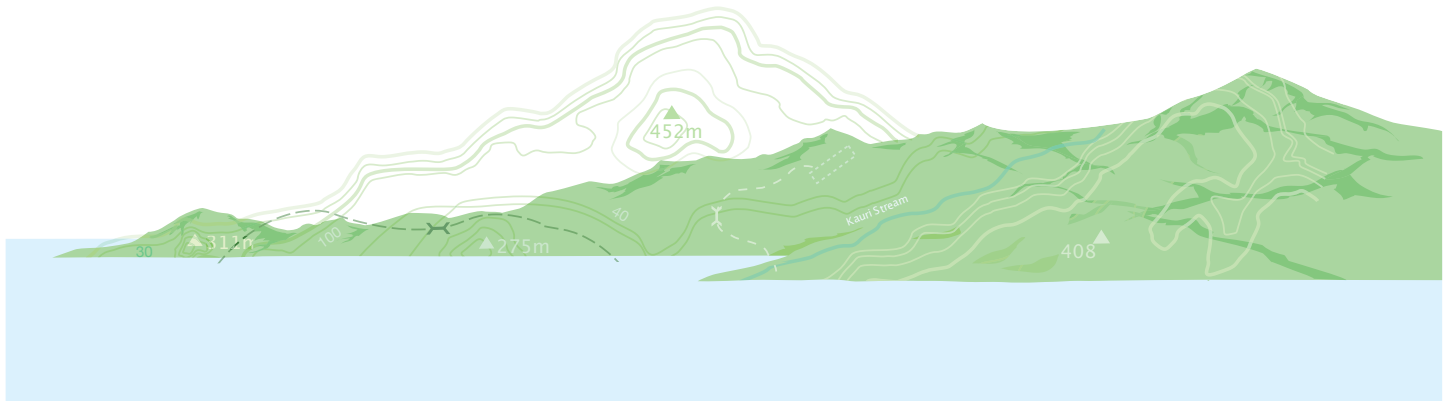


Landscan

issue **52**

A news update from Land Information New Zealand

March 2010



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ARE OUR RECORDS CORRECT? We want to maintain an up-to-date mailing list. See the back page if you need to update your details.



Topo50: World says wow

LINZ wowed an international cartographic audience with a presentation on our world-first, automated production of Topo50 maps.

The five-day International Cartography Association conference was held in Santiago, Chile, and offered a wealth of papers to the 900-strong crowd of attendees. Among attendees were LINZ's Geoff Howard, Manager Specialist Processing and Data Management, and Fran McNamara, Senior Cartographer.

Geoff's paper particularly impressed specialists who had previously struggled with automating map production.

"People were amazed when we explained that, where it used to take two to three months to prepare a single map, it now takes a matter of minutes, and we can output maps in a whole range of formats," says Fran.

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"To produce a map now, we basically push a 'make map' button, and our mapping system selects the map data for the region we want from a Geographic Information System (GIS), makes the cartographic adjustments required, and pulls in other features such as relief shading and grid references, all without manual intervention."

Among the other presentations on offer at the conference were the tongue-tying technical likes of 'Application of the Chebyshev Polynomials to Approximation and Construction of Map Projections', to the more easily pronounced 'Cartographic Materials in Primary and Secondary Schools'.

"The quality and range of papers was impressive," Fran says. "It was especially nice to see some less-expected presentations discussing cartography as art and the impact of maps on society, among those we were expecting like spatial data infrastructures, GIS and map generalisation."

"People were amazed when we explained that, where it used to take two to three months to prepare a single map, it now takes a matter of minutes, and we can output maps in a whole range of formats."

Christchurch office relocation

LINZ's Christchurch Processing Centre staff will relocate to a new office later this year after more than a decade based in Torrens House in Hereford St.

"The Torrens House lease expires in December this year so we had to start considering our options," says Jan Pierce, General Manager Customer Services.

Agreement has been reached with Christs College to move to an office block the College is developing in Tuam St, she says.

"Tuam Street was a cost-effective choice as it was cheaper than other new-build options or refurbishing the current office. It will accommodate our future operating needs, has easy access to transport, and an open-plan environment to encourage knowledge-sharing and interaction."

Jan says planning for the Christchurch relocation and the recent refurbishment of the Hamilton Processing Centre are key parts of the transition LINZ has been making since 2006 from running five centres to two.

The move to 100% electronic lodgement of survey and title transactions, announced in 2006 and completed in February 2009, meant a significant decrease in manual processing work and the need for over-the-counter services. The decision was made that only two processing centres would be required by 2011 – Hamilton and Christchurch.

LINZ Southern Area Manager Lichelle Guyan says Christchurch's Torrens House cannot meet the needs of the new processing environment the department is working towards.

"A big part of creating that new environment where staff can look ahead, shape their future processing environment and bring new staff onboard, is to have a pleasant setting where they can operate as a team and also, pretty understandably, an office that isn't a maze like our current one!"

The Pastoral Team, which is responsible for administering South Island high country pastoral leases, will also move to the Tuam St office.

FIRST OFFICE TO CLOSE

The Wellington Processing Centre will be the first office to close on 23 April, and Jan says she wants to acknowledge the great effort from staff that has gone into making the closure as seamless as possible.

Last year's successful start to the transfer of thousands of historic property records to Archives New Zealand is testimony to this effort she says. (See story on page 4)

The Dunedin Processing Centre is due to close in November 2010, and the Auckland centre in January 2011.

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Murphy Saesaria (left), Manager Information Technology, Papua New Guinea Magisterial Services; Stephen Oli, Deputy Chief Magistrate; Clivson Philip, Registrar, Magisterial Services.



Papua New Guinean interest in NZ land title system

Four Papua New Guinean officials have visited LINZ to learn about New Zealand's land title system and Landonline.

The delegation, hosted by the Māori Land Court, was made up of the Deputy Chief Magistrate and three senior officials from the Magisterial Services office in Papua New Guinea.

Their afternoon at LINZ was just part of a full week of information-gathering that will help them establish a new Land Court and, as part of this, a new land title system.

Giving the rundown on Landonline and how the title system works in this country was Lindsay Meehan, Manager National Processing.

"Landonline is a sophisticated piece of technology and the delegates were

impressed with how it allows us to efficiently manage land transactions," Lindsay says.

"They were also very interested in the underlying legal processes and principles that Landonline, as an operational tool, facilitates. Strong interest was expressed in arranging a return visit with representatives from related departments."

Other highlights of the delegates' time in New Zealand include an overview of the Māori Land Court and its core functions, meeting with the chief judge and judges of the Māori Land Court, a cultural tour of pa sites and Māori land, and watching a sitting of the Masterton District Court.

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Archives secondment assists knowledge transfer

As historic LINZ records are put in Archives New Zealand's care, Graeme Scott, from LINZ's Wellington Processing Centre, will be making sure the knowledge around these valuable records is also passed on.



Graeme Scott (left) and Lindsay Meehan inspect old land records now located at Archives New Zealand.

Graeme began a nine-month secondment at Archives New Zealand in February, helping with the transfer of records as part of LINZ's Paper Records Implementation Programme. Graeme, a Property Rights Analyst, began his career with Lands and Survey in 1972 and has a wealth of insight and experience with the records.

"It's an honour," Graeme says. "I'm happy on a personal level to be going to Archives New Zealand to share the kind of knowledge and passion for these records that many of the processing centre staff have and to represent LINZ as an organisation."

The secondment is a shared-funding arrangement between LINZ and Archives New Zealand, and is the result of a sound relationship developed during the course of planning the appropriate processes for relocating LINZ records.

"It became apparent to us that to properly store and preserve these records for the public,

Archives New Zealand needs to have a good understanding of how to navigate them and make best use of them," says Lindsay Meehan, Manager National Processing.

"They are very old records and come with their own idiosyncrasies and complexities. If the records are to remain useful, understanding how they work is vital."

The Paper Records Implementation Programme is designed to ensure LINZ's historical paper records will be preserved and kept accessible for the future. The programme stems from LINZ's operational move to require conveyancers and surveyors to lodge all new land records electronically, through **Landonline**. The programme is expected to be completed by mid 2012.

LINZ is working closely with **Archives New Zealand** to plan for the long-term storage of, and access to, archival records.

"They are very old records and come with their own idiosyncrasies and complexities. If the records are to remain useful, understanding how they work is vital."

For more information...

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Experts focus on Antarctic risks

Chilly Antarctica is becoming a real hot spot for tourists. Risks to people and the environment posed by ship-borne Antarctic tourism were the focus of an experts' conference attended by LINZ.



Would you like ice with your view? A tour group takes to the ice from a cruise vessel.

The Antarctic Treaty Meeting of Experts, held in Wellington in December, was hosted by the Ministry of Foreign Affairs and Trade.

The conference followed eight serious maritime incidents in Antarctica, six of which involved tourist vessels and included the sinking of the *MS Explorer* in November 2007, polluting the area, and the grounding of the *MV Ocean Nova* cruise ship earlier in 2009. Such events illustrate the need for better regulation of Antarctic tourism voyages.

Seventeen member countries of the Antarctic Treaty system were represented at the conference, including France, Chile, Australia and the United States. The treaty, signed in 1959, is an agreement on the peaceful and scientific use of member countries' collective Antarctic territories.

LINZ was represented at the conference by National Geodesist, Graeme Blick, and National Hydrographer, Adam Greenland, who also delivered a presentation on LINZ's hydrographic work in the Ross Sea region – our area of responsibility.

"It was very encouraging to see a range of significant issues being raised, and solutions being worked towards," Graeme notes. "New Zealand is a gateway to Antarctica and, because of our proximity and international obligations, we would likely be involved in any search and rescue operations or threats to the fragile Antarctic environment, such as oil spills in the Ross Sea region."

CHARTING THE LOW SEAS

Adam's presentation focused on New Zealand's role in Antarctic hydrographic surveying and charting.

"New Zealand's responsibility under the Antarctic Treaty System is for the Ross Sea region," explains Adam. "It's LINZ's job to

provide authoritative hydrographic information for this region, primarily for the purpose of safety of navigation."

As Adam points out, less than one percent of the sea area within the 200-metre contour has been adequately surveyed to meet the needs of contemporary shipping entering Antarctic waters.

"At the present time, international survey and charting efforts have been focused around the Antarctic Peninsula. New Zealand's efforts have been focused in the Ross Sea region, for the survey and charting of marine shipping routes and approaches to permanent scientific bases," says Adam.

"It's a challenging part of the world to survey, because of the short window of time available each year (known as the survey season), the expense, the extreme weather conditions, and the presence of sea ice."

While LINZ has produced eight new charts for the Antarctic over the last seven years, many have limited coverage surveyed to modern standards. Tourist vessels – many of which are travelling to more and more Antarctic destinations – need to be aware of the limitations of charts for the Antarctic Treaty area.

"Further research needs to be done to build a comprehensive picture of all shipping activities in the Ross Sea region, including actual landing locations and vessel tracking," Adam says.

"Looking ahead, LINZ will cooperate with national and international departments and the International Hydrographic Organisation to identify areas of significance and develop a prioritised survey plan for the Ross Sea region."

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Science cooperation reaffirmed

New Zealand and the United States have a good history of cooperation on science and technology, especially in Antarctica. This relationship was reaffirmed during a recent series of workshops attended by LINZ.

The 30 US representatives from 13 organisations attending the workshops comprised the largest and most senior US science delegation to ever visit New Zealand.

The aim of the workshops, held around the country, was to identify opportunities for greater cooperation under the USA-NZ bilateral Science and Technology Cooperation Agreement – first signed in 1974.

Graeme Blick, National Geodesist, was there and presented alongside Jerry Mullins of the United States Geological Survey, who coordinates Antarctic, Arctic and Canadian programmes.

“In Antarctica, New Zealand has been collaborating with the US on mapping and surveying since the 1950s,” Graeme says. “Some of the cooperative work we do currently includes unifying a geodetic datum, supplying survey work and advice in support of scientific programmes, as well as place naming and Antarctic geospatial management.”

LINZ data also contributes to specific projects. For instance, data from the tide gauges LINZ monitors and calibrates, and from our continuously operating reference stations, which track land movement, contribute to the POLENET (Polar Earth Observing Network) project. POLENET has involvement from a host of international scientists and engineers who work together in the polar regions to understand how the earth’s surface responds to the changing size of polar ice sheets.

As far as future opportunities go, Graeme and Jerry identified more collaboration in hydrography. Hydrographic surveys are very expensive to carry out in the Antarctic.

“There is a good opportunity to work with the United States to acquire hydrographic information from scientific voyages for charting purposes,” Graeme says.

Collaborative use of other systems such as airborne laser technologies for near shore hydrographic charting is also a possibility.


Participants from both countries represented all areas of focus under the Agreement: ocean and marine sciences, agriculture and food innovation, Antarctic research, climate change, renewable energy, and health innovation.

“Participants from both countries represented all areas of focus under the Agreement: ocean and marine sciences, agriculture and food innovation, Antarctic research, climate change, renewable energy, and health innovation.”

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Karapiro lakeweed control a boost for rowing champs

The biggest names in rowing converge on Lake Karapiro in late October for the World Rowing Championships, in what will be a hugely popular regatta with a strong local and international following.

Events of this standing occur relatively rarely, and significant local, regional and central government funding has been committed to ensuring the world champs are a success. LINZ's lakeweed control programme at Karapiro is one part of this effort.

Hornwort, an introduced and highly invasive lakeweed, has plagued the lake for many years. While extremely difficult to eliminate, LINZ has been working with local agencies and Rowing New Zealand since 2007 to keep the weed under control.

"Mats of hornwort can clog up large areas of the lake, which is not great for swimming and boating activities, and it can get into hydro-electric intakes," says Matt Fanning, LINZ's Northern Region Biosecurity Portfolio Manager.

"Our work is aimed at improving the amenities of the lake, but of course a major driver is the world rowing champs."

Rowing New Zealand tackles the weed with a mechanical harvester on the rowing course itself. The LINZ operation focuses on upstream sites, the aim being to prevent weed mats from floating down onto the course.

"The degree of hornwort infestation is considerable so a strategic approach is required. LINZ targets weed beds which pose the biggest threat but severe weather events can cause large weed beds in upstream tributaries to break up and flow downstream."

Matt says LINZ has a Waikato Regional Council resource consent for spraying up to 100 hectares of weed with Diquat herbicide during each application. The herbicide is applied once a year, usually in March or April to coincide with the weed's peak growing period and when recreational lake use is lower.

"The next treatment is scheduled for April, and this should be enough to hold the weed at bay through winter. The weed recedes naturally in winter when light levels are lower and water temperatures are cooler," says Matt.

"It's a large-scale operation which has required a good degree of coordination and community support. We've had great support from Waipa District Council, Environment Waikato, Rowing New Zealand and the community at large."

Advice and monitoring for the Karapiro programme is provided by the National Institute of Water and Atmospheric Research (NIWA). Matt says LINZ is working with NIWA to develop a tool that will help predict when conditions are optimal for weed control.

"The herbicide doesn't work well when high levels of sediment are present in the water, so the idea is that we come up with a tool that can tell us when conditions are ideal for control work, or that we should delay. It'll be useful for other lakes in New Zealand where Diquat is used."

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Survey reveals Bay of Islands' marine life

A survey of the Bay of Islands' marine life and supporting ecosystems is making good progress.



Deeper water rocky reef, showing a healthy range of encrusting invertebrates, including sponges and bryozoans. In this night-time image the sleeping fish are butterfly perch, and a small pink maomao. Picture: NIWA.

Since August 2009, teams from the National Institute of Water and Atmospheric Research (NIWA) have been gathering field information from the Bay as part of a two-year Ocean Survey 20/20 project coordinated by LINZ.

This work continued through January, and NIWA project leader Dr Mark Morrison says a surprising amount of high quality data has been gathered about the area's fish, marine invertebrates, marine algae, bacteria, sediments, water quality and circulation patterns.

"One of the key observations so far is that there is a higher diversity of plants on the sediment surface than we expected, particularly in soft sediment areas," Dr Morrison says.

Diverse and colourful communities of marine algae have been found in many soft sediment areas, while kelp forests and other seaweeds such as sea rimu inhabit shallower rocky reefs.

Dr Morrison says good numbers of juvenile snapper have been observed in the inner, more sheltered areas of the bay.

"Snapper nursery grounds occur especially over habitats such as horse mussels, and a range of other fish species exist across the wider area. Leatherjackets and red mullet (goatfish) are especially common."

Dr Morrison thanked residents for their interest in and support for the project so far. Information about the Bay's marine biodiversity, water quality and sediments will be made publicly available via a web portal also being developed by NIWA as part of the project.

"The aim is to make the information as widely and publicly available as possible. The huge volume of data collected will serve future research for management of the Bay of Islands, as an important coastal system with a diverse range of habitats and species, and as an iconic tourist destination."

The Bay of Islands project began in 2008 with a comprehensive seabed mapping exercise in the Bay and the eastern Northland coast between Mimiwhangata and Spirits Bay/North Cape.

This work informed the biodiversity sampling phase which began in 2009.

The project, due to be completed in June 2010, is being carried out in conjunction with the Department of Conservation and Ministry of Fisheries, with input from local stakeholders including the Northland Regional and Far North District councils, tangata whenua and Bay of Islands Maritime Park Inc.

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Landscan

Thanks for reading *Landscan*. We hope you enjoy the newsletter's new look, which brings it into line with LINZ corporate publications such as our Annual Report and Statement of Intent, and updates it to a more modern style from its original 1990s layout. *Landscan* is published quarterly and aims to bring you news and views about the Department's activities. If you have any comments or questions about *Landscan*, contact the editor via comms@linz.govt.nz

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