

Subnational Ethnic Population Projections: 2013(base)–2038

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Key facts

Subnational ethnic population projections indicate the future population living in New Zealand's 16 regional council areas (regions), 67 territorial authority areas (TAs), and 21 Auckland local board areas (LBAs) for four broad and overlapping ethnic groups: 'European or Other (including New Zealander)', Māori, Asian, and Pacific.

The low, medium, and high growth projections indicate that between 2013 and 2038:

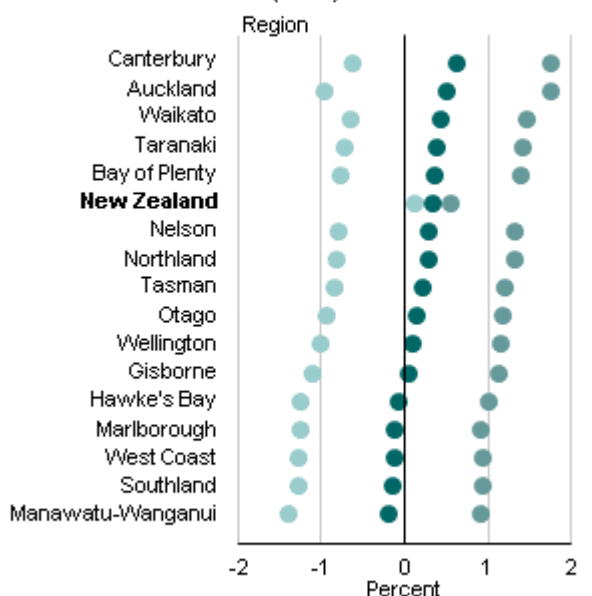
- The population growth rate for all four ethnic groups will slow in all areas.
- All ethnic populations will gradually age, with more people aged 65 years and over.

The medium projection indicates that between 2013 and 2038:

- The Asian and Pacific ethnic populations will grow in all regions and TAs.
- The Māori ethnic population will grow in all regions and 62 TAs, and decline in 5 TAs.
- The 'European or Other' ethnic population will grow in 11 regions and decline in 5, and grow in 37 TAs and decline in 30.
- The Māori, Asian, and Pacific ethnic populations will all increase their share of the total population in most areas because their growth rates are higher than the total population.

Projected 'European or Other' average annual population change

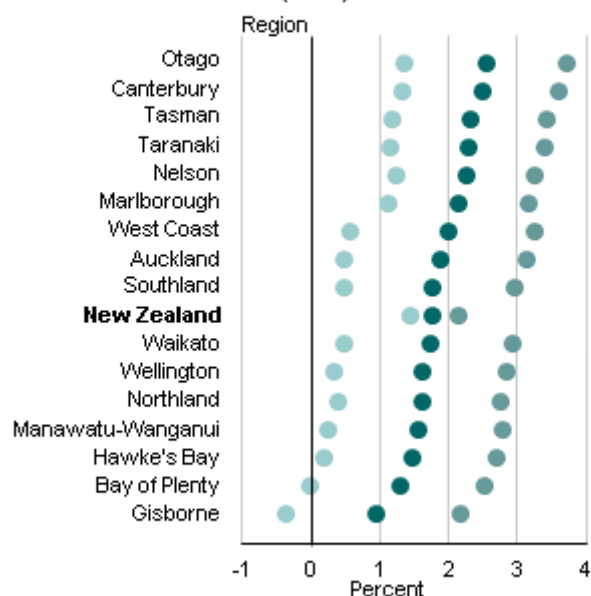
By regional council area
2013(base)–2038



• Low projection • Medium projection • High projection
Source: Statistics New Zealand

Projected Māori average annual population change

By regional council area
2013(base)–2038



• Low projection • Medium projection • High projection
Source: Statistics New Zealand

Liz MacPherson, Government Statistician, ISSN 2463-3178, 30 September 2015

Commentary

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Important advice for using these projections

Subnational ethnic population projections give an indication of the future population usually living in New Zealand's 16 regional council areas (regions), 67 territorial authority areas (TAs), and 21 Auckland local board areas (LBAs) for four broad and overlapping ethnic groups: 'European or Other (including New Zealander)', Māori, Asian, and Pacific. These groupings of ethnicities are not mutually exclusive because people can and do identify with more than one ethnicity. People are included in each ethnic population they identify with.

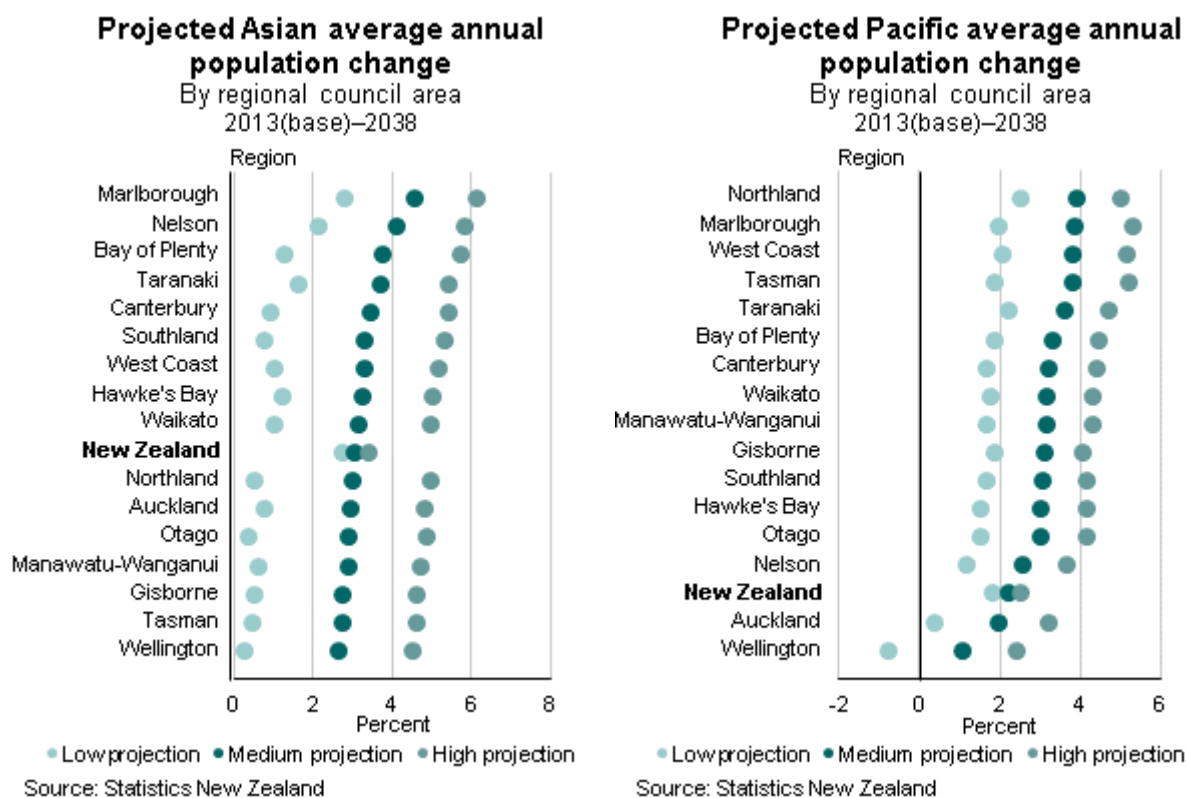
The projections indicate probable outcomes based on different combinations of fertility, mortality, migration, and inter-ethnic mobility assumptions. Users can make their own judgement as to which projections are most suitable for their purposes.

These projections are not predictions. They should be used as an indication of the overall trend, rather than as exact forecasts. The projections are updated every 2–3 years to maintain their relevance and usefulness, by incorporating new information about demographic trends and developments in methods.

At the time of release, the medium projection is considered suitable for assessing future population change and is consistent with the median projection (50th percentile) of the [National Ethnic Population Projections: 2013\(base\)–2038](#) (released 21 May 2015) and the medium projection of the [Subnational Population Projections: 2013\(base\)–2043](#) (released 19 February 2015).

The following results highlight the main trends from the projections, based on the medium projection results unless otherwise stated.

See [population projections tables](#) for links to more detailed projection assumptions and results in [NZ.Stat](#).



Note: This Pacific graph has been changed since first published. See [Correction](#) page for more information.

Ethnic populations growing in most areas

The broad Māori, Asian, and Pacific ethnic populations will grow in all regions between 2013 and 2038, while the 'European and Other' population is expected to grow in 11 of the 16 regions. Under the medium projection, fewer people will identify with a 'European or Other' ethnicity in Hawke's Bay, Manawatu-Wanganui, Marlborough, West Coast, and Southland by 2038.

The Asian and Pacific ethnic populations will grow in all TAs between 2013 and 2038, while the 'European and Other' population is expected to grow in 37 of the 67 TAs. Five TAs are expected to have fewer people of Māori ethnicity in 2038 – Kawerau, Opotiki, Wairoa, and Ruapehu districts and Chatham Islands territory, all areas with projected overall population loss.

The Māori ethnic population will grow in all Auckland LBAs between 2013 and 2038, while the 'European and Other' population is expected to grow in 14 of the 21 Auckland LBAs. By 2038, the Asian population in Manurewa and the Pacific population in Waitemata are projected to be slightly lower than in 2013 under the medium projection.

Despite the increases, all ethnic populations in all areas are projected to experience declining rates of population growth as their populations gradually age. This will result in lower rates of natural increase (births minus deaths) over the projection period.

Māori, Asian, and Pacific shares increasing in nearly all areas

The Māori, Asian, and Pacific populations will all increase their share of the total population in all regions, most TAs, and most Auckland LBAs between 2013 and 2038 because of their higher

growth rates. In contrast, the 'European or Other' population is likely to reduce its share of the total population in all regions, most TAs, and all Auckland LBAs because of its lower growth rates.

The Māori population will make up about 61 percent of the Gisborne population in 2038, up from 49 percent in 2013. Other regions with a significant increase in the Māori share include Northland (up 12 percentage points to 45 percent in 2038), Taranaki (up 10 percentage points to 28 percent in 2038), Hawke's Bay (up 9 percentage points to 34 percent in 2038), and Manawatu-Wanganui (up 9 percentage points to 31 percent in 2038).

In Auckland, 1 in 3 people are likely to identify with an Asian ethnicity in 2038, up from about 1 in 4 in 2013. Other regional increases in the Asian share include Wellington (up 8 percentage points to 19 percent in 2038), Bay of Plenty (up 7 percentage points to 12 percent in 2038), and Nelson (up 7 percentage points to 12 percent in 2038).

The Pacific population will make up about 18 percent of the Auckland population in 2038, up from about 15 percent in 2013. Other regional increases in the Pacific share include Hawke's Bay (up 5 percentage points to 10 percent in 2038), Northland (up 5 percentage points to 8 percent in 2038), and Gisborne (up 5 percentage points to 9 percent in 2038).

The 'European or Other' population share in Auckland is projected to drop from about 59 percent in 2013 to 47 percent in 2038. Other regional decreases in the 'European or Other' share include Otago (down 8 percentage points to 83 percent in 2038), Marlborough (down 7 percentage points to 84 percent in 2038), Wellington (down 6 percentage points to 72 percent in 2038), and Canterbury (down 6 percentage points to 82 percent in 2038).

For comparison, the mid-range national level projections indicate the:

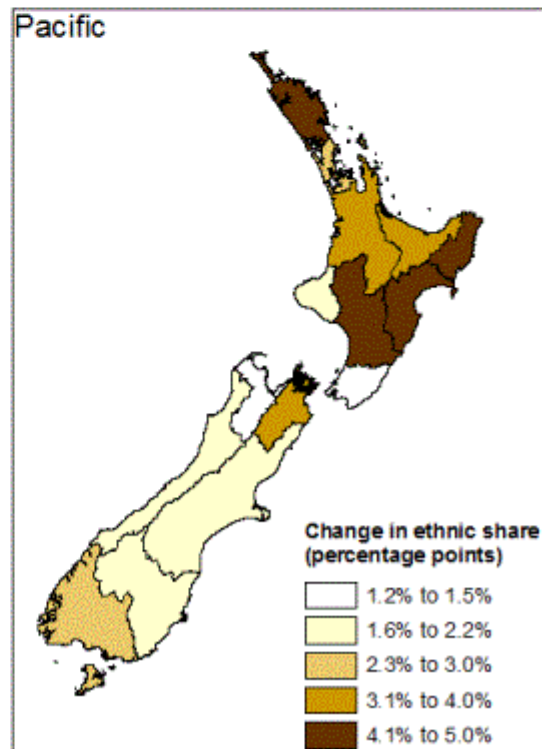
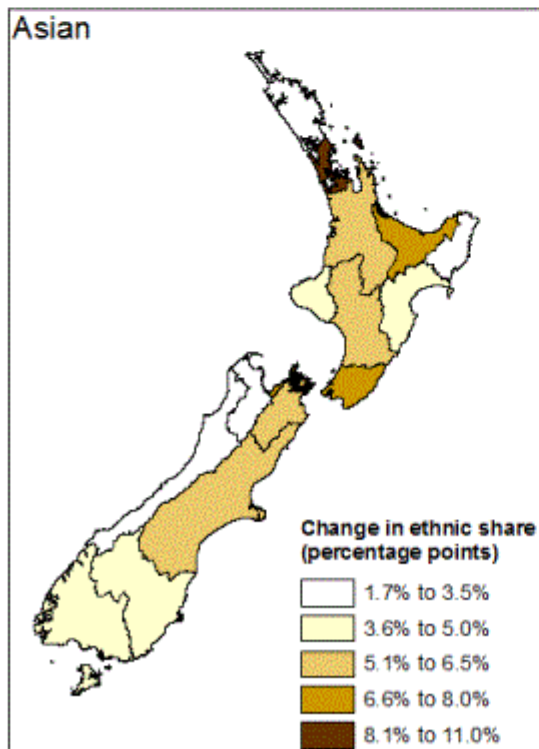
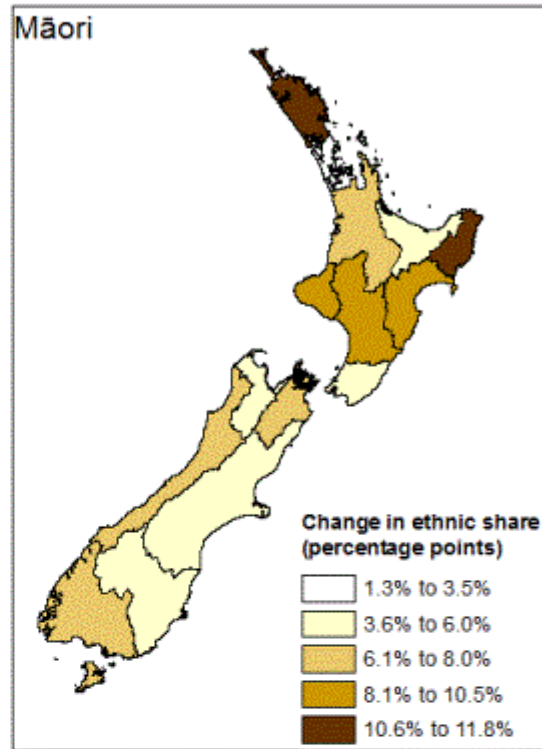
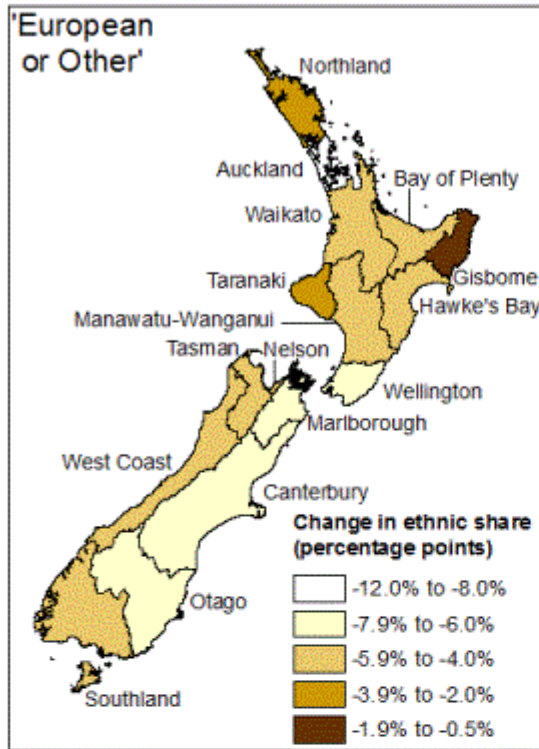
- Māori population will make up nearly 20 percent of the total New Zealand population in 2038, compared with nearly 16 percent in 2013
- Asian population will make up 21 percent, compared with 12 percent in 2013
- Pacific population will make up 11 percent, compared with 8 percent in 2013
- 'European or Other' population will make up 66 percent, compared with 75 percent in 2013.

The ethnic shares do vary across different age groups, reflecting different age structures and dynamics of population growth.

In addition, about 1 percent of New Zealand's population identified with Middle Eastern, Latin American, or African (MELAA) ethnicities in 2013. National and subnational projections are not available for this small, albeit growing, ethnic group with an estimated resident population of 53,000 at 30 June 2013. About 28,000 or 53 percent of the MELAA population lived in Auckland in 2013.

Projected change in ethnic shares

Medium projection by regional council area 2013(base)–2038



Source: Statistics New Zealand

Asian and Pacific concentration in Auckland

The projections indicate that almost two-thirds of New Zealand's Asian population will continue to live in Auckland. The proportion was 64.5 percent in 2013 and under the medium projection this drops slightly to 63.5 percent in 2038. The proportions living in other regions also change only slightly. For example, Canterbury will increase its share of the Asian population from 7.7 percent in 2013 to 8.6 percent in 2038.

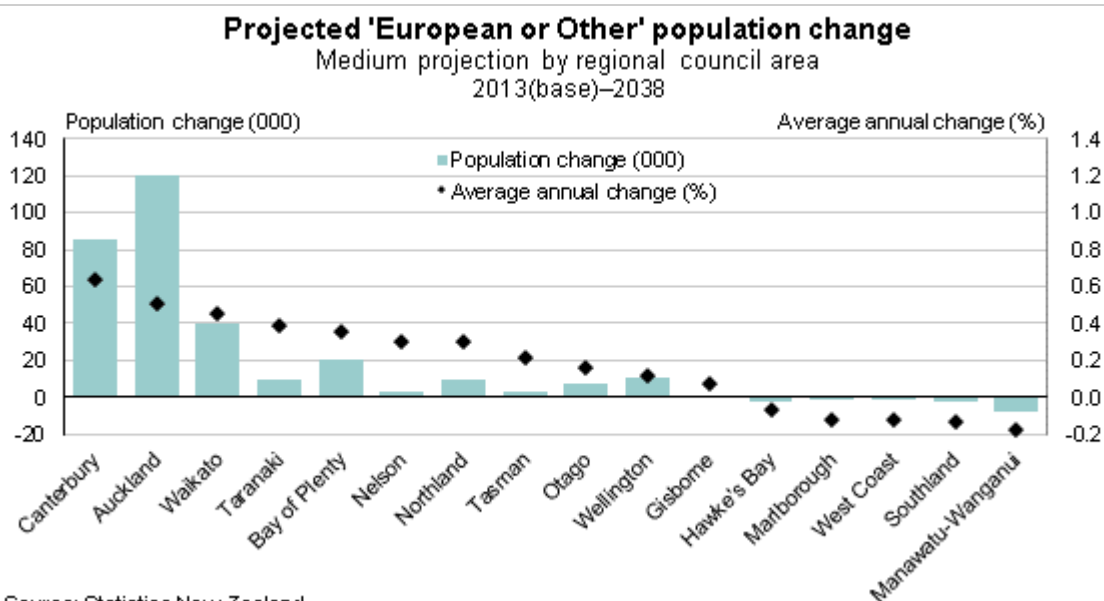
The Pacific population is similarly strongly represented in Auckland. The proportion was 65.9 percent in 2013 and under the medium projection this drops to 62.3 percent in 2038. The proportion living in Wellington drops from 11.8 percent in 2013 to 8.9 percent over the same period. This is offset by small increases in every other region.

In 2013, roughly one-quarter (26.8 percent) of the 'European and Other' population lived in Auckland. Auckland is expected to slightly increase its proportion to 27.9 percent in 2038. Similarly, 1 in 4 (25.2 percent) Māori will live in Auckland in 2038, a small increase from 24.5 percent in 2013. Overall, Auckland is projected to be home to 38.6 percent of New Zealand's population in 2038, compared with 33.6 percent in 2013.

The projections also indicate changes within Auckland. By 2038, the broad Asian population is projected to become the largest group in the Whau, Puketapapa, and Howick local board areas. The broad Pacific group will become the largest group in the Manurewa local board area, and remain the largest group in Mangere-Otahuhu.

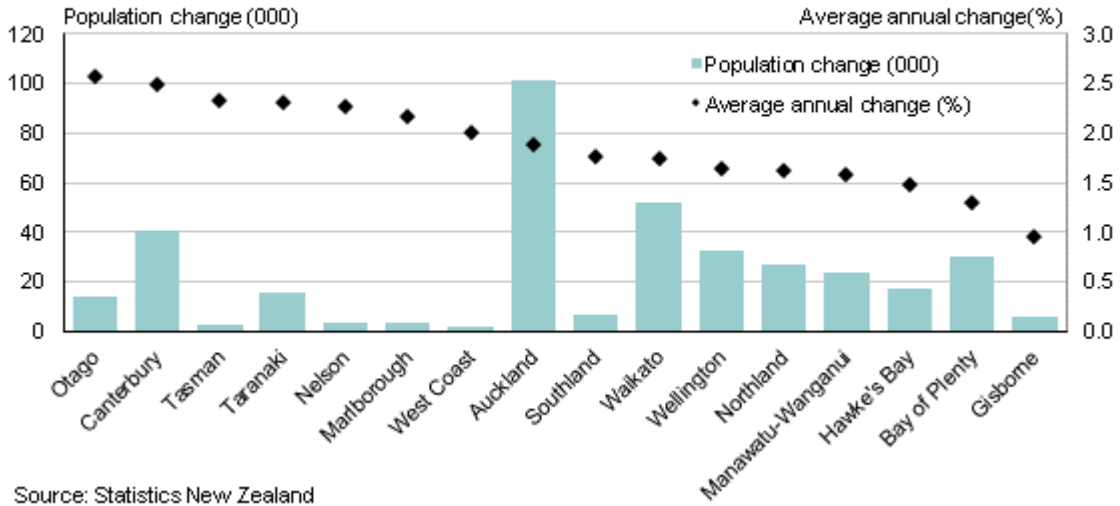
There will be a relatively even spread of the four major ethnic groups in the Henderson-Massey, Maungakiekie-Tamaki, and Papakura local board areas. In these areas, each ethnic group will account for between 15 and 45 percent of the local population in 2038.

Under the medium projection, Auckland will account for about three-fifths of New Zealand's total population growth between 2013 and 2038. Partly reflecting the current ethnic distribution of population, Auckland is projected to account for a similar share of both Asian and Pacific population growth over the same period, about two-fifths of the 'European or Other' population growth, and about one-quarter of the Māori population growth.



Source: Statistics New Zealand

Projected Māori population change
 Medium projection by regional council area
 2013(base)-2038

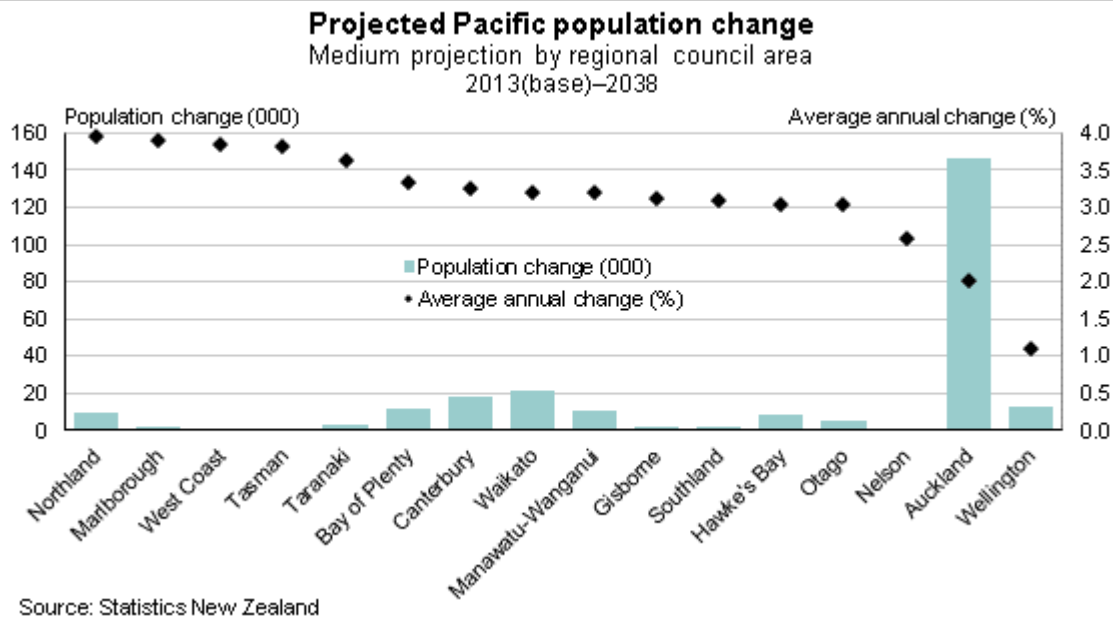


Source: Statistics New Zealand

Projected Asian population change
 Medium projection by regional council area
 2013(base)-2038



Source: Statistics New Zealand



Note: This Pacific graph has been changed since first published. See [Correction](#) page for more information.

Different drivers of ethnic growth

The different rates of population growth largely reflect past and likely future differences in fertility, the effect of intermarriage, different age structures, and different migration patterns.

Māori and Pacific population growth will be mainly driven by their high rates of birth and natural increase (births minus deaths). For example, assumed medium regional 'total fertility rates' for 2014–18 for Māori range from 1.7 births per woman in Otago to 3.0 births per woman in Northland. For the Pacific ethnic group they range from 1.7 births per woman in Tasman to 3.2 births per woman in Hawke's Bay. In contrast, for the 'European or Other' ethnic group they range from 1.7 births per woman in Otago and Wellington to 2.2 births per woman in Hawke's Bay and Taranaki. For the Asian ethnic group they range from 1.2 births per woman in Otago to 2.2 births per woman in Taranaki.

Ethnic intermarriage (parents with different ethnicities) also makes an important contribution to Māori and Pacific population growth. Nationally, in about one-quarter of Māori births (ie where the child is identified as Māori), the mother is non-Māori and the father is Māori. Similarly, in about one-quarter of Pacific births (ie where the child is identified as Pacific), the mother is non-Pacific and the father is Pacific.

In addition, the Māori, Asian, and Pacific populations have a much younger age structure, with relatively high proportions at the child and childbearing ages, and low proportions at the older ages. These age structures provide greater built-in momentum for future growth compared with the 'European or Other' population. Half the 'European or Other' population is aged over 41 years, compared with median ages of 24, 31, and 22 years for the Māori, Asian, and Pacific populations, respectively, in 2013.

The increase in the Asian population share will be largely driven by net migration (arrivals minus departures). The medium projection assumes a net inflow of about 360,000 migrants nationally over the 25-year period. Natural increase will account for about 260,000 (two-fifths) of the projected Asian population growth.

In contrast, the projected lower 'European or Other' population growth largely reflects the combination of lower fertility rates and an older age structure. The increasingly older age structure means fewer births (because fewer women will be in the childbearing ages), more deaths (because more people will be in the older ages where most deaths occur), and lower momentum for future population growth compared with the Māori and Pacific populations.

In summary, natural increase is projected to be the main component of population growth for the 'European or Other', Māori, and Pacific populations during 2013–38. Net migration plays a more important role in the projected growth of the Asian population, while inter-ethnic mobility plays a relatively minor role for all ethnic populations.

All ethnic populations are ageing

The projections indicate that all four broad ethnic populations will gradually age over the coming decades. Increasing numbers and proportions of people in the older ages reflect the combined effect of gradually reducing fertility rates – people having fewer children – and people living longer.

Generally, the Māori and Pacific populations will continue to have a much younger age structure than the 'European or Other' and Asian populations in each area. In Auckland, for example, the median age is projected to increase for the:

- Māori population from 24 years in 2013 to 29 years in 2038
- Pacific population from 23 years in 2013 to 28 years in 2038
- 'European or Other' population from 39 years in 2013 to 43 years in 2038
- Asian population from 31 years in 2013 to 37 years in 2038.

For more detailed data see the Excel tables in the 'Downloads' box. Go to our [population projections tables](#) page for links to more detailed projection assumptions and results in [NZ.Stat](#).

Definitions

About subnational ethnic population projections

Subnational ethnic population projections give an indication of the future ethnic composition of the population usually living in the 16 regional council areas (regions), 67 territorial authority areas (TAs), and 21 Auckland local board areas (LBAs) of New Zealand. Projections are available for four broad and overlapping ethnic groups: 'European or Other (including New Zealander)', Māori, Asian, and Pacific. Each ethnic population consists of all people who identify with ethnicities within that ethnic group. People who identify with more than one ethnicity are included in each ethnic population they identify with. The projections are based on different combinations of fertility, mortality, migration, and inter-ethnic mobility assumptions.

These projections are not predictions. The projections should be used as an indication of the overall trend, rather than as exact forecasts. The projections are updated every 2–3 years to maintain their relevance and usefulness, by incorporating new information about demographic trends and developments in methods.

How ethnic population projections are used

Ethnic population projections contribute to an understanding of New Zealand's changing demography. Local and ethnic communities use them to understand their changing populations. They are used in planning and policy-making in areas such as health and education. For example, changes in the number and proportion of people at different ages can have implications for future need for services.

More definitions

Assumption: statement about a future course of behaviour (eg fertility, mortality, migration) from which projections of the population are derived.

Base population: the starting population for the projections.

Cohort: a group of people sharing a common experience. For example, the 1900 birth cohort refers to people born in the year 1900.

Estimated resident population: an estimate of all people who usually live in New Zealand at a given date. It includes:

- all residents present in New Zealand and counted by the census (census usually resident population count)
- residents who are temporarily overseas (who are not included in the census)
- an adjustment for residents missed or counted more than once by the census (net census undercount).

It excludes visitors from overseas.

Ethnicity: the ethnic group or groups that people identify with or feel they belong to. Ethnicity is self-perceived and people can identify with more than one ethnicity. Ethnicity is different from ancestry, birthplace, and nationality. For example, people can identify with Māori ethnicity even

though they may not be descended from a Māori ancestor. Conversely, people may choose to not identify with Māori ethnicity even though they are descended from a Māori ancestor.

See [Review of the measurement of ethnicity](#) or the [ethnicity classification](#) for more information about ethnicity including information about the Statistical Standard for Ethnicity 2005.

'European or Other (including New Zealander)': includes people who belong to the 'European' or 'Other' ethnicity groups. People who belong to both groups are only counted once. Almost all people in the 'Other' ethnicity group belong to the New Zealander sub-group.

Separate projections are not available for the 'European' or for the 'Other (including New Zealander)' ethnic groups. This is because sufficient demographic data is available to derive projections for the combined ethnic grouping, but not for the separate ethnic groups. This approach is consistent with [Guidelines for using ethnicity data: 2006 Census](#).

Fertility: the demographic process relating to births, often summarised by birth rates and fertility rates. Fertility should not be confused with fecundity, which is the biological capacity of a population to bear children.

Inter-ethnic mobility (IEM): people changing their ethnic identification over time. This may reflect a person's cultural affiliations changing over time. Or it may occur when different people respond to the ethnicity question. For example, the ethnicity of babies and young children is usually identified by their parents. However, in a later census when these children are old enough to complete their own forms, they decide which ethnicity they identify with. This may differ from the ethnicity identified by their parents. IEM can also occur when different ethnicities are reported for a person in different collections (eg birth registrations, death registrations, census).

Life expectancy (period): the average length of life remaining at a given age, assuming people experience the age-specific death rates of a given period from the given age onwards. For example, life expectancy at birth for the period 2005–07 is based on death rates in that period, and takes no account of changes in death rates after that period.

Local board area (Auckland): an area governed by local boards and Auckland council. Auckland has 21 local board areas, based on boundaries at 1 January 2015.

Median age: half the population is younger, and half the population is older, than this age.

Medium projection: the mid-range projection, consistent with the median projection (50th percentile) of the national population projections. Low and high growth projections are also produced for each area, to give an indication of plausible alternative population outcomes.

Mortality: the demographic process relating to deaths, often summarised by death rates, survival rates, and life expectancy.

Natural increase: the excess of live births over deaths. When deaths exceed births, this is described as a natural decrease or a negative natural increase.

Percentile: indicates the distribution of values (such as projection results or assumptions). For example, in the stochastic national ethnic population projections, the 25th percentile indicates an estimated 25 percent chance that the actual result will be lower, and a 75 percent chance that the actual result will be higher, than this percentile.

Percentiles are non-additive except the 50th percentile (median). For example, percentiles for the population aged 15–39 and 40–64 years cannot be added together to give the equivalent percentile for the population aged 15–64 years.

Projection: indication of the future characteristics of a population based on an assessment of past trends and assumptions about the future course of demographic behaviour (eg fertility, mortality, migration).

Regional council area (or region): an area governed by a regional council. New Zealand has 16 regional council areas, based on boundaries at 1 January 2015.

Resident population concept: a statistical basis for a population in terms of those who usually live in a given area at a given time. For example, the 'estimated resident population' of New Zealand is an estimate of all people who usually live in New Zealand at a given date, including New Zealand residents who are temporarily overseas, but excluding visitors from overseas.

Stochastic (probabilistic) projection: a projection that varies randomly according to the probability distributions of the assumptions (eg about fertility, mortality, migration).

Territorial authority area: an area governed by a territorial authority. New Zealand has 67 territorial authority areas (12 cities, 53 districts, Auckland, and the Chatham Islands territory), based on boundaries at 1 January 2015.

Total fertility rate (period): the average number of live births that women would have during their life if they experienced the age-specific fertility rates of a given period. For example, the total fertility rate for the year 2011 is based on fertility rates in that year, and takes no account of changes in fertility rates after that year.

Total paternity rate (period): the average number of live births that men would have during their life if they experienced the age-specific paternity rates of a given period. In these ethnic population projections, it specifically refers to births that men of a given ethnic group have with women not of that ethnic group. For example, the average number of live births that Māori men would have during their life with non-Māori women.

Related links

Next releases

National Ethnic Population Projections and *Subnational Ethnic Population Projections* will be next released in 2017.

[Subscribe to information releases](#), including this one, by completing the online subscription form.

[The release calendar](#) lists all information releases by date of release.

Related information

[National ethnic population projections](#): indicate the future population of New Zealand for four broad and overlapping ethnic groups: 'European or Other (including New Zealander)', Māori, Asian, and Pacific.

[National population projections](#): indicate the future population of New Zealand.

[Subnational population projections](#): indicate the future population of regional council areas, territorial authority areas, and Auckland local board areas.

[Area unit population projections](#): indicate the future population of area units ('suburbs').

[National population estimates](#): show quarterly and annual changes in the population of New Zealand.

[Subnational population estimates](#): show historical annual changes in the population of regional council areas, territorial authority areas, and Auckland local board areas.

[Local population trends](#): graphs and tables for each regional council area, territorial authority area, and Auckland local board area.

[Estimated resident population 2013: Data sources and methods](#): describes the data sources and methods used to produce the 2013 estimated resident population following the 2013 Census of Population and Dwellings.

Data quality

Period-specific information

This section contains data information that has changed since the last release.

- [Reference period](#)
- [Consistency with other projections](#)
- [Changes since the previous 2006-base projections](#)
 - [Review of assumptions](#)
 - [Geographic classification](#)
- [Projection assumptions](#)
 - [Base population](#)
 - [Fertility and paternity](#)
 - [Mortality](#)
 - [Migration](#)
 - [Inter-ethnic mobility](#)
- [Which projection should I use?](#)

General information

This section contains information that does not change between releases.

- [Ethnic concept](#)
- ['European or Other \(including new Zealander\)'](#)
- [Availability of other ethnic projections](#)
- [Method](#)
- [Nature of projections](#)
- [Rounding](#)
- [Accuracy](#)
- [Timing of published data](#)
- [Confidentiality](#)
- [More information](#)

Period-specific information

Reference period

This release contains 2013-base projections for four broad and overlapping ethnic populations usually living in New Zealand's 16 regional council areas (regions), 67 territorial authority areas (TAs), and 21 Auckland local board areas (LBAs). Projections are available for: 'European or Other (including New Zealander)', Māori, Asian, and Pacific. Each ethnic population consists of all people who identify with ethnicities within that broad ethnic group. People who identify with more than one ethnicity are included in each ethnic population they identify with.

The projections supersede the updated 2006-base projections released in September 2010. The new projections have the estimated resident population of each ethnic group at 30 June 2013 as a base, and cover the period to 2038 at five-year intervals.

Consistency with other projections

These subnational ethnic population projections complement the New Zealand projections of ethnic populations (National Ethnic Population Projections: 2013(base)–2038) released on 21 May 2015. However, only the median projection (50th percentile) of the national ethnic population projections and the medium projection of these subnational ethnic population projections are directly comparable. Other percentiles or projections cannot be directly compared because the projection assumptions may be incompatible.

These subnational ethnic population projections also complement the projections of subnational total populations (Subnational Population Projections: 2013(base)–2043) released on 19 February 2015. However, only the medium projections of each are directly comparable. Other projections cannot be directly compared because the projection assumptions may be incompatible.

Changes since the previous 2006-base projections

Review of assumptions

Deriving the projections involves reviewing all projection assumptions for each area and each ethnic group. These subnational ethnic population projections are updated to incorporate the latest demographic information, notably the 2013-base subnational population projections (released 19 February 2015) and 2013-base national ethnic population projections (released 21 May 2015), which both incorporated results from the 2013 Census of Population and Dwellings and subsequent population estimates. Birth and death registrations and international travel and migration data are also important data sources.

The changes in these subnational ethnic population projections from the previous 2006-base projections (September 2010 update) mainly relate to the base population and short-term migration assumptions.

Geographic classification

The population projections in this release are based on the regional council, territorial authority, and Auckland local board classifications and boundaries at 1 January 2015.

Projection assumptions

Projection assumptions are formulated after analysis of short-term and long-term historical trends, information provided by local planners, and government policy. See Subnational ethnic population projections, projection assumptions, 2013(base)–2038 table in NZ.Stat for a summary of the low, medium, and high projection assumptions for each area and each ethnic group.

Base population

These projections have as a base the estimated resident population of each area and each ethnic group at 30 June 2013. This population was based on the census usually resident population count of each area and each ethnic group at 5 March 2013 and adjusted for:

- non-response to the census ethnicity question
- net census undercount
- residents temporarily overseas on census night

- births, deaths, and net migration between census night (5 March 2013) and 30 June 2013
- reconciliation with demographic estimates at ages 0–9 years.

The 'Estimated resident population (ERP), adjustments to derive ERP at 30 June 2013 (from census usually resident population)' table in [NZ.Stat](#) summarises the ERP, and adjustments to derive ERP, for each area and each ethnic group.

Fertility and paternity

New birth cohorts are added to the population by applying fertility assumptions to the female population of childbearing age (12–49 years) and paternity assumptions to the male population (15–54 years). The paternity rates allow for births that men of a given ethnic group have with women not of that ethnic group. For example, Māori paternity rates allow for births that Māori men have with non-Māori women.

The assumed fertility and paternity rates for each area and each ethnic group are based on the registered births during the period 2013–15, and change that is consistent with the fertility and paternity assumptions from the [National Ethnic Population Projections: 2013\(base\)–2038](#). Under the national median assumption, the total fertility rate decreases between 2014 and 2038 for the:

- 'European or Other' population from 1.91 to 1.85 births per woman
- Māori population from 2.47 to 2.20 births per woman
- Asian population from 1.64 to 1.60 births per woman
- Pacific population from 2.75 to 2.30 births per woman.

Under the national median assumption, the total paternity rate decreases between 2014 and 2038 for the:

- 'European or Other' population from 0.14 to 0.13 births per man (with non-European and non-Other women)
- Māori population from 1.02 to 0.90 births per man (with non-Māori women)
- Asian population from 0.18 to 0.15 births per man (with non-Asian women)
- Pacific population from 1.01 to 0.90 births per man (with non-Pacific women).

The fertility and paternity assumptions are derived for the purpose of projecting each population and should not be used as a precise measure of fertility or paternity differentials between areas or ethnic groups.

The projections allow for births to parents of each ethnic group that are not registered as children of that ethnic group. The medium assumed loss factor is 1.8 percent for 'European or Other', 4.0 percent for Māori, 2.4 percent for Asian, and 3.2 percent for Pacific, based on national-level data for 2006–14.

The low and high assumptions for fertility rates, paternity rates, and the loss factor are chosen to represent plausible alternative fertility and paternity scenarios for each area and each ethnic group.

The projections allocate births between male and female. A sex ratio at birth of 105.5 males per 100 females is assumed for each area and ethnic group, based on national-level data for 1996–2014.

Mortality

Mortality assumptions are applied to each age-sex group to allow for deaths. The assumed mortality rates for each area and ethnic group are based on registered deaths for each area during the period 2013–15, and change that is consistent with the mortality assumptions from the National Ethnic Population Projections: 2013(base)–2038. Under the national median assumption, period life expectancy at birth increases between 2014 and 2038 for the:

- 'European or Other' population from 80.7 to 85.0 years for males, and from 84.2 to 88.3 years for females
- Māori population from 73.4 to 81.3 years for males, and from 77.3 to 84.7 years for females
- Asian population from 84.8 to 88.7 years for males, and from 87.2 to 91.1 years for females
- Pacific population from 74.6 to 82.1 years for males, and from 78.8 to 85.8 years for females.

The mortality assumptions are derived for the purpose of projecting each population and should not be used as a precise measure of mortality differentials between areas or ethnic groups.

The low and high mortality assumptions are chosen to represent plausible alternative fertility and paternity scenarios for each area and each ethnic group.

Migration

Migration assumptions are applied to each age-sex group to allow for net migration (arrivals minus departures). Migration at the subnational level has both an internal (to/from other areas of New Zealand) and an external (to/from overseas) component, although these separate components are difficult to quantify. For example, ethnicity is not collected in external migration data. The assumed net migration levels and age-sex patterns for each area and ethnic group are based on a consideration of:

- observed net migration during each intercensal period from 1996 to 2013
- the capacity of each area for further growth (for areas with net inflow)
- whether historical outflows can be sustained (for areas with net outflow)
- information available from and about local authorities relating to current and future developments that may affect population change
- the latest migration assumptions from the National Ethnic Population Projections: 2013(base)–2038 and Subnational Population Projections: 2013(base)–2043.

Migration assumptions at the subnational level generally reflect the assumptions at the national level. 'European or Other', Māori, and Asian net migration is assumed to be higher during 2014–18 than subsequent periods. For 2019–38, the migration assumptions reflect average annual net migration over that period, although annual net migration can be expected to vary from year to year.

The low and high net migration assumptions represent plausible alternative migration scenarios for each area and each ethnic group. They therefore do not sum to any specific national total.

Inter-ethnic mobility

Inter-ethnic mobility (IEM) assumptions are applied to each age-sex group to allow for the net effect of people changing their ethnic identification over time. The IEM assumptions are the same as used in the [National Ethnic Population Projections: 2013\(base\)–2038](#). Under the national median assumption, there is an average net change to the population in 2014–38 due to people changing their ethnic identification for:

- 'European or Other' of 0.04 percent a year
- Māori of 0.43 percent a year
- Asian of -0.08 percent a year
- Pacific of -0.11 percent a year.

Because age-specific rates are applied, the overall net IEM changes over time and will vary between areas.

The low and high net IEM assumptions are chosen to represent plausible alternative IEM scenarios for each area and each ethnic group.

Which projection should I use?

Three alternative projections (designated low, medium, and high growth) were produced for each area and each ethnic group using different fertility (and paternity), mortality, migration, and inter-ethnic mobility assumptions. Users can make their own judgment as to which projections are most suitable for their purposes. At the time of release, the medium projection is considered suitable for assessing future population change and is consistent with the median projection (50th percentile) of the [National Ethnic Population Projections: 2013\(base\)–2038](#) (released 21 May 2015) and the medium projection of the [Subnational Population Projections: 2013\(base\)–2043](#) (released 19 February 2015). Other percentiles or projections cannot be directly compared because the projection assumptions may be incompatible.

The low and high projections allow users to assess the impact on population size and structure resulting from lower growth and higher growth scenarios, respectively. The low projection uses low fertility, low paternity, high mortality, low net migration, and low net inter-ethnic mobility for each area and each ethnic group. The high projection uses high fertility, high paternity, low mortality, high net migration, and high net inter-ethnic mobility for each area and each ethnic group. The low and high projections are independent of the national ethnic population projections and subnational population projections as they represent plausible alternative scenarios for each area.

General information

Ethnic concept

The ethnic concept used in these projections is the ethnic group or groups that people identify with or feel they belong to. Ethnicity is self-perceived and people can identify with more than one ethnicity. Ethnicity is different from ancestry, birthplace, and nationality. For example, people can identify with Māori ethnicity although they may not be descended from a Māori ancestor. Conversely, people may choose to not identify with Māori ethnicity even though they are descended from a Māori ancestor.

See [Review of the Measurement of Ethnicity](#) or the [ethnicity classification](#) for more information about ethnicity, including information about the Statistical Standard for Ethnicity 2005.

'European or Other (including New Zealander)'

Projections have been derived for the combined 'European or Other (including New Zealander)' ethnic group. Sufficient demographic data is available to enable projection assumptions to be derived for the combined ethnic group, but not for the separate 'European' or 'Other (including New Zealander)' ethnic groups defined in level one of the [ethnicity classification](#). This approach is consistent with [Guidelines for Using Ethnicity Data: 2006 Census](#). If a person belongs to both the 'European' and 'Other' ethnic groups, they are counted once. Almost all people in the 'Other' ethnicity group belong to the 'New Zealander' sub-group.

Availability of other ethnic projections

Projections are not available for the 'Middle Eastern/Latin American/African' (MELAA) ethnic group or for individual ethnicities (eg Chinese, Samoan). For smaller ethnic populations, it is difficult to derive robust measures of the components of ethnic population change – fertility, mortality, migration, inter-ethnic mobility – to enable projections to be readily produced.

Method

A special 'cohort component' method has been used to derive the population projections. Using this method, the base population is projected forward by calculating the effect of deaths, migration, and inter-ethnic mobility within each age-sex group (or cohort) according to the specified mortality, migration, and inter-ethnic mobility assumptions. New birth cohorts are added to the population by applying the specified fertility assumptions to the female population of childbearing age, and the specified paternity assumptions to the male population.

The method differs from the conventional cohort component method in two respects.

1. For each ethnic group, births are projected separately for women, and for men where the mother is not of that ethnic group.
2. The projections allow for population change due to inter-ethnic mobility (ie people changing their ethnic identification over time).

Nature of projections

These projections are not predictions. The projections should be used as an indication of the overall trend, rather than as exact forecasts. The projections are updated every 2–3 years to maintain their relevance and usefulness, by incorporating new information about demographic trends and developments in methods.

The projections are designed to meet both short-term and long-term planning needs, but are not designed to be exact forecasts or to project specific annual variation. These projections are based on assumptions made about future fertility (and paternity), mortality, migration, and inter-ethnic mobility patterns of the population. While the assumptions are formulated from an assessment of short-term and long-term demographic trends, there is no certainty that any of the assumptions will be realised.

The projections do not take into account non-demographic factors (eg war, catastrophes, major government and business decisions) which may invalidate the projections.

Population projections should not be confused with economic forecasts. Population change does not necessarily relate to the social and economic well-being of an area. The population may therefore change independent of local economic factors.

Projections of ethnic populations are more uncertain than projections of the total population for several reasons.

- Ethnic identification can change over time. See the inter-ethnic mobility section for further explanation.
- There are greater difficulties in establishing past trends in fertility, mortality, and migration. People may report different ethnicities in different collections (eg birth registration form, death registration form, census form), which makes deriving ethnic-specific fertility and mortality rates problematic. Also, the measurement of ethnicity has changed over time in many collections, while it is not captured at all in some collections (eg [international travel and migration data](#)).
- Ethnic populations are not mutually exclusive because people can and do identify with more than one ethnicity. People are not asked to prioritise their ethnic responses, so Statistics NZ includes people in each of their reported ethnic groups.
- Births to parents of different ethnicities add complexity. The parents may consider the child to belong to one or more of their ethnicities, or indeed to another ethnicity.
- There is greater future uncertainty about the components of population change. For example, it is uncertain whether the fertility and mortality of different ethnicities will converge, and if so, at what pace. Assumptions about future migration, notably for people of Asian and Pacific ethnicities, are particularly susceptible to changes in migration patterns.

Statistics NZ incorporates these factors into its methodology for ethnic population projections and has developed stochastic population projections at the national level to illustrate uncertainty. However, it is because of these factors that ethnic population projections are currently limited to the four broad ethnic groups and the 25-year projection period.

Rounding

All figures in this release are rounded independently and all derived figures are calculated using data of greater precision than published.

The rounding of figures of the total population is determined by the total population size of the geographic area. Figures for areas with a population less than 10,000 are rounded to the nearest 10. For areas with a population between 10,000 and 20,000, figures are rounded to the nearest 50. Figures for areas with a population of 20,000 or more are rounded to the nearest 100.

Accuracy

The accuracy of these projections is unknown at the time of release. See [How accurate are population projections? An evaluation of Statistics New Zealand population projections, 1991–2006](#) for an evaluation of previous Statistics NZ national and subnational population projections. Generally, projection uncertainty increases, and projection accuracy decreases, in relative terms, the further out from the base (starting-point) and as the geographic area (population size) decreases.

Confidentiality

Data is combined from many sources to produce population projections. Therefore, it is not possible to identify individuals in our published statistics. The published statistics are also aggregated (eg to larger geographical areas), while data is also rounded to avoid conveying spurious levels of precision.

More information

[Population projections tables](#) provides links to detailed projection results, including projections by five-year age group and sex, on [NZ.Stat](#). See [demographic projections](#) in DataInfo+, which also include information about methods and assumptions.

Customised projections, such as projections using client-specified assumptions, are available on request. Email: info@stats.govt.nz.

Statistics in this release have been produced in accordance with the [Official Statistics System principles and protocols for producers of Tier 1 statistics](#) for quality. They conform to the Statistics NZ Methodological Standard for Reporting of Data Quality.

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Correction

9 October 2015

We have corrected the Pacific population projections to improve the compatibility of the low, medium, and high projections with each other. The largest revision is to the high projection, with smaller changes to the low and medium projections.

These changes affect the Pacific population projections presented in [Tables 1p, 2p, 3, and 4](#); and the two Pacific graphs in the [Commentary](#). Projections in [NZ.Stat](#) tables have also been revised.

We apologise for any inconvenience caused by this correction.

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Tables

See the following Excel tables in the 'Downloads' box on this page. If you have problems viewing the files, see [opening files and PDFs](#).

- 1e. Projected 'European or Other (including New Zealander)' ethnic population of regional council areas, 1996–2038 (2013-base)
- 1m. Projected Māori ethnic population of regional council areas, 1996–2038 (2013-base)
- 1a. Projected Asian ethnic population of regional council areas, 1996–2038 (2013-base)
- 1p. Projected Pacific ethnic population of regional council areas, 1996–2038 (2013-base)
- 2e. Projected 'European or Other (including New Zealander)' ethnic population of territorial authority and Auckland local board areas, 1996–2038 (2013-base)
- 2m. Projected Māori ethnic population of territorial authority and Auckland local board areas, 1996–2038 (2013-base)
- 2a. Projected Asian ethnic population of territorial authority and Auckland local board areas, 1996–2038 (2013-base)
- 2p. Projected Pacific ethnic population of territorial authority and Auckland local board areas, 1996–2038 (2013-base)
3. Projected ethnic populations of regional council areas, medium projection, 1996–2038 (2013-base)
4. Projected ethnic populations of territorial authority and Auckland local board areas, medium projection, 1996–2038 (2013-base)

Access more data in NZ.Stat

Use [NZ.Stat](#), a free online database to access time-series data specific to your needs. To access the projections in NZ.Stat, select **Population projections** (as the theme), then one of the following tables:

- [Subnational ethnic population projections, by age and sex, 2013\(base\)–2038](#)
- [Subnational ethnic population projections, characteristics, 2013\(base\)–2038](#)
- [Subnational ethnic population projections, projection assumptions, 2013\(base\)–2038](#)

You can download the projections in Excel or comma delimited format.

Next releases

National Ethnic Population Projections and *Subnational Ethnic Population Projections* will be next released in 2017.