

APRIL - MAY 2001



Summary

Coming Soon - The Spatiocarte du Québec!

The *Ministère des Ressources naturelles* is delighted to announce that the 130 georeferenced image files making up the *Spatiocarte du Québec* will be available at the end of April from the *Photocartothèque québécoise*. Each satellite image map, in GEOTIF format, will be accompanied by metadata files and an interpretation guide.

For further information, see the February-March 2001 edition of [GÉOinfo](#) or contact the Photocartothèque québécoise.

<http://www.mrnfp.gouv.qc.ca/photocartotheque>

L'Atlas québécois de la culture et des communications

Geomatics and the Internet: Synergy at the Service of the General Public

Last November, the *Ministère de la Culture et des Communications* (MCC) launched the *Atlas québécois de la culture et des communications* on the Internet. This new reference tool is designed for use by students, researchers, professionals and others with an interest in extending the influence of culture and communications in Québec. With its maps, keys, easy-to-consult charts and search engine, it combines all the features of the traditional atlas with a user-friendly Internet approach and geomatics data processing.

Flood-risk Areas: A New Perspective

Following the events that affected the Saguenay region during the July 1996 floods, the *Commission scientifique et technique sur la gestion des barrages* (technical and scientific dam management board) submitted a report to the Québec government in which it proposed a certain number of measures to prevent or limit flood damage in the future. The measures include the implementation of a program to determine the height of 20- and 100-year floods. The purpose of the

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GÉOinfo is a bimonthly Internet newsletter produced by the Plan géomatique du gouvernement du Québec, PGGQ team. Its articles principally address current issues in the field of geomatics within the government of Québec.

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new program, known by its French acronym PDCC, is to support regional county municipalities (RCMs) in their task of determining flood-risk areas, mainly on sections of rivers never considered under the old mapping program.

[Article](#)

SYREQ, A Vital Tool for Converting Reference Systems and Transforming Coordinates

Last December, the *Direction générale de l'information géographique* of the *Ministère des Ressources naturelles* (MRN) launched a new software program known as SYREQ. SYREQ is a utility that converts the geodesic reference systems (Datum) NAD27, NAD27 (CGQ77), NAD83 and NAD83 (SCRS) and transforms geographical and rectangular coordinates, which are the most commonly-used in Québec. The software runs on Windows and replaces Quadint and Transcor, which ran on DOS. It can be used between 44 degrees 55 minutes and 63 degrees of latitude north, and between 56 degrees and 80 degrees of longitude west.

Topographic Mapping Standards to a Scale of 1:20 000 Now Available on the Web

The official reference document for the production and use of topographic data to a scale of 1:20 000, managed by the *Service de la cartographie topographique*, *Ministère des Ressources naturelles* (MRN), is now available free of charge on the Web.

Raster Maps: A New and Welcome Addition

The *Ministère des Ressources naturelles* (MRN) has developed a partially automated, fairly straightforward method for converting map information from vector databases into georeferenced raster maps. These raster maps, which are simply images composed of pixels, can be used in a variety of computer environments. Thanks to the method, the MRN, using the *Base de données topographiques et administratives* (BDTA), has been able to produce a series of 141 raster maps to a scale of 1:250 000, covering the entire province. Only 12 hours of processing time was needed.

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Comments

✉ [Marie-Josée Gallien](#)

[Article](#)

NUMÉRIMAGE

Geology Connects to Remote Sensing

For geologists who need to select satellite images as part of their fieldwork, the CD-ROM entitled *Guide d'intégration des données de télédétection et géoscientifiques* is a welcome new tool. It helps them make an informed choice among the many satellite image products available on the market by identifying the most appropriate images according to the specific features of their projects.

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Events of Interest


2001

La conférence de Montréal

7th International Forum on the New Economy
Seminar: "La géomatique et les ressources naturelles", Friday, April 20

When: April 17-20, 2001

Where: Queen Elizabeth Hotel, Montreal (Québec), Canada

 1 888 772-5142

 conference@conferencedemontreal.com


 <http://www.conferencedemontreal.com>

IMTA of the Americas Annual Conference & Trade Show


Organization: International Map Trade Association

When: April 19-21, 2001

Where: Washington (DC), U.S.A.

 (815) 939-4627

 imta@maptrade.org

 <http://www.maptrade.org/washington/washington.html>

"Gateway to the New Millenium"

Organization: American Society for Photogrammetry and Remote Sensing (ASPRS)

When: April 23-27, 2001

"Remote Sensing in the Third Millennium: From Global to Local"


23rd Canadian Symposium on Remote Sensing, held in conjunction with the 10th Congress of the Québec Remote Sensing Association


Organization: Canadian Remote Sensing Society and Québec Remote Sensing Association

When: August 20-24, 2001

Where: Université Laval, Pavillon Desjardins, Sainte-Foy (Québec), Canada

Information: Marie Juneau

 (613) 234-0191

 casi@casi.ca

 <http://www.casi.ca>


"GIS - The Currency for Modern Governments"

URISA 2001 The First Caribbean GIS Conference


Organization: Urban and Regional Information Systems Association (URISA)

When: September 9-12, 2001

Where: Wyndham Rose Hall, Montego Bay, Jamaïque

 (847) 824-6300

Where: Adam's Mark Hotel, Saint-Louis (Missouri), U.S.A.

 (301) 493-0290 #109

 tbattee@asprs.org

 <http://www.asprs.org>

Minespace 2001


103rd Annual General Meeting

Organization: Canadian Institute of Mining, Metallurgy and Petroleum and Canadian Space Agency, in cooperation with the Association professionnelle des géologues et des géophysiciens du Québec

When: April 29-May 2, 2001

Where: Convention Centre, Québec City (Québec), Canada

Some of the conferences relate to remote sensing applications

 1 800 667-1246

 Smajor@cim.org

 <http://www.minespace2001.org/>


"Technology - Making Public Works - Work Better"

Technology in Public Works Conference


Organization: Urban and Regional Information Systems Association (URISA)

When: May 6-8, 2001

Where: Holiday Inn O'Hare International, Rosemont (Illinois), U.S.A.

 (847) 824-6300

 info@urisa.org

 http://www.urisa.org/publicworks2001/public_works_01_exhibitor_prospectus.htm


"Carto 2001 - Cartography, Professions and Perspectives"

Organization: Canadian Cartographic Association (CCA) and Association of Canadian Map Libraries and Archives (ACMLA)

When: May 30-June 2, 2001

Where: Université du Québec (UQAM), Montreal (Québec), Canada

 info@urisa.org


 <http://www.urisa.org/2001Caribbean/caribbeanprelim.htm>

22nd Annual CIUG Education Forum


Organization: Canadian Intergraph Users Group (CIUG)

When: September 16-19, 2001

Where: Calgary (Alberta), Canada

 (403) 569-5562

 bartzr@novachem.com


 <http://www.ciug.ca/conference/conference.htm>


GITA 2001 GIS for Oil & Gas Conference


Organization: Geospatial Information and Technology Association (GITA)

When: September 17-19, 2001

Where: JW Marriott Hotel, Houston (Texas), U.S.A.

 (303) 337-0513

 staff@gita.org


 http://www.gita.org/events/conferences/oil_gas/01og/01oilgas_open.html


GIS 2001 - GIS and Location Based Services

Organization: Association for Geographic Information (AGI)

When: September 18-20, 2001

Where: Earls Court 2, London, England

 020 8987 8884




 <http://www.iebusiness-2dforums.com/gis/2001/>

1^o Congreso Nacional De Geomática

Organization: Universidad de Guanajuato - Facultad de Ingenieros Topógrafos e Hidráulicos

When: September 19-21, 2001

Where: Hotel Gran Plaza, Guanajuato (Gto.), Mexique

 (514) 522-5715
 acsg_mtl@mblink.net
 <http://www.geo.uqam.ca/carto2001/carto2001.htm>

KIS 2001




The International Symposium on Kinematic Systems in Geodesy, Geomatics and Navigation

Organization: University of Calgary - Department of Geomatics Engineering et U. S. Institute of Navigation

When: June 5-8, 2001

Where: Banff Center, Banff (Alberta), Canada

Information: Marguerite Anderson

 (403) 220-4982
 marguerite@geomatics.ucalgary.ca
 <http://www.geomatics.ucalgary.ca>

"CoastGIS 2001 - Managing the Interfaces"

Organization: International Cartographic Association (ICA)

When: June 18-20, 2001

Where: Saint Mary's University, Halifax (Nova Scotia), Canada

 coastgis2001@agc.bio.ns.ca
 <http://agc.bio.ns.ca/coastgis2001>




GeoSpatial World 2001 International Conference

Organization: Intergraph GeoSpatial User Community

When: June 18-20 2001

Where: Renaissance Waverly Hotel, Atlanta (Georgia), U.S.A.

 1 800 791-3357
 iguc@intergraph.com
 <http://www.intergraph.com/gis/community/geospatialworld/>




 (01-4) 732-18-13
 victor@quijote.ugto.mx
 <http://usic13.ugto.mx/geomatica>

NESTVAL 2001 - A Spatial Odyssey

Organization: New England - St. Lawrence Valley Division of the Association of American Geographers

When: October 19-21, 2001

Where: Bridgewater State College, New Bedford and Fairhaven (Massachusetts), United States


 (508) 697-1351
 gmiller@bridgew.edu
 <http://www1.wsc.ma.edu/nestval/>

"URISA 2001 39th Annual Conference and Exposition"

Organization: Urban and Regional Information Systems Association (URISA)

When: October 20-24, 2001

Where: Convention Center - Hyatt, Long Beach (Californie), U.S.A.




 (847) 824-6300
 info@urisa.org
 <http://www.urisa.org/annual.htm>

GIS/LIS Annual Conference & Expo Organizer

Organization: Geospatial Information & Technology Association (GITA)

When: October 21-25, 2001

Where: Long Beach (Californie), U.S.A.

 (303) 337-0513
 staff@gita.org
 <http://www.gita.org>

ASPRS Digital Elevation Model (DEM) Specialty Conference

Organization: ASPRS and the Management Association for Private Photogrammetric Surveyors (MAPPS)

When: October 31-November 2, 2001


"Digital Earth 2001: Beyond Information Infrastructure"

2nd International Symposium on Digital Earth
The 3th Conference of the Géoide Network
and the conference of the Atlantic Institute
will be held alongside the event.

Organization: New Brunswick section of the
Canadian Institute of Geomatics

When: June 24-28, 2001




Where: Fredericton (New Brunswick),
Canada

 1 866 334-4825
 info@digitalearth.ca
 <http://www.digitalearth.ca>

21st Annual ESRI International User Conference

When: July 9-13, 2001

Where: San Diego Convention Center, San
Diego (Californie), U.S.A.

 (909) 793-2853 #1-1363
 uc2001@esri.com
 <http://www.esri.com/events/uc/>

Mapping the 21st Century

20th Conference of the International
Cartographic Association (ICA)




Organization: International Cartographic
Association (ICA)

When: August 6-10, 2001

Where: Beijing, China

 +86-10-6833 9095
 icc2001@sbsm.gov.cn
 <http://www.icaci.org/>

Where: St. Petersburg (Floride), U.S.A.



 (301) 493-0290 #106
 meetings@asprs.org
 [http://www.asprs.org/
dem_conf_press_release.pdf](http://www.asprs.org/dem_conf_press_release.pdf)

Joint Workshop on Remote Sensing and Data Fusion over Urban Areas

Organization: Institute of Electrical and
Electronic Engineers and International
Society for Photogrammetry and Remote
Sensing

When: November 8-9, 2001

Where: Faculty of Engineering, University of
Rome "La Sapienza", Rome, Italy

 urban_2001@ele.unipv.it
 http://tlc.unipv.it/urban_2001

MapWorld 2001 Worldwide Conference

When: November 10-15, 2001

Where: Renaissance Orlando Resort à
SeaWorld, Orlando (Floride), U.S.A.



 (518) 285-7411
 conferences@mapinfo.com
 [http://www.mapinfo.com/company/
events/
conferences/index.cfm](http://www.mapinfo.com/company/events/conferences/index.cfm)

Geography Awareness Week

Organization: National Geographic Society

When: November 10-17, 2001



Where: See the list of events on the Web site

 gaw@nationalgeographic.com
 [http://magma.nationalgeographic.com/
education/gaw/about.html](http://magma.nationalgeographic.com/education/gaw/about.html)

GIS Day 2001 (Open House on GIS)

When: November 14, 2001

Where: See the list of events on the Web site

 sitemanager@gisday.com
 <http://www.gisday.com>


2002

2002 GITA Annual Conference XXV

Organization: Geospatial Information and Technology Association (GITA)

When: March 17-20, 2002

Where: Tampa Convention Center, Tampa (Florida), U.S.A.

 (303) 337-0513

 staff@gita.org


 http://www.gita.org/events/conferences/gita_annual/02_25/02_25_open.html

The 98th AAG Annual Meeting

Organization: American Association of Geographers (AAG)

When: March 19-23, 2002

Where: Los Angeles (California), U.S.A.

 (202) 234-1450

 gaia@aag.org


 <http://www.aag.org>

2002 ASPRS-ACSM Annual Conference and FIG Congress


Organization: American Society for Photogrammetry and Remote Sensing (ASPRS)

When: April 22-26, 2002

Where: Washington (DC), U.S.A.

 (301) 493-0290 #106

 meetings@asprs.org

 <http://www.asprs.org/asprs/meetings/upmeeting.html>

 <http://www.fig2002.org>


"Pattern Recognition for Mankind and the Environment"

16th International Conference on Pattern Recognition

Organization: International Association for Pattern Recognition and Canadian Image Processing and Pattern Recognition Society

When: August 11-15, 2002

Where: Convention Centre, Québec City (Québec), Canada

 (418) 656-2979

 <http://icpr2002.gel.ulaval.ca/>


2003

The 99th AAG Annual Meeting

Organization: American Association of Geographers (AAG)

When: March 4-8, 2003

Where: Nouvelle-Orléans (Louisiane), U.S. A.

 (202) 234-1450

 gaia@aag.org


 <http://www.aag.org>

2003 GITA Annual Conference XXVI

Organization: Geospatial Information and Technology Association (GITA)

When: March 23-26, 2003

Where: Kansas City Convention Center, Kansas City (Missouri), U.S.A.

 (303) 337-0513

 staff@gita.org


 http://www.gita.org/events/conferences/gita_annual/futconf.html

2003 Annual ASPRS Conference

Organization: American Society for Photogrammetry and Remote Sensing (ASPRS)

When: May 3-9, 2003

Where: Anchorage (Alaska), United States

 (301) 493-0290 #106

 meetings@asprs.org

 <http://www.asprs.org/asprs/meetings/upmeeting.html>

IFS Working Week and XXVI General Assembly

Organization: International Federation of Surveyors

When: May 19-23, 2003

Where: Eilat, Israel

 <http://www.ddl.org/figtree/events/events2003.htm>

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Article

Flood-risk Areas: A New Perspective

by Paula Bergeron
and Christian Lord

Following the events that affected the Saguenay region during the July 1996 floods, the *Commission scientifique et technique sur la gestion des barrages* (technical and scientific dam management board) submitted a report to the Quebec government in which it proposed a certain number of measures to prevent or limit flood damage in the future. The measures include the implementation of a program to determine the height of 20- and 100-year floods. The purpose of the new program, known by its French acronym PDCC, is to support regional county municipalities (RCMs) in their task of determining flood-risk areas, mainly on sections of rivers never considered under the old mapping program.

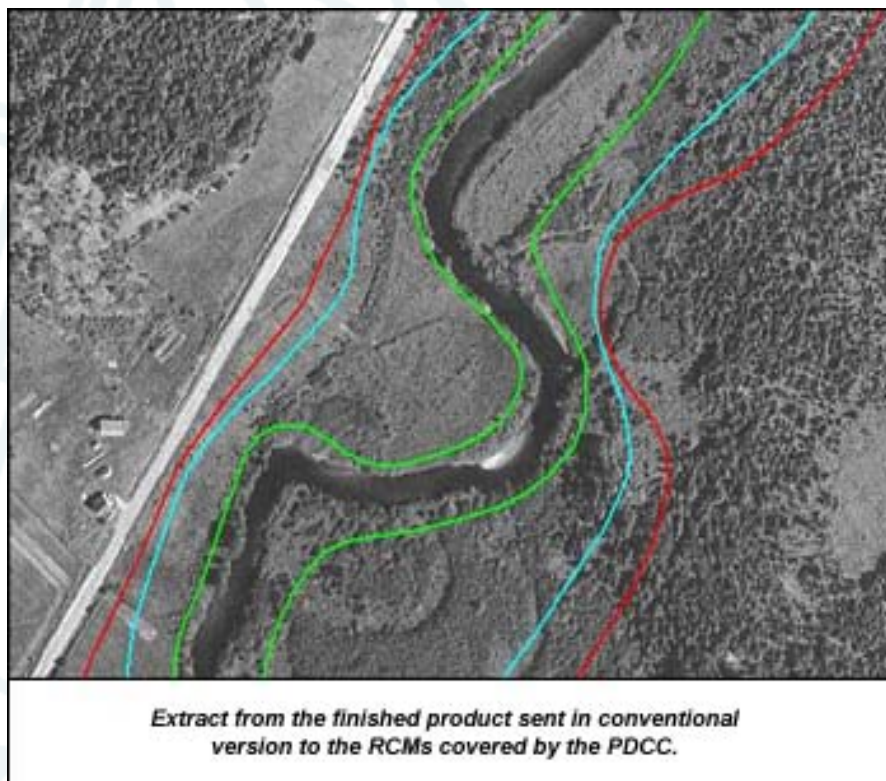
The Flood Hazard Mapping Program (1976-1996), resulting from an agreement between the federal and provincial governments, was abolished in 1996, ending 20 years of flood hazard mapping efforts and leaving a void in government support to municipalities. Under the new PDCC, the heights of 20- and 100-year floods will be established for approximately 200 sections of watercourses in Quebec (including lakes), and will become official once transferred to the RCMs. The RCMs will then be required to incorporate the information into their management programs or implement interim regulations. The speed of the integration process will enable municipalities to protect flood-risk areas by means of municipal by-laws.

The initial deliverable from the program was the publication of recurrent flood heights based on a longitudinal profile, i.e. a chart illustrating flood values. However, to help land managers interpret the figures, the PDCC team also decided to develop a second, more explicit product. After studying various ways of presenting the information, it was decided to produce plan views of heights for river sections, with a view to preparing a map of flood-risk areas.

The Ministère de l'Environnement (MENV) will use innovative technology to ensure that riverbank flood heights are transferred accurately. This involves a digital elevation model (DEM) captured with airborne laser technology along a 200-m swathe on both sides of the rivers under study. The technique will also make it possible to carry out studies based on more complete information about the flood plain. The equipment, operated by Lasermap Image Plus Inc., uses a high-precision laser scanner georeferenced by differential GPS and coupled to an inertial platform. The density of the points surveyed on the ground is about 1 point per 3 m², with planimetric and altimetric accuracies of about 20 cm. This level of density makes it possible to reproduce the contours accurately, so that established heights can be positioned along the rivers.

The product obtained is then represented on an orthophoto, so that the flood-risk areas and corresponding heights can be displayed and assessed quickly. The orthophoto, available for public use at the Photocartothèque québécoise (Ministère des Ressources naturelles), was created using a large number of aerial photographs to a scale of 1:40 000. Enlarged to a scale of 1:2 000, it provides a high-quality representation. The orography designed from the DEM and the recurrent flood levels obtained from PDCC studies are then transposed onto the orthophoto.

This new component of the PDCC program will begin in spring 2001 under the authority of the Ministère de l'Environnement, but will be implemented jointly by the private sector, the Ministère des Ressources naturelles and the Ministère de l'Environnement.



In addition to mapping flood levels, the project represents a significant step forward in the implementation of geomatics information on flood-risk areas at both the provincial and municipal levels. All the digital products derived from this cutting-edge technology will find many applications in the areas of land-use management, civil protection (emergency

measures planning) and analysis of landslide zones. A Web site on the topic will also be created.

The impact of this innovative project clearly shows that geomatics is an excellent tool capable of developing promising solutions for land managers.

Information:

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Ministère de l'Environnement



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Article

Raster Maps: A New and Welcome Addition!

by Chantal Seuthé

The Ministère des Ressources naturelles (MRN) has developed a partially automated, fairly straightforward method for converting map information from vector databases into georeferenced raster maps. These raster maps, which are simply images composed of pixels, can be used in a variety of computer environments. Thanks to the method, the MRN, using the *Base de données topographiques et administratives* (BDTA), has been able to produce a series of 141 raster maps to a scale of 1:250 000, covering the entire province. Only 12 hours of processing time was needed.

Vector or Raster?

Not all users of map products have the software required to manipulate vector databases, which are composed of points, lines and polygons with associated attributes. As a result, they have to resort to paper maps if they want to view a specific area. If the area of interest is significant, they may have to consult a large number of maps, which can be tiresome. Furthermore, paper maps are less flexible than the digital product when it comes to superimposing additional information on a base map.

The raster digital map (or image) offers a solution for users in situations such as this. In fact, raster maps can be used in a variety of computer environments.

A Quick and Simple Method

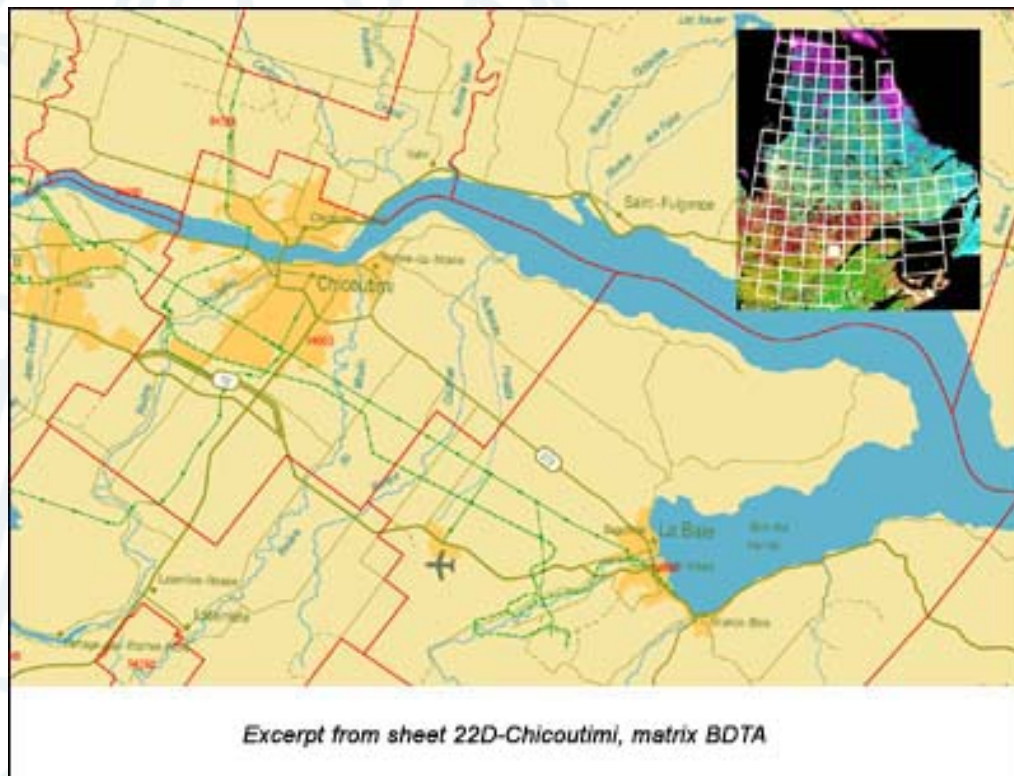
While a range of optomechanical scanning processes can be used to convert paper maps

into digital images, direct conversion from the database is clearly more effective. It eliminates additional production steps as well as problems due to image calibration and loss of accuracy resulting from paper distortions.

The method developed by the MRN works directly from the database without the need to create paper maps¹. In the first step, the database and index are used to produce parameter files that provide the map reference frame for the raster maps to be produced: coordinates of the corners, dimensions, and resolution. In the second step, the database is used to simulate the creation of paper maps and to produce a PostScript plotter file. The third step consists in raster conversion using the parameter and plotter files.

This quick, straightforward method of producing georeferenced raster maps has proved to be highly effective in converting BDTA data. The 1:250 000-scale maps it produces are of excellent quality. They are digital images in TIFF format and in 256 colors, with a pixel size of 25 m, measuring approximately 6 000 columns by 5 000 lines. The positioning accuracy of the map elements is about 1 pixel. The 141 raster maps are stored on a single CD-ROM entitled *Le Québec et ses limites administratives*. This user-friendly tool, which has many applications, is compatible with a wide range of computer environments including:

- Software commonly used in geomatics for specialized applications (ArcView, MapInfo)
- Viewing software (Image Handler)
- Desktop publishing software (Corel Draw)
- Office automation software (Word, Acrobat Reader)



This method has also been used to produce a raster series from other reference databases, including the Base de données géographiques et administratives du Québec ([Le Québec à](#)


[l'échelle 1/1 000 000 cartes générales et administratives](#)) and the [Base de données topographiques du Québec](#) (BDTQ) à l'échelle 1/20 000.

These raster maps, which can be purchased from the *Photocartotheque québécoise*, will make digital map products available to a greater number of users.

(1) An article entitled *Une méthode innovatrice pour la production de cartes matricielles géoréférencées*, presenting the method in greater detail, is available from André Grenon.

Information:

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Direction générale de l'information géographique
Ministère des Ressources naturelles

 (418) 627-6284

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