

Natural. Valued. Protected.

Land Information Ontario

December 2009

Check out our new and exciting video that explains LIO on our [About LIO](#) page.

Inside This Issue

Imagery Report	2
Ontario Road Network Report	3
Technology Report	4
Ontario Trail Network Report	5
Ontario Parcel Report	5
Rural Drainage Mapping Website	6

Ontario.ca/lio

Coordinator's Report

Perhaps November had no snow, but December certainly seems to have made up for it. Welcome back to winter!

Thanks to all of you that submitted names for the new public interface for the LIO GeoCoder service that we'll be launching in January. Names that were suggested included some interesting ideas like GeONcoder and Pointuit. Ultimately we selected the name LIOcoder, which was submitted by a Government employee.

From a more personal perspective, I launched a new blog in November 2009 at <http://rsussman.wordpress.com> to tell some of the thought-provoking stories that I come across every day from organizations and individuals that interact with LIO. This is not an official Government of Ontario website, but a forum where you are welcome to interact.

Kudo's to the City of Toronto for its [Open Toronto](#) website and excellent all-day workshop in November. They join an impressive group of other municipalities that have also made their data available. For those of you who immediately accessed both Toronto's Web Map Services (WMS) and similar services available through LIO, you may have discovered that the two do not align perfectly. We are both looking into this problem and hope to have an answer for you shortly.

LIO is very pleased to confirm that Statistics Canada has agreed to align its road network with the Ontario Road Network for the 2016 Census. This is not a trivial task and will take some time to come into effect. However, for the 2011 Census, as a test case, we will be incorporating ORN data received from six Ontario municipalities. So join the ORN initiative and get your data in and updated regularly. By contributing your municipal data to the ORN you will, starting in 2016, be able to perform statistical analysis that combines your data with StatsCan data.

Thanks to everyone who completed our web survey. We're reviewing your comments and suggestions and will be making some changes in 2010.

As always, please consider taking a moment to send us your [suggestions or comments](#) about LIO or any of our communications. Take care, stay well and enjoy the holiday season!

Raphael

Imagery Report

By Mike Robertson

There's been a lot of interest in Ontario imagery products and projects lately. All levels of public sector organizations are realizing the benefits of imagery partnerships and have increased their ability to use imagery to satisfy internal business needs.

The imagery acquisition partnerships that LIO has coordinated over the past few years have saved millions of tax dollars. These projects have demonstrated that public and private sector partnerships provide substantial savings and benefits for all organizations that participate.

The **Digital Raster Acquisition Project-East (DRAPE)** acquisition is now complete. The 20 cm imagery files are nearing completion and we anticipate that all data will be delivered early in 2010. Over 60 public and private sector organizations participated in the partnership and are now using the data. Digital imagery products are new to many of the organizations in eastern Ontario. These organizations now see the value and benefits of imagery and are looking forward to a refresh and update in the future.

The **South Western Ontario Orthophotography Project**

New Data in the Warehouse

Lake Simcoe Protection Act Watershed Boundary

Fisheries Data Catalog – Guelph Area

2010 (SWOOP2010) is a great example of how organizations can participate in a shared funding model to acquire high resolution imagery products. The intent of the SWOOP2010 project is to acquire 20 cm resolution imagery across over 45,000 sq km in southern Ontario.

To date over 70 organizations have committed funding to the project. Costs will be shared through a funding formula that is based on areas of interest for each partner. We're planning for a leaf-off acquisition in the spring of 2010. The imagery products will include imagery tiles as well as stereo pairs. We're requiring a vertical and horizontal accuracy of 50 cm for the data. This requirement will dramatically improve the spatial accuracy of data that is derived from the imagery and will ensure that organizations using those products will be current, accurate and consistent throughout the project area.

Another partnership is being formed in **Central Ontario (Manitoulin Island, Sudbury, North Bay areas)** that is primarily municipally based. This project is being led by a collaborative group made up of municipalities and private sectors organizations.



Satellite Imagery of Toronto

One area that needs to be addressed in the near future is the broader **Greater Toronto Area**. LIO will be engaging organizations across the broader GTA next year to determine the interest and feasibility of developing a public/private sector partnership across this area.

The **Forest Resource Inventory (FRI)** imagery acquisition of 550,000 sq km is almost complete. There are a few

remaining areas that need to be acquired next summer and the products are being delivered to the Ministry of Natural Resources (MNR) as they pass the quality assurance process. The volume of data is enormous and MNR has implemented a 2 petabyte (expandable to 5 petabyte) storage solution to accommodate all the imagery products. Once the FRI project is completed, Ontario will have comprehensive 20 cm imagery coverage for almost all land south of James Bay.

We've been collecting remote sensing data from satellites for some areas of the province, including the Far North. Examples of satellites that MNR is using include QuickBird, GeoEye, WorldView 1&2, IKONOS, SPOT, RadarSat 1&2 and the Shuttle Topographic Radar, to name a few. These satellites offer excellent products that can be used across provincial ministries for a variety of land use planning, natural resources, geological and environmental projects.

LIO is finalizing an Imagery Strategy to ensure a coordinated, sustainable approach to imagery acquisition. The strategy calls for the development of a predictable update schedule for updating imagery on a 4-5 year cycle in defined areas of the province.

We recently added more information on our website about the [imagery projects](#) we're involved with.

For more information on these and other imagery projects, please contact Mike Robertson at mike.robertson@ontario.ca.

Ontario Road Network Report

By Carol-Anne Albertson

In order to better support partner organizations and stakeholders, the existing ORN Road Net Element (ORN LRS) was enhanced in February 2009

to simplify and streamline the LRS model and conform to Natural Resources Canada's [National Road Network \(NRN\)](#).

Based on modifications to the ORN LRS, the **ORN Segmented with Address** data class will be re-modeled to assure consistency and increase functionality. A [technical bulletin](#) was sent to all users describing the changes to the model. We

expect the re-modelled ORN Segment with Address data class will be available from the LIO Warehouse by February 2010.

For more information about the Ontario Road Network or any questions around the remodelling of the ORN Segment with Address, please contact Carol-Anne Albertson at carolanne.albertson@ontario.ca.



Check it out!

[Data in the LIO Warehouse](#)

Technology Report

By Chris Eckstein and Bruce Wurtele

We're very excited about the changes currently taking place and plans underway to evolve the LIO applications and services suite.

This past fall, a new release of the LIO Security Assertion Markup Language (SAML) Web Service was implemented to accommodate recent modifications to databases in the LIO warehouse. The web service provides seamless, controlled access to several data classes having sensitivity or licensing restrictions, including the Ontario Parcel.

As many of you already know, another important service in the LIO suite is the GeoCoder Web Service that has been available for many years. Development efforts, based on client-driven requests to include the ability to handle bulk addresses, were initiated this past summer to develop a web-based application to accept address inputs in a variety of formats and output geocoded results. This new application is called the LIOcoder and will be made available soon. The LIOcoder has the ability to interactively map geocoded results.

On the Technical Corner of the LIO website, users can find information about LIO Warehouse standards, data standards and specifications,

and additional reports. [New and enhanced documentation](#) has recently been published on the website to consolidate access to the data dictionaries and data models for every class in the warehouse. The information includes the applicable LIO Web Map Service (WMS) for over 100 data classes. This should prove to be a great resource for anyone wishing to access LIO's WMS.

Work on the GIS Application Architecture Renewal Project to modernize the LIO application portfolio is progressing very well. Our development teams have produced a prototype for LIO's new web mapping tool, using new technologies for rich internet applications. The software evaluation for the new metadata tool is progressing well with a technology decision forthcoming very shortly. Both of these projects are on track to implement next spring. The new simplified design for the LIO warehouse is also nearing completion and detailed implementation planning is underway.

For more information, please contact chris.eckstein@ontario.ca or bruce.wurtele@ontario.ca.



Ontario Trail Network Report

By Carol-Anne Albertson

To help Ontarians get active and stay healthy, LIO is supporting the Ministry of Health Promotion's [Ontario Trails Strategy](#).

To help Ontarians get active and stay healthy, LIO is supporting the Ministry of Health Promotion's Ontario Trails Strategy. We're working with trail organizations to collect trail information in a mapping database called the Ontario Trail Network (OTN).

The OTN currently has information on more than 15,000 kms of trails across Ontario! It will eventually include information on ALL trails in urban, rural and wilderness settings, including natural trails, bicycle routes, walkways,

boardwalks, sidewalks and portage routes across Ontario.

In order to assist in the collection we've developed a web map called [Do We Have Your Trail?](#) that shows trail locations that we currently have in our mapping database. Check it out to see if we have your trail. If we don't, let us know at trails@ontario.ca and we'll make sure it gets added!

For more information about the Ontario Trail Network please contact Carol-Anne Albertson at carolanne.albertson@ontario.ca.



Ontario Parcel Report

By Carla Jordan-Cooke

As of October there are more than 4 million assessment parcel layers in the LIO Warehouse. We now have 70 organizations that have signed the Ontario Parcel sublicensing agreement and are accessing the parcel data.

I thought I would take this opportunity to profile how the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) is currently using Ontario Parcel data.

Farmers or consultants submit plans or strategies to OMAFRA explaining how they're going to manage nutrients that are generated or received on specific farm parcels. OMAFRA

uses an Intranet website to locate the parcels identified in the plans or strategies and verify whether the statements and sketches provided, including proximity to surface water, distance to other parcels, etc., are consistent with mapping information stored within provincial Geographic Information Systems (GIS). The parcel fabric with the tax roll number as the key attribute is used to geographically locate the positioning of the farms involved in the plan or strategy.

For more information about the Ontario Parcel, please contact carla.jordan-cooke@ontario.ca.

Rural Drainage Mapping Website

By Bob Steiss, Senior GIS Specialist, Environmental Management Branch, Ontario Ministry of Agriculture, Food and Rural Affairs

As part of the Government of Ontario’s move to make its information open and available, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is very pleased to announce its [Rural Drainage Mapping Website](#).

This interactive web application was developed by OMAFRA and its ministry partners in response to requests from our very enthusiastic rural drainage community, including:

- Land Owners
- Licensed Land Improvement Contractors
- Drainage Consultants and Engineering Companies
- Drainage Superintendents
- Conservation Authorities
- Lower and Upper Tier Municipal Governments
- Provincial Government Ministries
- Federal Government Departments

The website provides users with a provincial view of known rural drainage information as it is stored today in the [Land Information Ontario \(LIO\) Warehouse](#). We’re looking for contributions and feedback from the users and stakeholders of this data so that OMAFRA can improve the quality and quantity of rural drainage information stored in the warehouse and viewable on the website.

Agricultural drainage is an important component of a viable and competitive agricultural industry in Ontario. Licensed agricultural tile drainage contractors create plans for numerous agricultural tile

drainage systems and install thousands of feet of agricultural drainage tile each year. As a requirement of their license, each contractor must report the location of the area that has been tiled to OMAFRA. These areas are stored in the [LIO Warehouse](#) as features of the “Tile Drainage Area” layer. The tile drain data will evolve to a digital database that is spatially accurate, seamless throughout Ontario, current and easily accessible.

Good tile drainage information allows for more knowledgeable decision making. Improved decision making can increase

agricultural profitability, assist in future drainage planning, and aid in the siting of agricultural facilities.

“Constructed Drains” are watercourses in the form of ditches, natural watercourses that have been modified to improve drainage, or buried tile systems. Dykes and pumping stations may form a component of these constructed drains.

OMAFRA has created a spatial database of drains in the LIO Warehouse that can easily be updated with watercourse data from other partner agencies. Partner agencies, each with its own responsibility and interest in inland waters which include constructed drains, are the Ontario Ministry of Natural Resources, Municipalities, the Department of Fisheries and Oceans, and Conservation Authorities.

Enhanced drainage data allows users to make more knowledgeable observations and decisions about current drainage

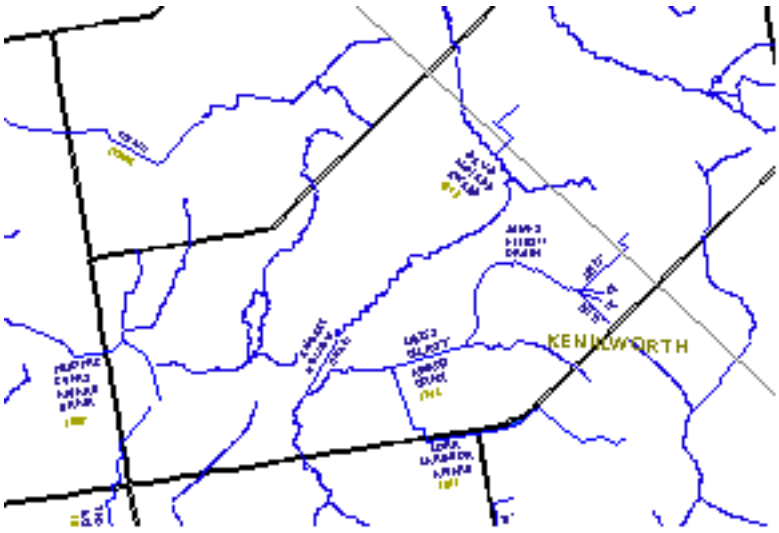


Figure 1. Drains in a portion of Kettle Creek watershed



conditions, future drainage plans, and environmental conditions. When integrated with watercourse data describing fish habitat, flow direction, water quality and quantity, this project will assist future water management programs.

In 2005, OMAFRA initiated a program to support drainage activities performed under the [Drainage Act](#) to help reduce flooding, crop and property damage, and improve safety. The program included clear funding criteria to maximize the use of taxpayers’ dollars by:

Providing grants to agricultural landowners for up to one third of the costs for new drain construction or improvement projects. Covering up to two-thirds of the costs for this work in Northern Ontario.

Providing grants to municipalities to cover one half of the cost of employing a drainage superintendent. Clarifying what parts of a drainage project are eligible for grants.

The ministry typically pays grants on approximately 250 drain construction/improvement projects and approximately 1,500 maintenance projects annually, involving thousands of agricultural properties.

If you would like to contribute rural drainage information please contact [OMAFRA GIS](#).

For answers to questions... please contact:

OMAFRA’s [drainage website](#) contains links to general information about Agricultural

Drainage Infrastructure and the [Drainage Act](#). If you are not able to find a link that resolves your question, please contact:

Your local municipality, with questions regarding municipal drainage infrastructure. [Department of Fisheries and Oceans](#) (DFO), with questions regarding the Municipal Drain Class Authorization Process. [OMAFRA](#), with any other questions about rural drainage information.

If you would like further information about any particular data layers you can go to each through the hyperlinks shown on the side of the website. Alternatively, you can contact [LIO](#) with questions about data stored in the LIO Warehouse.

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Welcome New Data Exchange Members

- Corporation of the Township of Chisholm
- City of Kenore
- Mercyhurst College
- Corporation of the Township of Central Frontenac
- Waste Diverson Ontario
- Sault Ste. Marie North Planning Board