Country Profile: New Zealand

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Country Resources

Topographic

Series	Publisher	Scale	Years	Sheets
New Zealand 1:25,000 Scale Topographic Maps	LINZ	1:25,000	2011 – 2014	8
New Zealand 1:50,000 Scale Topographic Maps	LINZ	1:50,000	2009 – 2017	456
New Zealand 1:250,000 Scale Topographic Maps (LINZ)	LINZ	1:250,000	1987 – 1998	18
VMAP0 1:1,000,000 Scale Vector Data	NIMA	1:1,000,000	1992	4

Nautical

Series	Publisher	Scale	Years	Sheets
New Zealand Nautical Charts (All Scales)	LINZ	Varies	1994 – 2017	327

Aeronautical

Series	Publisher	Scale	Years	Sheets
New Zealand 1:250,000 Scale Aeronautical Charts	ACNZ	1:250,000	2016 – 2017	16
New Zealand 1:500,000 Scale Aeronautical Charts	ACNZ	1:500,000	2017	6

Thematic

Series	Publisher	Scale	Years	Sheets
The World 1:30,000,000 Scale Topographic Map Series 1145 (NGA)	DMA	1:30,000,000		2
Freytag-Berndt Oceania Maps and Books	FB	Varies	2008 – 2025	15

Global Census Archive: GIS Census Data

East View Geospatial has an ongoing effort to add GIS census data to our Global Census Archive program. Please contact us for the status and availability of New Zealand census resources.

Global Resources

Topographic

Series	Publisher	Scale	Years	Sheets
Soviet Military City Plans	VTU GSh	Varies	1944 – 2003	3,021
Soviet Military 1:100,000 Scale Topographic Maps	VTU GSh	1:100,000	1947 – 1999	24,897
Soviet Military 1:200,000 Scale Topographic Maps	VTU GSh	1:200,000	1949 – 2009	17,799
Soviet Military 1:500,000 Scale Topographic Maps	VTU GSh	1:500,000	1953 – 1998	3,093
Soviet Military 1:1,000,000 Scale Topographic Maps	VTU GSh	1:1,000,000	1948 – 1994	1,089

Nautical

Series	Publisher	Scale	Years	Sheets

NGA Nautical Charts POD Certified (All Scales)	NGA	Varies	1943 – 2013	4,517

Aeronautical

Series	Publisher	Scale	Years	Sheets
Joint Operations Graphic (JOG 1501A) 1:250,000 – Aeronautical	DMA	1:250,000	1958 – 2007	6,380
Tactical Pilotage Chart (TPC) 1:500,000 Scale – Aeronautical	DMA	1:500,000	1967 – 2006	618
Operational Navigation Chart (ONC) 1:1,000,000 Scale – Aeronautical	DMA	1:1,000,000	1969 – 2001	248
Jet Navigation Chart (JNC) 1:2,000,000 Scale – Aeronautical	DMA	1:2,000,000	1971 – 1999	117
Global Navigation and Planning Chart (GNC) 1:5,000,000 Scale – Aeronautical	DMA	1:5,000,000	1981 – 1999	27

Note: East View Geospatial is continuously sourcing new resources that may not yet be listed in Global Explorer. Please contact us if you have geodata needs beyond what is listed above and we will be happy to discuss available off-the-shelf and custom solutions.

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Historical Country Mapping Information

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Topographic

The last decade has seen major restructuring of official mapping agencies in New Zealand. Until 1996 the **Department of Survey and Land Information (DOSLI)** was the principal government department responsible for civilian and military surveying, mapping and land management. Among the land record systems maintained by **DOSLI** were the geodetic and cadastral control networks, cadastral and topographic mapping, as well as the administration of crown land and the provision of policy advice to government. **DOSLI** split in July 1996 into two new agencies. The public service mapping role in New Zealand is now carried out by **Land Information New Zealand (LINZ)**, which took over the non-profit making parts of the **Department of Survey and Land Information**. The commercial services formerly carried out by **DOSLI** are now carried out under the aegis of the government owned **Terralink** enterprise.

The metric (InfoMap 260) series, started in 1977 and completed in 1996, and gives 305-sheet coverage of North and South Island. This photogrammetric six-color map depicts relief with 20 m contours and each sheet covers a 40 km x 30 km quadrangle. An earlier 1:63,360 scale map (NZMS 1) was progressively withdrawn as the 1:50,000 series coverage advanced. Sheets in the series have mainly been compiled from unpublished (InfoMap 270) 1:25,000 scale base material, and most of the series has been produced using conventional cartographic techniques. The (InfoMap 260) series is being revised on an average 10-year cycle, with a mixture of field and photogrammetric methods. The 1:50,000 scale digital topographic database is being captured by scanning in three separate layers from published (InfoMap 260) maps. These comprise hydrological detail, cultural information and relief data and it is intended to offer structured data for the whole country, distributed on (InfoMap 260) tiles. The initial capture program was completed by the end of 1997, contours were complete by the end of 1996 for both islands and the database was completed in 1999. Recent changes have seen a move to object oriented map production using Laserscan LAMPS2 systems, and on demand mapping output from the database. The first new generation 1:50,000 scale sheet was produced in this system in 1998.

The 18-sheet (InfoMap 262) series (Terrainmap) gives complete coverage at 1:250,000 scale. This fully metric map has relief-shading and spot heights, and is regularly revised. The (Coast to coast) series gives four-sheet 1:500,000 scale coverage. 1:1,000,000 maps of North and South Island are also available (InfoMap 265). These conform to IMW specifications and are published with or without a national parks overprint.

Soviet military topographic mapping of New Zealand is available at the following scales: 1:1,000,000 (15 sheets, complete coverage, published 1958-1973); 1:500,000 (17 sheets, primarily complete coverage, published 1978-1979) and city (1:25,000) topographic mapping of Christchurch and Wellington published between 1978 and 1984. These products are available in print, digital raster and digital vector GIS formats from **East View Geospatial**.

Back to top

GIS/Vector

An electoral boundaries database has been captured from **Electoral Commission** mapping and includes polygon or line data from the new multi-member electoral boundaries. The *Digital meshblock boundary database* provides the basic building blocks for statistical collection and representation in New Zealand. National coverage has been derived from the digital cadastral database for 37,000 units and 74 local authorities and is maintained by **Statistics New Zealand (SNZ)**.

Digital data sets are maintained and updated by **Landcare** in the fields of soil, land resources, vegetation, plant diseases and invertebrates. Many of these data were captured earlier from published hard copy mapping programs. These include the *New Zealand land resource inventory*, first mapped between 1974 and 1981 from field work and aerial photographs and published by the **National Water and Soil Conservation Authority** at 1:63,360 scale on a modified (NZMS1) topographic base. This database is held on Sun workstations in ARC/INFO and **Genamap** and comprises 90,000 polygons with data relating to rock type, soil, slope, erosion, vegetation, land use capability, livestock carrying capacity, pine potential and phosphate requirements. Data was digitized from 1978-1981 and has been transformed to the metric New Zealand Map Grid, with limited revision of coverage carried out from 1981 to 1992 on (InfoMap 260) 1:50,000 bases. Other separate but related data sets include forest coverage captured from **NZFS** 1:250,000 scale mapping, and a soils database. A land cover database derived from LANDSAT Thematic Mapper coverage has been started as a pilot project for the centre of North Island. Polygons are classified as artificial, cultural or natural, with 14 cover categories and accuracy standards comparable to (InfoMap 262) 1:50,000 specifications.

Back to top

Nautical

The **National Institute of Water & Atmospheric Research Ltd (Te Tari Taihoro Nukurangi) (NIWA)** is New Zealand's foremost provider of marine, coastal and atmospheric information. It has taken over the responsibilities of the former **New Zealand Oceanographic Institute**, including publication programmes for 1:200,000 scale coastal mapping. Two series are published at this scale, mapping bathymetry and sediments, the former is nearly complete and several sheets have appeared in revised editions. Island charts of the Cook group and of New Zealand island territories are also published at this scale. A more extensive coverage is offered in 1:1,000,000 scale charting, and a more limited coverage of sediment editions has also been published at this scale. In addition a miscellaneous series including small-scale charting of the South Pacific, and a series mapping inland lake bathymetry is also maintained. **NIWA** is currently using Swath-mapping in a collaborative project with the French agency **IFREMER** to obtain full three-dimensional images of the seabed over a much more extensive area of the New Zealand EEZ.

Hydrographic charts of the New Zealand coast and of sea-lanes linking New Zealand to its neighbouring South Pacific states are compiled by the **Hydrographic Department** of the **Royal New Zealand Navy (RNZN)**. **RNZN** maintains a range of over 150 charts.

Back to top

Aeronautical

A range of aeronautical charting is also compiled by **Terralink** for the **Royal New Zealand Airforce** and the **Airways Corporation of New Zealand**. The 1:250,000 scale (Visual chart series) is compiled to JOG (Air) 1501 specifications and covers New Zealand in 18 sheets, on the NZMG projection and (InfoMap 262) sheet-lines, with blue aeronautical data on a topographic base. Four sheet 1:500,000 scale coverage conforms to (Tactical pilotage chart) specifications. In common with other modern ASCC charting these en-route and plotting charts are regularly revised and compiled from digital topographic and aeronautical data.

LINZ is also involved in the publication of mapping for NZ territories and other areas of the South Pacific.

Back to top

Geological/Scientific

Geological mapping of New Zealand dates from the establishment of the **New Zealand Geological Survey** in 1865. Since 1993 it has been the responsibility of the **Institute for Geological and Nuclear Sciences (IGNS)** which has also taken over the geophysical mapping responsibilities previously discharged by **DSIR Geophysics Division**. Early mapping supported the needs of mineral exploration and included the slow publication of a series of 1:63,360 scale maps, which grew to cover about a third of the country. From the late 1970s a 1:50,000 program replaced the earlier scale; sheets in the series have appeared with explanatory monographs on (Infomap 260) sheet lines with most quadrangles covering half the sheet area of the topographic maps. Recent emphasis in this program has been upon the production of urban geological coverage. A 28-sheet 1:250,000 scale map completed in 1973 gives complete chrono-stratigraphic coverage of both islands, including explanations of the geology on the sheets. Lithological data from these series have been captured to establish the rock type database in the *New Zealand land resource inventory*. Geological resource mapping at 1:250,000 scale is plotted from a digital database to indicate mineral outcrops and mining activity, and is issued with separate explanations for each sheet area. Geophysical maps published by **IGNS** include 1:250,000 scale magnetic and gravity series. Coastal series were started in the late 1980s, using the more regular sheet lines adopted in the resource mapping, and also output from digital data, but offer much less complete coverage. Smaller scale earth science mapping is also published, including a recent seismic atlas, and the *Petroleum atlas of the Taraaki Basin*, with 50 1:500,000 scale maps issued in four parts. Single-sheet geological or tectonic coverage is published with a sheet explanation, and two sheet geological, quaternary, metallogenic and geophysical coverage is also available. **IGNS** continues to compile earth science mapping of the wider South Pacific region and of Antarctica.

Back to top

Imagery

Recent initiatives by **LINZ** have developed digital topographic coverage of urban areas. *Aeroplan Landbase* is a structured topographic database offering 1:1,000 scale coverage of the built fabric of urban areas. Data is derived from aerial photographic coverage and are released as 500 m × 750 m tiles, which may be edge-matched to adjacent sheets. Coverage is projected to extend beyond the existing urban blocks according to market demand. Another recent innovation has been the introduction of targeted integrated digital products, bringing together photographic and graphic map data in a digital format. Three products are currently available. The *City mapping database* provides structured large scale digital topographic coverage, with data derived from low level aerial photography of urban areas. The *Orthophoto map database* provides raster files of ortho-rectified images at scales of 1:500, 1:1,000, 1:2,500, and 1:5,000.

Back to top

Soil

Soil mapping programs were carried out by the **New Zealand Soil Bureau (NZSB)** which issued soil mapping and interpretive maps based upon these original surveys, showing, for example, areas suitable for different land uses. A range of small scale single-factor soil maps were issued as *NZ Soil Survey reports*. A quarter-inch survey was published for most of the country. Other larger scale mapping of some areas was also compiled, often accompanied by *NZ Soil Survey Bulletins*. Following the reorganization of **DSIR**, responsibility for such mapping passed in 1987 to **Landcare Research (Manaaki Whenua) (Landcare)**, an independent **Crown Research Institute** focusing upon the management of land resources for conservation and primary production. Stocks of hard copy maps may still be obtained, including the extensive **NZSB** coverage of Pacific territories. **Landcare** has taken over responsibility for a much wider range of thematic spatially referenced data, including soil, land resources, vegetation, and fauna. Earlier official resources mapping, for example state forest surveys, may also still be acquired. Its current mapping is driven by research and market needs, rather than by any systematic programme of state sponsored data collection for hard copy publication. Notable recent hard copy publications includes the 1996 revision of 1:2,000,000 scale soil maps, replacing 1948 and 1963 editions and classifying soils according to Version 3 of the New Zealand Soil Classification system, with data derived from the NZ Land Resources Inventory.

Back to top

Vegetation/Forestry

Forest mapping of New Zealand was established under the aegis of the **New Zealand Forest Service (NZFS)**. Basic scale forest mapping used **NZMS** 1:10,000 scale topographic photo plots with local update showing forest information on a topographic base, as well as slope mapping at the same scale. Smaller scale series included forest class mapping, at 1:250.000 scale on provincial sheet lines, as well as a number of administrative maps needed for commercial exploitation of the forest resource. Tourist mapping of Forest Parks was also compiled, and is now merged with **LINZ's** (Parkmap) and (Trackmap) series. **NZFS** was split in 1987 into three constituent organizations; the **Ministry of Forestry (NZMF)** assumed responsibility for mapping which was contracted out to **DOSLI**. **NZMF** recently issued small scale forest mapping indicating areas of planted and natural forests. **The New Zealand Forest Research Institute**, established as a crown research institute in 1992 and inheriting research functions formerly carried out by **NZFS**, digitized the Forest Class maps in 1998.

Back to top

Thematic

Until 1992 a range of thematic mapping was carried out by organizations under the aegis of the **Department of Scientific and Industrial Research (DSIR)**. Since then, however, responsibilities have been reorganized into different **Crown Science Research Institutes** and cartographic staff employed by **DSIR** have been redeployed to **DOSLI** and subsequently to either **Terralink** or **LINZ**. **Terralink** is now contracted to produce 'science mapping' for the different agencies and systematic bathymetric, earth science, soil science and forest mapping programs have been scaled down.

Back to top

Atlas

A useful atlas bringing together the many different administrative geographies of the county was revised in 1996 and is published by the **University of Auckland Press**.

A microfiche-based gazetteer lists over 50,000 names from the 1:10,000 scale map series, supplemented with names of natural features. A digital *Geographic names database* includes names captured from 1:50,000 scale (InfoMap 260) series maps, attributed according to 26 feature types. Data covers North, South and Stewart Islands and are being populated with names relating to other offshore islands and from New Zealand Antarctic Territory. The *Authoritative streets and places database* links the official names to territorial authority, electoral district and grid reference.

There is no officially sanctioned national atlas, but the publication in 1999 of the *Contemporary atlas of New Zealand* by **David Bateman Ltd** offered the first authoritative thematic atlas coverage of the country for 20 years. It is planned to use the New Zealand Census as the basis for future five-yearly editions of this economic, social and environmental atlas.

Back to top

Cadaster

Cadastral mapping of New Zealand is also regulated by **LINZ** and carried out by **Terralink**. About 18,000 hard copy cadastral maps have been compiled to record two million land parcels across the country, in scales ranging from 1:1,000 to 1:50,000. A program for the digital capture of this data, and the establishment of a national land information system began in 1981 and since 1995 hard copy cadastral maps

have been superseded as the national record system, following the introduction of the *Digital cadastral database*. This database is updated daily and incorporates parcel linework and attributes with street-center line data.

Back to top

Tourist/Reference

For the tourist market four different ranges of customized maps are issued. The (Touringmap) series includes single-sheet coverage of North and South Island, as well as road maps of key tourist areas at 1:250,000 scale. The (Holidaymaker) series provides coverage of popular tourist areas, in a range of 10 maps at scales between 1:10,000 and 1:150,000, overprinted with recreational facilities, scenic attractions, historical features and accommodation details. An extensive range of (Parkmaps) is aimed at the wilderness tourist, whilst (Trackmaps) cover the more popular walking routes in New Zealand. These tourist and recreational maps are compiled by **Terralink** and published by the **Department of Conservation** and often use 1:50,000 or 1:250,000 scale base material.

A comprehensive range of town maps is published in the (Streetfinder) series (InfoMap 271). These maps are regularly updated and cover all the cities and most towns in the country, including adjacent settlements with their nearest large centre. They also map amenities and places of interest, and index street names. Three map books are published bringing together plans of settlements around Auckland and Northland, Greater Wellington and Canterbury and Westland.

Wises Publications Limited concentrates upon regularly revised city mapping published as sheets, in atlas format and in smaller format ‘handimaps’. **Wises** also issues provincial mapping, road atlases and smaller scale tourist and general mapping of New Zealand and a gazetteer of the country. The **New Zealand Automobile Association (NZAA)** concentrates upon maps for motorists including 16-sheet coverage of New Zealand at 1:350,000 scale, eight-sheet 1:550,000 scale mapping and various road atlases and town maps. **Minimaps Limited** publishes a range of 54 city, town, and district sheet and map books, including a regularly revised road atlas.

A number of overseas agencies issue general mapping of New Zealand, including **International Travel Maps (ITM)**, Australian commercial mappers **HEMA** and **Universal** (who took over the **New Zealand Lansdowne Press** in the 1980s), **HarperCollins**, **Map Appeal** and **Nelles Verlag**.

Back to top

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