

#### Metadata

##### File Identifier

66fb518b-c4b9-cbf3-dc3f-72559244651c

##### Language

eng

##### Hierarchy Level Name

dataset

##### Date Stamp

###### Date Time

20121206

##### Metadata Standard Name

ISO 19115:2003/19139

##### Metadata Standard Version

1.0

##### Spatial Representation Info

###### Vector Spatial Representation

###### Integer

258

##### Identification Info

###### Data Identification

###### Citation

###### Citation

###### Title

Ward Generalised Full

###### Abstract

<DIV STYLE="text-align:Left;"><DIV><DIV><P STYLE="margin:0 0 14 0;"><SPAN><SPAN>Wards were originally set up within any territorial authority with a population of 20,000. Wards are defined under the local Electoral Act 2001 and result from the division, of the district of a territorial authority for electoral purposes. The ward system was designed to allow for the recognition of communities within a district and to increase community involvement in the local government system. Now, territorial authorities can choose whether they would like to maintain electoral wards. As a result, the number of wards has steadily decreased. Ward boundaries are reviewed in the year immediately preceding the triennial local government elections. </SPAN></SPAN></P><P /><P STYLE="margin:0 0 14 0;"><SPAN><SPAN>Wards are

numbered based on their corresponding territorial authority. Each ward has a unique five digit number. The first three digits represent the territorial authority that the ward lies within. The following two digits are sequential, and represent the number of wards within a territorial authority. For example, Westland District (051) has three wards. The numbers of these wards are 05101, 05102, and 05103.

There are various territorial authorities that do not use wards. In the data, these territorial authorities use "99" at the end of the ward code, and the descriptor "Area Outside of Ward". In 2013, the Territorial Authorities that do not use wards were:

<b>TA Code</b>	<b>Territorial Authority Name</b>	<b>Ward Code</b>
024	Roto	02499
026	Kawerau District	02699
029	Wairoa District	02999
037	Whanganui District	03799
045	Upper Hutt City	04599
051	Tasman District	05199
052	Nelson City	05299
054	Kaikoura District	05499
067	Chatham Islands Territory	

STYLE="margin:0 0 14 0;"><SPAN><SPAN>06799</SPAN></SPAN></P></TD>  
</TR><TR><TD><P STYLE="margin:0 0 14 0;"><SPAN><SPAN>075</SPAN>  
</SPAN></P></TD><TD><P STYLE="margin:0 0 14 0;"><SPAN>  
<SPAN>Invercargill City</SPAN></SPAN></P></TD><TD><P STYLE="margin:0 0  
14 0;"><SPAN><SPAN>07599</SPAN></SPAN></P></TD></TR></TBODY>  
</TABLE><P /><P /><P /><P /><P /><P /><P /><P /><P STYLE="margin:0 0 14 0;">  
<SPAN><SPAN>Ward boundaries are defined at meshblock level. They are not  
able to be defined at areas unit level because the boundaries for ward to not align to  
area unit. </SPAN></SPAN></P><TABLE><TBODY><TR><TD><P STYLE="font-  
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<TD><P STYLE="font-weight:bold;margin:0 0 0 0;"><SPAN><SPAN>Ward  
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</SPAN></P></TD><TD><P STYLE="margin:0 0 14 0;"><SPAN>

275

2011

248

2012

248

2013

248

As at 1st July 2007, Digital Boundary data became freely available.

**Deriving of 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 2013 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 as a shapefile
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 1m tolerance to create generalised dataset.
5. Clip the high definition and generalised meshblock layers to the coastline using land water codes.
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 Authorities, Regional Council, Urban Areas, Community Boards, Territorial Authority Subdivisions, Wards Constituencies and Maori Constituencies 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 3 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 0.1 cm 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 0.1cm 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 Land2013

with codes and descriptions as follows:

<b>11</b>	- Island – Included
<b>12</b>	- Mainland – Included

STYLE="font-style:italic;margin:0 0 0 0;"/>**21** Inland Water – Included

STYLE="font-style:italic;margin:0 0 0 0;"/>**22** Inlet – Excluded

STYLE="font-style:italic;margin:0 0 0 0;"/>**23** Oceanic – Excluded

STYLE="font-style:italic;margin:0 0 0 0;"/>**33** Other – Included.

Features were clipped using the Data Interoperability extension, 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 dataset, 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 Shapfiles**

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.

### Purpose

This dataset is the definitive set of ward boundaries at 1 January 2013 as defined by the territorial authorities and/or Local Government Commission, but maintained by Statistics New Zealand (who are the custodian).

### Credit

Statistics New Zealand

### Language

eng

Microsoft Windows 7 Version 6.1 (Build 7600) ; Esri ArcGIS 10.1.0.3035

#### Extent

EX \_ Extent

Vertical Element

EX \_ Vertical Extent

Minimum Value

Real

0.000000

Maximum Value

Real

0.000000

#### Extent

EX \_ Extent

Geographic Element

EX \_ Geographic Bounding Box

165.973643757-175.379047054-47.6201235791-33.9584971002

#### Distribution Info

Distribution

Transfer Options

Digital Transfer Options

Transfer Size

Real

35.419

On Line

Online Resource

Linkage

URL

<https://datafinder.stats.govt.nz/layer/27506-wards-2013-generalised-version/>

#### Metadata Constraints

Legal Constraints

Use Limitation

Attribution 3.0 New Zealand

Use Limitation

<http://creativecommons.org/licenses/by/3.0/nz/>

Use Constraints

Restriction Code

license