

Metadata

File Identifier

7e02f238-8db7-4382-a4e8-5dc16cd0af56

Language

eng

Hierarchy Level Name

dataset

Contact

Responsible Party

Individual Name

Geospatial Team

Organisation Name

Statistics New Zealand

Position Name

Geospatial Analyst

Contact Info

Contact

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04-931 4600

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Statistics House, The Boulevard, Harbour Quays

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Date Stamp

Date Time

20151207

Metadata Standard Name

ISO 19115:2003/19139

Metadata Standard Version

1.0

Spatial Representation Info

Vector Spatial Representation

Integer

2004

Identification Info

Data Identification

Citation

Citation

Title

Area Unit 2016 Generalised Version

Abstract

Area Unit 2016 Generalised Version is the definitive set of area unit boundaries for 2016 as defined by Statistics New Zealand. Area units are aggregations of adjacent meshblocks with coterminous boundaries to form a single unbroken surface area (land and/or water). Exceptions to this rule are some area units comprising collections of geographically related inlets and marinas. Area units are non-administrative areas intermediate in size between meshblocks and territorial authorities. In an urban location, an area unit is often a collection of city blocks, while in rural situations area units may be equated to localities or communities. Area units must either define or aggregate to define urban areas, rural centres, statistical areas, territorial authorities, and regional councils. Each area unit must be a single geographic entity with a unique name. The area unit pattern is revised once every five years in the year immediately before a census. There may also be changes in other years, in conjunction with local body boundary changes. Statistics New Zealand maintains a concordance file to ensure boundaries relating to earlier area unit patterns can also be generated. Digital boundary data became freely available on 1 July 2007. For full metadata, please refer to the metadata documents on the Stats NZ website:

http://www.stats.govt.nz/browse_for_stats/Maps_and_geography/Geographic-areas/digital-boundary-files.aspx#metadata

Purpose

Area Unit 2016 Generalised Version is the definitive set of area unit boundaries for 2016 as defined by Statistics New Zealand.

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geography@stats.govt.nz

Resource Maintenance

Maintenance Information

Date Of Next Update

Date

20161201

Resource Constraints

Constraints

Use Limitation

These conditions of supply apply to all users of Statistics New Zealand digital boundaries effective 1 July 2007. Permitted uses Statistics New Zealand must be acknowledged as the source of the boundaries. Uses not permitted Users are not permitted to change the accuracy of the boundaries and supply them to another party. Liability While care has been taken to compile these boundary coordinates, Statistics New Zealand gives no warranty that the data supplied is free from error. Statistics New Zealand shall not be liable for any loss suffered through the use, directly or indirectly, of any information, product

or service.

Language

eng

Topic Category Code

boundaries

Microsoft Windows 7 Version 6.1 (Build 7601) Service Pack 1; Esri ArcGIS 10.1.1.3143

Extent

EX _ Extent

Description

Data represents area unit polygons dissolved from meshblocks since 1991

Extent

EX _ Extent

Geographic Element

EX _ Geographic Bounding Box

165.973643765-175.37904683-47.724045517-33.9584981

Distribution Info

Distribution

Transfer Options

Digital Transfer Options

On Line

Online Resource

Linkage

URL

<https://datafinder.stats.govt.nz/layer/8412-area-unit-2016-generalised-version/>

Data Quality Info

DQ _ Data Quality

Lineage

LI _ Lineage

Statement

Area units are based on the meshblock pattern. Non-alignment of meshblock and cadastral boundaries are one of a number of reasons for meshblock boundary adjustments. Other reasons include requests from local authorities, Local Government Commission, Electoral Representation Commission and to make Census of Population and Dwellings enumeration processes easier. From the meshblock pattern, higher geographies, including the 2016 area unit pattern, were dissolved using the dissolve tool in the Arc GIS suite. To derive the area unit boundaries clipped to the coastline, meshblock polygons were dissolved to exclude meshblocks with a land/water attribute of Inlet or Oceanic.

Source

LI _ Source

Description

Deriving output files The original vertices delineating the meshblock

boundary pattern were digitised in 1991 from 1:5,000 scale urban maps and 1:50,000 scale rural maps. The magnitude of error of the original digital points would have been in the range of +/- 10 metres in urban areas and +/- 25 metres in rural areas. Where meshblock boundaries coincide with cadastral boundaries the magnitude of error will be within the range of 1–5 metres in urban areas and 5–20 metres in rural areas. This being the estimated magnitude of error of Landonline. The creation of high definition and generalised meshblock boundaries for the 2016 digital pattern and the dissolving of these meshblocks into other geographies/boundaries were completed within Statistics New Zealand using ESRI's ArcGIS desktop suite and the Data Interoperability extension with the following process: 1. Import data and all attribute fields into an ESRI File Geodatabase from LINZ. 2. Run geometry checks and repairs. 3. Run Topology Checks on all data (Must Not Have Gaps, Must Not Overlap), detailed below. 4. Generalise the meshblock layers to a 1-metre tolerance to create generalised dataset. 5. Clip the high definition and generalised meshblock layers to the coastline using land water codes (excluding non-digitised meshblocks). 6. Dissolve all four meshblock datasets (clipped and unclipped, for both generalised and high definition versions) to higher geographies to create the following output data layers: Area Unit, Territorial Authority, Regional Council, Urban Area, Community Board, Territorial Authority Subdivision, Ward, Constituency, Māori Constituency, General Electoral District, and Māori Electoral District for the four datasets. 7. Complete a frequency analysis to determine that each code only has a single record. 8. Re-run topology checks for overlaps and gaps. 9. Export all created datasets into MapInfo and Shapefile format using the Data Interoperability extension to create 4 output formats for each file. 10. Quality Assurance and rechecking of delivery files. The High Definition version is similar to how the layer exists in Landonline with a couple of changes to fix topology errors identified in topology checking. The following quality checks and steps were applied to the meshblock pattern: Translation of ESRI Shapefiles to ESRI geodatabase dataset The meshblock dataset was imported into the ESRI File Geodatabase format, required to run the ESRI topology checks. Topology rules were set for each of the layers. Topology checks A tolerance of 0.001 metre was applied to the data, which meant that the topology engine validating the data saw any vertex closer than this distance as the same location. A default topology rule of “Must Be Larger than Cluster Tolerance” is applied to all data – this would highlight where any features with a width less than 0.001m exist. No errors were found for this rule. Three additional topology rules were applied specifically within each of the layers in the ESRI geodatabase – namely “Must Not Overlap”, “Must Not Have Gaps” and “Area Boundary Must Be Covered By Boundary Of (Meshblock)”. These check that a layer forms a continuous coverage over a surface, that any given point on that surface is only assigned to a single category, and that the dissolved boundaries are identical to the parent meshblock boundaries. Topology checks – Results: There were

no errors in either the gap or overlap checks. Generalising To create the generalised Meshblock layer the “Simplify Polygon” geoprocessing tool was used in ArcGIS, with the following parameters: • Simplification Algorithm: POINT_REMOVE • Maximum Allowable Offset: 1 metre • Minimum Area: 1 square metre • Handling Topological Errors: RESOLVE_ERRORS Clipping of layers to coastline The processed feature class was then clipped to the coastline. The coastline was defined as features within the supplied LANDWATER indicator with codes and descriptions as follows: 11- Island – included 12- Mainland – included 21- Inland water – included 22- Inlet – excluded 23- Oceanic – excluded 31- Other – included. Non-digitised meshblocks were excluded from this process. Features were clipped using the ArcGIS attribute filter tool. The attribute filter was used on both the generalised and high definition meshblock datasets creating four meshblock layers. Each meshblock dataset also contained all higher geographies and land-water data as attributes. Note: Meshblock 0017001, which is classified as island, was excluded from the clipped meshblock layers as most of this meshblock is oceanic. Dissolve meshblocks to higher geographies Statistics New Zealand then dissolved the ESRI meshblock feature classes to the higher geographies, for both the full and clipped datasets, generalised and high definition datasets. To dissolve the higher geographies, a model was built using the dissolver, aggregator and sorter tools, with each output set to include geography code and names within the Data Interoperability extension. Export to MapInfo format and Shapefiles The data was exported to MapInfo and Shapefile format using ESRI's Data Interoperability extension Translation tool. Quality assurance and rechecking of delivery files The feature counts of all files were checked to ensure all layers had the correct number of features. This included checking that all multipart features had translated correctly in the new file.

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Metadata Constraints

Legal Constraints

Use Limitation

Attribution 3.0 New Zealand

Use Limitation

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Use Constraints
Restriction Code
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