

Statistics New Zealand ANZLIC Metadata Template

Identification

Title	Wards 2013																														
Date	30 November 2012 (publication)																														
Language	eng																														
Character Set	Uft8																														
Abstract	<p>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).</p> <p>Wards were originally set up within any territorial authority with a population of at least 20,000. Wards are defined under the Local Electoral Act 2001 and result from the division of a territorial authority for electoral purposes. The ward system was designed to allow for the recognition of communities within a territorial authority and to increase community involvement in the local government system. Territorial authorities can now choose whether they would like to maintain electoral wards. As a result, the number of wards has steadily decreased since they were first created in 1989. Ward boundaries are reviewed in the year immediately preceding the triennial local government elections.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Ward Totals</th> </tr> </thead> <tbody> <tr><td>1989</td><td>409</td></tr> <tr><td>1992</td><td>380</td></tr> <tr><td>1995</td><td>366</td></tr> <tr><td>1998</td><td>332</td></tr> <tr><td>2001</td><td>328</td></tr> <tr><td>2002</td><td>320</td></tr> <tr><td>2003</td><td>320</td></tr> <tr><td>2004</td><td>320</td></tr> <tr><td>2005</td><td>286</td></tr> <tr><td>2006 v1</td><td>286</td></tr> <tr><td>2006 v2</td><td>284</td></tr> <tr><td>2007</td><td>284</td></tr> <tr><td>2008</td><td>275</td></tr> <tr><td>2009</td><td>275</td></tr> </tbody> </table>	Year	Ward Totals	1989	409	1992	380	1995	366	1998	332	2001	328	2002	320	2003	320	2004	320	2005	286	2006 v1	286	2006 v2	284	2007	284	2008	275	2009	275
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Topic category	Boundaries																																									
Spatial representation type	Vector																																									

Extent

Description	Twelve mile New Zealand territorial limit
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Geographic Box

West bound longitude	165.905646
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East bound longitude	179.855610
North bound latitude	-33.826584
South bound latitude	-47.841491

Extent

TEMPORAL	
Description	Data represents ward polygons dissolved from meshblocks since 1991
Begin date	1990-01-01
End date	2013-01-01
Access Constraints	None. Data is freely downloadable from the Statistics NZ website.
Use constraints	<p>These conditions of supply apply to all users of Statistics New Zealand digital boundaries effective 1 July 2007.</p> <p>Permitted uses Statistics New Zealand must be acknowledged as the source of the boundaries.</p> <p>Uses not permitted Users are not permitted to change the accuracy of the boundaries and supply them to another party.</p> <p>Liability While care has been used in compiling 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.</p>
Use limitation	
Maintenance and update frequency	<p>The meshblock and associated hierarchies is maintained on a regular basis.</p> <p>An annual pattern is made available for each year up to 2013.</p>
Date of next update	December 2013
Update scope	Dataset

Point of Contact

Organisation name	Statistics New Zealand
Position name	Geospatial Analyst
Role	Point of Contact
Voice	04-931 4600

Delivery point	Statistics House The Boulevard, Harbour Quays
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Linkage	http://www.stats.govt.nz/browse_for_stats/people_and_communities/Geographic-areas/digital-boundary-files.aspx

Distribution Info

Distribution format	ESRI Geodatabase ESRI Shape MapInfo Tab
Distribution version	1.0
Online resource linkage	http://www.stats.govt.nz/browse_for_stats/people_and_communities/Geographic-areas/digital-boundary-files.aspx
Online resource description	Web page for downloading the digital boundaries which ward is part of the bundle of boundaries/geographies StatsNZ makes available

Reference system info

Title	New Zealand Transverse Mercator 2000 (NZTM2000)
Date	1 July 2001
Edition	
Code	19971

Data quality info scope

Hierarchy level	Dataset
Description	New Zealand Ward Boundaries

Lineage

<p>Statement (general explanation of the data producer's knowledge about the lineage of a dataset)</p>	<p>Ward Boundaries are based on the meshblock pattern. Ward boundaries are reviewed every three years, in the year immediately preceding the triennial local government elections. Requests for change can be received from Territorial Authorities and the Electoral Enrolment Centre. Once all changes are prepared, Statistics NZ then passes the requests for changes to the meshblock pattern onto LINZ for the electronic changes to take place.</p> <p>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.</p> <p>The digital meshblock boundaries, and other boundaries based on dissolved meshblocks, are stored and maintained by Land Information New Zealand within their Landonline database, an ArcInfo suite.</p> <p>From the meshblock pattern, higher geographies, including the 2013 ward boundary pattern were dissolved using the dissolve tool in the Arc GIS suite to create multiple output datasets.</p>
<p>Description (detailed description of the level of the source data)</p>	<p>Deriving of output Files</p> <p>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.</p> <p>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:</p> <ol style="list-style-type: none"> 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 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 0.1 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:

11- Island – *Included*

12- Mainland – *Included*

21- Inland Water – *Included*

22- Inlet – *Excluded*

23- Oceanic – *Excluded*

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 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.

Metadata

File identifier	
Language	eng
Character set	Utf8
Hierarchy level	dataset
Hierarchy level name	Dataset – Wards -2013
Date stamp	2013-01-01
Metadata standard name	ANZLIC Metadata Profile
Metadata standard version	1.1

Metadata author

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