Thames-Coromandel district.

Tourism recovery a long time coming

Besides extreme weather, the 2022/2023 summer was notable for being the first in which international visitors could freely enter and exit New Zealand since the start of the COVID-19 pandemic in March 2020. New Zealand reopened its borders in mid-2022 and international visitor numbers have steadily recovered since. Domestic tourism has also been affected by the border reopening. Open borders provided more international options for New Zealanders to travel to, in effect heightening competition for domestic destinations such as Thames Coromandel. The 2021/22 summer had been marked by

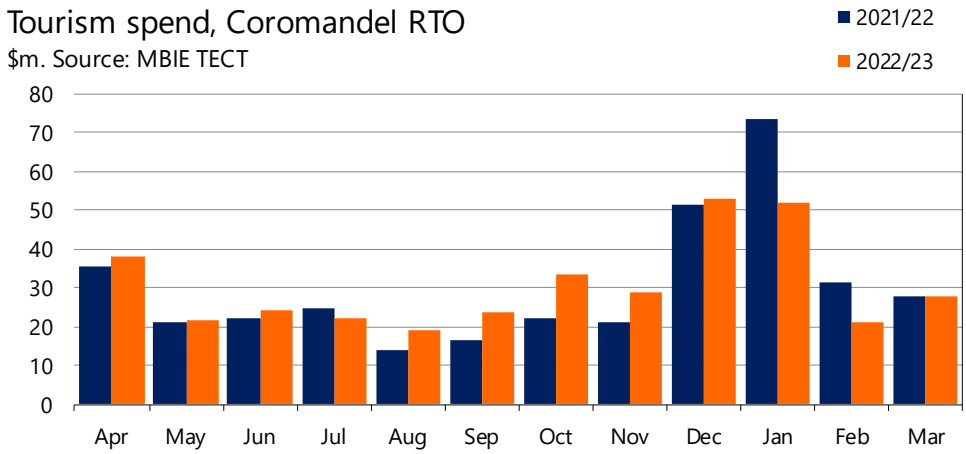
the Omicron outbreak and associated traffic light restrictions, which dampened domestic tourism activity, especially events. Tourism statistics nationally revealed that both international and domestic tourism activity bounced in the 2022/23 summer, compared to 2021/22.

Analysis of the 2020/21 summer peak in Thames Coromandel found that the district experienced a boost in terms of peak and average tourism, compared to pre-pandemic. The Coromandel RTO area has historically been a popular destination for New Zealanders, with 71% of tourist electronic card spending coming from domestic visitors. This meant that the Coromandel had little to lose from the lack of international visitors, and a lot to gain from increased domestic visitation, especially being proximate to the large population of Auckland, as people sought out destinations within driving distance.

Strong tourism spending recovery, before the storms

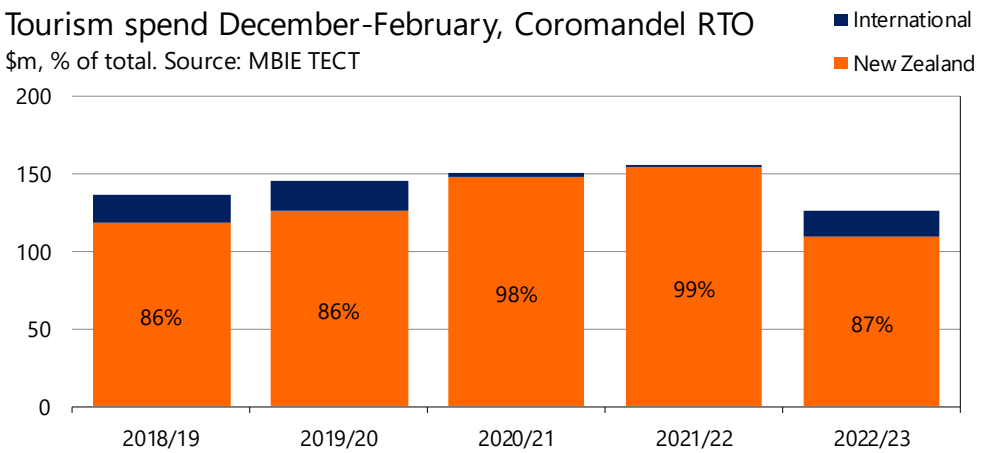
Tourism expenditure in Coromandel RTO showed signs of a solid recovery heading into the 2022/23 summer. Tourism expenditure in November 2022 was 36% higher than November 2021, and December 2022 was 3% higher than December 2021. However, after storm events, spending in January 2023 was down 29% and February 2023 down 33%. Graph 1 highlights how similar spending in December 2022 was to December 2021, and how much spending fell in January and February 2023 relative to 2022.

Graph 1



Graph 2 shows that international spending recovered strongly, with $17m spent over the December-February 2022/23 period, compared to $20m in 2019/20 (pre-pandemic). The hit to spending in the 2022/23 summer saw total spending well short of both pre- and post- pandemic summers. Domestic visitors accounted for 87% of tourist spending in the 2022/23 summer, comparable to the 86% recorded in 2018/19 and 2019/20.

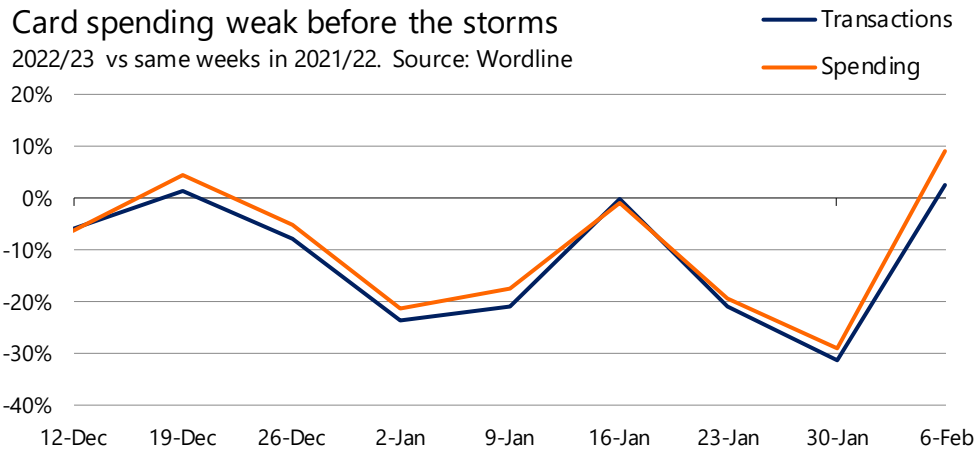
Graph 2



Overall retail spend down 12%, weak before storms

Overall retail spending in Thames Coromandel fell 12% in the 2022/23 summer compared to 2021/22, based on Wordline data for the core nine-week summer period around Christmas and NYE (Graph 3). Overall retail spending includes spending by residents and tourists in the district. The volume of transactions followed a similar trend, down 13%, implying that the average transaction value was relatively unchanged.

Graph 3



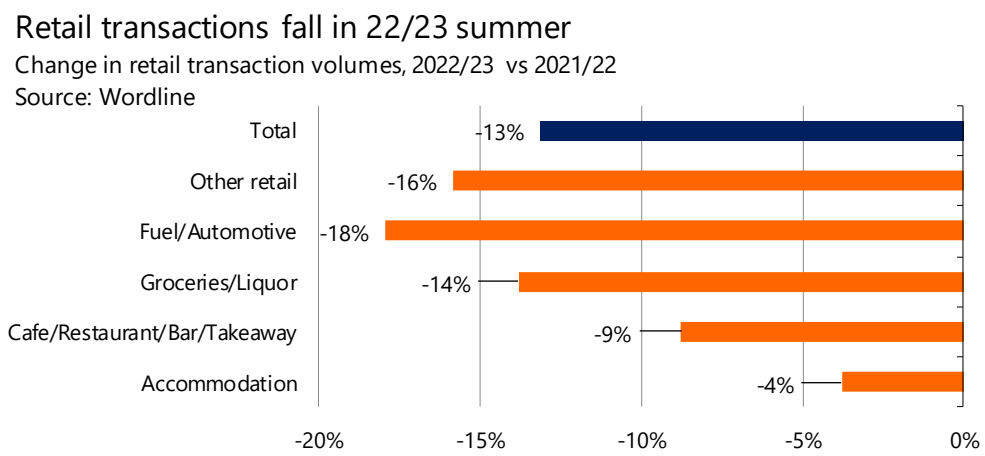
Of note, spending and transaction volumes were weak even before the district faced an onslaught of severe weather. Spending in the three weeks ending 26th December 2022 was down 3% compared to the same weeks in 2021, and transaction volumes were down 3%. Spending in the two weeks ending 9th January 2023, encompassing the NYE period, was down 20% compared to the same weeks in 2022, and transaction volumes were down 23%. Spending and transaction volumes rose in the week to 16th January 2023, to sit in line with 2022 levels, potentially reflecting some catch-up or clean-up purchases following heavy rain on the 4-6th January and Cyclone Hale on the 9-11th

January. Spending fell even lower at the end of January, with spending in the week to 30th January 2023, including Auckland Anniversary weekend, down 29% from 2022.

Retail transaction fall across all store types

Electronic transactions fell across all five retail store types, led by an 18% fall in transactions at fuel and automotive stores (Graph 4). Transactions fell 14% at grocery and liquor stores, and 9% at cafes, restaurants, bars and takeaways.

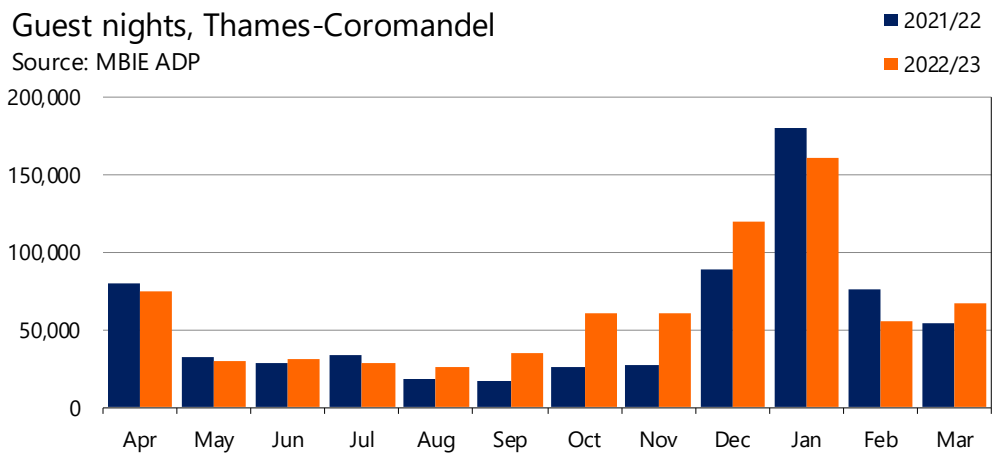
Graph 4



Accommodation recovering well before storms

Guest nights at commercial accommodation also showed strong signs of recovery before the series of storms. Guest nights in December 2022 were 35% higher than December 2021 (Graph 5). Guest nights fell 10% in January 2023, and 26% in February 2023, compared to 2022. No longitudinal guest night data is available to compare pre- and post- pandemic.

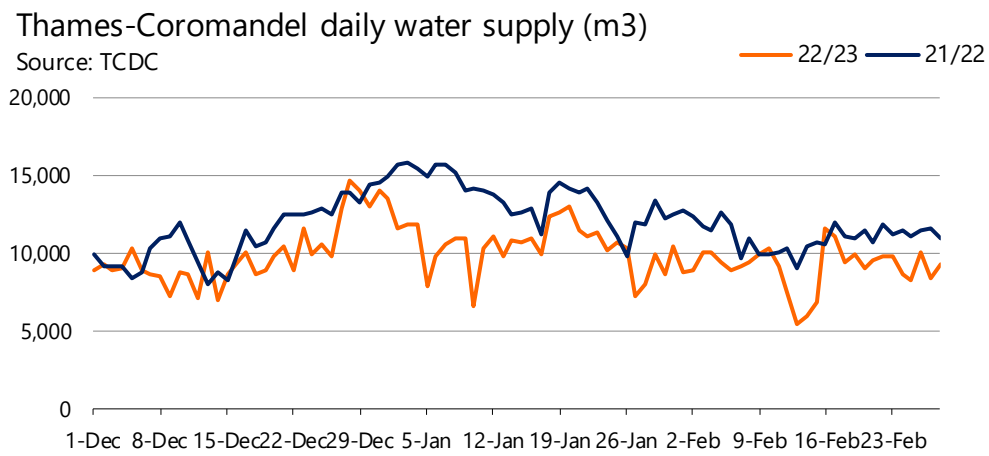
Graph 5



Water supply a proxy for peak population

Water supply data is provided by TCDC, and measures either water extracted from raw sources such as rivers or bores, or water treated through treatment plants. This broadly indicates usage and in turn population, however, extreme events such as storms can disrupt this. For example, pipe breakages due to landslides can temporarily increase water supply volumes, and power cuts can disrupt data collection. Disruption from extreme weather appears to be related to lower water usage from the 5th of January onwards (Graph 6). Water usage in 2022 was tracking lower than 2021 throughout much of December, before the severe weather events, which could indicate water conservation or leak reduction efforts implemented during the year.

Graph 6



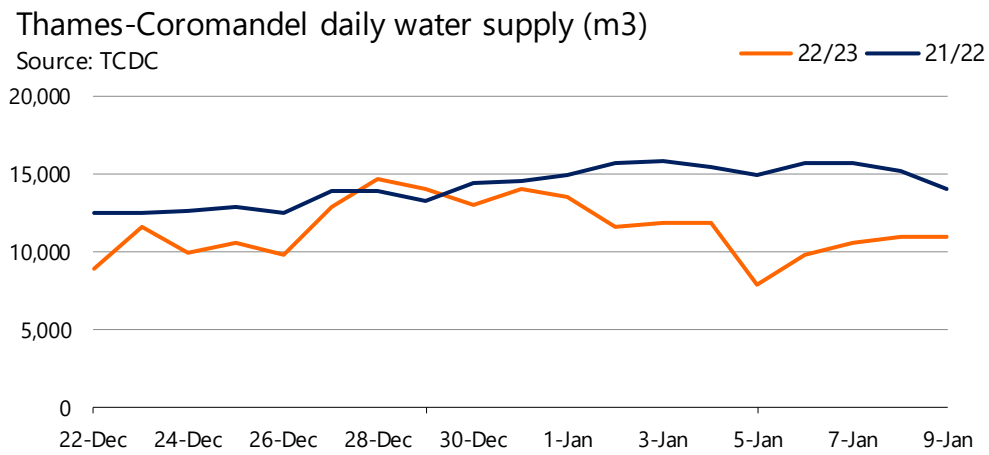
Data consistency issues prevented analysis of Coromandel, Hahei, Matarangi and Whangamata water supply.

Peak water supply on 31st of December

Peak daily water use of 14,000 m3 across the district (based on sites with consistent data) was recorded on the 31st of December 2022 (Graph 7). Districtwide water use peaks were also recorded on the 28th and 29th of December 2022, driven by fluctuations in Whitianga's supply, which were inconsistent with wastewater volume peaks, suggesting they reflected day-to-day fluctuations in water supply, rather than a population peak.

Water use on the peak day of 31st December 2022 was 3% lower than the same day in 2021, and 9% lower on the 1st of January. Water use started to fall from the 2nd of January 2023, to 26% below the same day in 2022, suggesting that visitors took heed of the forecast for impending poor weather and chose to leave the district earlier than usual.

Graph 7



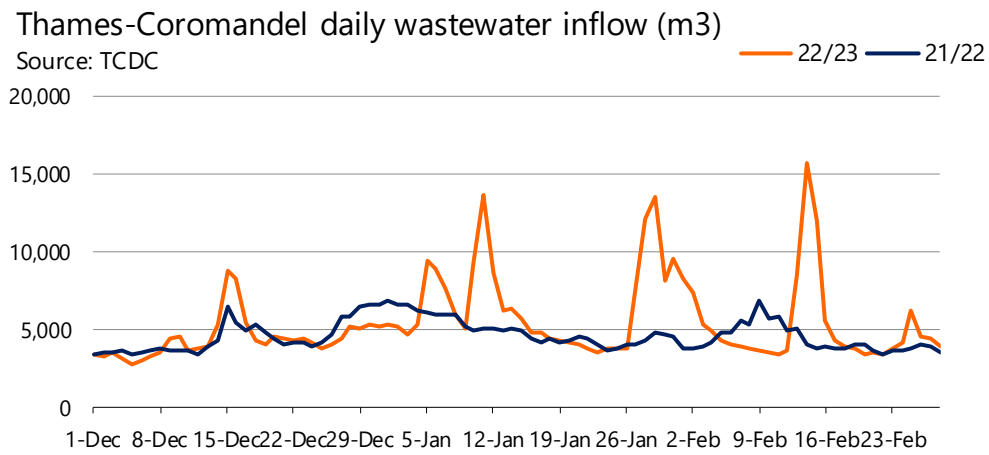
Water supply peaks greatest on East Coast

The magnitude of water supply peaks varied around the district, but were generally higher on the East Coast. Thames water use on the 31st of December 2022 was 16% higher than the average of the first week of December. Whitianga's use was 61% higher, Tairua 57%, Pauanui 158%, Onemana 92%. Peak use was lower in the 22/23 summer across Tairua, Pauanui and Onemana.

Wastewater proxy for peak population

Wastewater data is provided by TCDC, and measures the volume of wastewater processed at treatment plants. This broadly indicates usage and in turn population, however, infiltration from rainwater can cause brief, significant increases in wastewater volumes. This means that wastewater volumes are not indicative of population during heavy rain events, which means it is of limited value as an indicator for the 22/23 summer, particularly in January and February 2023. Peak wastewater flows in excess of 13,000m^3 across the district (based on sites with useable data) were recorded on the 11th of January 2023, 29th of January and 14th of February, all corresponding to heavy rain events (Graph 8).

Graph 8

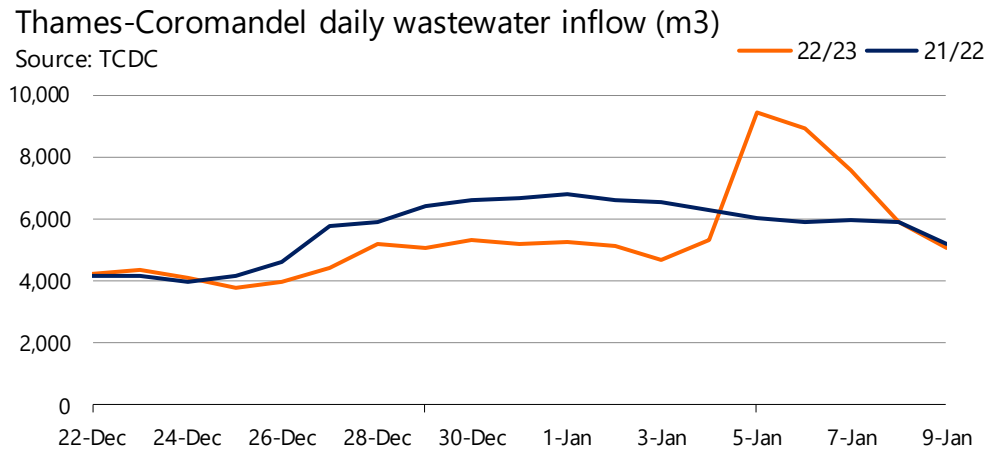


Data quality issues prevented analysis of Pauanui/Tairua, Matarangi, Cooks Beach wastewater volumes. Thames experienced rainfall-influenced inflows in the first half of December which prevented a baseline from being established for analysis.

Peak wastewater over 28th December to 2nd January

Wastewater volumes were tracking similarly to the 21/22 summer in the lead up to Christmas Day (Graph 9). However, after Christmas, wastewater flows grew more slowly than in 21/22, and reached a broader, flatter peak over the 28th to 2nd of January, instead of the clear peak seen on 1st of January 2022. Previous peak population reports consistently identified the 1st of January as the peak day for wastewater volumes, reflecting a peak of population on New Years Eve and the lag between wastewater generation (e.g. toilet use) and volumes arriving at wastewater treatment plants. Wastewater volumes on the 31st of December 2022 were 66% higher than the first week of December, compared to a 95% increase in the 2021/22 summer.

Graph 9



Wastewater volumes rose rapidly from the 4th of January 2023, reflecting the impact of heavy rain infiltrating wastewater networks. It is not possible to make inferences about the peak population later in January due to rainwater infiltration associated with extreme weather events.

Wastewater peaks greatest on East Coast

The magnitude of wastewater volumes peaks varied across the district, but were highest on the East Coast. Coromandel wastewater volumes were 34% higher on the 1st of January 2023 than the first week of December 2022. Wastewater volumes were 42% higher in Whitianga, and 232% higher in Onemana.

The trend towards a broadening of the population peak was evident across the four settlements with usable wastewater data. Volumes at Coromandel town were 17% higher in the week ending 29 December, and 7% higher on New Years Day. Volumes at Whitianga were 22% higher in the week ending 29 December and 11% higher on New Years Day. Onemana recorded significantly higher flows before New Years, up 58% in the week to 29 December and only 8% on New Years Day.

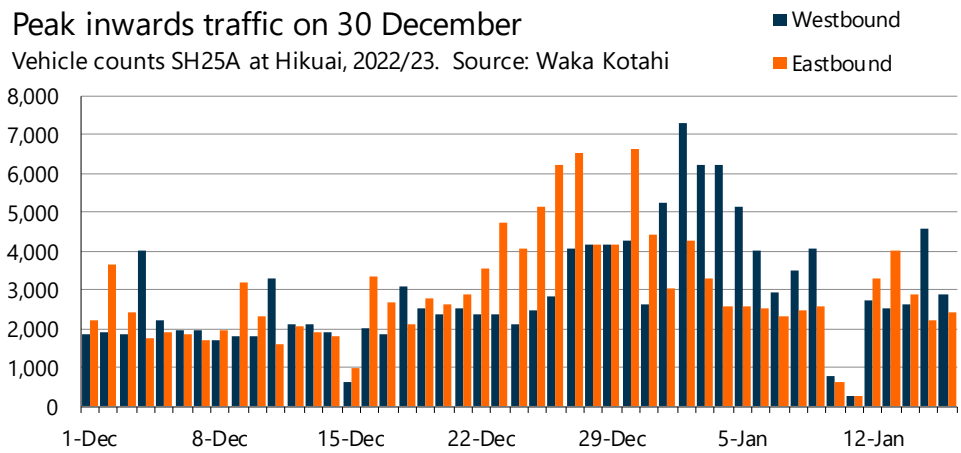
Peak state highway traffic inflow on 30th December, outflow on 2nd of January

Limited data was available to compare traffic volumes between summers. Waka Kotahi NZ Transport Agency (Waka Kotahi) continually monitors traffic on SH25A near Hikuai, however this site experiences intermittent data issues. This is the only site within Thames Coromandel District where Waka Kotahi continuously monitors traffic counts. SH25A was severely affected by this summer's extreme weather, with brief closure on the 11th of January during Cyclone Hale, and various restrictions from the 15th of January until its complete closure of the 27th of January. No traffic counts are available beyond the 16th of January.

TCDC records traffic counts for transport planning purposes, but their typically mobile traffic counters are rarely recording in the same location year-to-year to enable a measure of the peak population.

Traffic data from Waka Kotahi for the 2022/23 summer shows that the peak day for travel into the Thames-Coromandel's East Coast (eastbound) was the 30th of December, with 6,650 vehicles. The peak eastbound day tends to range between the 27th and 30th of December, depending on scheduled events and which day of the week public holidays fall on. The peak day for vehicles leaving the East Coast (westbound) was the 2nd of January, with 7,300 vehicles. The 2nd of January is typically the peak day for westbound traffic, and westbound traffic exhibited a typical trend until the 6th of January, after which traffic volumes fell considerably below previous years.

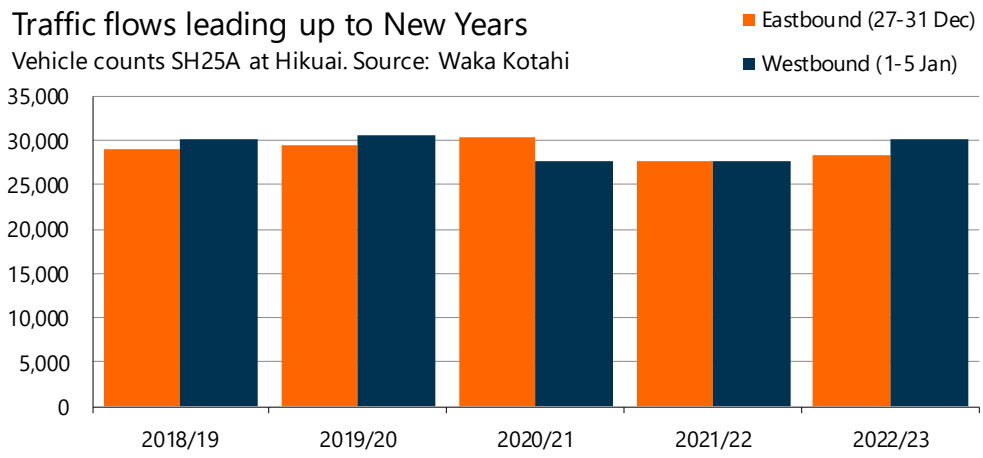
Graph 10



Quicker traffic exodus after NYE

Traffic flows on SH25A typically exhibit a stronger eastbound flow in between Christmas and NYE, followed by steadier extended westbound flow following NYE. This reflects that a portion of people arriving in the leadup to NYE choose to stay for several weeks and stagger their departures throughout January. Looking at the five days prior to NYE and five days following (Graph 11), the westbound flow over 1-5 January was noticeably higher than the eastbound flow over 27-31 December, suggesting that visitors rushed their exit of the Coromandel East Coast in response to impending poor weather. Westbound traffic over 1-5 January 2023 was 9% higher than the same period in 2022, despite eastbound traffic over 27-31 December only being 2% higher.

Graph 11



Cell phone population

TCDC provided cell phone data supplied from Data Ventures to indicate the peak population. The Data Ventures data is based on the number of cell phones connected to the Spark and Vodafone networks, with an adjustment made for connections on other

networks. It is important to note that this peak population is for the Coromandel Regional Tourism Organisation (RTO) which includes both Thames-Coromandel and Hauraki Districts.

The cell phone population data differs conceptually from the Stats NZ-based resident population estimates in several ways. Stats NZ resident population estimates include all persons who have a permanent residence in the area. However, at any given time, some residents will be out of the area, for example, travelling for work or leisure. The cell phone population estimates only count residents who are in the area on a given night, as well as any visitors present.

Peak population on NYE 2.22 times the start of December

Infometrics estimates of the resident population, based on Stats NZ data, indicate a resident population of 55,900 in 2022. Cell phone data for 1-7 December 2020 (i.e. prior to peak population) indicates there were 46,200 residents present in the area, and a further 16,800 visitors, indicating a total population of 63,000. Cell phone data is used as the basis for estimating the peak population, as it represents the number of people in the district using local resources at a given point in time.

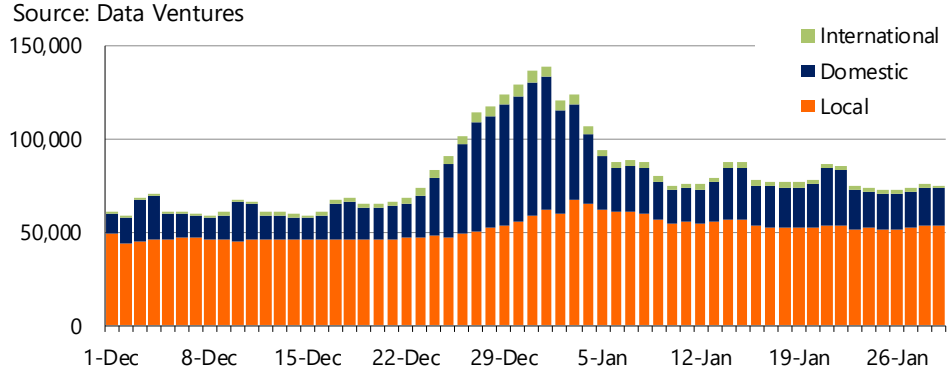
Cell phone data indicates that the peak population was reached on the 1st of January 2023 with 143,500 people, 2.22 times larger than at the start of December 2020 (Graph 12). As this estimate is based on the population present at 3am on the 1st of January 2021, this effectively means that the peak is reached on the night of the 31st of December – NYE.

Graph 12

Population peak of 2.22 times start of December 2022

Coromandel RTO daily population, based on cell phone counts.

Source: Data Ventures



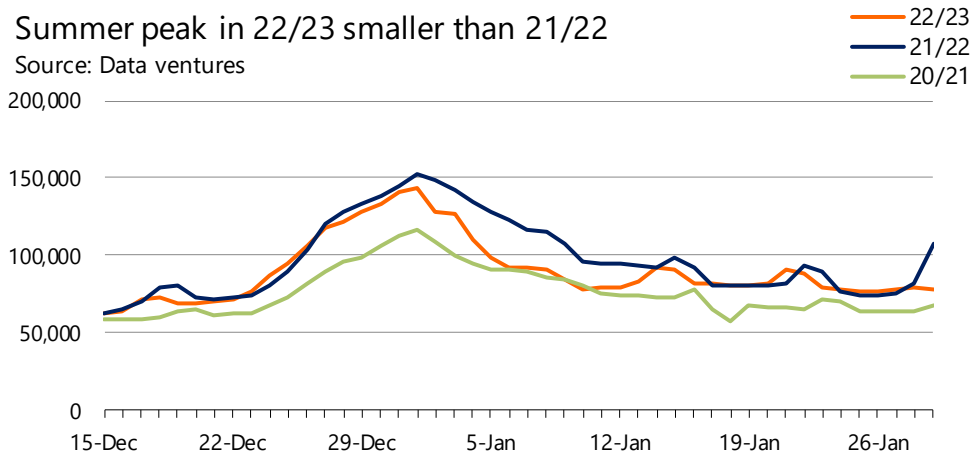
Data Ventures defines cell phones as being local if they have been present in an area at 3am (overnight) continuously for two weeks. This definition means that a person's holiday in the District for longer periods (typically holiday house owners) start to be counted as residents in this data after two weeks. This trend can be observed in Graph 12 where the number of residents rises steadily by around 20,000 between Christmas and NYE, reflective of visitors who arrived in the weeks leading into Christmas. This data

artefact does not skew the total population figures as both residents and visitors count towards the peak population.

Smaller peak than prior summer

The peak population tends to scale up rapidly from the 22nd of December, shifting to more moderate growth from the 27th of December, and peaks on the 1st of January. Thereafter, the population dissipates, but at a slower rate than it built up, with the population at the end of January still sitting higher than at the start of December. The 22/23 summer was slightly different, with growth in the peak population tapering off on the 31st of December, and falling away rapidly from the 2nd of January onwards, potentially reflecting forecasts of impending poor weather (Graph 13). The poor weather also likely contributed to secondary peaks around weekends in mid-late January being lower than in previous years. Unsurprisingly, given the poor weather forecast and previous infrastructure damage, there was virtually no increase in population associated with Auckland Anniversary weekend over the 28th to 30th of January.

Graph 13



The 21/22 and 22/23 summer populations both tracked considerably higher than 20/21. The 22/23 population grew 2.22 times between the first week of December and the 1st of January (New Years Day). The 21/22 summer grew by 2.02 over the same period.

Briefer peak population

Overall, the peak population was briefer than previous summers. In 2021/22, the daily population across Coromandel RTO exceeded 100,000 for 15 days, however this was only exceeded for ten days in 2022/23. The population exceeded 100,000 again for Auckland Anniversary weekend in 2021, however, there was little increase in population for Auckland Anniversary weekend in 2023 given that it coincided with severe weather.

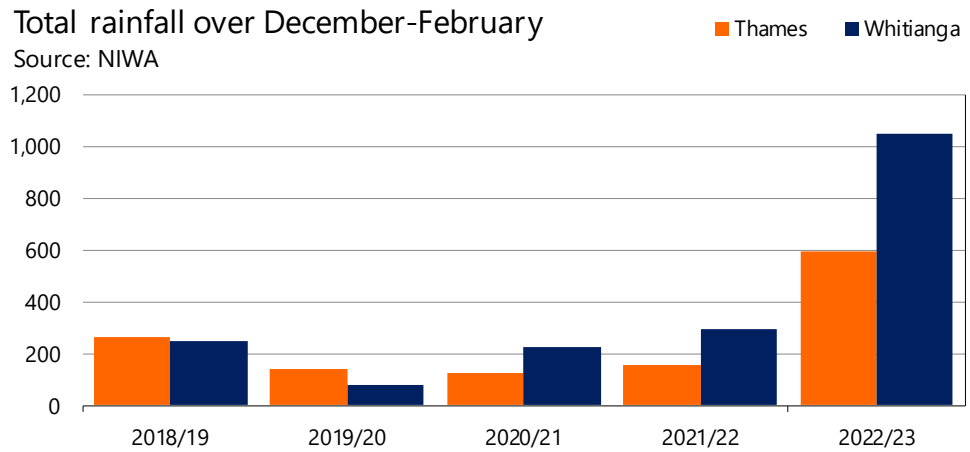
Record rainfall in 2022/23 summer

The series of extreme weather events in the 2022/23 summer pushed rainfall to record levels. Over the December-February summer period, Thames received a total of 592mm

of rain, and Whitianga 1,053mm (Graph 14). This is the wettest summer on record for both towns, with records going back as far as 1936 at Thames and 1941 for Whitianga.

Average rainfall in Thames over the past four summers was 169mm, and in Whitianga 211mm.

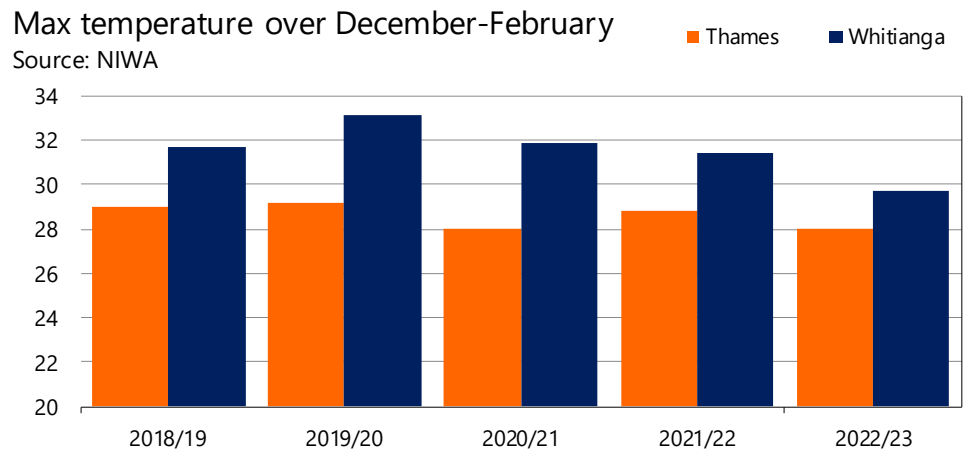
Graph 14



Coolest summer in five years

Thames-Coromandel experienced its coolest summer in five years, with a maximum temperature of 29.7C in Whitianga over December-February 2022/23, compared to an average maximum of 32.0C over the prior four years (Graph 15). The maximum temperature in Thames over the 2022/23 summer was 28.0C, compared to an average maximum of 28.8C over the prior four years.

Graph 15

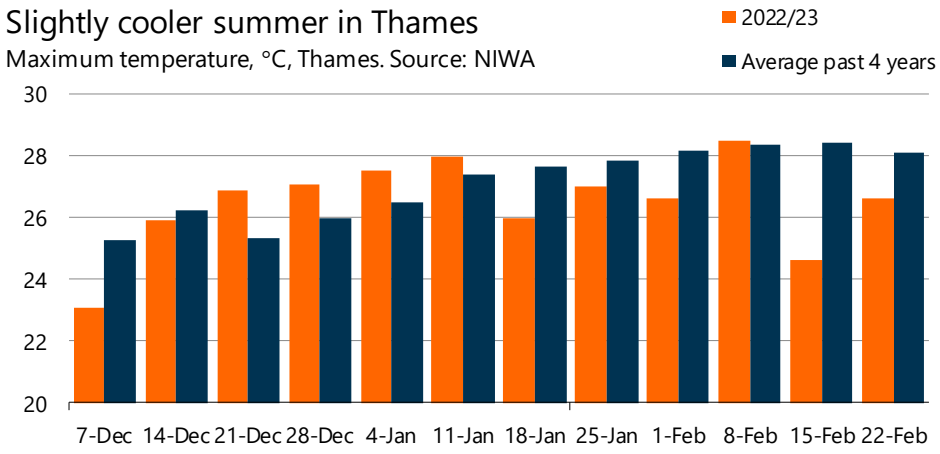


Slightly cooler in Thames

The temperature was slightly cooler in Thames in the 2022/23 summer compared to the four summers prior. Temperatures were slightly higher through late December 2022 to

early January 2023, but fell considerably relative to previous summers through the rest of January 2023 and February 2023 (Graph 16).

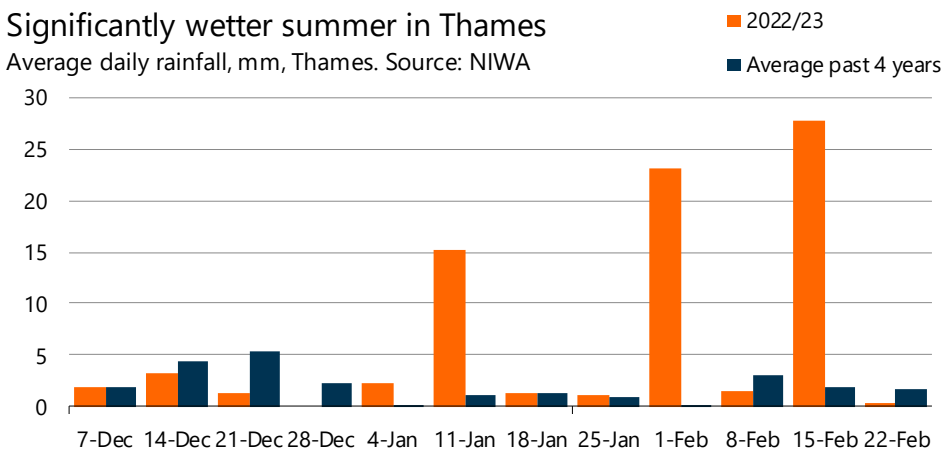
Graph 16



Significantly wetter in Thames

The 2022/23 summer was considerably wetter than previous summers in Thames. Rainfall was tracking below previous summers throughout December 2022, but three significant rainfalls throughout January and February 2023 pushed total summer rainfall far above that of the past four summers (Graph 17).

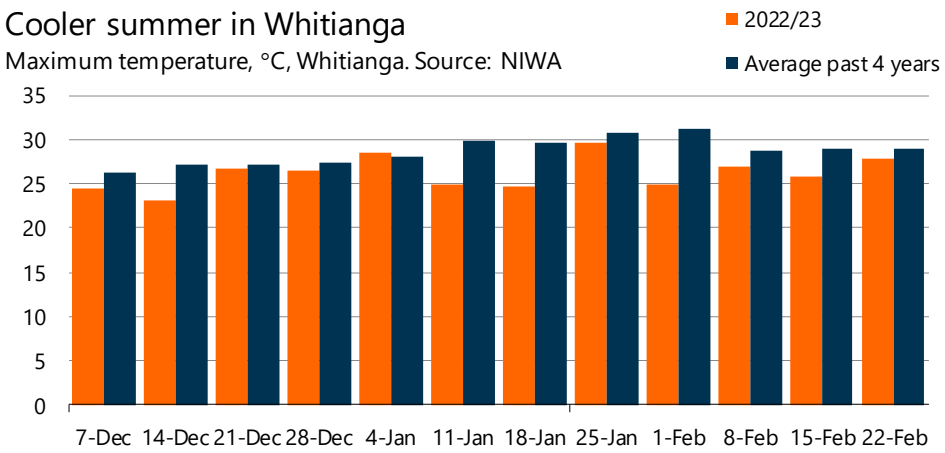
Graph 17



Cooler in Whitianga

Whitianga experienced cooler weather over the 2022/23 summer compared to previous years. Temperatures in December 2022 were slightly lower than in the previous four summers, and fell more appreciably lower through January and February 2023 as poor weather struck (Graph 18). The high on New Year's Eve was a relatively cool 23.7C.

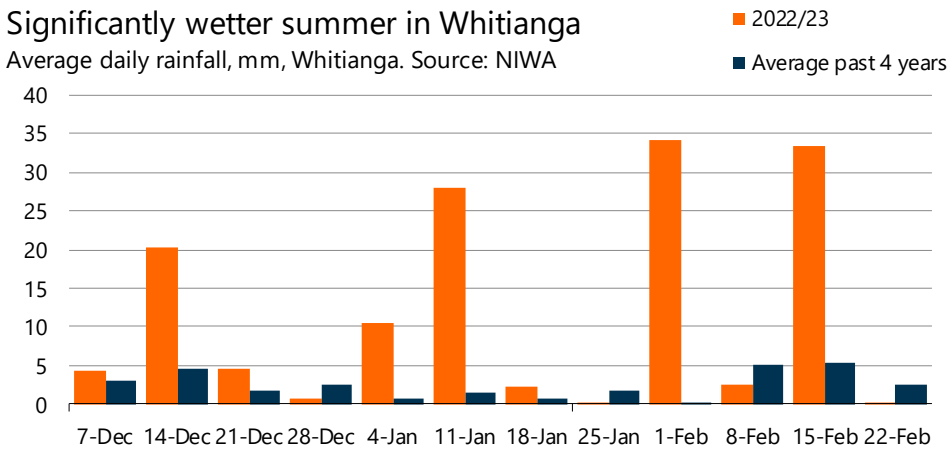
Graph 18



Significantly wetter in Whitianga

The 2022/23 summer in Whitianga was significantly wetter than the four prior summers. Rainfall throughout December 2022 was significantly higher than the four prior summers, and extreme weather events in January and February 2023 pushed the summer rainfall to the wettest on record (see Graph 11). New Year's Eve was dry however.

Graph 19



Summary

Peak day is New Year's Eve

The peak day for population in Thames-Coromandel over the 2022/23 summer was the 31st of December, which is consistent with previous peak population studies. The timing of the peak population is indicated by cell phone data and corroborated by peaks in water supply, wastewater, and traffic volumes around the peak day. Cell phone data, which records the daily population at 3am, indicates a peak on the 1st of January, which is consistent with the population peaking for NYE celebrations and visitors staying in the district overnight. Water use in Thames-Coromandel peaked on the 31st of December, indicating a peak population causing peak consumption. Wastewater processing experienced a broad peak level over the 28th of December to 2nd of January.

Population peaks in East Coast settlements

Water supply and wastewater data shows that population peaks occurred in a number of settlements, predominantly on the East Coast of Thames-Coromandel.

Peaks were measured by comparing peak water supply and wastewater on the 31st of December (water supply) and 1st of January (wastewater) to the start of December. Water supply peaks were greatest in Pauanui (158%), Onemana (92%), Whitianga (61%), Tairua (57%), and much lower in Thames (16%). Wastewater peaks were greatest in Onemana (232%), Whitianga (42%) and to a lesser extent Coromandel (34%).

The size of the peak can differ depending on how it is measured, as water supply and wastewater networks often have differing coverage areas. Data quality issues prevented analysis for some settlements.

Peak population was 2.22 times larger

Cell phone data indicates that the population in the Coromandel RTO area swelled on the peak day to 2.22 times the normal population. The population grew from 63,000 at the start of December 2022 to 143,500 on NYE. This cannot be apportioned between Thames-Coromandel or Hauraki Districts, but it is likely that most of this peak took place in Thames-Coromandel given the particularly low number of permanent residents per dwelling. Previous peak population studies found the peak population on NYE to be 116,300 (2020/21), 126,300 (2016/17), 120,874 (2009/10), 137,700 (2007/08) and 142,375 (2003/04).

Occupancy jumped from 1.5 persons per dwelling to 3.9

Across the Coromandel RTO area, occupancy is relatively low at 1.5 residents per dwelling, reflecting the high prevalence of unoccupied holiday houses in the area (Table 2). This occupancy rate swelled to 3.9 people per dwelling on the peak day of 31st of

December. Given the higher prevalence of holiday houses in Thames-Coromandel, it is likely that occupancy was even higher in Thames-Coromandel, especially in settlements on the North and East of the peninsula. Conversely, water supply and wastewater data shows no increase in demand associated with NYE in Thames township.

Table 2

Population per dwelling

Source: Infometrics, based on Stats NZ and Data Ventures

Area	Dwellings	Residents population dwelling (2022)	Peak population per dwelling (2022/23)
Thames-Cormandel District	27,270	1.2	
Hauraki District	9,861	2.3	
Coromandel RTO	37,131	1.5	3.9

Peak population fell quickly in January, and stayed away

Forecasts of impending poor weather over 4-6 January appears to have encouraged visitors to leave the district early, with Westbound (outbound) traffic flows over SH25A tracking 9% higher over 1-5 January than in previous years, despite Eastbound (inbound) traffic over 27-31 December being only 2% higher.

Briefer peak population

Overall, the peak population was briefer than previous summers. In 2021/22, the daily population across Coromandel RTO exceeded 100,000 for 15 days continuously around NYE; however, this level was only exceeded for ten days in 2022/23. The population exceed 100,000 again for Auckland Anniversary weekend in 2021, however, there was little increase in population for Auckland Anniversary weekend in 2023 given that it coincided with severe weather.

Outlook for peak population

International tourism started recovering quickly

After a series of delays and false starts for reopening our international borders, international tourism was finally allowed to return in mid-2022. The pace of recovery took everyone by surprise, with international visitor arrivals reaching 67% of pre-pandemic (March 2019) levels in the March 2023 quarter.

Shift in international visitor markets

As the tourism sector recovers, the composition of visitors to New Zealand shifted too. Australia was the first market to have travel restrictions removed, and the number of Australians arriving jumped quickly to 80% of pre-pandemic levels in the March 2023 quarter. International flight capacity between New Zealand and North America recovered rapidly, enabling an 84% recovery for that market. The recovery of Asia has been appreciably different, with China locked down under COVID-19 restrictions later than most countries, and the rest of South East Asia appearing reluctant to travel even in the absence of formal restrictions. Visitor arrivals from China reached 12% of pre-pandemic level, Japan 42% and South Korea 45%.

These shifts in visitor markets have significance in how international visitors reach the region – with the stronger recovering Australia and North American tourists typically travelling independently, particularly in self-drive cars. By contrast, visitors from Asia are more likely to travel in organised groups.

Tourism recovery losing steam

Despite a quick start to the recovery of international tourism, data up to May 2023 indicates that the recovery is losing steam. Arrivals in May 2023 were a 1.1 percentage point improvement from April, a slower pace than the average 3.3 percentage point gain per month over the prior year. A weak global economy and cost of living pressures are expected to curtail recovery, especially considering that New Zealand is a relatively expensive long-haul destination for most international markets.

Potential upside for domestic tourism

While weaker economic conditions globally are expected to curtail the recovery of international tourism, they may present a silver lining for domestic tourism, as New Zealanders substitute away from expensive international holidays towards cheaper domestic trips. We wouldn't expect large growth in domestic tourism, but expect it will remain resilient and underpin the sector while the international tourism recovery slows.

Roading infrastructure a key determinant for the coming summers

National and international tourism recovery are important determinants of local tourism activity, however, in the near term, local infrastructure is likely to be the binding constraint for Thames-Coromandel. The closure of SH25A coupled with ongoing disruption throughout the district's roading network has seen considerably weaker tourism activity through the first half of 2023, with June 2023 quarter tourism spending down 40% from June 2022. Reduced roading connectivity may not limit longer stays in the district over summer, but will likely reduce shorter visits, such as for New Years Eve, Auckland Anniversary, and January weekends as increases in travel time are relatively significant.

Appendix

Base population

The base population and number of dwellings is based on Infometrics estimates, which are built up from Stats NZ Census data and annual population estimates.

Tourist spending

Monthly tourism spending trends were based on Tourism Electronic Card Transactions (TECTs) sourced from MBIE, which are based on transactions on the Paymark network. Annual tourism spending was based on Monthly Regional Tourist Estimates, which also come from MBIE and are based on Paymark transactions.

Water supply and wastewater

Water supply and wastewater processing data was provided by TCDC.

Traffic

State Highway traffic data was sourced from Waka Kotahi, based on automatic traffic counters on SH25A near Hikuai.

Accommodation occupancy

Occupancy at commercial accommodation was based on Fresh Info's Accommodation Data Programme (ADP), which is a survey of commercial accommodation providers.

Cell phone population

Cell phone population data was sourced from Data Ventures, via Tourism NZ and TCDC. This data is for the Coromandel RTO area, which covers both Thames-Coromandel and Hauraki Districts.

Residents are defined as connections which have been present in a given area at 3am for a continuous period of two weeks. International is defined based on international roaming SIM cards.

Weather

Weather data was sourced from NIWA's Cliflo tool, based on recording from weather stations in Thames and Whitianga.