Canterbury 2022

An Overview

Sustainable development with shared prosperity, resilient communities and proud identity.

Introduction

The first regional overview was prepared for members of the Canterbury Mayoral Forum following local body elections in October 2019. This updated version has been prepared for members of the Canterbury Mayoral Forum following local body elections in October 2022. It presents high-level information on current state and trends to inform Mayoral Forum priorities, engagement with central government and development of a Mayoral Forum regional strategy for the 2022–25 local government term.

The overview is structured around:

- the 'four wellbeings' (environmental, economic, social and cultural) that local authorities promote, taking a sustainable development approach (Local Government Act 2002 (ss.3, 5, 10, 14, 101 and Schedule 10)
- the 'four capitals' of the NZ Treasury's Living Standards Framework[1]. While the framework was significantly revised in 2021, the four capitals remain relevant.

Where data permits this, the report includes regional indicators presented on the Treasury's Living Standards Dashboard[2].

The data and information in this overview are current as at 30 June 2022.

The document will be reviewed and updated during each local government term to capture any significant new information, data or trends.

COVID-19 pandemic

Since the regional overview was first published in 2019, New Zealand has been impacted by the COVID-19 pandemic.

The impact of the pandemic on wellbeing, including border and lockdown controls, is yet to be fully understood but some of the indicators provided in this overview give insight into the short-term impacts of the pandemic e.g. on visitor arrivals. In reading this information on current state and trends, care should be taken in interpreting the data especially when comparing 2020/21 data with previous years.

A timeline[3] of significant events in the COVID-19 pandemic for Canterbury and New Zealand is included below.

2020

- **28 February** – first COVID-19 case reported in New Zealand
- **19 March** – borders close to all but New Zealand citizens and permanent residents
- **21 March** – Government introduces the 4-tiered Alert Level system to help combat COVID-19
- **25 March** – New Zealand put into Level 4 lockdown
- **April-September** – regional approach to alert levels; Canterbury traverses levels 3 through to 1, and back to level 2 in September

2021

- **February-March** – Canterbury in alert level 2 for periods
- **April** – mass vaccination rollout plan released
- **July** – vaccination rollout begins
- **August** – Delta variant enters New Zealand
- lockdown commences for the country on 17 August for remainder of the month
- **September** – Canterbury moves to level 2
- **December** – COVID-19 Protection Framework (traffic light system) implemented, with Canterbury at orange traffic light setting
- vaccine pass mandates introduced
- first detection of an Omicron case in New Zealand

2022

- **January** – all of New Zealand moves to red traffic light setting
- **April** – New Zealand moves to orange traffic light setting
- **February** – the Government announces a five-step plan for travellers to enter New Zealand without Managed Isolation and Quarantine
- **June** – pre-departure tests for travellers to New Zealand scrapped
- **31 July** – New Zealand's border reopens to all tourists and visa holders

At the time of writing, the COVID-19 Protection Framework continues to guide the Government's response to the pandemic.

Contents

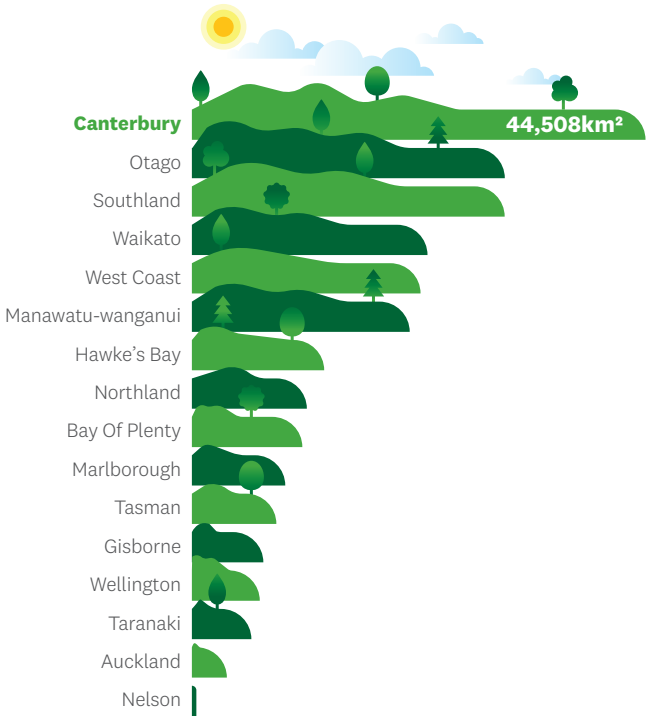
Land

- Canterbury is New Zealand's largest region by land area (44,508km^2), spanning the territory of 10 local authorities and 10 Ngāi Tahu papatipu rūnanga.
- North to south, the region extends from Kekerengu Point, north of the Clarence River, to the Waitaki River catchment. West to east, the region extends from the Southern Alps to the coast and 12 nautical miles seaward to the limit of New Zealand's territorial waters.
- Canterbury has diverse landscapes, abundant water and large areas of flat land suitable for agriculture, with 21% of New Zealand's highest quality soils[4]. Almost 2.6 million hectares of land in Canterbury was used for farming in 2019 – 19% of the total area farmed in New Zealand[5].
- Canterbury's 800 km of coastline and 11,620 km^2 of coastal marine area includes a considerable range of land and seascapes and several coastal settlements, including Kaikōura, Christchurch City and Timaru[6].

Key indicators

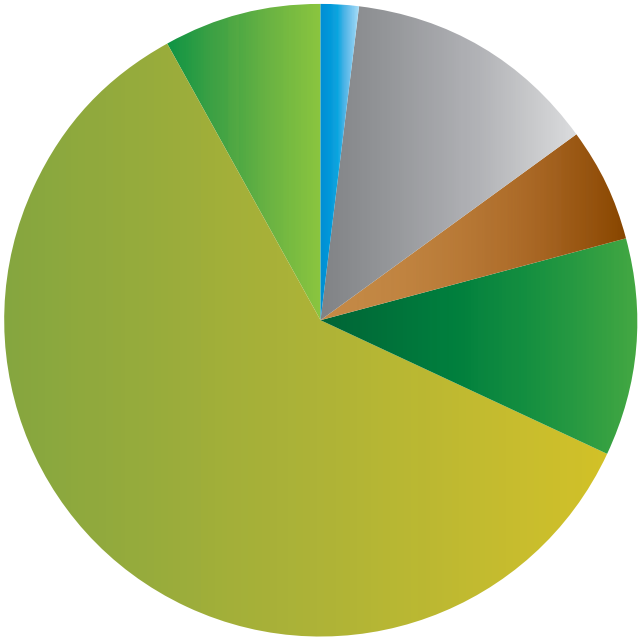
- In 2019, 64% of New Zealand's total irrigated land area was in Canterbury (467,000 hectares), a decrease from 2017 (478,000 hectares). However, overall between 2002 and 2019, the total irrigated land in Canterbury increased by 94%[7]. This covers a large part of the Canterbury plains. Irrigation is used to support intensive land use. Farming intensification improves productivity and increases pressures on the environment (increased demand for water and land use impacts on water quality and biodiversity).
- The area of urban land in New Zealand increased by 15% between 1996 and 2018 to approximately 237,000 hectares. The largest expansion was in Auckland (up 7,259 hectares), followed by Canterbury (up 5,730 hectares) and Waikato (up 4,845 hectares)[8].
- Between 2002 and 2019, highly productive land that was unavailable or restricted from use as farmland (given urban and residential use) increased 54% in New Zealand. Highly productive (versatile) land is important for food production. Looking at rural residential expansion, the largest areas of highly productive land restricted from use as farmland was Waikato (8,323 hectares) following by Auckland (5,854 hectares), Manawatū-Whanganui (5,442 hectares), and Canterbury (5,375 hectares)[9].

Land area by region (km^2)



Canterbury land cover as a percentage of region

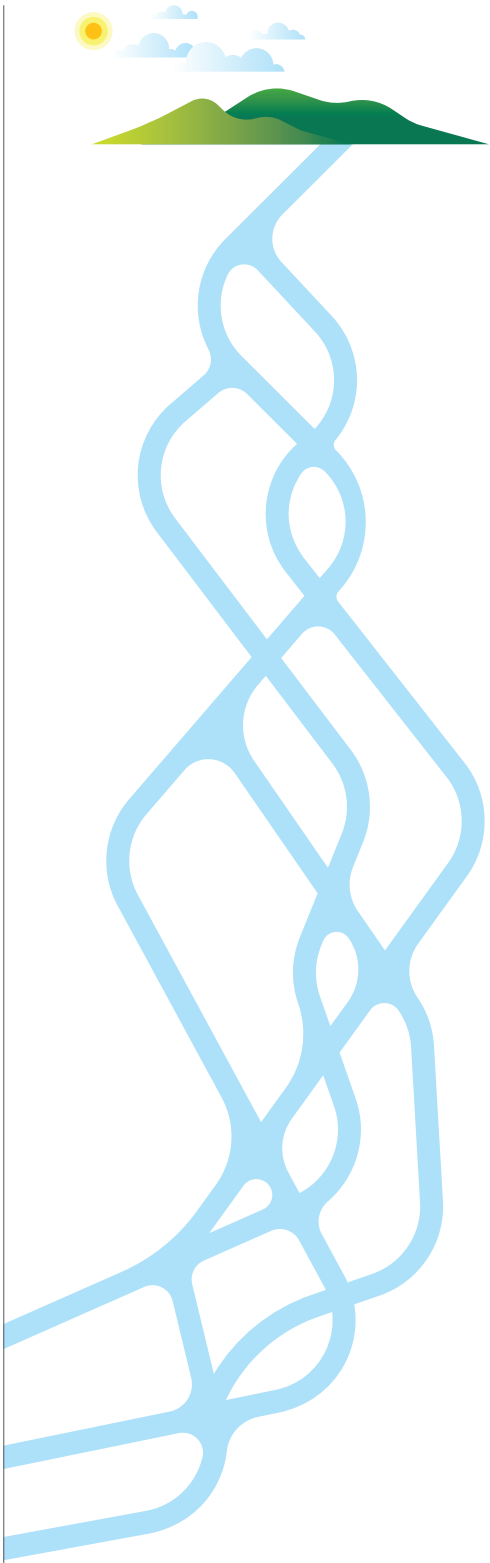
- Scrub/shrubland
- Grassland/other herbaceous vegetation
- Forest
- Cropland
- Urban/bare/lightly-vegetated surfaces
- Water bodies



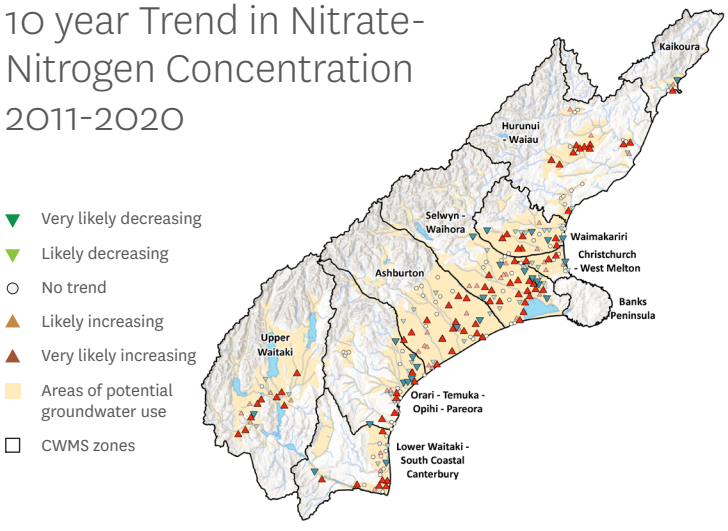
Land Cover Class (broad) Land Cover class (medium)	Hectares	as % of Canterbury region land area
Urban/bare/lightly-vegetated surfaces	584383	13%
Artificial bare surfaces	1527	<1%
Natural bare/lightly-vegetated surfaces	547155	12%
Urban area	35701	1%
Cropland	252523	6%
Cropping/horticulture	252523	6%
Forest	494065	11%
Exotic forest	157360	3%
Indigenous forest	336705	7%
Grassland/other herbaceous vegetation	2713136	60%
Exotic grassland	2033226	45%
Other herbaceous vegetation	11107	<1%
Tussock grassland	668803	15%
Scrub/shrubland	378859	8%
Exotic scrub/shrubland	70090	2%
Indigenous scrub/shrubland	308769	7%
Water bodies	99678	2%
Water bodies	99678	2%

Water

- Canterbury has more than 4,700 lakes and tarns, and over 78,000 km of rivers and streams[10].
- Our braided, alpine rivers are an iconic natural feature and internationally rare. They support many species, including rare and threatened species not found anywhere else. 64% of New Zealand's braided rivers are in Canterbury, including the Waimakariri, Rakaia, Rangitata and Waitaki rivers, characterised by their multiple, shifting shingle channels and varying flows[11].
- On average, we receive around 74 billion m³/annum of fresh water from rain and snow, much of it falling in the Southern Alps. 62 billion m3 /annum is runoff to sea[12]. Canterbury receives 11% of New Zealand's precipitation input (2020 data)[13].
- About 70% of New Zealand's groundwater (519 billion m³ in 2014) is located in Canterbury[14].
- Across the region, 6.8 billion m³ of freshwater is taken each year – 4.4 billion m^3 for irrigation, 1.7 billion m³ for stock-water, 700 million m^3 for industrial use, 270 million m^3 for town supply and 390 million m³ for other use. 8.35 billion m³/year is consented for hydroelectricity and makes up 55% of the total water volume consented in Canterbury[15].
- Land clearance and farming over many years, particularly land-use intensification since the 1970s, has increased pressure on rivers and groundwater aquifers. Lowland streams fed by groundwater springs are under stress. Urban streams and rivers typically have worse water quality because of changes to land cover and human activity in our cities and towns.



10 year Trend in Nitrate-Nitrogen Concentration 2011-2020



Key indicators

Surface waters

- The ecological health of streams in Canterbury has been in decline over the last 20 years at 54% of sites. In contrast, there are 22% of sites that are relatively stable and 24% are improving. It is notable that many sites with improving trends are those in a poorer state close to the coast on the Canterbury Plains, while inland areas previously in good health have a relatively high number of deteriorating sites[16]. The poorer state of lowland areas tends to be because of the greater intensity of land use in the warmer, flat low country and the accumulation of contaminants in groundwater, which re-emerge in lowland streams.
- Surface water quality trends for nitrate-nitrite nitrogen are similar to those for groundwater quality trends. This is due to groundwater being the dominant source of nitrate-nitrite nitrogen in our rivers.
- Long term dissolved reactive phosphorus (DRP) trends indicate that concentrations have improved at 55% of sites over the 22-year period examined. Turbidity has shown a shift and has improved over the last nine years at 71% of river sites. These parameters could be used as early indicators of improvements in water quality due to actions such as fencing and stock exclusion.
- Trend analysis of high-country lakes data 2007-2022 (24 lakes) showed that chlorophyll a, an indicator of water quality and ecosystem health, is increasing in most lakes (>80%).

Groundwater

- Nitrate in groundwater can affect its quality for drinking-water supply and the quality of streams fed by groundwater. Areas in Canterbury around and downstream of intensive agricultural land use tend to have higher nitrate concentrations in the groundwater than other areas. Nitrate concentrations are highest in groundwater near the water table and decrease with depth.
- In 2021, 72% of the 331 groundwater sites across Canterbury met the current drinking water guidelines for nitrate-nitrogen. Analysis of 30 years of data shows that the rate of change is slow and nonlinear, but the overall direction of change is generally an increase in nitrate-nitrogen concentrations. The time lag between land use change and the start of resulting effects on groundwater nitrate concentrations is in the order of five to ten years. Shorter lags exist where receiving environments are close to land sources. The full effects of changes may still take decades to come through, particularly for large catchments[17].

Drinking water

- In the Ministry of Health's Annual Report on Drinking Water Quality 2020-2021[18] reporting period, there were 107 council-owned and operated registered drinking water supplies in Canterbury.
- 36 supplies out of the 107 supplies were fully compliant with both the Drinking Water Standards and the requirements of the Health Act, servicing 22% of Canterbury's population[i].
- 71 supplies (61.5%) out of the 107 supplies did not meet the bacterial, protozoal and/or chemical requirements of the Drinking Water Standards.

Recreation

- In the 2019/2020 summer season, in total, 76% of graded freshwater sites (100% of lake sites and 64% of river sites) and 91% of coastal sites are considered as being generally suitable for contact recreation[19].

Perceptions

- 85% of survey respondents in Canterbury thought New Zealand had a problem with the state of rivers, lakes, streams, wetlands and aquatic life compared to 80% nationally. 60% of respondents in Canterbury (50% in NZ) thought farming activities were the main reason there was a problem, followed by 15% for sewage and stormwater discharges[20].

i The report describes compliance with the drinking water requirements of the Health Act 1956 and the Drinking Water Standards for New Zealand 2005 (revised 2018) for registered networked drinking water supplies that serve populations of more than 100 people in the period from 1 July to 30 June. To fully comply with the Drinking Water Standards, a supply must comply with the bacteriological, protozoal and chemical requirements.

Air

- Air pollution can be an issue in Canterbury towns and cities, mainly during the coldest months, from the burning of wood and coal for heating. Rural areas are periodically affected by burn-offs and other rural practices. Vehicle emissions play a relatively minor role in air quality in our region.
- Monitoring of air quality by Environment Canterbury focuses on eight airsheds: Christchurch, Rangiora, Kaiapoi, Ashburton, Washdyke, Timaru, Geraldine and Waimate[21].
- The World Health Organisation (WHO) released updated air quality guidelines in 2021 which include new air quality thresholds required to safeguard public health worldwide.

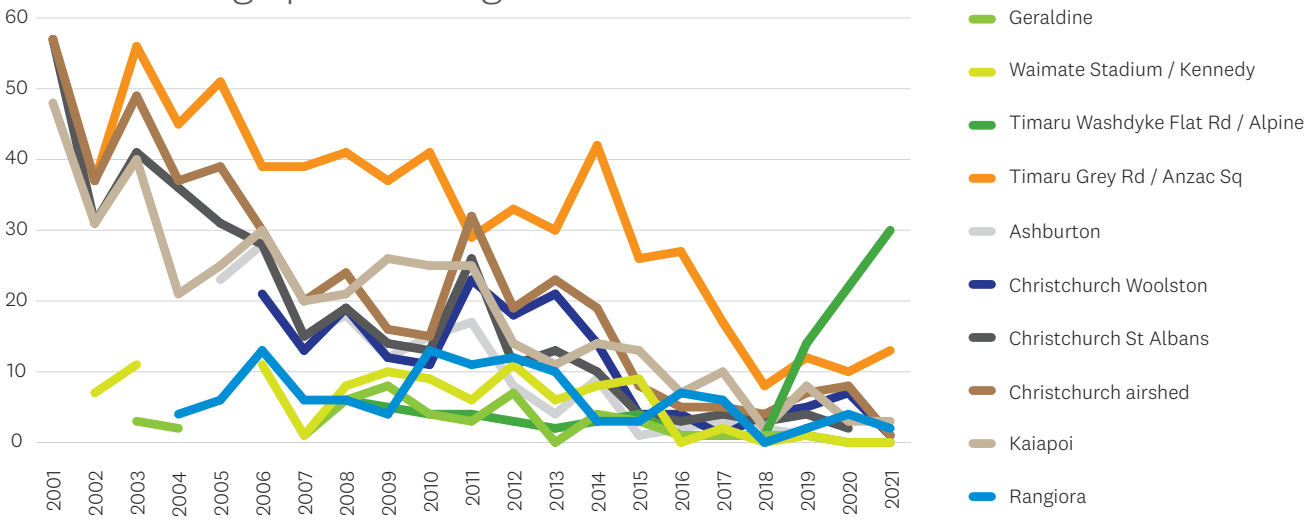
Key indicators

- Air quality is improving in the cities and towns Environment Canterbury monitors, but pollution levels still sometimes exceed national and international health-based environmental standards. Based on WHO guidelines, the annual average[ii] for PM_{10} in Timaru was at 100% of the WHO guideline levels and exceeded the annual average for $PM_{2.5}$ [22].

Perceptions

- 56% of survey respondents in Canterbury thought New Zealand had a problem with air pollution, compared to 49% nationally. The top reason respondents thought air pollution was a problem was motor vehicles, followed by industrial activities[23].

Number of high pollution nights[24] 2001 – 2021



ii Trends in the annual average are reported for the last ten years

Biodiversity[25]

- Biodiversity (biological diversity) includes ecosystem diversity, species diversity and genetic diversity. Biodiversity is a major issue nationally and globally. More than 4,000 native plants and animals are at risk of extinction in New Zealand.
- The Canterbury high country has iconic landscapes including tall tussock grasslands, native shrublands and largely unmodified alpine environments with extensive screes, bare rock, permanent icefields and glaciers.
- Canterbury has large areas of mountain beech forest, including in the catchments of the Ahuriri, Dobson/Hopkins, Rakaia and Waimakariri rivers, Craigieburn Forest Park and Arthur's Pass National Park.
- Naturally rare limestone areas occur in North and South Canterbury, which provide 'habitat islands' that support specialised plant communities.
- Canterbury has a number of culturally and ecologically significant river mouths, estuaries and coastal lagoons. The coastlines of Kaikōura, Banks Peninsula and coastal reef system off Timaru provide important habitat for marine life. Banks Peninsula Marine Mammal Sanctuary was New Zealand's first marine mammal sanctuary, to protect the nationally endangered Hector's dolphin/upokohue.
- Freshwater habitats in Canterbury support a diverse range of indigenous freshwater fish, including the endemic endangered Canterbury mudfish/kōwaro, and in the northern-most parts of the region, the threatened northern galaxias, dwarf galaxias, and shortjawed kokopu, which do not occur in other parts of the region.
- Braided rivers provide a habitat for a diversity of bird species including several threatened species (e.g. wrybill/ngutu parore, banded dotterel, black-fronted tern, Caspian tern, black billed gulls, black stilt/kaki).
- Wetlands provide habitat for a diverse range of plants and animals and once covered large areas of lowland Canterbury. Wetlands are now some of our rarest and most-at-risk ecosystems, with over 90% of Canterbury's lowland wetlands lost in the last 150 years. Examples that remain include:
  - estuaries; for example, the Heathcote/Ōpāwaho and Avon Rivers/Ihutai, and the Ashley River/ Rakahuri mouth
  - coastal lagoons such as Wainono Lagoon and Te Waihora/Lake Ellesmere
  - freshwater swamps such as Travis Wetland in Christchurch City
  - margins of the Ashburton lakes, and ephemeral kettlehole tarns in the glacial moraines of the high country.
- Some of the world's rarest bird species are found in the Canterbury region, including Hutton's shearwater, orange-fronted parakeet/kakariki, black stilt/kaki, white-flippered penguin/kororā, yellowhead/mohua and great spotted kiwi/roroa.
- The loss of biodiversity, especially taonga species, can negatively affect our wellbeing through changes or loss of culture, traditional practices, and language.
- Like the rest of New Zealand, there have been significant losses in indigenous biodiversity in Canterbury. This has primarily occurred through loss and modification of habitat because of deforestation, burning, drainage, settlement and development, and the introduction of invasive pests. The most significant losses in indigenous habitat and biodiversity have occurred in lowland and coastal environments (<400m), where development has been, and continues to be, most intensive. A key challenge is the ongoing loss of habitats that support indigenous flora and fauna, especially in lowland and montane parts of the region.

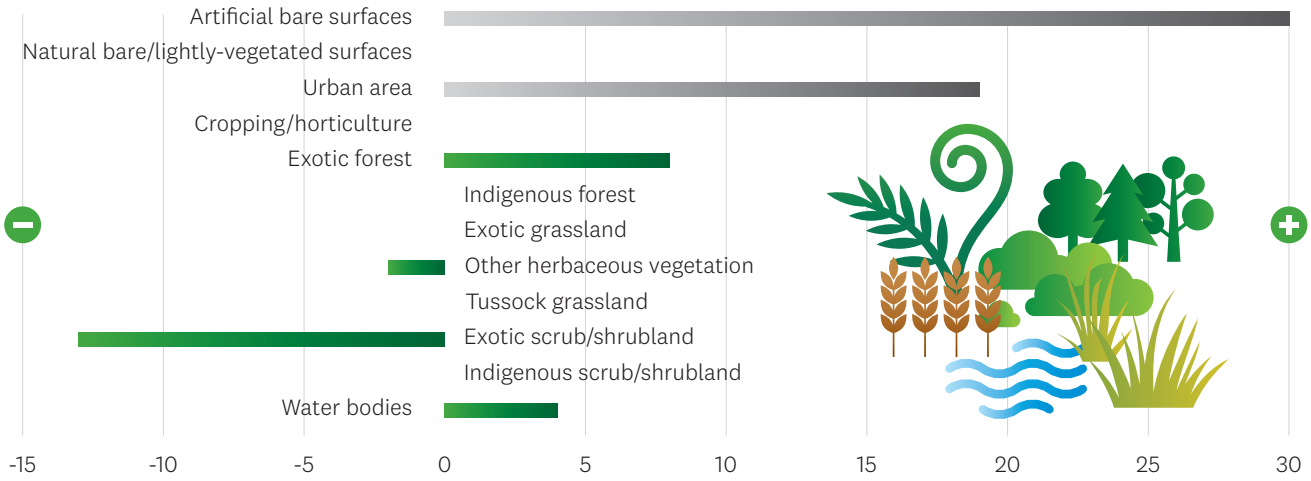
- Invasive species significantly impact on biodiversity. A suite of predators and browsers that have been introduced to New Zealand threaten many indigenous species. Invasive plants and algae can have severe effects on indigenous vegetation and ecosystems in both freshwater and marine environments. For example, wilding conifers present a challenge in high-country pastoral land and on public conservation areas in Canterbury. The conifers can dominate indigenous species, reduce the value of productive land, reduce water availability, affect soil carbon, facilitate the establishment of other alien species, compete with native plants and animals, and alter the natural character of landscapes[25].
- Climate change is already starting to impact on ecosystems and biodiversity. The main potential effects on biodiversity from climate change are gradual change in habitat, changes in species' distribution, increased threats from pests and disease due to changes in disease vector distribution, and habitat loss from sea-level rise, for example, coastal wetlands. Impacts are already starting to be seen, including abnormally high temperatures distributing native species, especially in the marine environment, reduction of the areas where some species can live or impacts from extreme events (e.g. droughts or floods). For example, droughts have been found to dramatically decrease the body size of kōwaro (Canterbury mudfish)[26].

Key indicators

Nationally:

- 84% of reptiles (of 106 species), 80% of bats (of 5 species), 75% of frogs (of 4 species), 74% of terrestrial birds (of 105 species), 46% of vascular plants (of 2744 species), 19% of hornworts and liverworts (of 76 species), and 14% of lichens (of 2026 species) are threatened or at risk of becoming threatened[27]
- 76% of indigenous freshwater fish species (39 of 51) are threatened with extinction or at risk of becoming threatened[28]
- 90% of seabird species (86 of 96) and 82% of shorebird species (14 of 17) are threatened with extinction or at risk of becoming threatened[29]
- Between 1996 and 2018 216 hectares of freshwater wetlands were lost in Canterbury (4% of the total loss in NZ). Southland recorded the biggest loss of freshwater wetlands over this time, contributing to almost half (46%) of the total loss of freshwater wetlands in New Zealand with a reduction of 2,665 hectares. Between 2012-2018 6.8 hectares of freshwater wetland areas were lost in Canterbury [30]
- Canterbury recorded the biggest reduction in saline wetlands, contributing to over a third (70 hectares or 39%) of the total loss of saline wetlands in New Zealand between 1996 and 2018 [31]
- The expansion of urban land in Canterbury is reflected in changes in land cover between 1996 and 2018. Artificial area increased by 30%, urban area increased by 19% and exotic forest increased by 8%.

Area change (%) in land cover, Canterbury 1996–2018[32]



Climate

- Canterbury has five main climate zones:
  - the plains, with prevailing winds from the north-east and south-west, low rainfall, and a relatively large annual temperature range by New Zealand standards
  - the eastern foothills and southern Kaikōuras, with cooler and wetter weather, and a high frequency of north-westerlies
  - the high country near the main divide, with prevailing north-west winds, abundant precipitation, winter snow and some glaciers particularly towards the south
  - Banks Peninsula and the coastal strip north of Amberley, with relatively mild winters, and rather high annual rainfall with a winter maximum
  - the inland basins and some sheltered valleys, where rainfall is low with a summer maximum, and diurnal and annual temperature ranges are large[33].

- In 2022, the Canterbury Mayoral Forum published the Canterbury Climate Change Risk Assessment[34]. This was a technical risk assessment that identified the range of risks to Canterbury from climate change. A summary of climate change projections to 2100 is provided below:
  - the sea level is projected to rise by about 0.8m above present day levels
  - wildfires will become more likely as hotter, drier summers occur. Rural areas will be more highly exposed
  - drought potential is likely to increase across most of Canterbury
  - it is projected that there will be between 20 and 60 more hot days (over 25°C) annually by 2100
  - wind is likely to increase in speed, and winter and spring are likely to be windier. This seasonal change is likely to be more strongly felt in inland areas north and west of Rangiora
  - summer rainfall is projected to increase up to 20% in the inland Canterbury Plains. It is projected to gradually reduce towards coastal areas, with a decrease of 5-15% in the area around Christchurch
  - an increase in winter rainfall of 15-40% is expected in the eastern, western, and southern parts of the region. Winter rainfall has the potential to be more strongly associated with storm events
  - as temperatures rise, there will be fewer snow days across the region
  - it is projected that there will be 20-50 fewer cold days per year, where the temperature is at or below 0°C
  - extreme weather events (e.g. severe storms) are likely to happen more often
  - our annual mean temperature is set to rise by 1.5 -3.5°C. Overall, our maximum daytime temperatures will be up 2-5°C. Canterbury's alpine and subalpine areas could be 5-6° warmer.

- Some of the impacts from climate change are likely to be:
  - increased pressure on water resources due to higher temperatures, less rainfall and greater evapotranspiration, particularly in North Canterbury. Droughts are likely to become more frequent and more extreme
  - sea-level rise and coastal erosion will impact on coastal settlements and some papatipu rūnanga marae. Christchurch is likely to face increased flooding in some areas, particularly around the lower Ōtākaro/Avon River
  - a changing climate will affect ecosystems and biodiversity. There may also be an increased threat to native species from changed distribution of disease vectors
  - extreme weather events, coastal erosion and sea-level rise will impact on coastal defence infrastructure, buildings, transport infrastructure, water infrastructure and flood protection infrastructure
  - warmer temperatures, a longer growing season and fewer frosts could provide opportunities to grow new crops[35].

Natural hazards

- Flooding is a natural hazard of significant concern in Canterbury, from river flooding, surface flooding from local run-off and coastal over-topping. Climate change is likely to exacerbate this, as extreme weather events are expected to become more frequent.
- In May 2021, an extreme rainfall event occurred in Canterbury, in terms of volume and duration of rainfall. It was the largest 24-hour event on record for most of Canterbury's foothills rain gauges[36]. Impacts included extensive damage to farmland and the structural integrity of the Ashburton (SH1) bridge was compromised. Investment in infrastructure proved invaluable for protecting communities, including Ashburton, one of the hardest hit areas.
- Canterbury sits across the boundary of the Pacific Plate and the Australian Plate. The impacts of the 2010/11 Canterbury earthquakes and the 2016 North Canterbury earthquake have been well documented.
- The 2016 North Canterbury earthquake sequence triggered up to 20,000 landslides over 10,000km^2, uplifted coastal areas up to three metres, exposing the seabed, and triggered the biggest local-source tsunami in New Zealand since 1947 (nearly seven metres at Goose Bay)[37].
- The Alpine Fault has a high probability (estimated at 75%) of rupturing in the next 50 years. The rupture is expected to produce one of the biggest earthquakes since European settlement of New Zealand, and it will have a major impact on the lives of many people[38].
- Past land use (including, for example, closed landfills, former gasworks, fuel service stations, horticulture, timber treatment and sheep dips) has left a legacy of contaminated and potentially contaminated land sites across the region.

Asset cost and benefit value

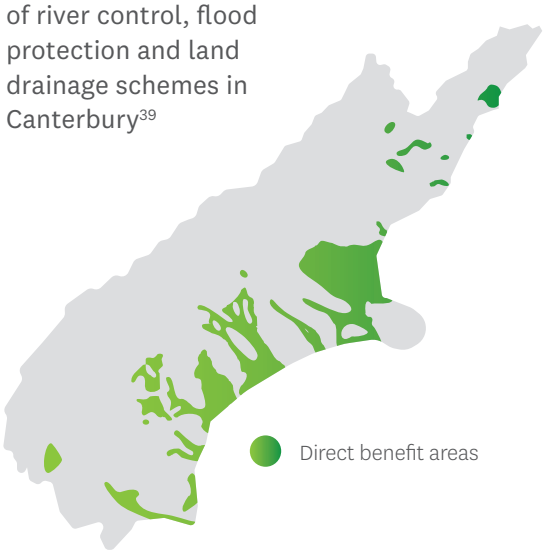
Asset cost

$0.7 billion

Benefit value

$108 billion

Asset cost (capex and opex) and Net Present Value of river control, flood protection and land drainage schemes in Canterbury[39]



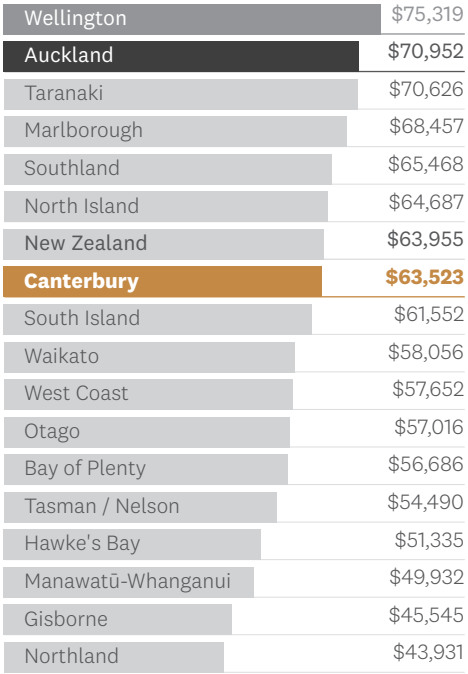
Infrastructure

- The region is well-connected nationally and internationally and is a gateway to Antarctica. Canterbury has the South Island's major international airport (Christchurch), a regional airport (Timaru), two seaports (Timaru and Lyttelton) and inland ports at Rolleston. In the 2021 year, $10.7b value of cargo was exported from Christchurch airport, Lyttelton and Timaru ports (16% of total NZ cargo exported) and $6b value of cargo was imported (9% of total NZ cargo imported)[40].
- Major infrastructure projects that are either proposed, in progress or recently completed include:
  - state highway and regionally significant road and rail projects/improvements, including completion of the Christchurch Northern Arterial Motorway, Christchurch Southern Motorway, Brougham Street improvements, and the road-rail freight hub in Ashburton
  - lifeline utilities - Orion electricity network upgrades and accelerated rollout of the Rural Broadband Initiative phase 2
  - flood protection and recovery across the region, covering the Waiau, Ashley/Rakahuri, Waimakariri and Rangitata rivers as well as a region-wide planting and berm management project
  - earthquake recovery investment in Kaikōura and Hurunui districts – completing the rebuild of SH1 and the local road network, and Kaikōura horizontal infrastructure rebuild
  - Christchurch Hospital upgrade, upgrades and new builds at the three Christchurch prisons and rebuilding and renewing a total of 115 schools following the 2010–11 earthquakes
  - construction of Te Pae (Christchurch Convention and Exhibition Centre), Parakiore Recreation and Sport Centre (metro sports facility) and the Christchurch multi-use arena
  - a new $344 million Antarctica research base to be constructed in Timaru before being transported to Scott Base
  - a 220 hectare, 150 megawatt solar array at Christchurch International Airport[41]
  - a new 93 megawatt windfarm is to be built at Mt Cass[42], owned by MainPower. It will be the largest windfarm in the South Island, will generate enough power for 40,000 homes and will potentially offset 100,000 tons of greenhouse CO^2 emissions per year.

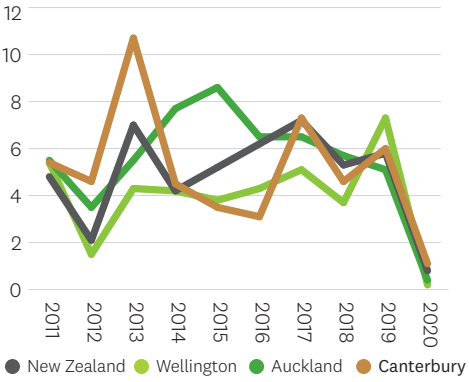
Regional Gross Domestic Product (GDP)

- The impact of COVID-19 on regional economies has been varied. Canterbury's underlying activity in the manufacturing, construction and agricultural sectors has provided some protection on the regional economy from COVID-19 impacts. The impact on tourism has been more significant in other regions.
- Canterbury's GDP in the year ended March 2021 (latest available) was $41 billion. This represents 13% of national GDP (compared with 17% of land area and 13% of national population)[43]
- Canterbury's percentage change in GDP 2016-2021 was 24%, the third lowest percentage growth out of the regions, below the national level of 28%. Bay of Plenty had the highest percentage growth of 45% between 2006-2021
- Canterbury's GDP grew by 1.1% in the year to March 2021, lagging behind growth rates in eight regions but close to the national GDP increase of 0.8%. Two regions experienced negative growth (Taranaki and Otago). In the previous year (to March 2020), Canterbury's GDP increased 4.7% and national GDP increase was 5.4%
- Canterbury's GDP per person (March 2021) was $63,523, just below the national GDP per capita ($63,955) and much lower than GDP per person in Auckland ($70,952) and Wellington ($75,319)
- Over the decade 2011-2021, however, average annual per cent growth in GDP per person was higher in Canterbury (3.7%) than Wellington (2.7%), Auckland (3.7%) and New Zealand (3.2%). All regions experienced a negative growth in GDP per person from 2020 to 2021 (year ended March 2021)[iii]
- In the year ended March 2020 (latest available), manufacturing contributed 11% of Canterbury's GDP. Of this, primary manufacturing contributed 64%, other manufacturing 36%. Manufacturing contributes 9.8% of the national GDP, construction contributed 8.4% of regional GDP, (7% nationally) and professional, scientific and technical services 7.8% (8.3% nationally).

GDP per person by regions year to March 2021



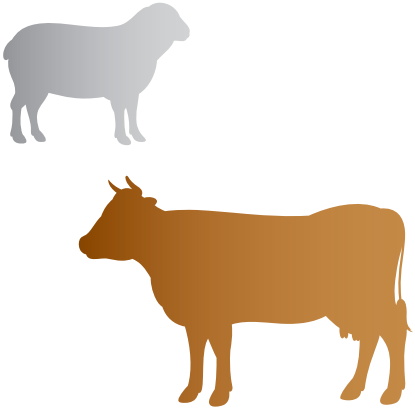
Annual percentage change in GDP year ended March 2021



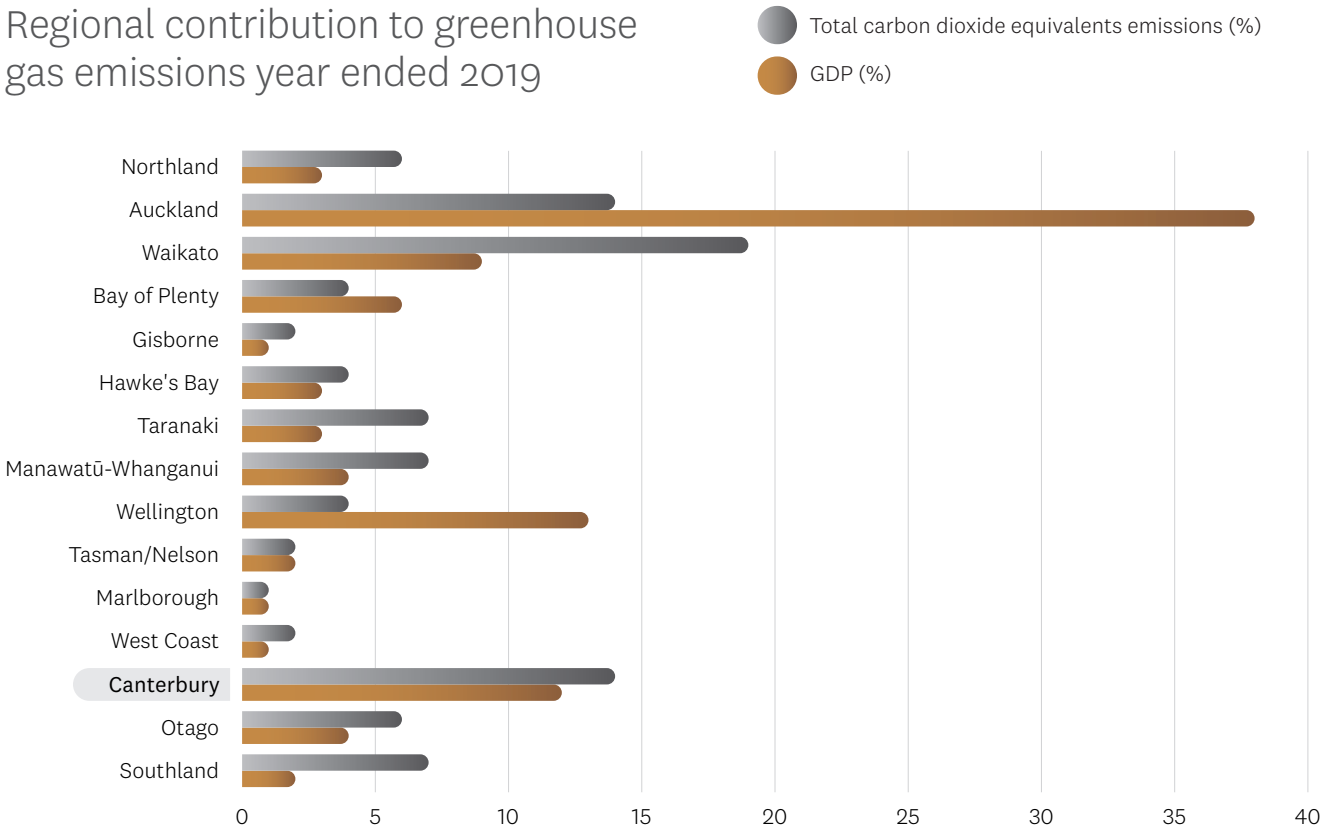
iii Tasman and Nelson regions have been combined to maintain data quality standards. Chatham Islands has been combined with Canterbury to maintain data quality standards.

Regional greenhouse gas emissions

- In 2019 (latest available), Canterbury was the second highest emitter of greenhouse gases, contributing to 14% of all greenhouse gas emissions in New Zealand.
- Waikato contributed the highest at 19% and Auckland contributed similar to Canterbury at just under 14%.
- The structure of regional economies impact on emissions contribution. Canterbury's emissions are mainly from agriculture (66%) and manufacturing (10%). Wellington, which had a similar economic output in 2019 to Canterbury (contributing 12% to national GDP) contributed 4% to total greenhouse gas emissions. This reflects the higher proportion of service industries in Wellington compared to the higher proportion of primary and goods-producing industries in Canterbury.
- In 2019, Canterbury accounted for 18% of the agriculture industry emissions in New Zealand, just under the highest contributor – Waikato at 20%. Canterbury had the largest fall in agriculture emissions in 2019 (from 2018), down almost 3%, mainly due to declining livestock numbers[44].



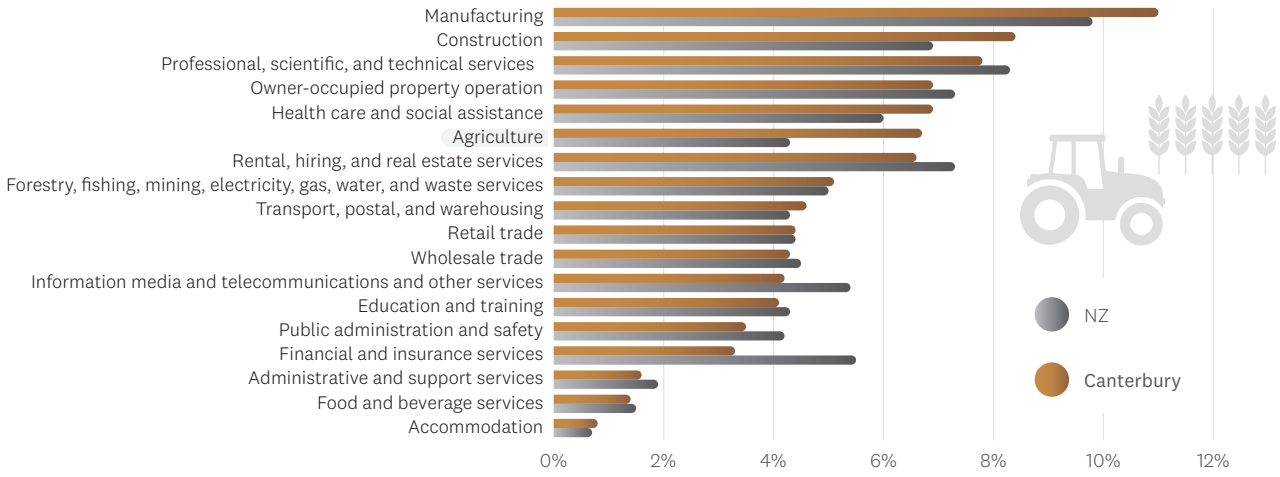
Regional contribution to greenhouse gas emissions year ended 2019



Agriculture

- Agriculture contributed 6.7% of regional GDP in the year to March 2020, compared with 4.3% nationally. There is a lot of diversity between the industry compositions of Canterbury's sub-regions. A ChristchurchNZ analysis of the Canterbury economy, excluding Christchurch, revealed the importance of the agriculture and manufacturing industries, which are responsible for approximately 32% of employment (2019)[45].
- Agriculture plays a significantly more important role in Canterbury's economy than in the economies of Auckland and Wellington regions, contributing $2.7 billion to Canterbury's regional GDP in 2020 (Auckland $359 million, Wellington $274 million).
- Agriculture also generates a significant amount of economic activity from supporting industries including primary manufacturing, other manufacturing, professional, scientific and technical services, owner-occupied property operation; transport and warehousing, and financial and insurance services.
- Dairy cattle farming is by far the largest generator of primary industries GDP in Canterbury, followed by sheep, beef and grain farming[46].
- There were 7,161 farm holdings in Canterbury, covering a total of 2,575,684 hectares (19% of farmed land in NZ) in 2019[47].
- In June 2021[48], Canterbury with 16.9% of NZ's land area had:
  - 1,325,000 dairy cattle (up 6.3% on 2020) – 21% of NZ's dairy cattle
  - 516,000 beef cattle (down 7.7% on 2020) – 13% of NZ's beef cattle
  - 4,254,000 sheep (down 6.7% on 2020) – 17% of NZ's sheep
  - 157,000 pigs (up 4.9% on 2020) – 63% of NZ's farmed pigs
  - 263,000 deer (down 0.9% on 2020) – 32% of NZ's farmed deer.
- In Canterbury, in the year to 30 June 2021[49]:
  - 342,000 tonnes of wheat were harvested (down 8% on 2020) – 81% of NZ's total wheat harvested
  - 212,100 tonnes of barley were harvested (down 6.6% on 2020) – 65% of NZ's total barley harvested.
- In Canterbury in the year to 31 March 2018[50] (latest available):
  - 2,700 hectares of exotic timber were harvested (down 11.5% on 2017) – 4% of NZ's total hectares harvested
  - 1,275,300 m³ of exotic timber were harvested (down 0.2% on 2017) – 4% of NZ's total m³ harvested.
  - 2,200 hectares of exotic timber were re-planted (up 37.8% on 2017) – 5% of NZ's total hectares replanted.
- In the year to 30 June 2020[51] (latest available), 64% of horticultural land[iv] in Canterbury was planted in potatoes (5,255 hectares), and 17% in wine grapes (1,432 hectares), followed by 14% in onions (1,165 hectares).

Sector per cent of Canterbury region and NZ GDP, to March 2020

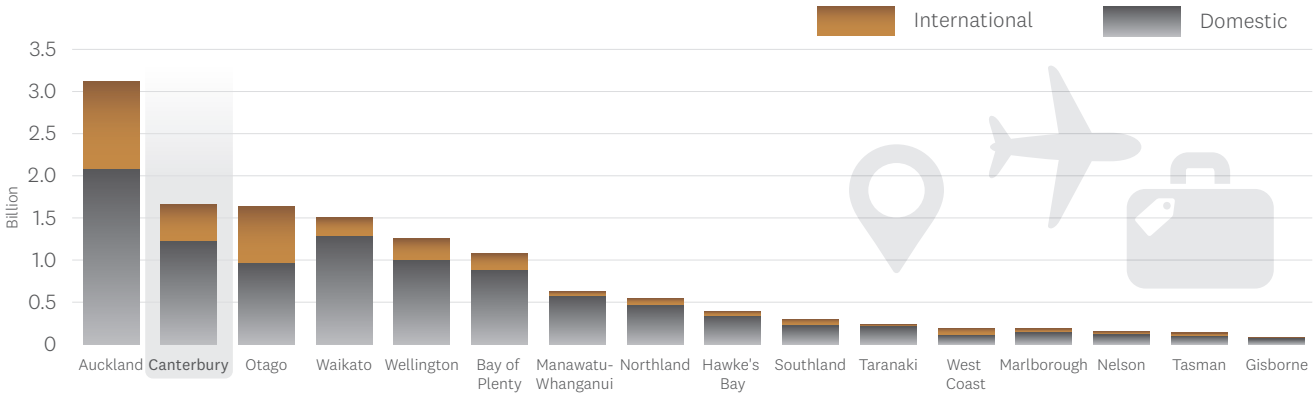


iv Of 8256 hectares, the total of the 8 horticultural classes within the Agricultural (horticulture) production survey.

International and domestic visitors

- From March 2020, New Zealand imposed international border restrictions in response to COVID-19 which had a significant impact on visitor arrivals to New Zealand. Annual visitor arrivals into New Zealand dropped dramatically from 3.7 million in the year ended March 2020, to 52,690 in 2021 (year ended March). This has picked up slightly since border restrictions have started to ease with 229,370 visitor arrivals in the year ended March 2022 and will continue to do so as border restrictions ease[52].
- Prior to border controls to respond to the COVID-19 pandemic, New Zealand's total number of international visitor arrivals increased by 120% over the past 20 years from 1.65 million in 2000 to 3.7 million in 2020 (year ended March). The largest growth in visitor numbers came from China, up from 26,802 in 1999 to 328,145 in the year ending March 2020. Prior to COVID-19 border restrictions, China was the second-largest source country for visitor arrivals to New Zealand after Australia – 1.5 million Australians visited in the year to March 2020. Visitors from Japan had a decrease in the same period, from 145,637 in 2000 to 90,326 in 2020 (year ended March)[53].
- In the year to March 2022, 63% of overseas visitor arrivals into Christchurch airport (31,460), stated their purpose of visit was to visit friends/relatives, 17% for holiday purposes and 8% for business. The majority (85%) of those overseas visitors were from Australia. To compare, in the year to March 2020 (pre COVID-19 border controls) 510,000 international visitors arrived in New Zealand at Christchurch International Airport. Of these, around 6% came on business, 25% to visit friends and relatives, and 61% on holiday. 48% of those overseas visitors were from Australia.
- In the year to June 2020, 154,479 cruise ship passengers visited a Canterbury port, down 20% from to year to June 2019[54].
- In 2019, tourism expenditure was 10.3% of regional GDP in Canterbury. Otago and West Coast regions had the highest proportion (30% and 28%)[55].
- Annual domestic spend to April 2022 in Canterbury was $1.4b. Canterbury ranked second with Waikato behind Auckland ($1.8b)[56]. Prior to COVID-19 controls, international spend was $439m in Canterbury, Otago was $683m and Auckland $1b (year ended Feb 2020). In the year to February 2022, international spend in Canterbury was $126m. Spend includes accommodation services, transport services, food and beverage services, cultural, recreation and gambling services and retail sales[57].
- Tourism businesses have been extremely hard hit by the COVID-19 operating environment with business turnover in NZ halved (down 48%); and four out of ten jobs lost (down 37%) compared to pre-COVID levels[58]. Job numbers in the areas with a much higher share of tourism (Hurunui, Kaikōura, and Mackenzie) fell (down 2.8%) during the March 2021 year[59].
- The Ministry for Business, Innovation and Employment has developed a Tourism recovery dashboard to monitor trends as border restrictions lift[v].

Estimated tourism spend per region, year ended February 2020

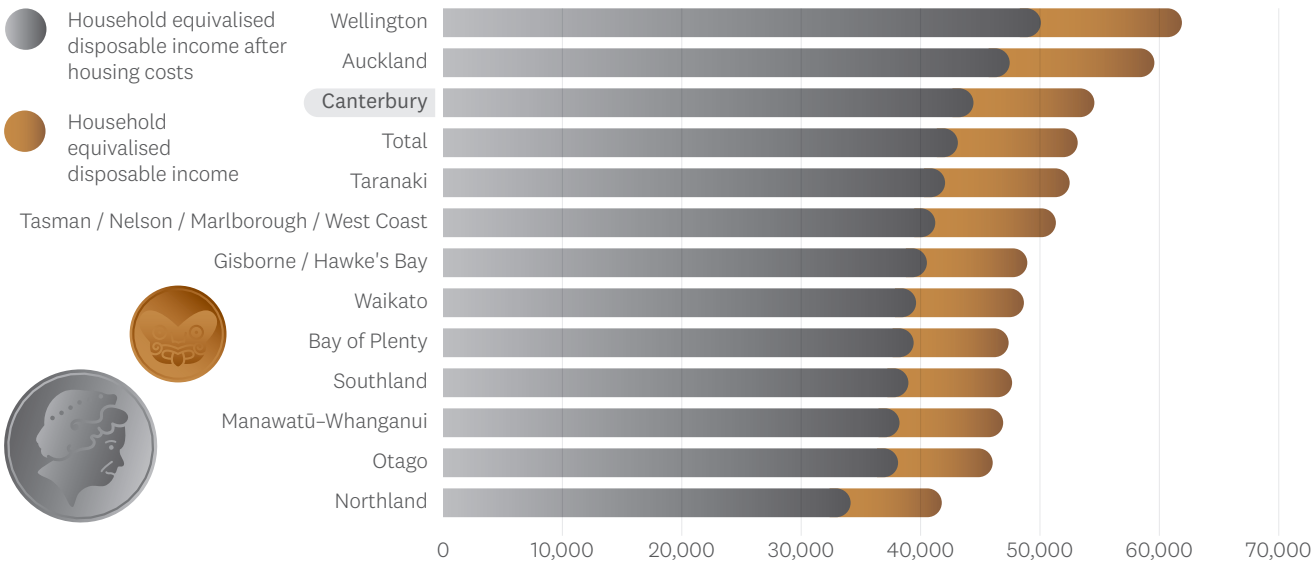


v https://teic.mbie.govt.nz/teiccategories/datareleases/tourismRecoveryDashboard/

Income

- Median weekly income in Canterbury was $784 (NZ $770) in 2021. Median household weekly income from all sources was $1,758 (NZ $1,880) for the same period[60]. In Canterbury, median weekly income increased by 35% between 2010 and 2021 (not adjusted for inflation), compared to NZ 36%, Auckland 40% and Wellington 36%.
- In Canterbury, median hourly earnings in full-time work in June 2021 were $29.02 (NZ $29.18) and $23.71 in part-time work (NZ $22.99)[61].
- Median equivalised disposable income by household was $44,431 in year ended June 2021, and $34,304 after housing costs in the year ended June 2021[62]. Equivalising income removes the effect of different household sizes and compositions on estimates to compare income across households of different sizes and compositions.
- The NZ consumers price index increased 6.9% in the March 2022 quarter compared with the March 2021 quarter, the largest movement since a 7.6% annual increase in the year to the June 1990 quarter[63]. For the household living costs price index, average household annual living costs increased 6.6% from the March 2021 quarter to the March 2022 quarter, largely driven by petrol and interest payments[64].
- The percentage of children in Canterbury living in households in severe material hardship was 3.5% in year ended June 2021, compared to 4.9% nationally[65].
- 29% of respondents in Canterbury to the 2021 General Social Survey reported that they did not have enough money, or only just had enough money to meet everyday needs, unchanged from 2018. In comparison, 33% of total respondents in NZ in 2021 reported they did not have enough money, or only just had enough money to meet everyday needs, a decrease from 37% in 2018[66].
- The number of people receiving a Jobseeker Support (Work Ready) benefit in Canterbury has steadily increased from 10,107 in March 2017 to 14,985 in March 2020 to 18,012 in March 2022. The highest number of recipients in the last five years was 22,116 in December 2020. In March 2022 59% had been receiving the benefit continuously for more than a year[67]. Canterbury had a lower proportion (4.5%) of working-age population receiving Jobseeker Support in March 2022 than all other MSD regions except for Southern (3.7%).

Median equivalised disposable income before and after housing costs to 2021



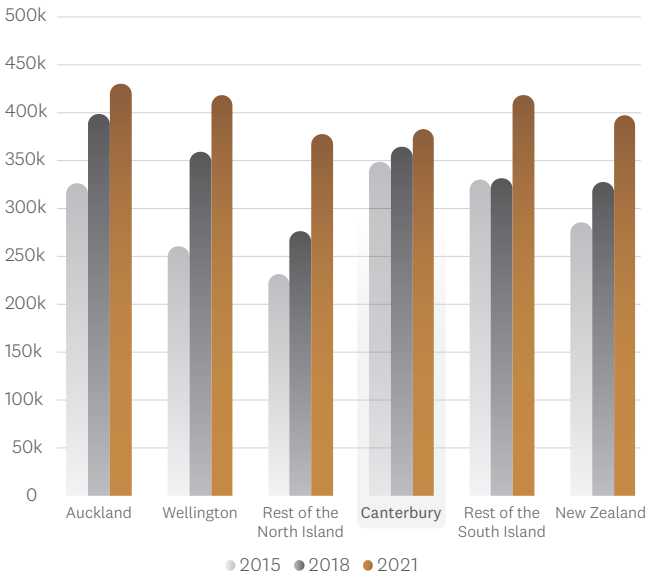
Housing

- In Census 2018, 56% of total Canterbury households stated that they lived in a dwelling they owned or partly owned (NZ 51%, Auckland 45%, Wellington 53%). Home ownership rates have dropped from 71% in Canterbury in 2001 (NZ 68%, Auckland 64%, Wellington 67%)[68].
- According to the latest available REINZ report (May 2022) Canterbury's median house price was $685,000, an increase of 18% from the previous year (May 2021) and an increase of 0.7% compared to April 2022. National median prices in May 2022 were $840,000, up 2.4% from May 2021, or $730,000 excluding Auckland (up 7.6%)[69]. National median house prices fell 4% from April 2022 and a downturn is expected given rising interest rates and tighter credit regulations. The Canterbury median house price is 82% of the New Zealand median house price.
- The median house price in Canterbury five years ago (May 2017) was $435,000, and ten years ago (May 2012) was $339,000. The median house price in Canterbury in August 2020 had increased by 13% on the previous year. The last time increase on previous year was that high was in 2014. The median Canterbury house price rose only 6% over four years from $415,000 in August 2015 to $440,000 in August 2019.
- Massey Home Affordability Report December 2021[70] noted overall housing affordability had declined, due to increase in mortgage interest rates and median house prices. Canterbury had a 59% decline in home affordability in the last twelve months (to December 2021) compared with 38% decline across all regions. Compared to other regions, Canterbury's regional affordability as a percentage of the national average is 79%. Auckland is the highest at 127% and West Coast the lowest at 43%. Housing remains more affordable in Canterbury than Wellington and Auckland.
- The ratio of housing costs to total household disposable income is 21% in Canterbury, the same as the national average (21%) and lower than Auckland (22%) but slightly higher than Wellington (20%)[71].
- Median household net worth in Canterbury grew from $364,000 in 2018 to $383,000 in 2021. This is less than median net worth for the country as a whole ($397,000 in 2018), but lower than median net worth in both Auckland and Wellington. Canterbury has had a significantly lower growth rate. Growth rate has slowed for Auckland and Wellington between 2018-2021, compared to 2015-2018, albeit at a higher rate, whereas the rest of the South Island and North Island had a significantly high growth rate between 2018-2021, compared to 2015-2018[72].
- Canterbury has lower residential rents compared to Wellington and Auckland. Mean weekly residential rent was $463 in Canterbury compared to $913 in Wellington and $600 in Auckland in Q1 2022. This was an increase of 5.1% in Canterbury compared to the same quarter in 2021.
- The number of people on the accommodation supplement (MSD) has increased from 26,485 in May 2019 to 32,556 in May 2022, with a peak of 35,373 in January 2021[73].

Perception

- 33% of respondents to the General Social Survey 2021 in Canterbury reported their house or flat as mouldy, compared to 35% in NZ[74].

Median household net worth



Regional confidence

- Regional confidence reports are compiled from surveys and other relevant information at the time of report compilation. Carried out on a quarterly basis they fluctuate from quarter to quarter, especially in uncertain economic conditions. The below surveys were the latest available at the time of writing.
- According to the Westpac-McDermott Miller Regional Economic Confidence survey (March 2022 quarter)[75], regional economic confidence plunged over the March quarter. With no major developments in the region's key industries, Canterbury's slide was attributed to the Omicron outbreak and cost of living increases. Canterbury's housing market remains resilient, with prices continuing to rise over recent months. On that basis, economic confidence is likely to recover as cases begin to fall and COVID-19 restrictions are eased over coming months, although, like other regions, the rising cost of living may temper the magnitude of the improvement.
- The ASB Regional Economic Scorecard (April 2022 Q4 2021)[76] ranked Canterbury first of the 16 regions, unchanged from the previous quarter and a jump from spot 13 in Q4 2020. This move up the ranks comes after Canterbury underwent a period of consolidation after the flurry of activity and inward investment following the 2010-11 earthquakes. Of the regions, in Q4 2022 Canterbury made the top five for growth in employment, construction, retail trade and confidence. In addition to this, the region takes the lead for house prices, up 36% annually which is almost 10% higher than the nation's average – the region is one of the few places in the country where house prices have continued to lift over the beginning of 2022.

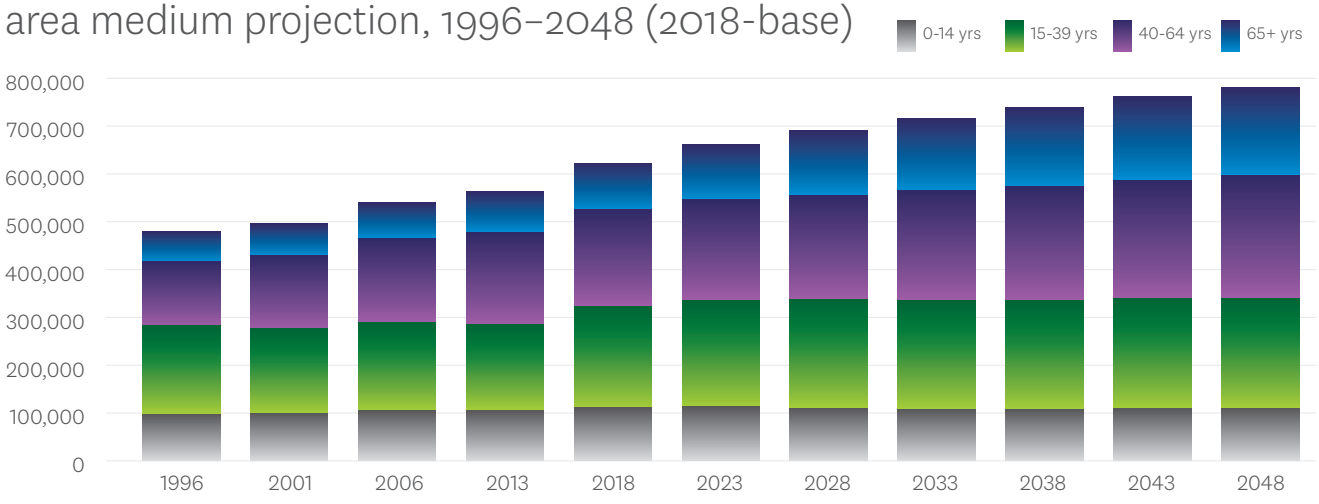
Canterbury's population

- Canterbury is New Zealand's second-largest region by population after Auckland, with an estimated resident population (June 2021) of 649,800[77].
- Population density in Canterbury is 13.3 people per km² (New Zealand 17.5)[vi].
- 54% per cent of the South Island's population lives in Canterbury. Canterbury's population is unevenly distributed across the region, with 60% in Christchurch City and 82% in greater Christchurch (Waimakariri, Christchurch, Selwyn).

Key indicators

- On the medium projection, Canterbury's population is expected to grow from 622,800 in 2018 to 780,500 in 2048 – an average annual growth rate of 1%, in line with New Zealand's overall population growth rate[78].
- Canterbury's population is structurally ageing. The median age was 38 years in 2018 (NZ 37 years), and is projected to increase to 45 years in 2048 (NZ 44 years). By 2048, the proportion of the population aged 15–64 years in Canterbury is projected to be 62%, lower than the proportion in Auckland (66%) but similar to Wellington, Otago and New Zealand proportions. By 2048, the number of deaths in Canterbury is projected to increase as the population ages, becoming close to equally the projected number of births.
- International travel restrictions due to COVID-19 had a significant impact on net migration and therefore population growth in the June 2021 year. In the year to June 2021, there was a natural increase of 2,900 people, and net migration of 2,800 people to Canterbury, resulting in a population growth of 5,700 people (0.9%). In the previous year (June 2020), Canterbury's population growth was 2.2% (or 13,600 people) with 82% of Canterbury's population growth from net migration. Net migration contributed to 75% of national population growth[79].
- Canterbury's labour market has a severe shortage of skilled workers. ChristchurchNZ analysis suggests significant short-term migration is required, potentially on a regional basis, followed by a phased transition away from such a significant reliance on migration in the medium- and long-term. Due to an ageing population and consistent economic growth, Canterbury has been dealing with a workforce shortfall since the workforce rebalanced in the wake of the 2011 earthquake. A recent estimate in ChristchurchNZ's 2020 Canterbury Skills and Workforce Advisory Report predicts a shortage of 50,000 skilled workers by 2030[80].

Population age structure, Canterbury regional council area medium projection, 1996–2048 (2018-base)



vi Based on Census 2018 data and land area in km²

Employment

Key indicators

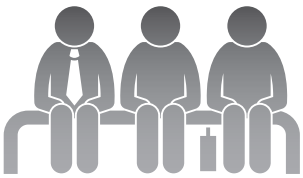
- Canterbury's employment rate in the March quarter 2022 was 71% (NZ 69%, Auckland 69%, Wellington 74%), up from 68% in the March 2021 quarter[81].
- Canterbury's unemployment rate in the March 2022 quarter was 3.5% (NZ 3.4%, Auckland 3.5%, Wellington 3.1%), down from 4.3% in March 2021 and 3.7% in March 2020. Overall, unemployment rates have been consistently lower than the New Zealand average and have tracked down over the long-term except for temporary trends following the earthquake rebuild passing its peak and COVID-19 impacts.
- In the year to March 2022, the labour market under-utilisation rate in Canterbury was 9.6%, the same as the national rate (Auckland 9.1%, Wellington 9.3%), and down from 12% in the year to March 2021.
- In 2022 (end March) 10.3% of Canterbury's 15–24 year-olds were estimated to be not in education, employment or training (NEET), compared to NZ 11.7%, Auckland 12.0%, Wellington 9.5%. This was up from a low of 8.2% in 2016 but, similar to the unemployment rate, Canterbury has been consistently lower than NZ over last 20 years.

Canterbury's employment rate in the year to March 2022

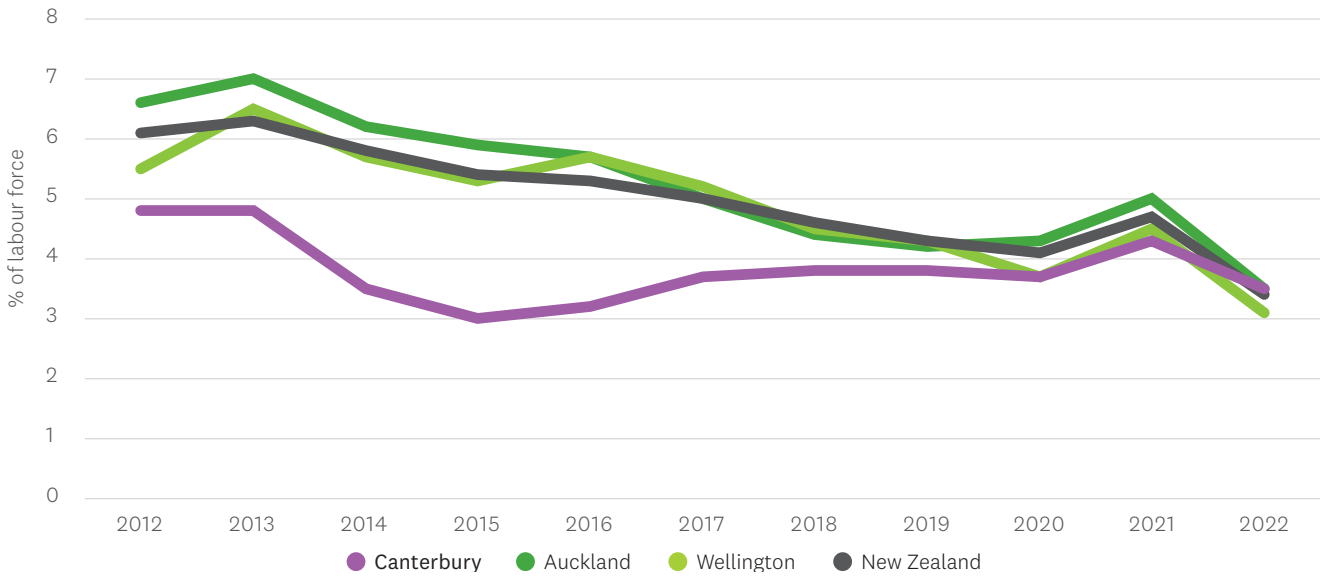
71%

up from 68% in March 2021.

New Zealand	69%
Auckland	69%
Wellington	74%



Unemployment rate 2012-2022



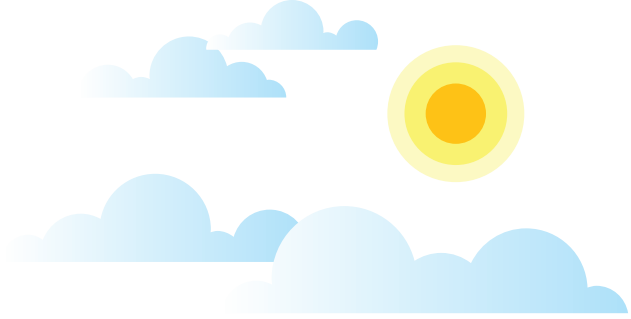
15–24 year-olds in Canterbury estimated to be not in education, employment or training (NEET) in (the year to March) 2022

10.3%

up from a low of 8.2% in 2016

New Zealand	11.7%
Auckland	12.0%
Wellington	9.5%

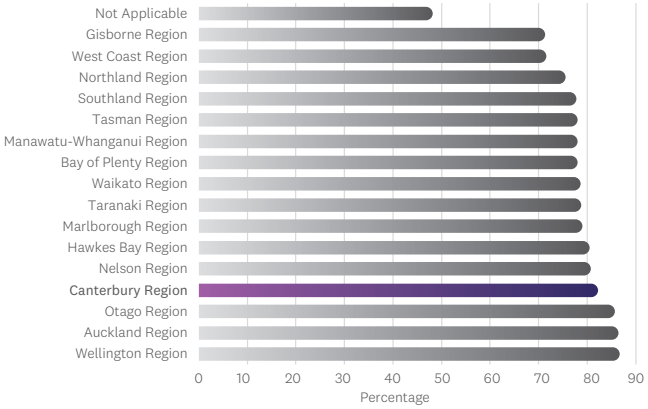
- Compared to the national average, Canterbury has a higher proportion of jobs in manufacturing, healthcare and social assistance, and retail trade and construction. Employment in Christchurch City is heavily concentrated on healthcare, retail, manufacturing, construction, professional services and education. Selwyn and Waimakariri have traditionally been agriculturally focused, while construction and retail have begun to form an increasingly prominent role. Employment in the rest of Canterbury is heavily focused on agriculture and food processing. Accommodation and food services employment is also higher than the Canterbury average, primarily because of tourism activity in Kaikōura, Hurunui, and Mackenzie.
- Self-employment rates are highest in the rental, hiring and real estate services and in agriculture, forestry and fishing[82].
- Between 2020-2021 industries with the biggest negative change for Canterbury were transport and warehousing and arts and recreation. For the whole of New Zealand it was also transport and warehousing. The largest positive change was in the electricity, gas, water and waste services. However, Canterbury saw a small but positive change to agriculture, forestry and fishing, unlike New Zealand as a whole which saw a negative change[83].
- In 2018, the percentage of employed in each occupation (ANZSCO major groups) in Canterbury was, in order: professionals (20.8%), managers (17.6%), technicians and trades workers (13.9%), labourers (11.7%), clerical and administrative workers (10.6%), community and personal service workers (9.4%), sales workers (9.3%) and machinery operators and drivers (6.7%). This largely matches the national average; although Canterbury has slightly fewer ‘professionals’ and slightly more ‘technicians and trades workers’ and ‘labourers’ than the national average[84].



Education

- Canterbury has three universities (the University of Canterbury, Lincoln University and the University of Otago Medical School), a regional polytechnic (Te Pūkenga, through the Ara Institute of Canterbury) and the largest public library in the South Island (Tūranga).
- Canterbury is home to two Ministry of Social Development-funded Education to Employment Brokerage services (Christchurch and South Canterbury). These agencies partner with career advisors and secondary schools to educate and motivate the next generation of the workforce on a variety of career and education pathways to help them make informed decisions on their lives after secondary school.

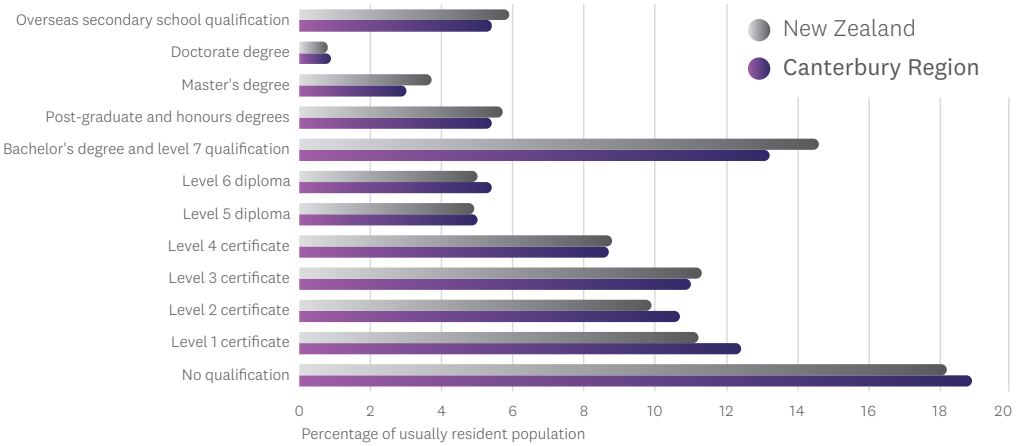
School leavers with NCEA L2+ (2020)



Key indicators

- In Census 2018, 20% of Canterbury population were in full-time study (21% NZ)[85].
- In 2020 (latest figures available), 84% of school leavers in Canterbury stayed at school until at least their 17th birthday, similar to the national average. In the same period, 82% of school leavers in Canterbury had attained NCEA Level 2 or above (NZ 81%)[86].
- 34% of Canterbury school leavers in 2019 were undertaking a bachelor's degree in their first year, 28% were in a certificate or diploma programme and 38% were not enrolled in tertiary education[87].
- The working age population in Christchurch City is more qualified than the national average, with 26% having a bachelor's degree or above, compared to 25% nationally. The proportion of degree-qualified residents in Selwyn and Waimakariri sits at 19%, while just 14% of the working age population in the rest of Canterbury is degree qualified. This geographical variation is likely to be due to different industry mixes across the region and associated differences in industries' expectations of the qualifications of their staff[88].

Highest qualification (Census 2018)



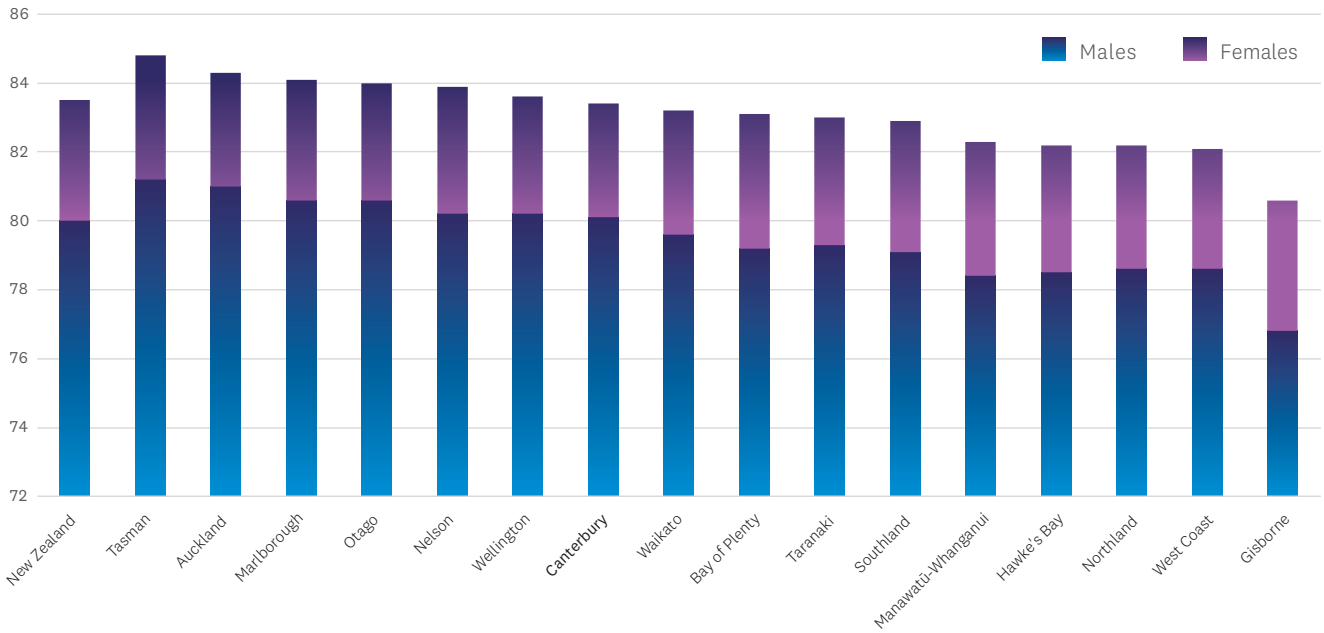
Health

- Canterbury has the largest tertiary, research and teaching hospital in the South Island.
- The Canterbury earthquakes of 2010–11 resulted in a significant increase in demand for mental health services for adults, children and adolescents. The Ministry of Health 2017-2020 Health Survey noted higher prevalence of mental health disorders in Canterbury region than the New Zealand average. Prevalence of other health conditions tended to be lower than total New Zealand prevalence[89].
- The COVID-19 pandemic has exacerbated demand for mental health services in Canterbury[90], and has had ongoing mental health and wellbeing impacts across the nation.

Key indicators

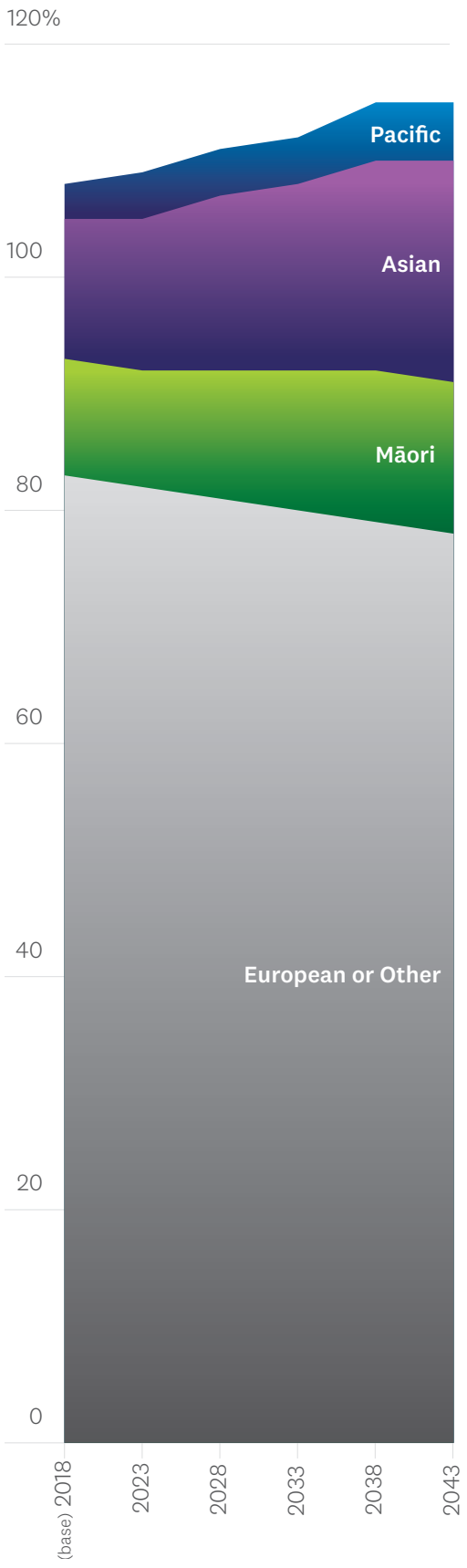
- Based on death rates in New Zealand in 2017-2019, the life expectancy at birth is marginally higher in Canterbury (83.8 female, 80.1 males) than New Zealand's total population (83.5 female, 80.0 male), but lower than the life expectancy in Auckland. The life expectancy at birth is considerably higher in Canterbury's Māori population (81.0 female, 77.3 male) than New Zealand's total Māori population (77.2 female, 73.5 male)[91].
- In 2021, 60% of Canterbury wellbeing survey respondents rated their health excellent or very good (NZ 51%). Responses to subjective questions on mental wellbeing were very similar to total NZ responses[92].
- The rate of confirmed suicides in Canterbury was the same as the NZ rate in 2018 (12), and similar to the rate ten years prior. Rates of suspected suicides for 2019 and 2020 indicate Canterbury and NZ rates are also similar. In 2017, the Canterbury rate (15) was above the NZ rate (12). Total suicide deaths in New Zealand were 623 in 2018 with 72 in Canterbury[93].

Median life expectancy at birth by region (2017-2019)



Culture and identity

- Canterbury has a higher percentage of people who identify as European than New Zealand as a whole, and smaller percentages of people who identify as Māori, Pacific, Asian, Middle Eastern, or Latin American and African.
- The proportion of the population that identifies as European or Other (including 'New Zealander') is projected to decline in Canterbury, from 83% in 2018 to 78% in 2043, while the proportions of the population that identify as Māori, Asian and/or Pacific are projected to increase.
- Māori and Pacific populations in Canterbury have a markedly younger age structure than the total population, due to higher birth rates; people who identify as Asian or as Middle Eastern, Latin American or African also have a younger age structure than those who identify as European, but without the high proportions of children aged 5–14 years.
- Christchurch City has the most ethnically diverse population in Canterbury, but the proportion of Christchurch's population that identifies as European (82% in Census 2018) is still significantly higher than in New Zealand as a whole (70%).
- Kaikōura district has the highest percentage of people who identify as Māori (18%).
- Ashburton district has the highest percentage of people who identify as Pacific (3.4%).
- Christchurch City has the highest percentage of people who identify as Asian (15%) and Middle Eastern, Latin American or African (1%).
- 56,300 people living in Canterbury stated in Census 2018 that they are of Māori descent, 9.4% of the total population. 20,778 are affiliated with Ngāi Tahu.
- 70,200 people are registered with Te Rūnanga o Ngāi Tahu, and 27% of those (18,700 whānau members) are in Waitaha.
- The proportion of people in Canterbury who state 'no religion' has increased from 30% in 2001, to 51% in 2018. Of those who stated a religious affiliation in Census 2018, 37.1% of people in Canterbury stated that they are Christian, only marginally higher than in New Zealand's total population (36.5%). The proportion of people in Canterbury who state that they are Christian has declined, however, from 62% in 2001, to 37.1% in 2018.



- Of people usually resident in Canterbury at the time of the 2018 Census, 96.4% indicated that they speak English (NZ 95.0%), 1.9% Māori (NZ 4.0%) and 0.5% indicated that they can communicate in New Zealand Sign Language (NZ 0.5%). 84% indicated they spoke one language in Canterbury and 14% more than one language. The most commonly spoken languages in Canterbury other than English are: Māori (1.9%), Northern Chinese (1.4%), Tagalog (1.2%), French (1.1%), Samoan (1%).
- In Census 2018 1.9% of Canterbury people stated in that they could hold a conversation about a lot of everyday things in te reo Māori, up from 1.7% in 2006 and 2013 – compared to NZ 4%, Wellington 3.5% and Auckland 2.4%.
- Census 2018 indicated that 23% of people in Canterbury were born overseas (NZ 27%). The most common birthplace for people living in Canterbury but born overseas was Asia (37%), followed by the UK and Ireland (28%), and Australia (17%).
- Just under half (48%) of overseas-born people in Canterbury had been living in New Zealand for less than ten years. Half of these were born in Asia. 27% of overseas-born people in Canterbury have been living in New Zealand for 20 or more years at the time of the 2018 Census. The majority of these were born in the UK and Ireland.

Key indicators

- In the General Social Survey 2021[94] 85% of Canterbury respondents rated their overall life satisfaction between 7–10 on a scale where 0 = completely dissatisfied and 10 = completely satisfied, comparable to national responses (Wellington 84%, NZ 81%, Auckland 79%). Responses rated family wellbeing similarly, with 86% of Canterbury respondents rating family wellbeing between 7-10, compared to 81% in NZ (on a scale 0 = doing extremely badly – 10 = doing extremely well).
- In the 2021 General Social Survey:
  - 82% of survey respondents in Canterbury reported that it was easy or very easy to be themselves in New Zealand (NZ 80%)
  - 18% of survey respondents in Canterbury reported being subjected to some form of discrimination (NZ 21%)
  - 16% of survey respondents in Canterbury felt lonely at least some of the time in the last four weeks in 2021 compared with 14% nationally. This was a slight increase from 15% in 2018, but a decrease from 20% in 2016)
  - 67% of survey respondents in Canterbury felt safe or very safe when walking alone in their neighborhood after dark, compared with 60% nationally
  - 41% of survey respondents in Canterbury reported high levels of trust in Parliament. This has increased from 37% in 2014, but decreased from 2018 (44%). Trust in police was 85% (NZ 80%).
- The risk of experiencing personal offences was similar across the country, but household offences were more common in some regions than others. Canterbury households experiencing offences in the previous 12 months was 21%, which is the same as Northland. The New Zealand average was 20%. All other regions were lower except for Gisborne (24%), Auckland (22%), and Hawkes Bay (22%)[95].
- Average voter turnout across Canterbury councils in local body elections is higher than in New Zealand as a whole. In 2019, voter turnout for Canterbury Regional Council was 45% (the same as the NZ average for regional councils). Canterbury councils representing smaller populations had the highest turnout rates in 2019 (61%), whereas Christchurch City had the lowest voter turnout (41%)[96]. In comparison, for the 2020 General Election, 82% of enrolled electors turned out across New Zealand.
- In Census 2018, close to 13% of usually resident population in Canterbury (total people stated) helped or volunteered through an organisation, group and marae, similar to the national proportion. 17% of those volunteering in the Canterbury region were in the 15-29 year old age group, 58% in the 30-64 age group and 25% were 65 years or older[97].

Endnotes

1 Treasury website: The Living Standards Framework (LSF) 2021 – October 2021; Treasury Paper: The Living Standards Framework (LSF) 2021 - October 2021.

2 Treasury website: Living Standards Framework Dashboard https://lsfdashboard.treasury.govt.nz/wellbeing/

3 Government COVID-19 website: History of the COVID-19 Alert System https://covid19.govt.nz/alert-levels-and-updates/history-of-the-covid-19-alert-system/

4 Environment Canterbury, Canterbury Regional Policy Statement https://ecan.govt.nz/your-region/plans-strategies-and-bylaws/canterbury-regional-policy-statement/

5 Stats NZ Agricultural Production Survey, Farm numbers and size, 2019

6 Environment Canterbury, Regional Coastal Environment Plan Regional Coastal Environment Plan for the Canterbury Region | Environment Canterbury, Chapter 3

7 Stats NZ Agricultural Production Survey, Irrigated land area, 2019

8 Stats NZ Indicators, Manaaki Whenua Landcare Research, Urban land cover, 2006- 2018

9 Stats NZ Indicators, Manaaki Whenua Landcare Research, Land fragmentation, 2002-2019

10 Ministry for the Environment, Regional information for setting draft targets for swimmable lakes and rivers, March 2018 https://environment.govt.nz/assets/Publications/Files/Regional-information-for-setting-draft-targets-for-swimmable-lakes-and-rivers-final.pdf

11 Ministry for the Environment, Stats NZ Environment Aotearoa 2019, pg 64 environment-aotearoa-2019.pdf

12 LAWA Water Quantity, How much water is there in the region https://www.lawa.org.nz/explore-data/canterbury-region/water-quantity/

13 Stats NZ, Water physical stock account by region year ended June 1995-2020, https://www.stats.govt.nz/information-releases/environmental-economic-accounts-water-physical-stocks-year-ended-june-1995-2020/

14 Ministry for the Environment, Stats NZ, Our Freshwater 2020, pg 54, our-freshwater-2020.pdf (environment.govt.nz)

15 LAWA Water quantity, Water Consents How is water used? Land, Air, Water Aotearoa (LAWA) - Water Quantity

16 Environment Canterbury, Long Term Trends Surface Water, Natural Environment Committee report, May 2022

17 Environment Canterbury, Long Term Trends – groundwater and surface water, Natural Environment Committee report, April 2022

18 Ministry of Health, 2022 Annual report on drinking water quality 2020-21 https://www.health.govt.nz/system/files/documents/publications/annual-report-on-drinking-water-quality-2020-2021-mar22.pdf

19 Environment Canterbury, Canterbury water quality monitoring for primary contact recreation – Annual Summary Report 2019/20 https://api.ecan.govt.nz/TrimPublicAPI/documents/download/3985866

20 Stats NZ, Wellbeing statistics 2018: neighbourhood and environmental Wellbeing statistics: 2018 | Stats NZ

21 Environment Canterbury, Air quality data https://www.ecan.govt.nz/data/air-quality-data/

22 LAWA Air Quality PM^{10} and $PM^{2.5}$ at towns in this (Canterbury) region Land, Air, Water Aotearoa (LAWA) - Air Quality

23 Stats NZ, Wellbeing statistics 2018: neighbourhood and environmental Wellbeing statistics: 2018 | Stats NZ

24 Environment Canterbury, Data from past years, https://www.ecan.govt.nz/your-region/your-environment/air-quality/the-science-behind-our-air-quality/data-from-past-years/

25 A Biodiversity Strategy for the Canterbury Region, 2008 https://www.ecan.govt.nz/your-region/plans-strategies-and-bylaws/canterbury-biodiversity-strategy

26 Ministry for the Environment, Stats NZ Our atmosphere and climate 2020 https://environment.govt.nz/publications/our-atmosphere-and-climate-2020/

27 Department of Conservation, Extinction threat to indigenous land species https://www.stats.govt.nz/indicators/extinction-threat-to-indigenous-land-species/

28 Department of Conservation, Extinction threat to indigenous freshwater species Extinction threat to indigenous freshwater species

29 Department of Conservation, Extinction threat to indigenous marine species Extinction threat to indigenous marine species

30 Stats NZ Wetland area (Manaaki Whenua Landcare Research) Wetland area

31 Stats NZ Wetland area (Manaaki Whenua Landcare Research)

32 LAWA Land Cover, 1996- 2018 Land, Air, Water Aotearoa (LAWA) - Land Cover

33 NIWA The Climate and Weather of Canterbury, 2016, Canterbury

34 Canterbury Mayoral Forum, Canterbury Climate Change Risk Assessment, 2022, https://www.canterburymayors.org.nz/wp-content/uploads/Canterbury-Climate-Change-Risk-Assessment-Summary-Report-2022.pdf

35 Ministry for the Environment, http://www.mfe.govt.nz/climate-change/likely-impacts-of-climate-change/how-could-climate-change-affect-my-region/canterbury

36 Environment Canterbury, Canterbury Floods May/June 2021 (ecan.govt.nz)

37 Ministry for the Environment, Stats NZ, Our land 2018, pg. 28 Our-land-201-final.pdf (environment.govt.nz)

38 GNS Science, Alpine Fault https://af8.org.nz/alpine-fault-earthquake-likelihood-increases/

39 2018 Tonkin and Taylor (or Co-investment report) Te Uru Kahika (River Managers Special Interest Group) Central Government Co-investment in Flood Protection Schemes https://www.ecan.govt.nz/document/download?uri=4524603

40 Stats NZ Imports and Exports tables Exports for Overseas Cargo (fob NZ$) and Imports for Overseas Cargo (cif NZ$), 2021 https://nzdotstat.stats.govt.nz/wbos/Index.aspx

41 https://www.christchurchairport.co.nz/about-us/sustainability/kowhai-park/

42 https://www.mtcasswindfarm.co.nz

43 Stats NZ Regional gross domestic product: Year ended March 2021

44 Stats NZ Greenhouse gas emissions by region (industry and household) Year ended 2019 Coal use drives up regional emissions in 2019

45 ChristchurchNZ, Peter Fieger, David Dyason, Exploring our Economy Series – Volume 3 Exploring Canterbury https://www.christchurchnz.com/media/cw0o3ehh/volume-3_explore-canterbury.pdf, October 2019

46 MBIE Regional Activity Web Tool: The dairy cattle farming share of Canterbury GDP. Regional economic activity report (mbie.govt.nz)

47 Stats NZ Farm numbers and size, 2019

48 Stats NZ Agricultural production statistics: June 2021 (final)

49 Stats NZ Agricultural production statistics: June 2021 (final)

50 Stats NZ: NZ Stat Agriculture Forestry by Regional Council year ended 31 March 2018

51 Stats NZ: NZ Stat Agriculture Horticulture by Regional Council year ended 30 June 2020

52 Stats NZ: Infoshare International Visitor Arrivals

53 Stats NZ: Infoshare International Visitor Arrivals

54 Stats NZ Cruise ship traveller statistics, by direction and traveller type, year ended June 2020

55 MBIE Monthly Regional Tourism Estimates and MTAGDP - Total tourism expenditure as a share of regional GDP

56 MBIE Domestic tourism electronic card transaction expenditure

57 MBIE International tourism electronic card transaction expenditure

58 Tourism Industry Aotearoa Survey August 2021 COVID-19-August-Summary-Report-August-2021.pdf (tia.org.nz)

59 MBIE Profile of Canterbury's labour market and future challenges June 2021 (mbie.govt.nz)

60 Stats NZ Household income by region, household type, and source of household income, 2021

61 Stats NZ Earnings from wage and salary jobs by sex, age groups, region, and full-time and part-time status, 2021

62 Stats NZ Household income and housing-cost statistics: Year ended June 2021

63 Stats NZ Consumers price index: March 2022 quarter Annual inflation reaches 30-year high of 6.9 percent

64 Stats NZ Household living-costs price indexes March 2022 quarter Petrol and interest payments drive up cost of living

65 Stats NZ Child poverty statistics June 2021 Child poverty statistics: Year ended June 2021

66 Stats NZ Wellbeing Statistics March 2021 quarter https://www.stats.govt.nz/information-releases/wellbeing-statistics-2021/

67 MSD Quarterly benefit fact sheets regional council tables March 2022 Benefit Fact Sheets - Ministry of Social Development (msd.govt.nz)

68 Census 2018 Housing Place Summaries | Canterbury Region | Stats NZ

69 REINZ Residential Property Data, May 2022

70 Massey Home Affordability Report, December 2021 Home Affordability Report Q4 2021.pdf (massey.ac.nz)

71 Stats NZ Household income and housing cost statistics year ended June 2021

72 Stats NZ Household net worth statistics: Year ended June 2021

73 MSD Accommodation supplement COVID-19 data portal | Stats NZ

74 Stats NZ Wellbeing Statistics: March 2021 quarter | https://www.stats.govt.nz/information-releases/wellbeing-statistics-march-2021-quarter/

75 Westpac McDermott Miller Regional Economic Confidence Q1-Regional-Confidence-Mar-2022-Westpac-NZ.pdf

76 ASB Regional Economic Scoreboard Q4 2021

77 Stats NZ Subnational population estimates table, June 2021

78 Stats NZ Subnational population projections 2018(base)-2048

79 Stats NZ Subnational population estimates table, June 2021

80 ChristchurchNZ The Need for Short-Term Migration of Skilled Workers in Key Industries, finalshorttermskilledmigrationpaper-may2022.pdf (christchurchnz.com)

81 Stats NZ, Labour Market Statistics, March 2022 quarter

82 MBIE Canterbury 2021, Environmental scan highlights (mbie.govt.nz)

83 MBIE Canterbury 2021, Environmental scan highlights (mbie.govt.nz)

84 MBIE Canterbury 2021, Environmental scan highlights (mbie.govt.nz)

85 Stats NZ Census 2018

86 Education Counts, School Leaver's Attainment | educationcounts.govt.nz

87 Education Counts, School Leaver's Attainment | educationcounts.govt.nz

88 MBIE Profile of Canterbury's labour market and future challenges June 2021

89 Ministry of Health, New Zealand Health Survey Results 2017-2020 Regional data explorer https://minhealthnz.shinyapps.io/nz-health-survey-2017-20-regional-update/_w_f966c0d9/_w_3837b6d3/#

90 https://www.canterbury.ac.nz/news/2021/lockdown-impact-on-wellbeing-lingers-one-year-on.html

91 Stats NZ Subnational period life tables National and subnational period life tables: 2017–2019

92 Stats NZ Wellbeing Statistics 2021

93 Ministry of Health and Office of the Chief Coroner Suicide webtool confirmed and suspected suicides by DHB regions 2009-2020

94 https://www.stats.govt.nz/information-releases/wellbeing-statistics-march-2021-quarter/

95 New Zealand Crime and Victims Survey, June 2021 Pooled data from cycle 1-3 of 2019/20 survey Cycle-3-Core-Report-20220224-v1.9.pdf (justice.govt.nz)

96 Department of Internal Affairs Local Elections Local Authority Election Statistics 2019 dia.govt.nz/services-local-elections-local-authority-election-statistics-2019#2

97 Stats NZ Census 2018

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