Statistics New Zealand ANZLIC Metadata Template

Identification

Title	Area Units 2012 Level 1
Date	1 January 2012 (publication)
Language	eng
Character Set	Uft8
Abstract	This dataset is the definitive set of area unit boundaries for 2012 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 situation area units are 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 each five years in the year immediately prior to the taking of a Census of Population and Dwellings. There may also be changes in other years, in conjunction with local body boundary changes. Statistics New Zealand maintains a concordance file to ensure that boundaries relating to earlier area unit patterns can also be generated.

Year	Area Unit Totals
1991	1717
1992	1717
1993	1721
1994	1722
1995	1722
1996	1775
1997	1775
1998	1775
1999	1776
2000	1786

	<table><tr><td>2001</td><td>1860</td></tr><tr><td>2002</td><td>1860</td></tr><tr><td>2003</td><td>1860</td></tr><tr><td>2004</td><td>1860</td></tr><tr><td>2005</td><td>1860</td></tr><tr><td>2006</td><td>1927</td></tr><tr><td>2007</td><td>1927</td></tr><tr><td>2008</td><td>1927</td></tr><tr><td>2009</td><td>1927</td></tr><tr><td>2010</td><td>1927</td></tr><tr><td>2011</td><td>2013</td></tr><tr><td>2012</td><td>2013</td></tr></table> As at 1st July 2007, Digital Boundary data became freely available.
Topic category	boundaries
Spatial representation type	vector

Extent

Description	Twelve mile New Zealand territorial limit

Geographic Box

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

Extent

TEMPORAL	
Description	Data represents area unit polygons dissolved from meshblocks since 1991
Begin date	1991-01-01
End date	Now (Year of 2012)
Access Constraints	None. Data is freely downloadable from the Statistics NZ website.

Use constraints	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 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.
Use limitation	
Maintenance and update frequency	The meshblock pattern and associated hierarchies are maintained on a regular basis. An annual pattern is made available for each year up to 2012.
Date of next update	July 2012
Update scope	Dataset

Point of Contact

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Linkage	http://www.stats.govt.nz/browse_for_stats/people_and_communities/geographic-areas/download-digital-boundaries.aspx

Distribution Info

Distribution format	ESRI Shape MapInfo Tab
Distribution version	1.0
Online resource linkage	http://www.stats.govt.nz/browse_for_stats/people_and_communities/geographic-areas/download-digital-boundaries.aspx
Online resource description	Web page for downloading the digital boundaries which area units 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 Area Unit Boundaries

Lineage

Statement (general explanation of the data producer's knowledge about the lineage of a dataset)	Area units are based on the meshblock pattern. 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. 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 2011 area unit pattern were dissolved using the dissolve tool in the Arc GIS suite to create multiple output datasets. To Derive the area unit boundaries clipped to the coastline, meshblock

	polygons were dissolved to include or exclude land/water attributes attached to each meshblock. These were then dissolved to higher geographies, including the 2012 are unit pattern using the dissolve tool in the ArcGIS suite.
Description (detailed description of the level of the source data)	The original points representing 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 level 1 meshblock boundaries for 2012 digital pattern and the dissolving into other geographies/boundaries were outsourced to Sinclair Knight Merz (SKM) and were created by the following processes using ESRI software. 1. Import data from the supply format of ESRI Shapefiles to an ESRI Geodatabase. 2. Clip layers for the Area Unit, Territorial Authorities, Regional Council, Urban Areas, Wards and meshblock regions, creating two output datasets ("High definition boundaries", and "High definition boundaries –clipped to the coastline") 3. Run Topology Checks on all data 4. Run attribute checks 5. Export supplied and created data to MapInfo format 6. Quality Assurance of delivery files 7. Dissolve the meshblocks layer into layers for area unit, territorial authority, regional council, urban area, ward and community board. Level 1 is exactly as exists in Landonline i.e. no points are removed and co-ordinates are retained at 1mm accuracy. The following quality checks were applied to the meshblock pattern: **Translation of ESRI Shapefiles to ESRI geodatabase dataset** The meshblock dataset was imported into the ESRI Geodatabase structure that is required to run the ESRI topology checks. Topology rules were set for each of the layers. **Clipping of Layers to Coastline** The supplied shapefiles were then clipped to the coastline. The coastline was defined as features within the supplied land_water12_region 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.* The clip was completed using ArcGIS 10 and FME. *Note- for the Chatham Islands, 22-Inlet was included as this gives a full clip of the data for the main island. An inlet feature covers much of the main island in the group.* **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. This is the smallest tolerance possible in this software and for this projection. A default topology rule of "Must Be Larger than Cluster Tolerance" is applied to all data – this would highlight where any tiny features with a width less than 0.1cm exist. No errors were found for this rule. Two topology rules were applied specifically within each of the layers in the ESRI geodatabase – namely "Must Not Overlap", "Must Not Have Gaps". These both check a layer upon itself. **Must Not Overlap** This process checks for any areas that overlap another feature from the same layer and produces an error where an overlap is found. **Must Not have Gaps** This process checks for any voids between or within features in the same layer and produces an error if found. **Topology Checks Results:** There were no real errors in either the gap or overlap checks for the mb11_region layer supplied, and none for any of the created datasets. For the gaps test, the most outer polygons are always reported as an error, and this was the only error reported for all cases. **Scripted Process - Spatial overlay correct** A script was created going through the following process: each of the dissolved layers was cycled through, taking each polygon feature and checking that the meshblock features with the same code have the exact same overall spatial boundary. No errors were found. **Export to MapInfo Format** The data was supplied to SKM in ESRI Shapefile – these were exported to MapInfo format using FME for delivery to Stats NZ. The original data was supplied in NZTM coordinates, and so no projection of data was required. **QA of Delivery Files** The ESRI delivery files were viewed in both delivery formats (ESRI and MapInfo) and had spot checks on data consistency and attributes performed. All data was then written to DVD and checked for readability. Statistics NZ is progressively realigning meshblock boundaries to cadastral boundaries and therefore the quality of the meshblock pattern has improved since 1991 when originally digitised. However, the accuracy of the digital meshblock pattern is dependent on the quality of the underlying survey information. **Dissolve meshblocks to higher levels**

	Statistics New Zealand then dissolved the ESRI meshblock shapefile to the higher levels, for both the full and clipped dataset. The dissolve tool was used to generate these datasets from the full meshblock dataset and the clipped to the coastline meshblock dataset.

Metadata

File identifier	
Language	eng
Character set	Utf8
Hierarchy level	dataset
Hierarchy level name	Dataset – meshblocks -2012
Date stamp	2012-01-01
Metadata standard name	ANZLIC Metadata Profile
Metadata standard version	1.1

Metadata author

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