



DECEMBER

2002

A news update for Land Information New Zealand clients

## In this issue **2 Initiatives launch unveils new web-based services**

The revamped LINZ website, web access through the Government Portal, **NZTopoOnline** and **PositionNZ** are among the strands of the eLINZ strategy to go on show at a special parliamentary launch this month.



### 4 World first online survey and title lodgement service goes live

Online lodgement of survey plans and routine title dealings via the Internet became a reality in New Zealand in November, with the recent go live of **Landonline** Stage Two.

### 5 Public to have greater access to boundary scenarios

Advances in technology mean that by the next time electoral boundaries are redrawn – in 2007 – anyone with access to the Internet will be able to experiment with different electorate scenarios.

### 3 Cartographic conference focuses on digital developments

The rapidly expanding opportunities for accessing and shaping spatial information on a digital platform will be the central theme for GeoCart 2003 at Taupo in February next year.

### 6 LINZ to keep vital tide data flowing from Antarctica

LINZ is stepping in to fund repairs and the small ongoing running costs for the Cape Roberts tide gauge in Antarctica. Installed by Victoria University in 1991, the gauge provides valuable data on sea levels.

### 6 Metadata: ensuring signposts to information can be read by all

LINZ is leading the Geospatial Metadata Standards project, which aims to develop a common standard for all government agencies to use when describing location-related information.

### 7 Topographic data features in high-end mapping products

*Landforms: The Shaping of New Zealand*, an impressive coffee-table volume, is one of the first value-added products to emerge following the abolition of copyright fees for Crown-owned topographic data.

### 8 Milestone for Crown Pastoral Lease tenure review process

The first of New Zealand's 304 Crown Pastoral Leases has reached the penultimate – and decisive – stage of the tenure review process.

# INITIATIVES LAUNCH UNVEILS NEW WEB-BASED SERVICES

Several strands of the eLINZ strategy are coming together this month with a special launch on 10 December at Parliament's Grand Hall. Under the collective banner of *LINZ eInitiatives*, the event is being hosted by the Minister for Land Information, Hon John Tamihere.

2

Lucy Hoffman, LINZ Team Leader, Online Channel Management, says the launch is an opportunity to highlight a number of ongoing projects, each contributing to the shift towards electronic delivery of LINZ products and services.

"As these initiatives mature, the physical location and the identity of the agency which hosts land information will become less and less of an issue," Lucy says. "The common factor for all of the projects we are showcasing is delivery via the Internet."

She notes that in tandem with the shift to internet-based delivery, LINZ is remaining sensitive to the needs of those without ready internet access. Staff are being upskilled in dealing with the enquiries that still come through more traditional channels. "While technology is the growth area, we are constantly aware that we're working in a people business," she says.

## Government Portal opens another channel to LINZ information

An important milestone in the Government's wider e-government strategy is the launch of the Government Portal, which went live last month. LINZ has been working closely with the State Services Commission's E-government Unit, which developed this enhanced gateway into the information and services hosted by government agencies.

Lucy's team have been working to ensure people who are referred to the LINZ website through the Government Portal enjoy a smooth, straightforward ride to the information they're seeking. Twenty nine different LINZ services and resources are available through the portal.

"The development of the Portal has involved a fresh look at the way we present our information," Lucy explains. "We're making sure that the bridging content we provide to welcome visitors is purged of any confusing government-speak."

An enquiry on the Government Portal for something like 'maps' opens up a number of possible pathways, some of which will lead to the LINZ site. Depending on the options taken, an inquiry may take a person directly to a database deep within the LINZ site, or perhaps to the home page. In the latter case there will be a welcome prepared on the home page to orient people who have arrived via the Portal.

## NZTopoOnline set to blaze new information path

One of the stars of the show at the *eInitiatives* launch will be **NZTopoOnline**. This new online service will provide free access to topographic information for anyone visiting the LINZ website.

Guests get a taste of what **NZTopoOnline** is set to deliver in mid 2003 when the full version is released. At the launch they will be able to request and create maps, printing them off up to A4 size.

**NZTopoOnline** will provide another channel for emergency services, and other key stakeholders to access the most up-to-date topographic information held in the New Zealand Topographic Database (**NZTopo**), and will feature an internet based delivery of a new published map series called **NZTopo50**.

Because the information will be distributed online and map royalties are no longer charged, the digital topographic data from **NZTopoOnline** will be available online to anyone – not just the stakeholders who use the data for public good activities. Users can tailor the information they want to put on their maps.

David Mole, Manager (Compliance) in the LINZ Topo/Hydro group, says the service will provide choice for map users. "They will be able to customise the map to cover the exact area they want."

Not only will users be able to define the map area – they will also be able to dictate the number and combination of features on display. Having created their map, it's simply a case of printing it out. When the full version is available next year, map extracts up to A1 size will be able to be printed out.

**NZTopoOnline** marks another first. The delivery of the new **NZTopo50** published map series will be internet based. The new map series is based on the new official map projection, New Zealand Transverse Mercator (NZTM), which is compatible with New Zealand Geodetic Datum 2000 (NZGD2000).

## PositionNZ steps up

Yet another stream of electronic data will be switched on at the *eInitiatives* launch with the unveiling of **PositionNZ**.



The GPS stations that make up the PositionNZ network record data every 30 seconds.



With **NZTopoOnline**, customers will be able to customise, download and print out maps to their own specifications.

Commissioning of this active survey control network of 30 continuously tracking GPS stations is already well underway.

**PositioNZ** is a joint venture between LINZ and the Institute of Geological and Nuclear Sciences (GNS). While LINZ requires the positional data to maintain the geodetic datum and to support surveys, GNS is interested in earth deformation. So far, about half of the stations are in place, with priority going to the North Island. The complete network is expected to be in place by 2006.

LINZ Geodetic Survey Adviser Graeme Blick says the receivers record data every 30 seconds, with data available either hourly or daily. "The data will be available free of charge via our website on [www.linz.govt.nz/positionz](http://www.linz.govt.nz/positionz)," he explains.

"The prime beneficiaries of **PositioNZ** will be our geodetic survey contractors. They'll be able to derive accurate positions in terms of NZGD2000 with just a single GPS receiver.

"We are also expecting cadastral surveyors to use **PositioNZ** for the highest available accuracy points for their own work.

"In a broader context, **PositioNZ** will provide greater confidence in the accuracy and reliability of NZGD2000 through its continuous monitoring. It will also give us early warning if there are problems with any of the satellite data."

Graeme says the establishment of **PositioNZ** will enhance New Zealand's contribution to the global spatial reference system.

Looking to the future, he says the end-game for this new generation of technology will be the ability to get accurate

positions in real time, through cellphone links. "But that's the future. In the meantime we're focused on getting the rest of the network in place."

#### Website improvements also on show

New initiatives like **NZTopoOnline** and **PositioNZ** will be grabbing attention at the *eInitiatives* launch, but the channel for these developments – the LINZ website – will also be taking pride of place.

Work on the site has continued since its major overhaul earlier this year to a more stripped-back, customer-focused model. The number of enquiries to the "info@linz" catch-all address continues to fall, indicating that users are finding what they want without needing help.

#### Contacts for further information:

**Government Portal:**  
Lucy Hoffman, LINZ Team Leader,  
Online Channel Management,  
ph (04) 460 0107, [lhoffman@linz.govt.nz](mailto:lhoffman@linz.govt.nz)

**NZTopoOnline:**  
David Mole, Manager (Compliance),  
LINZ Topo/Hydro Group,  
ph (04) 460 0583, [dmole@linz.govt.nz](mailto:dmole@linz.govt.nz)

**PositioNZ:**  
Graeme Blick, LINZ Geodetic Survey Adviser,  
ph (04) 471 6859, [gblick@linz.govt.nz](mailto:gblick@linz.govt.nz)

Government portal: [www.govt.nz](http://www.govt.nz)  
Linz website: [www.linz.govt.nz](http://www.linz.govt.nz)  
PositioNZ: [www.linz.govt.nz/PositioNZ](http://www.linz.govt.nz/PositioNZ)

## CARTOGRAPHIC CONFERENCE FOCUSES ON DIGITAL DEVELOPMENTS

The rapidly expanding opportunities for accessing and shaping spatial information on a digital platform will be the central theme for *GeoCart 2003*.

The theme for the Second National Cartographic Conference, to be held in Taupo from 12-14 February 2003, is *Accessible New Zealand: Capitalising on Contemporary Technologies*. The conference is being hosted by the New Zealand Cartographic Society in association with LINZ, the University of Auckland and the University of Waikato.

The line-up of keynote speakers includes Barry Bradley of the Cartographic Art Company, Professor William Cartwright, RMIT University Melbourne, Mr Steve Erskine, Ordnance Survey, United Kingdom and Professor Sara Irina Fabrikant, University of California.

Running with the conference will be a national cartographic exhibition including a children's map competition, and a commercial exhibition showcasing the latest mapping-related technology.

Landscan readers wanting to attend Geocart 2003 can get the early bird registration special. Please photocopy this article and post it with your registration from the website. You have until Friday 17th January 2003.

Geocart 2003 website: [www.cartography.org.nz/geocart2003](http://www.cartography.org.nz/geocart2003)

#### Contact for further information:

**Sarah Zimmerman, Geocart 2003 Organising Committee  
/Topographic Information Manager,  
Land Information New Zealand,  
ph (04) 460 0585, [szimmerman@linz.govt.nz](mailto:szimmerman@linz.govt.nz)**

[szimmerman@linz.govt.nz](mailto:szimmerman@linz.govt.nz)



## WORLD FIRST ONLINE SURVEY AND TITLE LODGEMENT SERVICE GOES LIVE

Online lodgement of survey plans and routine title dealings via the Internet became a reality in New Zealand in November, with the recent go live of **Landonline** Stage Two.

Coupled with remote access and searching of New Zealand's authoritative land title and survey database, the piloting of electronic lodgement qualifies as a world first.

The Stage Two Pilot started in Christchurch on 18 November, involving 30 surveyors and conveyancer firms (plus two other firms on the West Coast and Nelson). The national rollout is scheduled for the first quarter of 2003.

Following the installation of the lodgement software, LINZ CEO Russ Ballard said it was a big day for **Landonline** and Land Information New Zealand. "After five years' design, development and testing, **Landonline** has now reached a stage that puts New Zealand in the forefront of survey and title information management."

The project began in 1996 when government approved the automation of Land Information's survey and title database. Designed to be implemented in two key stages, **Landonline** Stage One, completed in July this year, saw the electronic conversion of approximately seven million survey and title records and the establishment of remote searching for customers. Stage Two, providing online lodgement of survey plans and routine title dealings, was designed and built in the last two years, and following that was piloted in a live online environment.

"This is what makes it a world first," said Dr Ballard. "There are other countries with electronic records, and some that have implemented electronic lodgement, but none has combined the two services with survey accurate digital data via the Internet."

With a **Landonline** licence, surveyors and conveyancers will be able to search the LINZ database, download and print title and survey plan details and images, prepare survey plans and property dealings electronically, pre-validate their lodgements



**Surveyor-General Tony Bevin (behind) and Registrar General of Land Robbie Muir check electronic registration on Landonline.**

and submit them online to LINZ. The processes are the same as in the manual environment, but much faster. In the case of property transactions the LINZ titles register updates automatically once an eDealing is registered. The first eDealing to be registered (a property in Christchurch) took a matter of seconds to show up on the electronic register.

Dr Ballard said that the support of the key stakeholder groups during the project – the New Zealand Institute of Surveyors and the New Zealand Law Society – was critical in reaching the completion of Stage Two.

"The stakeholders backed the project at every stage. We've had full-time representatives working on the development team, and our strong relationship with the groups saw them continue to support us even through the challenging transition period when titles were being converted over an 18-month period. The piloting of electronic lodgement heralds a new era in the way conveyancers and surveyors will work, and pending successful completion of the Pilot they can look forward to using this world-class system early in 2003. Ultimately New Zealand benefits as a whole".

The Pilot's contractual period ends on 17 December, but LINZ will continue with an extra month's evaluation and adjustment period into the New Year, before the service is implemented nationally in the first quarter of 2003.

# PUBLIC TO HAVE GREATER ACCESS TO BOUNDARY SCENARIOS

5

Advances in technology mean that by the next time electoral boundaries are redrawn – in 2007 – anyone with access to the Internet will be able to experiment with different electorate scenarios.

The redrawing of electoral boundaries happens following each five-yearly population census to take into account the effect of population changes on electorates.

LINZ has helped the Electoral Commission streamline the complex process of setting boundaries through an integrated database. It brings together existing boundaries, aerial photographs, topographic and street mapping, land parcels, road centrelines, addresses and statistical meshblocks with electoral populations calculated from the latest census.

Brian Evans, Cadastral Information Specialist with LINZ, says the task of redefining the electoral boundaries this year was made much easier by the availability of high specification laptops which made it possible to bring together several gigabytes of data sourced from many different datasets, including **Landonline** and **NZTopo**.

He says **Landonline** played an integral part. “This information was used by the commissioners to identify areas of population growth such as new subdivisions, which were not reflected on the scanned mapping.” The Surveyor-General, Tony Bevin, is also a member of the Commission and is responsible for providing provisional boundaries and associated data to the Commission. This time the exercise was done using the database rather than lots of paper maps as in the past.

The boundary redrawing involved the addition of a new general seat and a new Maori seat arising from the general northward drift in New Zealand’s population. “The members of the Commission were particularly impressed with the ability to create and display two independent boundary scenarios, side by side on the same screen,” Brian says.

The replacement of the published boundary maps with a “mini-atlas” of proposed boundaries was also very successful.

Population trends in the South Island have generally seen a high growth rate in the northern urban centres and a lesser growth rate in the southern and rural areas. This has resulted in a northward movement of boundaries from the south, into and around Christchurch. Brian says that the database gave the Commission a greater ability to explore a range of scenarios to see how to best meet the criteria.

A similar scenario evolved in the North Island, with a relative decrease in electoral population in the central north island area requiring boundary changes to bring the electorates

within required quota tolerances. The result was larger and more expansive electorates in rural areas.

Looking ahead to 2007, Brian says a significant improvement to the boundary setting process will definitely be the ability to improve public access to both the proposed boundaries and the population and spatial data that underlies them.

He says that the Commission usually tries to meet submissions made by the public, however a lot are unachievable due to the several criteria. “It is hoped that if we are able to provide access to mapping and population data at area unit level via the Internet it will lead to submissions that have been able to consider more fully the criteria the Commission have to follow. Submitters will be able to determine, then resolve which options are most likely to be successful

in terms of the criteria. This should improve the process of hearing and considering submissions. This year we used the Internet to show people the proposed and final boundaries. Next time New Zealanders should be able to use the Internet to explore the ideas they may have on where they think they boundaries should be, and hence have more input, if they want to, into the process.

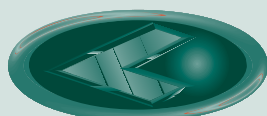
## At a glance

- ◆ LINZ has helped the Representation Commission streamline the redrawing of electoral boundaries through hands-on access to land and population databases
- ◆ The process happens every five years following the population census
- ◆ This year’s redrawing of electoral boundaries ran smoothly and on time, which meant that the early election was able to be run on the new boundaries
- ◆ The Internet will facilitate improved public participation in the electoral boundary change consultation process next time
- ◆ You can check out the boundary maps on the Electoral Commission’s website at [www.elections.org.nz](http://www.elections.org.nz). Click on the ‘New Zealand Electoral System’ button and then ‘Electorates’.

### Contact for further information:

Brian Evans,  
Land Information New Zealand,  
ph (04) 460 0371, email [bevans@linz.govt.nz](mailto:bevans@linz.govt.nz)

[bevans@linz.govt.nz](mailto:bevans@linz.govt.nz)



**Landonline**  
survey and title service

# LINZ TO KEEP VITAL TIDE DATA FLOWING FROM ANTARCTICA

Keeping a finger on the pulse of our planet's health can throw up some unexpected challenges. One of these is the gathering of sea level data from Cape Roberts in Antarctica to better understand the nature of the tidal regime in the Ross Sea and to help monitor the effects of global warming.

6

A tide gauge was set up there in 1991 by Victoria University, taking over the role of an earlier type of tide gauge that had been lost in a storm the previous year at Scott Base.

The Victoria University gauge has been delivering good sea level data ever since. It is visited annually to download the latest year's results.

The equipment has to be robust to withstand the Antarctic weather, but after over 10 years constant battering in the extreme conditions, the gauge is in need of maintenance. This is where LINZ comes in.

LINZ also benefits from the data that the gauge produces, and uses it to update nautical charts and tide tables for the Ross Sea area. But the longer-term data is also valuable. LINZ Chief Topographer/Hydrographer John Spittal says that for global warming research, a continuous record of sea level data over a long period is extremely rare in the Ross Sea.

"The data that's been produced so far is too good to let go and, recognising the importance of the tide gauge, the department is stepping in to fund the necessary repairs and the small ongoing running costs."



This clear day at Cape Roberts belies the extreme weather that often pounds the tide gauge's batteries, sensors and other hardware.

Weather permitting, the repairs will be carried out over this year's summer deployment to Antarctica. Various components of the tide gauge will receive attention, including replacement

of the extensive battery array and refurbishment of the sensor unit which is located underneath the ice at the end of a hole painstakingly drilled through a rock overhang. The software controlling the gauge functions will also be updated.

Dave Mundy, Hydrographic Survey Adviser in the National Topographic/Hydrographic Authority, is involved in the Cape Roberts project. He says repair jobs like these have to be meticulously planned. "The

team conducting the refurbishment, led by Alex Pyne from Victoria University, are required to deploy with everything that could possibly be needed – it's a case of do it once, do it right," he says.

## Contact for further information:

John Spittal, Chief Topographer/Hydrographer,  
Land Information New Zealand,  
ph (04) 471 6856, email [jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

[jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

## METADATA: ENSURING SIGNPOSTS TO INFORMATION CAN BE READ BY ALL

The latest generation of internet search engines can give access to specialised information with mind boggling speed. Research that may have taken months or years, and much shoe leather, can now deliver sought-after information in seconds.

Or can it? The answer is: "Not always." Without appropriate metadata – that is, the information **about** information that is used for describing, indexing and cataloguing – a search could bypass what you are looking for.

So while the tidal wave of online public sector information relentlessly builds, there is some strategic work going on behind the scenes to avoid unnecessary duplication of effort further down the line.

The Geospatial Metadata Standards project is being lead by LINZ. Its aim is to develop a common standard for all government agencies to use when describing location-related information.

LINZ shares an interest in geospatial information with a number of other departments, including the Ministry for the Environment (MfE), Department of Conservation (DOC) and the Ministry of Fisheries. They each work to make data available across a wide range of agencies and to the public, and have already made some progress in developing common standards for 'discovery level' metadata.

Project sponsor is LINZ Chief Topographer/Hydrographer, John Spittal. He says LINZ has been asked by the State Services Commission's E-government Unit to lead and coordinate this effort.

John says the benefits of good metadata can be illustrated by the example of someone wanting to build a factory. "You would need a whole raft of information from different sources: land title, the terrain, location of hazards, presence of sacred sites and so on. With common metadata standards, a single search through something like the Government

# TOPOGRAPHIC DATA FEATURES IN HIGH-END MAPPING PRODUCTS

The abolition of copyright fees for Crown-owned topographic data is starting to pay dividends with the appearance of some innovative value-added products in the public domain.



One of New Zealand's most popular outdoor recreation areas, around Lakes Wanaka and Hawea, is one of the places detailed in the *Landforms* book.

Originally set at \$1.8m, the copyright fee for the entire digital topographic database was abolished in 1999 and replaced by a \$1500 fee to cover the cost of dissemination of the data.

LINZ Chief Topographer/Hydrographer John Spittal says the data was under-used when the higher fees prevailed. "While LINZ was focused on

maintaining core geospatial data, there was a feeling that both departments and the public could not afford to benefit from its potential.

"Reducing the fees has actually assisted New Zealanders more and freed up the data to be used for new map-related products," he says.

## Landform book

One of the first such products is *Landforms: The Shaping of New Zealand*, by Roger Smith and Les Molloy. The coffee-table volume was launched in Wellington in October.

The large-scale maps (each full-page map covers an area about 40 km wide by 35 km deep) were generated by

Portal could bring together all of the information and services available and relevant to your project."

Geospatial metadata will also assist people who want to source data and add to it for their own purposes, John explains. "We are already seeing this happen with agencies like local authorities or the Department of Conservation."

Work to coordinate the development of a common standard is progressing well. An initial working team made up of LINZ, MfE, DOC and the Ministry of Fisheries has been formed, and early this month interested government departments are meeting with a view to forming a steering group, interdepartmental project team and reference group.

John says Crown Research Institutes, local authorities and other similar organisations are also taking part.

July 2003 has been set as a target date for drafting of the discovery level geospatial metadata standards, with a decision on system development for the Government Portal by mid 2004. The collection of metadata from originating agencies will begin next year, and it's likely to be 2005 or 2006 before it is fully on stream.

Wellington company GeographX, using the LINZ 1:50,000 topographic database. The images were created by using a digital elevation model of the land surface, with colours used to indicate relative heights.

Computer-generated shadows are overlaid, and provide a photo-realistic hill-shading effect. Vegetative cover, water and other significant surface features have also been draped over the base map to give a unique view of the landscape. The only obviously man-made features to be added are roads and rail lines. These were included to help orient readers.

## CD-based map

Another product to hit the streets using the digital topographic database and other LINZ data is the CD-based *The Ultimate Map of New Zealand* (TUMONZ). This modular product brings together street names and addresses, route mapping, 3D views of the landscape, aerial photos and tourism information such as fishing spots, camping grounds and restaurant guides and much else besides. Users can create and customise their own maps using the CD.

John Spittal says the launch of printed and digital products such as these shows that the value of publicly owned land information is now beginning to be unlocked and put to new uses that could only be dreamed about in the past.

### Contact for further information:

John Spittal, Chief Topographer/Hydrographer,  
Land Information New Zealand,  
ph (04) 471 6856, email [jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

[jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

## WHAT IS GEOSPATIAL METADATA?

Geospatial metadata is best described as a list of characteristics about data. It is similar to the list of ingredients found on the back of groceries. It tells you what you will find in the 'box' of information, whether or not it is useful for your purposes and how it can be mixed and matched with other data. If information users are to search freely across many sources of government location information, then it is vital that a common standard is used to describe what is available.

### Contact for further information:

John Spittal, Chief Topographer/Hydrographer,  
Land Information New Zealand,  
ph (04) 471 6856, email [jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

[jspittal@linz.govt.nz](mailto:jspittal@linz.govt.nz)

