Stats NZ
Tatauranga Aotearoa

Statistical standard for geographic areas 2023 (updated December 2023)

New Zealand Government

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Introduction

Purpose

Statistical standard for geographic areas 2023 (updated December 2023) (SSGA23) replaces the 2018 standard (SSGA18), which was published as Statistical standard for geographic areas 2018. The 2023 standard has had a minor update in December 2023 to incorporate changes to the SSGA23 geography release process, details about the identifier used for the grid geographies, and other clarifications.

The statistical standard for geographic areas is for use from 2023. It defines the Stats NZ input and output geographic classifications, describes their primary purposes, and sets out requirements and guidelines for the creation and maintenance of statistical geographies.

Background

All data collected, statistical or otherwise, must be referenced to both time and place. Place can be any geographic reference, for example, the whole of New Zealand, a region, a town, or a lake. Identifying and classifying places into statistical geographies allows users of statistics to see not just how data varies but also where it varies.

The SSGA23 is Stats NZ's official standard for statistical geographic areas in New Zealand. It allows statistical units, such as households, people, or businesses, to be assigned to the location where they live, work, and operate. It enables the production of integrated statistics by geographic area. It provides a range of geographic units that are convenient for data collection, compilation, and output and are useful for spatial analysis of social, demographic, and economic statistics.

Stats NZ encourages the use of the SSGA23 by other organisations to improve the comparability and usefulness of statistics generally.

This is the first five-yearly update of the SSGA18 where there have been significant changes in concepts and statistical areas from the previous New Zealand Standard Areas Classification 1992 (NZSAC92). The SSGA update policy is to undertake ongoing (annual) meshblock maintenance and carry out a comprehensive update of higher-level statistical geographies before each five-yearly population and housing census. Changes are kept to a minimum in intervening years to minimise the need to rebase data that uses statistical geographies.

The SSGA23 has been updated to include new geographies developed since 2018, including:

- statistical area 3 (SA3)
- functional urban area (FUA)
- urban accessibility (UA)
- population grids.

The statistical geographies are available in the 2023 Geographic boundaries files release.

Stats NZ would like to thank central and local government organisations, community groups, and individuals for their valuable contribution to the 2023 update.

Classification criteria

The SSGA23 is designed to meet user needs for social, demographic, and economic statistics.

As such, the geographies:

- are useful and relevant for data dissemination at different resolutions
- can be aggregated into larger contiguous units
- are useful building blocks for creating user-defined geographies.

Meshblocks, statistical areas, and urban/rural areas are statistically defined according to these criteria and principles.

Target population size

The population size of statistical areas should be reasonably consistent to ensure comparability. Geographies should have a minimum and maximum population threshold, and the range should be minimised as much as possible. The population size of the geographic area should be balanced between releasing detailed information and considering privacy and confidentiality, to ensure that robust statistical outputs can be produced. Near-zero areas (that is, areas with few residents) are appropriate if they fulfil other criteria.

Boundaries relatable to the user

Geographies should represent a ‘community of place’ where people interact together socially and economically.

Boundaries visible on the ground

Boundaries should follow dividing features, such as rivers, roads, railway lines, and lakes. This assists in describing the extent of the statistical area. An area should ideally represent a single land use, such as the built-up environment, farmland, forests, or wilderness areas.

Compact shape

The statistical area should be compact and have contiguous boundaries to provide flexible and relevant building block geographies for users and assist with data visualisation.

Stable over time

The boundaries of higher-level geographies should remain stable, where possible, to allow the comparison of data over time. However, when the population distribution changes, geographies should be updated to reflect such changes. Boundaries of the smallest geographies should be regularly maintained to reflect real world changes, such as new subdivisions and motorways.

Additional criteria

Additionally, statistical geographies should:

- be well defined, using objective criteria
- be mutually exclusive and therefore not overlap

- be comprehensive, covering the whole area to which the classification applies
- separate land and water (where possible)
- separate urban and rural areas (where possible)
- align to territorial authority and regional council boundaries
- have clear, objective maintenance criteria and plans that specify criteria for changing boundaries.

Definitions

The SSGA23 classification structures are split into three broad groups:

- geographies built directly from meshblocks:
  - statistical geographies
  - administrative and electoral areas
- grid based geographies not built from meshblocks:
  - analytical geographies.

Statistical geographies

The statistical geographies form a hierarchy of geographic areas whose boundaries are specifically created according to well-defined concepts. In total, they cover the whole geographic New Zealand. The boundaries align with territorial authority and regional council boundaries, with a few minor exceptions. The statistical geographies are statistical rather than legal classifications and include:

- meshblock
- statistical area 1 (SA1)
- statistical area 2 (SA2)
- statistical area 3 (SA3)
- urban rural (UR), including
  - functional urban area (FUA)
  - urban accessibility (UA).

The statistical geographies are defined and maintained by Stats NZ.

Statistical geography hierarchy below provides more information.

Administrative and electoral areas

Central and local government administrative and electoral boundaries were established in legislation under the Local Government Act 2002 and the Electoral Act 1993. They are defined by the Local Government Commission and the Representation Commission. Administrative and electoral areas include:

- regional council
  - constituency
  - Māori constituency
- territorial authority
  - ward, general ward, and Māori ward
  - community board / local board
  - subdivision
- general electoral district
- Māori electoral district.

Local government administrative areas and Electoral areas below provide more information.

Analytical geographies

The Stats NZ grid framework is a new geography, released in 2023, that has been included in the SSGA23 to provide users with a data product that is analysis-ready for spatial, geostatistical, and visualisation applications. The basic geographic unit is a grid cell of three resolutions – 1 kilometre, 500 metres, and 250 metres.

Analytical geographies below provide more information.

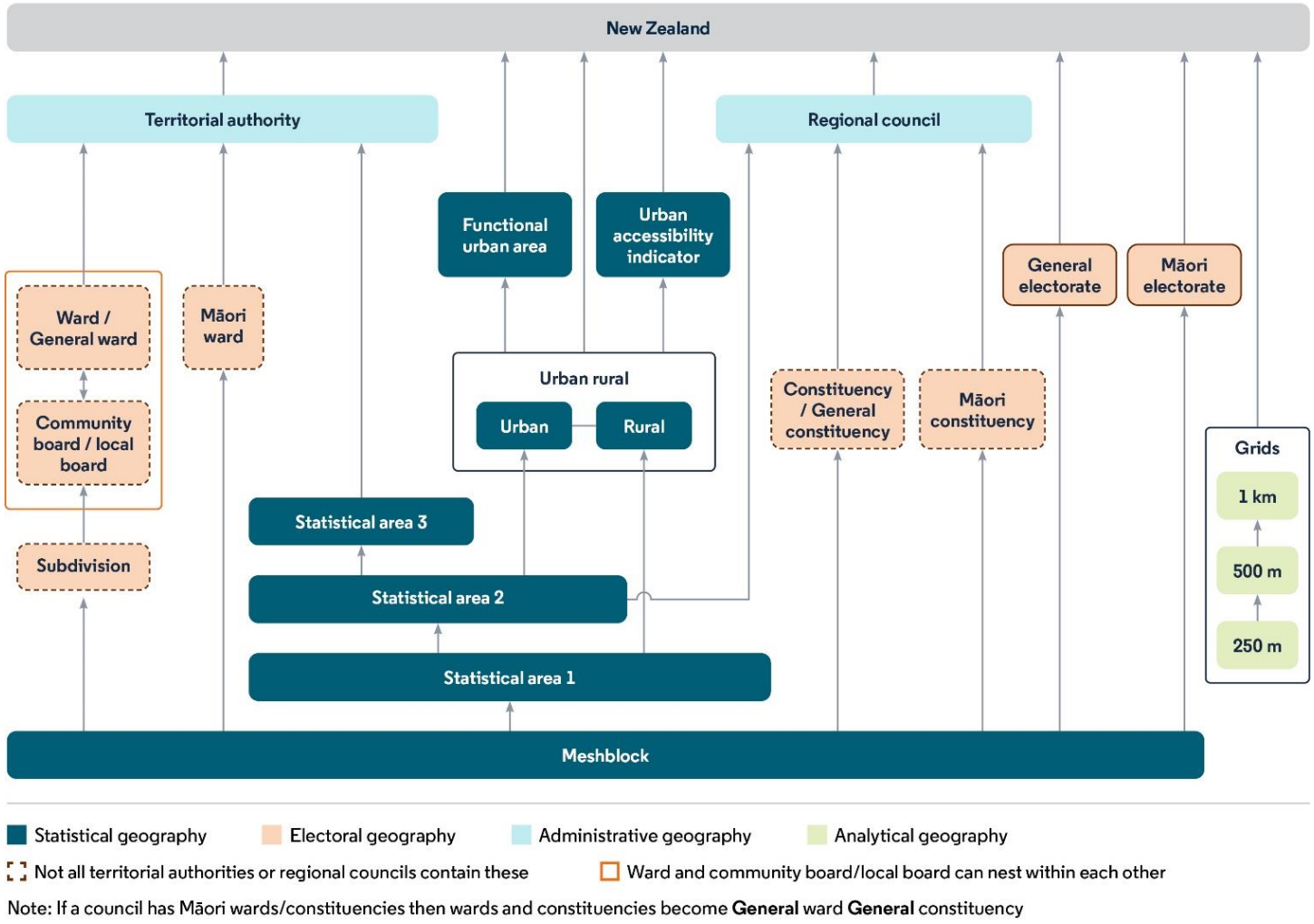
New Zealand

For statistical purposes, the term 'New Zealand' refers to geographic New Zealand, that is, North Island, South Island, Stewart Island / Rakiura, and the Chatham Islands, plus the Kermadec Islands, the Auckland Islands, the Subantarctic Islands (Campbell Island / Motu Ihupuku, Antipodes Islands, Bounty Islands, and Snares Islands / Tini Heke), and the Ross Dependency.

The North and South Islands, Stewart Island / Rakiura, and Chatham Islands are digitised according to the New Zealand Transverse Mercator 2000 standard projection for general mapping in New Zealand. The other islands are not digitised but are included in the statistical geographies to provide complete coverage of geographic New Zealand.

Figure 1 shows how New Zealand's SSGA23 geographies relate to each other.

Figure 1
Statistical, electoral, administrative, and analytical geographies



Statistical geography hierarchy

The statistical geography hierarchy has four levels:

- meshblock
- statistical area 1 (SA1)
- statistical area 2 (SA2)
- statistical area 3 (SA3).

Meshblock is the smallest geographic unit for which statistical data is reported by Stats NZ and forms the basis of New Zealand's electoral system and local government administration.

Statistical area geographies are aggregations of meshblocks optimised to be of similar population sizes to enable the release of multivariate data. They are non-administrative areas that sit between meshblocks and territorial authorities in size. Statistical areas either define or aggregate to define urban rural areas, territorial authorities, and regional councils.

There are three urban rural geographies:

- urban rural (UR)
- functional urban area (FUA)
- urban accessibility (UA).

The UR is designed to align with SA2s in urban areas and SA1s in rural and water areas. The UR boundaries also nest within the territorial authority and regional council administrative geographies, with one exception for the Richmond urban area in the Tasman District, which includes one SA2 from the Nelson City Council area.

The FUA offers a broader definition of urban to include the rural hinterland, or peri-urban areas, surrounding larger urban areas. The UA classifies rural areas according to their accessibility to or remoteness from urban areas.

Meshblock

Definition

A meshblock is the smallest geographic unit for which statistical data is reported by Stats NZ. A meshblock is a defined geographic area, which can vary in size from part of a city block to a large area of rural land. Each meshblock borders another to form a network covering all New Zealand, including coasts and inlets and extending to the 200-nautical-mile exclusive economic zone (EEZ), and is digitised to the 12-nautical-mile limit. Meshblocks are added together to form larger geographic areas, such as SA1, SA2, SA3, and urban rural areas. They are also used to define electoral districts, territorial authorities, and regional councils.

Meshblock boundaries generally follow road centre lines, cadastral property boundaries or topographical features such as rivers. Expanses of water in the form of lakes and inlets are defined separately from land.

The primary purposes of the meshblock classification are:

- to provide a small, relevant, and flexible building-block geography for aggregation into other statistical geographies
- to ensure geographic boundaries can be physically identified and located on the ground by alignment with geographic or physical features, or with the cadastre
- to stand as the lowest-level building block, to form the basis of New Zealand's electoral system, by which it defines electorates and polling areas for both parliamentary and local government elections.

As the lowest-level building block, the meshblock classification is primarily an input geography that supports the electoral system, survey enumeration, and higher-level geographies. Statistical outputs are limited to single variables, such as census population and dwelling counts, to which confidentiality rules are applied to prevent disclosing information about individuals living in sparsely populated areas.

Population size

The optimal size for a meshblock is 30–60 dwellings (containing approximately 60–120 residents).

- When a meshblock exceeds 80 dwellings, it is reviewed for splitting.
- Meshblocks should be no larger than 120 dwellings (unless they contain a large apartment block or other multi-dwelling building).
- Some meshblocks will have zero or low populations, for example, water or high-country meshblocks, business or industrial areas, new development areas, and meshblocks representing urban parklands, infrastructure, or recreation areas.

Classification

The meshblock classification is a flat classification, and in 2023, contains 57,539 meshblocks – 57,523 digitised and 16 non-digitised. It is released annually as at 1 January, and occasionally mid-year if change to the meshblock boundary is required for an electoral or administrative boundary change. There are not always changes from the previous meshblock classification other than small adjustments to align with the Toitū Te Whenua I Land Information New Zealand (LINZ) cadastre (property boundaries) and road centrelines.

Meshblocks have seven-digit codes but are not named. When meshblocks are split, each new meshblock is given a new code. The original meshblock codes no longer exist within the new and future versions of the meshblock classification. Meshblock codes do not change when a meshblock boundary is nudged.

Meshblocks that existed before 2015 and have not changed are numbered from 0000100 to 3210003. Meshblocks created from 2015 onwards are numbered from 4000000.

Statistical standard for meshblock sets out requirements and guidelines for creating and maintaining the meshblock classification and Stats NZ's responsibilities for maintaining the standard.

Classifications: Meshblock provides more information.

Statistical area 1 (SA1)

Definition

The main purpose of the SA1 geography is to provide an output geography that allows the release of more low-level data than is available at the meshblock level. Built by joining meshblocks, SA1s have an ideal size range of 100–200 residents and a maximum population of about 500. This is to minimise suppression of population data in multivariate statistics tables.

The SA1 should:

- form a contiguous cluster of one or more meshblocks
- be either urban, rural, or water in character
- be small enough to:
    - allow flexibility for aggregation to other statistical geographies
    - allow users to aggregate areas into their own defined communities of interest
- form a nested hierarchy with statistical output geographies and administrative boundaries. It must:
    - be built from meshblocks
    - either define or aggregate to define SA2s, SA3s, urban rural areas, territorial authorities, and regional councils.

Population size

SA1s generally have a population of 100–200 residents, with some exceptions.

- SA1s with zero or nominal resident populations are created to represent remote mainland areas, unpopulated islands, inland water, inlets, or oceanic areas.
- Some SA1s in the following areas have fewer than 100 residents: remote rural; urban industrial or business; new development; urban parkland, recreation, or infrastructure.
- Some SA1s that contain apartment blocks, retirement villages, and large residential facilities (prisons, boarding schools, etc) have more than 500 residents.

Classification

The SA1 classification is a flat classification and, in 2023, contains 33,164 SA1s (33,148 digitised and 16 non-digitised). The SA1 classification is updated and released five-yearly coinciding with census years. In addition to this, the SA1 classification will be released if it changes to align with changes to electoral or administrative boundaries.

SA1s are not named. SA1 codes have seven digits starting with a ‘7’ and are numbered approximately north to south. As new SA1s are created, they are given the next available numeric code. If the composition of an SA1 changes through splitting or amalgamating different meshblocks, the SA1 is given a new code. The previous code no longer exists within that and future versions of the SA1 classification.

Classifications: Statistical area 1 provides more information.

Statistical area 2 (SA2)

Definition

The main purpose of the SA2 geography is to provide an output geography for higher aggregations of population data than can be provided at the SA1 level. The SA2 geography aims to reflect communities that interact socially and economically. In populated areas, SA2s generally contain similar-sized populations.

The SA2 should:

- form a contiguous cluster of one or more SA1s
- (excluding the exceptions below for small population SA2s) allow the release of data in multivariate statistics tables with minimal data suppression
- capture a similar type of area, such as a high-density urban area, farmland, wilderness area, or water area
- be socially homogeneous and capture a community of interest (For example, it may have:
    - a shared road network
    - shared community facilities
    - shared historical or social links
    - socio-economic similarity.)
- form a nested hierarchy with statistical output geographies and administrative boundaries. It must:
    - be built from SA1s
    - either define or aggregate to define SA3s, UR areas, territorial authorities, and regional councils.

In larger urban areas, an SA2 often approximates a single suburb or part of a larger suburb. A small urban area containing up to 5,000 residents may be represented by a single SA2. In rural areas, rural settlements are included in their respective SA2 with the surrounding rural area.

Population size

SA2s in city council areas generally have a population of 2,000–4,000 residents, while SA2s in district council areas generally have a population of 1,000–3,000 residents.

SA2s in urban areas where there is significant business and industrial activity, for example ports, airports, or industrial, commercial, and retail areas, often have fewer than 1,000 residents. These SA2s are useful for analysing business demographics, labour markets, and commuting patterns.

In rural areas, many SA2s have fewer than 1,000 residents because they are in conservation areas or cover large areas that have sparse populations, for example, Fiordland.

Stewart Island / Rakiura and Chatham Islands are represented by separate SA2s. Waiheke Island comprises six SA2s.

To ensure that the SA2 geography covers all New Zealand and aligns with New Zealand's topography and local government boundaries, some SA2s have zero or nominal populations. These types of SA2s are described below.

Zero or nominal population SA2s

Alignment with territorial authority and regional council boundaries

In rural areas where territorial authority boundaries straddle regional council boundaries, SA2s have been created to maintain the statistical geography and administrative area hierarchy. These SA2s, which each have fewer than 200 residents are: Arahiwi, Tiroa, Rangataiki, Kaimanawa, Taharua, Te More, Ngamatea, Whangamomona, and Mara. Their locations within territorial authorities and regional councils are shown below in table 1: SA3s that don't align with regional council boundaries.

Island SA2s

To minimise suppression of population data, small islands with zero or low populations close to the mainland are generally included in their adjacent land-based SA2.

However, SA2s have been created for single islands or groups of islands that are some distance from the mainland or to separate large unpopulated islands from urban areas. These SA2s are:

- Three Kings Islands
- Barrier Islands (includes Great Barrier Island (Aotea Island), Te Hauturu-o-Toi / Little Barrier Island, and other nearby islands)
- Gulf Islands (includes Motutapu, Rangitoto, and other islands in the Hauraki Gulf / Tīpaka Moana)
- Islands Thames-Coromandel District
- Islands Bay of Plenty Region (Mōtītī Island, Mayor Island / Tūhua, Moutohora Island, and Whakaari / White Island)
- Matakana Island
- Kapiti Island
- Mana Island
- Islands Tasman District (Best Island, Bell Island, and Moturoa / Rabbit Island)
- Bare Island (in the Hawke's Bay region but outside the territorial authority area)
- Motunau Island (in the Canterbury Region but outside the territorial authority area).

Water SA2s

SA2s with zero or nominal resident populations designed to represent inland water, inlets, or oceanic areas include:

- inland lakes larger than 50 square kilometres (lakes smaller than 50 square kilometres are included with the surrounding land SA2)
- harbours larger than 40 square kilometres
- major ports: Eastland (Gisborne), Taranaki, Napier, Lyttelton, Timaru, Oamaru
- other non-contiguous inlets and harbours, defined by territorial authority
- contiguous oceanic areas, defined by regional council.

To minimise suppression of population data, separate meshblocks/SA1s have been created for marinas so that they can be attached to their adjacent land-based SA2.

Non-digitised SA2s

SA2s for non-digitised oceanic areas, offshore oil rigs, islands, and the Ross Dependency are shown in table 3: Treatment of non-digitised SA2s below.

Each of these SA2s are represented by a single meshblock.

Classification

The SA2 classification is a flat classification and in 2023 contains 2,395 SA2s (2,379 digitised and 16 non-digitised). The SA2 classification is updated and released five-yearly coinciding with census years. In addition to this, the SA2 classification will be released if it changes to align with changes to electoral or administrative boundaries.

Each SA2 is a single geographic entity with a name and a numeric code. The name refers to a geographic feature or a recognised place name or suburb. In some instances where place names are the same or very similar, the SA2s are differentiated by their territorial authority name, for example, Gladstone (Carterton District) and Gladstone (Invercargill City). Names are provided with and without tohutō (macrons).

SA2 codes have six digits. North Island SA2 codes start with a 1 or 2, and South Island SA2 codes start with a 3. They are numbered approximately north to south within their respective territorial authorities. To ensure the north–south code pattern is maintained, the SA2 codes were given 00 for the last two digits when the geography was created in 2018. When SA2 names or boundaries change only the last two digits of the code will change. For example, in 2023:

- SA2 (2018) 135800 Ōwairaka East boundaries were realigned to coincide with territorial authority local board (TALB) boundaries and renumbered SA2 (2023) 135801 Ōwairaka East
- SA2 (2018) 12370 Castor Bay was split into SA2 (2023) 123701 Castor Bay North and 123702 Castor Bay South to meet SA2 size criteria
- SA2 (2018) 220500 Cape Egmont was renamed SA2 (2023) 220501 Parihaka.

Classifications: Statistical area 2 provides more information.

Statistical area 3 (SA3)

Definition

Statistical area 3 (SA3) is a new output geography, introduced in 2023, that allows aggregations of population data between the SA2 geography and territorial authority geography.

The SA3 geography aims to meet three purposes. These are to:

- represent suburbs in major, large, and medium urban areas
- in predominantly rural areas, provide geographical areas that are larger in area and population size than SA2s but smaller than territorial authorities
- minimise data suppression.

Population size

The requirement for SA2s to have similar-sized populations (2,000–4,000 in larger urban areas and 1,000–3,000 in smaller urban areas and rural areas) limits the ability to represent 'communities of place'. SA3s in major, large, and medium urban areas have been created by combining SA2s to approximate suburbs as delineated in the NZ Suburbs and Localities dataset.

Some of the resulting SA3s have very large populations, the largest being Papatoetoe, with an estimated resident population of 50,320 at 30 June 2021.

Outside major, large, and medium urban areas, SA3s generally have populations of 5,000–10,000.

Some SA3s are a single urban area, or a combination of small urban area SA2s and rural SA2s, for example:

- a small urban area with 5,000–10,000 residents, such as SA3 61910 Alexandra, which contains the two Alexandra urban SA2s of Alexandra North and Alexandra South
- a small urban area with more than 5,000 residents plus surrounding 'rural' SA2(s), such as SA3 54810 Marton, which includes the two Marton urban SA2s (Marton North and Marton South) and Marton Rural SA2
- a combination of one or more small urban areas with less than 5,000 residents and SA2s containing rural settlements and other rural areas, such as SA3 50860 Waitākere West, which includes the rural settlements of Piha, Waitākere Village, Huia, Karekare, and surrounding rural areas.

Stewart Island / Rakiura and Chatham Islands are represented by separate SA3s. The six Waiheke Island SA2s are combined into one SA3 for Waiheke Island, with a combined population of just under 10,000.

To minimise the amount of unsuppressed data that can be provided in multivariate statistical tables, SA2s with fewer than 1,000 residents are combined with other SA2s wherever possible to reach the 1,000 SA3 population target. However, there are still many SA3s with zero or nominal populations. Their treatment is described below.

Zero or nominal population SA3s

Alignment with territorial authority and regional council boundaries

Small population SA2s designed to maintain alignment between territorial authority and regional council geographies are merged with other SA2s to reach the 5,000–10,000 SA3 population target. These merges mean that some SA3s do not align with regional council boundaries but are aligned to territorial authority. The treatment of these SA2s and their resulting SA3s are shown in table 1.

Table 1
SA3s that don't align with regional council boundaries

Statistical area 2	Regional council	Territorial authority	Statistical area 3
Arahiwi	Waikato Region	Rotorua District	Rotorua District South
Tiroa	Manawatū-Whanganui Region	Waitomo District	Waitomo District Rural
Rangataiki	Bay of Plenty Region	Taupo District	Taupo District South
Kaimanawa	Waikato Region	Taupo District	Taupo District South
Taharua	Hawke's Bay Region	Taupo District	Taupo District South
Te More	Manawatū-Whanganui Region	Taupo District	Taupo District South
Ngamatea	Hawke's Bay Region	Rangitikei District	Rangitikei District North
Whangamomona	Manawatū-Whanganui Region	Stratford District	Stratford District Rural
Mara	Wellington Region	Tararua District	Tararua District Other

Island SA3s

To minimise suppression of population data, small islands with zero or low populations close to the mainland are generally included in their adjacent land-based SA2/SA3.

The allocation of zero or nominal population island SA2s to SA3s is shown in table 2.

Table 2
Treatment of small population islands

Statistical area 2	Regional council	Territorial authority	Statistical area 3
1. Island SA2s joined with other SA2s in the SA3 geography			
Gulf Islands	Auckland Region	Auckland	Hibiscus and Bays Rural
Islands Thames-Coromandel District	Waikato Region	Thames-Coromandel District	Mercury Bay
Matakana Island	Bay of Plenty Region	Western Bay of Plenty District	Western Bay of Plenty District North
Kapiti Island	Wellington Region	Kapiti Coast District	Kapiti Coast District Coast
Mana Island	Wellington Region	Porirua City	Porirua City Rural
Islands Tasman District	Tasman Region	Tasman District	Moutere Coast
2. Island SA2s outside territorial authority or region are the same in the SA3 geography			
Three Kings Islands	Area Outside Region	Area Outside Region	Three Kings Islands
Islands Bay of Plenty Region	Bay of Plenty Region	Area Outside Territorial Authority	Islands Bay of Plenty Region
Bare Island	Hawke's Bay Region	Area Outside Territorial Authority	Bare Island
Motunau Island	Canterbury Region	Area Outside Territorial Authority	Motunau Island

Water SA3s

To minimise the number of SA3s, inland water SA2s are aggregated and named by territorial authority, as in the urban rural classification.

Similarly, inlet SA2s are aggregated and named by territorial authority or regional council where the water area is outside the territorial authority.

Oceanic SA2s translate directly to SA3s as they are already aggregated to regional council.

To minimise suppression of population data, separate meshblocks have been created for marinas so that they can be attached to their adjacent land-based SA2/SA3.

Non-digitised SA3s

To minimise the number of SA3s, non-digitised SA2s are aggregated as in the urban rural classification, shown in table 3.

Table 3
Treatment of non-digitised SA2s

Statistical area 2	Statistical area 3/UR
New Zealand Economic Zone	Oceanic outside region
Oceanic Kermadec Islands	Oceanic outside region
Oceanic Campbell Island	Oceanic outside region
Oceanic Auckland Islands	Oceanic outside region
Oceanic Bounty Islands	Oceanic outside region
Oceanic Snares Islands	Oceanic outside region
Oceanic Antipodes Islands	Oceanic outside region
Oceanic Oil Rig Southland	Oceanic oil rigs
Oceanic Oil Rig Taranaki	Oceanic oil rigs
Kermadec Islands	Islands outside region
Campbell Island	Islands outside region
Auckland Islands	Islands outside region
Bounty Islands	Islands outside region
Snares Islands	Islands outside region
Antipodes Islands	Islands outside region
Ross Dependency	Ross Dependency outside region

Classification

The SA3 classification is a flat classification and, in 2023, contains 929 SA3s – 925 digitised and 4 non-digitised. The SA3 classification is updated and released five-yearly coinciding with census years. In addition to this, the SA3 classification will be released if it changes to align with changes to electoral or administrative boundaries.

Each SA3 is a single geographic entity with a name and a numeric code. The name refers to a suburb, recognised place name, or portion of a territorial authority. In some instances where place names are the same or very similar, the SA3s are differentiated by their territorial authority, for example, Hillcrest (Hamilton City) and Hillcrest (Rotorua District). Names are provided with and without tohutō (macrons).

SA3 codes have five digits. North Island SA3 codes start with a 5, and South Island SA3 codes start with a 6. The codes are numbered approximately north to south within their respective territorial authorities. When first created in 2023, the last digit of each code was 0. When SA3 boundaries change in future, only the last digit of the code will change to ensure the north-south pattern is maintained.

Classifications: Statistical area 3 provides more information.

Urban-rural geographies

There are three urban-rural geographies:

- urban rural (UR)
- functional urban area (FUA)
- urban accessibility (UA).

The UR classifies New Zealand into areas that share common urban or rural characteristics. It is a form-based geography, that is, urban and rural areas are delineated by what you can see on the ground. It is used to present a range of Stats NZ population and demographic statistics and estimate the percentage of residents living in urban areas.

The FUA offers a broader definition of 'urban' by adding the surrounding rural hinterland to larger urban areas.

The UA groups small urban areas and rural SA1s according to their proximity to larger urban areas.

Appendix: Differences between NZSAC92 and SSGA23 summarises the differences between the three urban-rural geographies.

Urban rural New Zealand, Stats NZ's story map, describes urban rural concepts in more detail.

Urban rural (UR)

The UR separately identifies urban areas, rural settlements, other rural areas, and water areas. The urban areas represent densely developed spaces and encompass residential, commercial, and other non-residential urban land uses. Rural settlements, other rural areas, and bodies of water represent areas not included within an urban area.

The UR indicator (IUR) classifies urban, rural, and water areas by type. Urban areas are classified by population size; rural areas are classified as rural settlements or rural other; and water areas are classified as inland water, inlet, or oceanic.

Urban areas and rural settlements are form-based geographies delineated by the inspection of aerial imagery, local government land designations on district plan maps, address registers, property title data, and any other available information. However, because the underlying meshblock pattern is used to define the geographies, boundaries may not align exactly with local government land designations or what can be seen in aerial images.

Urban areas

Urban areas are statistically defined areas with no administrative or legal basis. They are characterised by high population density with many built-environment features, where people and buildings are located close together for residential, cultural, productive, trade, and social purposes.

Urban areas are delineated using the following criteria. They:

- form a contiguous cluster of one or more SA2s
- contain an estimated resident population of more than 1,000 people and usually have a population density of more than 400 residents or 200 address points per square kilometre
- have a high coverage of built physical structures and artificial landscapes, such as:
    - residential dwellings and apartments

    - commercial structures, such as factories, office complexes, and shopping centres
    - transport and communication facilities, such as airports, ports and port facilities, railway stations, bus stations and similar transport hubs, and communications infrastructure
    - medical, education, and community facilities
    - tourist attractions and accommodation facilities
    - waste disposal and sewerage facilities
    - cemeteries
    - sports and recreation facilities, such as stadiums, golf courses, racecourses, showgrounds, and fitness centres
    - green spaces, such as community parks, gardens, and reserves
- have strong economic ties where people gather to work and for social, cultural, and recreational interaction
- have planned development within the next five to eight years.

Urban areas are further classified by the size of their estimated resident population as:

- major urban area (100,000 or more residents)
- large urban area (30,000–99,999 residents)
- medium urban area (10,000–29,999 residents)
- small urban area (1,000–9,999 residents).

Urban boundaries are independent of local government and other administrative boundaries, that is, an urban area may be contained within one or more local government region or administrative areas. However, the Richmond urban area, which is mainly in the Tasman District, is the only urban area that crosses territorial authority boundaries. It includes the Daelyn SA2, which is in the Nelson City Council area.

Rural areas

Rural areas represent land-based areas outside urban areas. They are classified as rural settlements or other rural.

Rural settlement

Rural settlements are statistically defined areas with no administrative or legal basis. A rural settlement is a cluster of residential dwellings about a place that usually contains at least one community or public building.

Rural settlements are delineated using the following criteria. They:

- form a contiguous cluster of one or more SA1s
- contain an estimated resident population of 200–999 or at least 40 residential dwellings
- represent a reasonably compact area or have a visible centre of population, with a population density of at least 200 residents per square kilometre or 100 address points per square kilometre
- contain at least one community or public building, such as a church, school, or shop.

The UR includes rural settlements that had been called rural centres in NZSAC92, rural settlements that were previously part of an NZSAC92 urban area, and other identified rural settlements that meet the above criteria.

To reach the target SA2 population size of more than 1,000 residents, rural settlements are usually included with other rural SA1s to form an SA2. In some instances, the settlement and the SA2 have the same name, for example, Kirwee rural settlement is part of the Kirwee SA2.

Some rural settlements whose populations are just under 1,000 are a single SA2. For example, SA2 (2018) 220900 Manaia-Kapuni was separated into SA2s (2023) 220901 Manaia (currently a rural settlement with a population hovering around 1,000) and 220902 Kapuni. Creating separate SA2s for these rural settlements allows for easy reclassification to urban areas if their populations grow beyond 1,000.

Other rural

Other rural areas are the mainland areas and islands located outside urban areas or rural settlements. Other rural areas include land used for agriculture and forestry, conservation areas, and regional and national parks.

Other rural areas are defined by territorial authority.

Water

To ensure that the urban rural geography covers the total geographic New Zealand, bodies of water are classified separately, using the land/water demarcation classification described in the Statistical standard for meshblock (Stats NZ, 2016).

These water areas are not named and are defined by territorial authority or regional council.

The water classes include:

- inland water (non-contiguous, defined by territorial authority)
- inlets, which includes tidal areas and harbours (non-contiguous, defined by territorial authority)
- oceanic (non-contiguous, defined by regional council).

To minimise suppression of population data, separate meshblocks have been created for marinas. These meshblocks are attached to adjacent land in the UR geography.

The UR and IUR classifications

The UR is a flat classification. Each urban area and rural settlement is a single geographic entity with a name and a numeric code. Names are provided with and without tohutō (macrons).

Other rural areas, inland water areas, and inlets are defined by territorial authority; oceanic areas are defined by regional council; and each have a name and a numeric code.

Urban rural codes have four digits. North Island locations start with a 1, South Island codes start with a 2, and oceanic codes start with a 6.

The IUR classifies urban, rural, and water areas by type. The indicators, with their codes in brackets, are:

- urban area – major urban (11), large urban (12), medium urban (13), small urban (14)
- rural area – rural settlement (21), rural other (22)
- water – inland water (31), inlet (32), oceanic (33).

Classifications: Urban rural provides more information.

In 2023, the UR contains 745 UR areas, including 195 urban areas and 402 rural settlements, based on 2018 Census data and 2021 population estimates. Their IUR status (urban area size / rural settlement) may change if their 2023 Census population count moves them up or down a category.

To minimise the number of UR categories, non-digitised SA2s are aggregated to oceanic outside region, oceanic oil rigs, islands outside region, and the Ross Dependency outside region as shown in table 3: Treatment of non-digitised SA2s above.

The UR and IUR classifications are updated and released five-yearly coinciding with census years. In addition to this, the UR and IUR classifications will be released if they change to align with changes to electoral or administrative boundaries.

Functional urban area (FUA)

Definition

FUAs are based on the linkages between where people live and where they work, shop, access health care, and recreate (which can be called a person's 'activity space'). According to the OECD (2012) a functional urban area consists of a city and its commuting zone. Functional urban areas therefore consist of a densely inhabited city and a less densely populated commuting zone whose labour market is highly integrated with the city.

The FUA classification uses the UR to demarcate urban areas and SA1s to demarcate surrounding hinterland (the commuting zone) within FUAs and rural and water areas outside FUAs.

Methodology

Workplace address and usual residence address responses from the 2018 Census of Population and Dwellings were used to calculate the percentage of workers commuting from 2018 rural SA1s and urban areas with less than 5,000 residents to 2018 urban areas with 5,000 or more residents.

A commute-in criteria was used, that is, commuting *from* a secondary urban core, satellite urban area, or rural SA1 *into* the urban and secondary urban cores. Decisions on outward commuting were applied manually using Stats NZ business demography data to identify rural SA1s that had high employment counts in non-agricultural industries. For example, the SA1 that contains the Tiwai Point aluminium smelter is included in the Invercargill FUA because many of its workers live in the Invercargill urban area and commute outwards to Tiwai Point.

An FUA includes urban areas, rural settlements, and rural SA1s where there is an 'urban core' (a major, large, medium, or small urban area with more than 5,000 residents) and may also include:

- one or more secondary urban cores – major, large, or medium urban areas where at least 40 percent of workers commute to the urban core
- one or more satellite urban areas – small urban areas where at least 40 percent of workers commute to the urban core or associated secondary urban core

- hinterland – rural settlements or rural SA1s where at least 40 percent of workers commute to the urban core or associated secondary urban core plus other rural SA1s that link satellite urban areas and secondary urban cores to the urban core.

Classification

The FUA classification identifies FUAs by name. A multiple core FUA is named after the largest urban area it contains, for example, the Christchurch FUA includes the Christchurch urban core and Rangiora, Kaiapoi, and Rolleston secondary urban cores. There is one exception to the naming rule. The Paraparaumu-Waikanae-Paekakariki conurbation and surrounding hinterland is named Kapiti Coast.

The FUA classification has a two-level hierarchical structure. Level 1 is classified by FUA type (TFUA) a one-digit code and level 2, which has three-digit codes numbered north to south. Some examples are: 1001 Auckland, 2001 Whangārei, 3001 Cambridge, 4001 Kaitāia.

In 2023, there are 53 FUAs. For the interim 2023 FUA, there have been minor updates to accommodate changes to urban area boundaries and SA1 composition. The FUA will be reviewed once 2023 Census results are available and will be revised if there are significant changes in commuting patterns.

FUA type (TFUA)

FUAs are further categorised by population size. The urban core's population rather than the entire FUA's population is used to maintain consistency between the descriptions of UR urban area and TFUA. The categories are:

1 Metropolitan area (more than 100,000 residents living in the urban core)

2 Large regional centre (urban core population 30,000–99,999)

3 Medium regional centre (urban core population 10,000–29,999)

4 Small regional centre (urban core population 5,000–9,999)

9 Area outside functional urban area.

The Greymouth urban area population is less than 10,000 but is classified as a medium regional centre, consistent with its treatment as a medium urban area in the UA classification.

The Wanaka urban area, whose population has grown to be more than 10,000, has been reclassified to a medium urban area in the 2023 UR and a medium regional centre in the TFUA.

To differentiate from the UR classification, when referring to FUAs by name, their FUA type should also be mentioned, for example, Christchurch metropolitan area, Whangarei regional centre.

FUA indicator (IFUA)

The IFUA classifies UR2023 urban areas and rural SA1s according to their character within their FUA.

The indicators, with their codes in brackets, are:

- urban area within functional urban area – urban core (101), secondary urban core (102), satellite urban area (103)
- rural area within functional urban area – hinterland (201)
- area outside functional urban area – land area outside functional urban area (901), water area outside functional urban area (902).

Functional urban areas – methodology and classification (Stats NZ, 2021) provides more information.

Urban accessibility (UA)

Definition

The UA provides a consistent measure of urban accessibility in order to measure the degree of influence that New Zealand's urban areas have on their surrounding rural areas. This approach distinguishes the degrees of rurality in New Zealand and enhances understanding of the differences across rural areas.

Methodology

Many methods can be used to measure geographic accessibility. For the UA, drive time (duration) was used to categorise the degree of urban accessibility or rural remoteness at SA1 level. The Open Source Routing Machine (OSRM) service with data from the OpenStreetMap project was used to calculate drive time from the address-weighted centroid of SA1s in small urban areas and rural areas to the edge of their nearest major, large, or medium urban area.

Origin point

The address-weighted centroid (that is, the centre of concentration of addresses) for each land-based SA1 outside major, large, and medium urban areas was calculated to represent the average location of residents and was used as the origin in the routing calculation. This address-weighted centroid gives a more accurate representative location than the geographic centroid, particularly in larger rural SA1s where the population is clustered in a small part of the SA1. LINZ addresses, extracted on census day (6 March 2018), were used to calculate the address-weighted centroids.

Destination

Points created at the intersection of the outside boundary of UR2018 major, large, and medium urban areas and the road network were used as the destination points for each route. The use of the centroid or a representative point for each urban area was considered, but that was too presumptive of what services are accessed or where business and employment sites are located. Using urban area centroids would have resulted in dramatically different urban accessibility measures for rural areas surrounding large sprawling cities such as Auckland, compared with more compact cities like Tauranga.

Urban accessibility categories

Drive times were categorised into five classes from high urban accessibility to very remote. These five categories provide adequate distinction given the physical geography of New Zealand and the degree to which rural areas can be sensibly distinguished. The categories are described in table 4.

Table 4
Urban accessibility categories

UA category	Duration
High urban accessibility	• 0–15 minutes from major urban areas
Medium urban accessibility	• 15–25 minutes from major urban areas • 0–25 minutes from large urban areas • 0–15 minutes from medium urban areas
Low urban accessibility	• 25–60 minutes from major urban areas • 25–60 minutes from large urban areas • 15–60 minutes from medium urban areas
Remote	• 60–120 minutes from major, large, or medium urban areas
Very remote	• more than 120 minutes from major, large, or medium urban areas

When an SA1 centroid fell within the duration thresholds for multiple urban areas, the higher urban accessibility class was assigned. For example, an SA1 centroid that is 5 minutes from a medium urban area and 10 minutes from a major urban area was assigned to the high urban accessibility class.

Entire small urban areas and rural settlements were assigned to a single urban accessibility category. When SA1s within small urban areas or rural settlements had multiple urban accessibility categories, the whole urban area or rural settlement was assigned to the accessibility category of the majority of the SA1s in that urban area / rural settlement.

SA1s that did not contain any addresses were assigned a category based on the majority of their neighbouring SA1s.

SA1 nearshore islands within swimmable or kayaking distance of the mainland were classified as remote, and islands only accessible by boat were classified as very remote. Nearshore islands that are part of a mainland SA1 have the same classification as their mainland area.

The classification levels of the western part of Waiheke Island and the rural settlement of Oban on Stewart Island / Rakiura were raised up a level as they can be reached within 60 minutes by regularly scheduled flights and ferries.

The urban accessibility indicator (IUA)

The urban accessibility indicator (IUA) classifies urban, rural, and water areas by type. The high and medium urban accessibility categories are considered to be peri-urban. The external boundaries are similar to, but not exactly coincident with, the FUA boundaries. FUAs are delineated by actual census commuting data, whereas the high and medium urban accessibility categories are delineated by drive times. The IUA is shown in table 5.

Table 5
Urban accessibility indicator classification

Level 1 code	Level 2 code	Name
1		**Urban areas**
	111	Major urban area
	112	Large urban area
	113	Medium urban area
2		**Small urban and rural areas**
	221	High urban accessibility
	222	Medium urban accessibility
	223	Low urban accessibility
	224	Remote
	225	Very remote
3		**Water areas**
	331	Inland water
	332	Inlet
	333	Oceanic

For the interim 2023 UA, there have been minor updates to accommodate changes to urban area boundaries and SA1 composition. The Wanaka urban area, whose population has grown to be more than 10,000, has been reclassified to a medium urban area in the 2023 UR. However, it will continue

to be classified as a small urban area in the UA until the analysis is re-run for the next major update once 2023 Census data is available.

Analytical geographies

Grids

A grid is an analytical geography that divides the country into areas of the same shape and size. The basic geographic unit is a grid cell.

The Stats NZ grid framework was approved for trial in 2022 and publication in 2023. It has been included in the SSGA23 to provide users with a data product that is analysis-ready for spatial, geostatistical, and visualisation applications. Being a fixed geography, it allows for consistent time series and provides a framework for data integration. Grids can be used to study causes and effects of many socioeconomic and environmental phenomena, such as the extent and impact of sea-level change, tsunamis, floods, and earthquakes, commuting, mobility, and leisure.

There are three resolutions of square grid – 1-kilometre, 500-metres and 250-metres – the distance refers to the length of one side of the square. The area of the 1-kilometre grid cell is 1 square kilometre (which is equivalent to 1 million square metres), 250,000 square metres for a 500-metre grid cell and 62,500 square metres for a 250-metre grid cell.

The grids are created in the New Zealand Transverse Mercator 2000 projection with the point of origin as the lower left of the New Zealand region layer.

The extent of the grids is the New Zealand geographic area, which includes the 12-nautical-mile limit and Chatham Islands, but excludes the Kermadec Islands, Auckland Islands, the Subantarctic Islands (Campbell Island / Motu Ihupuku, Antipodes Islands, Bounty Islands, and Snares Islands / Tini Heke), and the Ross Dependency.

The grid framework includes all grid cells within its coverage, including grid cells that are partially included within the 12-mile limit. The framework has not been limited to a coastline and grid cells covering inland water bodies have not been excluded.

Grid ID

Each grid cell has a persistent, unique, identifier (ID) that identifies the cell's location and its relationship to other layers in the grid framework. The standard grid cell ID will remain the same for each cell over subsequent iterations of the framework. A persistent ID will make it easier for users to integrate data and perform time series analyses.

The ID is derived from the coordinate of the grid cell's centroid coordinate. The coordinates are the number of metres east and north of the origin of the NZ Transverse Mercator coordinate system.

The 'E' refers to the Easting component of the ID point's location and 'N' the Northing component. The numbers following the 'E' and 'N' of the 500-metre and 1-kilometre grids are truncated centroid coordinate values. The 250-metre grid ID contains all 7 figures from the centroid coordinates. The 500-metre grid ID removes the last figure (this represents the tens of metres figure in the coordinate system), and the 1-kilometre grid ID removes the last two significant figures (representing the hundreds of metres).

Here is the format, which is applied to the grids in Figure 2 below:

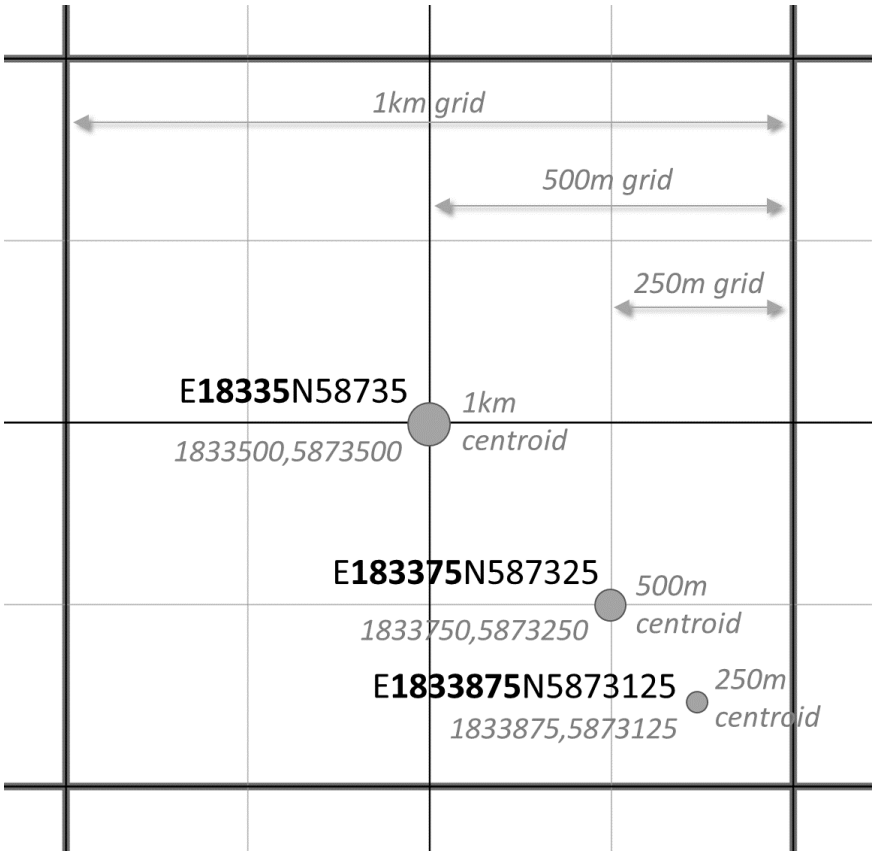
1km grid ID: E**18335**N58735

500m grid ID: E**183375**N587325

250m grid ID: E**1833875**N5873125

This indexing system contains the relationship between grid cells at each resolution. Any ID that has the same first four digits of the Easting and Northing fall within the same 1-kilometre grid cell.

Figure 2
A representation of the grid cell's unique identifiers. The grid IDs are shown in standard text and the grid centroid coordinates in italics.



This standard does not include methodologies for adding data to the grid framework.

Guidance for this work was provided by the Eurostat and European Forum for Geography and Statistics agencies' GEOSTAT project.

New Zealand statistical grids at 250 metre, 500 metre, and 1 kilometre resolutions provides more information.

Administrative areas

Local government administrative areas

Regional councils

Schedule 2, part 1 of the Local Government Act 2002 sets out the regional councils of New Zealand.

Regional councils are the top tier of local government in New Zealand and were established in November 1989 after the abolition of the 22 local government regions.

Schedule 3, clause 17 of the Local Government Act 2002 requires regional council boundaries to coincide with meshblock boundaries.

In 2023, there are 16 regions that cover every territorial authority in New Zealand, with the exception of the Chatham Islands Territory (included in 99 Area Outside Region). Five regions are administered as unitary authorities, which function as both regional councils and territorial authorities.

Regional council boundaries are based largely on water catchments, such as rivers, lakes, and harbours. The seaward boundary of the regions is the 12-nautical-mile New Zealand territorial limit. In determining regions, consideration was also given to regional communities of interest, natural resource management, land use planning, and environmental matters.

The standard classification of regional council is a flat classification and contains 17 categories (including 99 Area Outside Region). The regional council classification is released when it changes.

Classifications: Regional council provides more information.

Territorial authorities

Schedule 2, part 2 of the Local Government Act 2002 sets out the territorial authorities of New Zealand as city councils or district councils.

Territorial authorities are the second tier of local government in New Zealand, below regional councils. They were established in 1989 when 205 territorial local authorities were replaced by 75 territorial authorities.

Schedule 3, clause 17 of the Local Government Act 2002 requires territorial boundaries to coincide with meshblock boundaries.

In 2023, there are 67 territorial authorities: 12 city councils, 53 district councils, Auckland Council, and Chatham Islands Council. Five territorial authorities (Auckland Council, Nelson City Council, and the Gisborne, Tasman, and Marlborough district councils) also perform the functions of a regional council and are therefore unitary authorities. The Chatham Islands Council performs some regional council functions.

Territorial authority boundaries are based on communities of interest and road access. Some territorial authorities are coterminous with regional council boundaries, but there are exceptions.

Alignment with territorial authority and regional council boundaries above provides more information.

The standard classification of territorial authority is a flat classification and contains 68 categories (including 999 – Area Outside Territorial Authority). The territorial authority classification is released when it changes.

Classifications: Territorial authority provides more information.

Electoral areas

General electoral district

General electoral districts are the voting districts for parliamentary elections.

Section 35 of the Electoral Act 1993 outlines the division of New Zealand into general electoral districts.

General electoral district boundaries must coincide with meshblock boundaries and are set by the Representation Commission following each five-yearly census. Each electorate must have approximately the same number of people to ensure equal representation. The Representation Commission also considers communities of interest, facilities of communications, topographical features, and any projected variation in the general electoral population of the districts during their existence.

Classifications: Electoral provides more information.

Māori electoral district

Māori electoral districts are the voting districts for parliamentary elections for people who choose to be on the Māori Electoral Roll.

Section 45 of the Electoral Act 1993 defines the requirements for Māori representation and controls number of Māori electoral districts, and electoral population for each Māori electorate. Māori electoral district boundaries must coincide with meshblock boundaries.

When setting the boundaries, the Representation Commission also considers communities of interest among the Māori people generally and members of Māori tribes, facilities of communications, topographical features, and any projected variation in the Māori electoral population of those districts during their existence.

Classifications: Māori electoral provides more information.

Constituencies, general constituencies, and Māori constituencies

Constituencies are the voting districts for regional council elections. They were first established in November 1989. They are defined under the Local Electoral Act 2001 and boundaries must coincide with meshblock boundaries under section 19U of the Act.

Constituencies are required to reflect communities of interest, and their boundaries must, so far as is practicable, coincide with territorial authority and ward boundaries.

If a regional council decides to have a Māori constituency, the constituencies within the council area are known as general constituencies and Māori constituencies.

In 2023, there are 11 Māori constituencies within 7 regional councils.

The Local Electoral Act 2001 provides for constituency boundaries to be reviewed before every second triennial local government election.

Classifications: Constituency provides more information.

Wards, general wards, and Māori wards

Wards are the voting districts for territorial authorities and were first established in November 1989. They are defined under the Local Electoral Act 2001 and boundaries must coincide with meshblock boundaries under section 19T of the Act.

The ward system was designed to allow communities within a territorial authority to be recognised and to increase community involvement in local government.

The Local Electoral Act 2001 provides that Māori wards may be established in territorial authorities. If a territorial authority decides to have Māori wards, the wards within the council are known as general wards and Māori wards.

In 2023, there are 33 Māori wards within 29 territorial authorities. The following 8 territorial authorities do not have wards: Kawerau District, Whanganui District, Upper Hutt City, Carterton District, Kaikoura District, Chatham Islands Territory, Dunedin City, and Invercargill City. The Local Electoral Act 2001 provides for reviewing ward boundaries before every second triennial local government election.

Classifications: Ward provides more information.

Community boards, local boards, and subdivisions

Community boards

Community boards are defined under the Local Government Act 2002 and Local Electoral Act 2001. Community board boundaries must coincide with meshblock boundaries under schedule 6, clause 2 of the Local Government Act 2002, and section 19W of the Local Electoral Act 2001.

The purpose of community boards is to administer the affairs of communities with a population of 1,500 or more people within rural, urban, or metropolitan areas of a territorial authority. A community board's functions, powers, and duties are at the discretion of its parent territorial authority, so these may differ between community boards.

Community boards link the council and the community. Community boards can be established at any time but may only be abolished as part of a council's regular representation review carried out before the triennial local government elections; this is provided for in schedule 6 of the Local Electoral Act 2001.

More than 100 community boards operate in urban and rural areas of territorial authorities, excluding Auckland, which has local boards.

Classifications: Community provides more information.

Local boards

Local boards were introduced as part of the new local government arrangements for Auckland in 2010. Local board boundaries must coincide with meshblock boundaries under schedule 3, clause 15 of the Local Government Act 2002 and section 19T of the Local Electoral Act 2001.

Local boards can be established in any unitary authority area. Local boards share governance with a council's governing body, and each has complementary responsibilities guaranteed by legislation. Local boards can propose bylaws, and they gather community views on local and regional matters.

Classifications: Community provides more information.

Subdivisions

Subdivisions are a further division of community or local board areas to ensure fair geographical representation on a community or local board.

Subdivision boundaries must coincide with meshblock boundaries under schedule 3, clause 15 of the Local Government Act 2002, and section 19T of the Local Electoral Act 2001.

Classifications: Subdivision provides more information.

Other administrative boundaries

This section summarises other administrative boundaries that are used to administer government funding and service provision, which are based on meshblocks and higher-level geographies.

Health boundaries

District health boards and constituencies

New Zealand Public Health and Disability Act 2000 sets out the administrative details for district health boards (DHBs). Boundaries represent geographic areas based on territorial authority and ward boundaries as constituted at 1 January 2001. DHBs and constituencies are defined at meshblock level.

DHBs ceased to exist on 30 June 2022. During the transition to the new health entities described below, the Stats NZ Geographic Data Service will continue to provide District Health Board geographic boundaries.

Te Whatu Ora I Health New Zealand and Te Aka Whai Ora I Māori Health Authority

From 1 July 2022, the DHB functions were merged into Te Whatu Ora I Health New Zealand (HNZ).

HNZ now leads the day-to-day running of the health system across New Zealand, in partnership with Te Aka Whai Ora I Māori Health Authority.

HNZ has four regional divisions, which will, in turn, establish district offices. Primary and community health care will serve communities based on the needs and priorities of local communities through locality networks.

Iwi and the local communities will determine their own locality geographic areas. It is expected that every area in New Zealand will have its own locality by July 2024.

National Operating Model and Structure on Te Whatu Ora I Health New Zealand's website provides more information about the national operating model and high-level structure.

Jury districts

High court and district court jury districts are administered under the Juries Act 1981.

The Act specifies that each jury district comprise every place within 45 kilometres of a courthouse by the most practicable route. The Electoral Commission regularly prepares lists for the Ministry of Justice of all potential jurists living in the meshblocks within a 45-kilometre radius of each jury courthouse.

Licensing trust districts and wards and community trust districts

Licensing trusts and community trusts were created to sell liquor in areas where previously no licences to sell liquor existed. They are currently administered under the Sale and Supply of Alcohol Act 2012.

Licensing trust districts and wards and community trust districts generally coincide with meshblock boundaries, but some do not.

The 2012 Act gives the Local Government Commission the authority to review the boundaries to ensure that they are coterminous with meshblock boundaries.

New Zealand Police boundaries

New Zealand Police districts, police areas, and police station areas are defined by the New Zealand Police for operational and statistical reporting purposes. New Zealand Police boundaries are based on the meshblock pattern.

Police districts on the New Zealand Police website provides more information.

Regional tourism organisations

Regional tourism organisation areas are defined by Regional Tourism New Zealand (RTNZ). Boundaries generally align with territorial authority boundaries.

Regional Tourism Organisation Areas on the Stats NZ Geographic Data Service provides more information.

Work and Income boundaries

Accommodation supplement areas

The accommodation supplement provides targeted financial assistance to help people with high accommodation costs. It is administered by Work and Income under the Social Security Act 2018.

Accommodation Supplement areas are defined using Stats NZ 2017 urban areas, urban zones, and area units. Work and Income administration regions are not coterminous with meshblocks.

Operational issues

Changes to statistical geographies

Meshblock

Meshblock boundaries are amended by:

- splitting – subdividing a meshblock into two or more meshblocks
- nudging – shifting a boundary to a more appropriate position.

Reasons for splitting or nudging include:

- to accommodate changes to local government boundaries, which are required by the Local Government Act 2002 to follow meshblocks for electoral purposes
- to accommodate changes to parliamentary electoral boundaries, following each Representation Commission review after each five-yearly Census of Population and Dwellings
- to make changes to statistical boundaries, such as statistical areas (SA1, SA2, SA3) and urban rural areas
- to enable changes to census collection districts
- to improve the size balance of meshblocks in areas where there has been population growth
- to separate land and water (mainland, islands, inlets, and oceanic are defined separately)
- to accommodate requests from other users of the meshblock pattern, for example, New Zealand Police station, area, and district boundaries.

Meshblock changes may be made throughout the year where changes do not affect other geographies. Meshblock boundaries are kept in alignment with the LINZ cadastre (property boundaries) and road centrelines to meet electoral boundary requirements. This means the meshblock boundaries undergo small movements to align with adjustments to the cadastral boundaries. This movement does not result in any dwelling being in a different meshblock.

While meshblock boundaries are continually under review, ‘freezes’ on changes to the boundaries are applied periodically. Such freezes are imposed when boundaries are fixed for a census of population and dwellings until electorate boundaries are finalised following a review.

A major meshblock release is made as at 1 January each year, and if the meshblock changes to accommodate change to electoral or administrative boundaries. A meshblock release also includes the meshblock to higher geography spatial layer, and geographic areas table (CSV file). These contain the meshblock to higher statistical, electoral and administrative geography relationships.

Statistical standard for meshblock (Stats NZ, 2016) provides more information about meshblock maintenance.

Other statistical geographies

The statistical areas (SA1, SA2, SA3) and urban rural geographies are updated and released five-yearly coinciding with census years. In addition, these geographies will be released if they change because of changes to coterminous electoral or administrative boundaries.

Changes to the statistical geographies may occur after:

- changes to electoral or administrative geography boundaries (territorial authority, regional council)
- a five-yearly review before each Census of Population and Dwellings
- a major review every 15–20 years.

The five-yearly review examines changes in population patterns, using the latest census data and population estimates, aerial imagery, building consents applications, address registers, property title data, and any other available information. The review identifies where meshblocks and urban boundaries need to be adjusted to include areas of actual and anticipated growth over the next five to eight years. Population change may also trigger changes to SA1, SA2, SA3, and urban rural boundaries to maintain the population targets and to improve community of interest delineation.

The urban rural indicator (IUR) is reviewed during the five-yearly review using population estimates to determine whether an area's urban size group or rural settlement status has changed. The status of urban areas and rural settlements close to the population boundary cut-offs are then confirmed and finalised with the new census population counts.

Changes to local government boundaries

There are four mechanisms through which local government boundaries may change.

1. Local Government Act 2002 by:
    - notices in the New Zealand Gazette signed by the Minister of Local Government under schedule 2
    - land reclaimed from the sea that automatically forms part of the adjoining district under schedule 2
    - orders in Council implementing a reorganisation scheme issued under schedule 3
    - constitution of a community under schedule 6
    - orders in Council implementing a determination of the Local Government Commission under section 26.
2. Local Electoral Act 2001 representation reviews.
3. An Act of Parliament altering or defining a boundary.
4. Natural processes, such as a river changing its natural course (schedule 2, part 3 of the Local Government Act 2002) or changes to coastal boundaries through accretion or gradual erosion (common law).

Changes to electoral boundaries

Under the Electoral Act 1993, the boundaries of the general and Māori electorates must be reviewed after each population census and Māori Electoral Option, which is also conducted every five years.

Using the census results, the Government Statistician reports on the number of general and Māori electorates that will be required in future elections. With assistance from Stats NZ, the Representation Commission prepares draft boundaries, which it then releases for public comment. The final electorate boundaries are released after a round of consultation and public hearings. These boundaries remain in place until the next review is completed.

The current electorate boundaries released in April 2020 were used for the 2020 and 2023 general elections. The next boundary review will take place during 2024–2025, and the new boundaries will apply to the 2026 and 2029 general elections.

Glossary

Administrative geography
Division of the country into smaller sub-divisions or areas that correspond with the area of responsibility of local authorities and government bodies.

Analytical geography
Geographies constructed without incorporating natural and artificial features. They are a normalised geography that supports applications for modelling and analysis.

Cadastre
Land information and survey system used to record and locate boundaries of land.

Contiguous
Sharing a common border with another geography.

Coterminous
Having the same or coincident boundary as another geography.

Digitise
The process of converting the geographic features on a paper map into digital format.

Electoral geography
Voting districts for parliamentary and local government elections.

Flat classification
A classification that is not hierarchical, that is, it contains a single level.

Functional urban area
Stats NZ functional geography that uses census workplace address and usual residence address to identify a commuting zone where its workers are highly integrated with the city.

Grid
Analytical geography that divides the country into areas of the same shape and size. The basic geographic unit is a grid cell.

Hierarchical classification
A classification that has several levels corresponding to different degrees of resolution (detail) in the measurement (specification) of the variable being observed. For example, New Zealand geographies range from regional council at the broadest level to meshblock at the finest level.

Meshblock
The smallest geographic unit that supports the electoral system, survey enumeration, and higher-level geographies.

Meshblock alignment
Meshblock boundaries are kept in alignment with the LINZ cadastre (property boundaries) and road centrelines to meet electoral boundary requirements. This means the meshblock boundaries undergo small movements to align with adjustments to the cadastral boundaries. This movement does not result in any dwelling being in a different meshblock.

Multivariate statistics table
A table containing cross tabulations of more than one variable, for example, age group by sex.

New Zealand Transverse Mercator 2000
The projection used for New Zealand's Topo50 1:50,000 and other small-scale mapping. NZTM2000 is formally defined in Toitū Te Whenua I Land Information New Zealand's Standard for New Zealand Geodetic Datum 2000 Projections: Version 2 – LINZS25002.

Population grid
A grid with population data as an attribute of a grid cell.

Regional council
Top tier of local government in New Zealand.

Resident population
Defined by Stats NZ as:

- estimated resident population – an estimate of all people who usually live in an area at a given date
- census usually resident population – a count of all people enumerated by census, who usually live in that area, and were present in New Zealand on census night.

Rural area
Land area that is not urban.

Rural settlement
A cluster of residential dwellings about a place that usually contains at least one community or public building, and 200–999 ERP, or at least 40 residential dwellings.

Statistical area 1 (SA1)
Stats NZ's smallest output geography with an ideal size range of 100–200 residents and a maximum population of about 500.

Statistical area 2 (SA2)
Stats NZ's output geography with an ideal size range of 1,000–4,000 residents that aims to reflect communities that interact together socially and economically. Replaced area unit classification.

Statistical area 3 (SA3)
Stats NZ's output geography that allows aggregations of population data between SA2s and territorial authorities.

Statistical geography
Provides the extra dimension of location to statistics by effectively dividing areas of interest, on which the statistics are collected, into spatial categories, called statistical areas, that allow the user to see not just how the data varies but also where it varies.

Territorial authority
Second tier of local government in New Zealand, below regional councils, known as city councils or district councils.

Urban accessibility (UA)

Stats NZ geography that distinguishes rural SA1s and small urban areas based on their degree of accessibility to major, large, or medium urban areas. Measured by drive time from the SA1 address-weighted centroid to the outside boundary of the nearest major, large, and medium urban area.

Urban area

A statistically defined area with high population density, many built-environment features, and more than 1,000 residents.

Urban rural (UR)

Stats NZ geography that distinguishes urban, rural, and water areas on a form basis – what you see on the ground. The urban areas represent densely developed spaces and encompass residential, commercial, and other non-residential urban land uses. Rural settlements, other rural areas, and bodies of water represent areas not included within an urban area. Replaced 1992 urban area classification.

Water area

For the purpose of the standard, this definition covers oceanic, inlets, and inland lakes.

Appendix: Differences between NZSAC92 and SSGA23

Although some of the statistical geographies have the same name as the 1992 classification, they differ in concepts and geographic coverage. The following table defines the 1992 and 2023 geographies and explains the changes.

Appendix table 1
Differences between NZSAC92 and SSGA23

NZSAC92	SSGA23
Meshblock	**Meshblock**
The smallest geography area used in the collection and/or processing of data, variable in population and area size from 0–500 residents. In 1991, there were 35,152 meshblocks. In 2013, there were 46,637 meshblocks.	Smallest geographic unit that supports the electoral system, survey enumeration, and higher-level geographies. Optimal size is 30–60 dwellings. Primarily an input geography. In 2023, there are 57,539 meshblocks.
	Statistical area 1 (SA1)
No equivalent.	An output geography that allows the release of more low-level data than is available at the meshblock level. Built by joining meshblocks, SA1s have an ideal size range of 100–200 residents. In 2023, there are 33,164 SA1s.
Area unit	**Statistical area 2 (SA2)**
Aggregations of meshblocks. Non-administrative areas that are in between meshblocks and territorial authorities in size. Define, or aggregate to define, regional councils, territorial authorities, and urban areas. They define rural centres. The area unit pattern was reorganised after the 1989 local government changes. Area units were adjusted in response to changes in the boundaries of local government areas and urban boundaries to reflect a redistribution of population, establish rural centres, and establish logical area units in rural areas. In 1991, there were 1,717 area units. In 2012, there were 2,020 area units.	An output geography for higher aggregations of population data than provided at the SA1 level. Captures similar types of areas (high-density urban areas, farmland, wilderness areas, water, etc). Aims to be socially homogenous and capture a community of interest. Built by joining SA1s and coterminous with territorial authority and regional council boundaries. The target population size varies from 2,000–4,000 in city council areas and 1,000–3,000 in district council areas. SA2s replaced area units. Although the concepts are generally the same, SA2s are different to area units because of: • urban/rural boundary changes • improved delineation of communities and suburbs • creation of business/commercial SA2s • splitting or combining area units that are outside the target population size. In 2023, there are 2,395 SA2s.

NZSAC92	SSGA23
	Statistical area 3 (SA3)
No equivalent.	An output geography that allows aggregations of population data between SA2s and territorial authorities. In major, large, and medium urban areas, SA3s approximate suburbs as described in the NZ Suburbs and Localities dataset. Outside major, large, and medium urban areas, SA3 areas contain approximately 5,000–10,000 residents. In 2023, there are 929 SA3s.
Urban areas	**Urban areas**
Designed to identify concentrated urban or semi-urban settlements, urban areas are statistically defined areas with no administrative or legal basis. Defined by complete area units and independent of local government and other administrative boundaries. Subdivided into: • main urban area: 30,000+ residents • secondary urban area: 10,000–29,000 residents • minor urban area: 1,000–9,999 residents. Main and secondary urban areas are centred on a significant urban centre and to satisfy at least three criteria of: • strong economic ties • cultural and recreational interaction • serviced from the core for major business and professional activities • an integrated public transport network • significant workplace commuting to and from the central core • planned development within the next 20 years. In 2013, there were 143 urban areas.	Statistically defined areas with no administrative or legal basis. Delineated on a 'form' basis (what you can see on the ground) and: • have more than 1,000 residents • have high population density (>400 per km^2) • have high coverage of built physical structures • are built from SA2s • are independent of local government and other administrative boundaries. Further defined by resident population: • major urban area (100,000+) • large urban area (30,000–99,999) • medium urban area (10,000–29,999) • small urban area (1,000–9,999). Differ from 1992 urban areas in that they: • are smaller in area and population because they do not include a commuting zone • are more tightly defined to improve population density calculations • have some small urban areas that were previously part of a main urban area, for example, Mosgiel, which was previously part of the Dunedin urban area. In 2023, there are 195 urban areas.
Rural areas	**Rural areas**
Areas outside urban areas	Land-based areas outside urban areas. Bodies of water are classified separately.

NZSAC92	SSGA23
Rural centres	**Rural settlements**
• Have 300–999 residents. • Enable users to distinguish between rural dwellers living in true rural areas and those living in rural settlements or townships. • Defined by complete area units. • Not separately identified in the urban area classification. In 2013, there were 133 rural centres in the area unit classification.	Clusters of residential dwellings that: • have an estimated resident population of 200–999 or at least 40 residential dwellings • have a population density of at least 200 residents per km^2 • contain at least one community or public building, such as a church, school, or shop • are built from SA1s • are included with other rural settlements and other rural SA1s in a 'rural' SA2. Differ from 1992 rural centres because: • there are many more, smaller rural settlements in the UR • they are more tightly delineated to improve population density calculations. In 2023, there are 402 rural settlements.
Area outside urban areas	**Other rural areas** Mainland areas and islands located outside urban areas or rural settlements. Include land used for agriculture and forestry, conservation areas, and regional and national parks. Defined by territorial authority.
	Water • inland water (by territorial authority) • inlets (by territorial authority) • oceanic (by region).
Urban areas	**Functional urban area (FUA)**
1992 urban areas were loosely a functional geography that included significant workplace commuting to and from the central core. They were larger in geographic area than the 2023 urban areas which are a form geography, based on what you can see on the ground.	A functional geography consisting of an urban area (population> 5,000) and its commuting zone. Measures *actual* commuting using 2018 Census workplace address and usual residence address to identify small urban areas and rural SA1s where a percentage (currently 40%) of its workers commute to a larger urban area. Classified, by population size of the urban core: • metropolitan area (100,000+) • large regional centre (30,000–99,999) • medium regional centre (10,000–29,999) • small regional centre (5,000–10,000). 'Hinterland' describes rural SA1s within the FUA. In the 2023 FUA, there are 53 FUAs.

NZSAC92	SSGA23
2006 Urban Rural (Experimental) Profile	**Urban accessibility (UA)**
Used 2001/2006 Census workplace address and usual residence address to categorise: • rural areas based on the significance of urban areas as a source of employment (using a weighted percentage of workers in each rural meshblock who work in main, secondary, and minor urban areas) • minor urban areas according to the proportion of people (20%) who work in a main urban area. Urban area categories: • main urban areas • satellite urban communities • independent urban communities. Rural area categories: • high urban influence • moderate urban influence • low urban influence • highly remote.	A functional geography that measures the degree of influence that New Zealand's urban areas have on their surrounding rural areas. Measures *potential* accessibility by classifying rural SA1s, rural settlements, and small urban areas according to their proximity to larger urban areas or degree of remoteness from the urban areas. Proximity is calculated by drive time using open-source routing software. Urban accessibility classification: • urban areas: o major urban area o large urban area o medium urban area • small urban and rural areas: o high urban accessibility o medium urban accessibility o low urban accessibility o remote o very remote • water areas: o inland water o inlet o oceanic. The high urban accessibility and medium urban accessibility categories are considered to be 'peri-urban'. They may be joined with their respective urban areas to analyse a broader urban area, similar to the FUA.

References

OECD (2012). Redefining "Urban": A new way to measure metropolitan areas. OECD Publishing. DOI: http://dx.doi.org/10.1787/9789264174108-en.

Stats NZ (2016). Statistical standard for meshblock. Retrieved from www.stats.govt.nz.

Stats NZ (2021). Functional urban areas – methodology and classification. Retrieved from www.stats.govt.nz.