



www.dmtispatial.com

Canadian Atlas Map Bundle

User Manual

Version 1

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really
smart
spatial
solutions™

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About DMTI Spatial™

DMTI Spatial™ Inc. is Canada's leading Location Intelligence provider. We enable users to understand their customers, optimize resources, realize opportunities, maximize profitability and make more informed decisions through accurate products and innovative thinking.

DMTI Spatial publishes precision built street map, rail and routing data (CanMap®), a detailed water layer, and innovative geocoding and address management software (GeoPinpoint™). In addition, DMTI Spatial publishes a full range of positionally accurate geospatial data products including: enhanced points of interest (EPOI), census data and boundaries, postal geography, topographic maps, and US mapping data. As part of a complete business geographic solution, DMTI Spatial™ offers a wide range of GIS services, consulting, and software training.

Established in 1994, DMTI Spatial is committed to setting the standard within the GIS industry for precision built geo-spatial data and address management services.

At DMTI Spatial, we believe that our true strength comes from working closely with our customers and providing innovative solutions to meet their strategic business objectives. As Canada's premier spatial solutions provider we pride ourselves with having worked with North America's leading organizations to support their mission critical applications.

DMTI Spatial works with large and small organizations representative of a wide variety of industries:

- Agriculture
- Banking/Finance
- Consulting
- Education
- Emergency Services
- Engineering
- Environmental
- Forestry
- Government
- Health
- High Technology
- Insurance
- Manufacturing
- Media
- Mining
- Real Estate
- Retail
- Telecommunications
- Transportation
- Utilities

We are a member of the ESRI Canada Business Partner Program, and winner of the 2001 ESRI Worldwide New Business Partner of the Year Award and the 2005 ESRI Foundation Partner of the Year Award. We are a strategic business partner of MapInfo and winner of the Markham Board of Trade 2000 Award for Entrepreneurship and Innovation. Recipient of The Association of Canadian Map Libraries and Archives (ACMLA) 2002 Certificate of Appreciation.



Really Smart Spatial Solutions™

Through the application of its products and services, DMTI Spatial™ has been involved with projects such as: location-based services, logistics planning, emergency dispatch, facilities management, data management, customer care, address management, land base development in support of network planning, and marketing/demographic analysis applications.

DMTI Spatial™ can provide all of the components necessary for the acquisition, implementation, operation and maintenance of a successful GIS system within companies of all sizes. Through its product and service offering, DMTI Spatial™ can provide users with 5 key components:

1. Accurate, detailed, and compatible data
2. Comprehensive maintenance program
3. GIS software
4. Consulting and services
5. Software training

DMTI Spatial™ Product & Service Portfolio

DMTI Spatial's product & service offering includes:

CanMap® - Digital Map Data for Canada

- CanMap® Streetfiles
- CanMap® RouteLogistics
- CanMap® Rail
- CanMap® Major Roads and Highways
- CanMap® Parks & Recreation
- CanMap® Water

Satellite Imagery

- Satellite StreetView™

Municipal Amalgamations

- CanMap® Municipality Amalgamation File (MAF)

Business & Recreational Points of Interest

- Enhanced Points Of Interest (EPOI)

GeoPinpoint™ Suite

- Canada's Geocoding Solution
- Modular Architecture
- Windows Standalone Desktop Version
- UNIX, Java Wrapper, ActiveX (DLL Version)

Topographic Data and Base Maps

- Canadian Atlas Map Bundle (CAMB)
- Populated Placenames
- National Topographic Data Base (NTDB)
- 30 & 90m Digital Elevation Models (DEM)
- Clutter Data

Postal Geography – Platinum Postal Code^{OM} Suite

- Six-Digit Postal Code File (LDU Boundary)
- Enhanced Postal Code File (MEP)
- Forward Sortation Areas (FSA) Boundary

1996 Census Boundaries & Demographic Data

- Enumeration Area (EA)
- Census Subdivision (CSD)
- Census Division (CD)
- Census Metropolitan Area/Census Agglomeration (CMA/CA)
- Census Tract (CT)
- Federal Electoral Districts (FED)

2001/6 Census Boundaries

- Dissemination Area (DA)
- Census Subdivision (CSD)
- Census Division (CD)
- Census Metropolitan Area/Census Agglomeration (CMA/CA)
- Census Tract (CT)
- Federal Electoral Districts (FED)

GIS Software

- Contour Modeling and Display
- Demographic Profiling and Lifestyle Targeting
- Geocoding and Mapping Software
- Routing and Logistics

Consulting and Services

- Address Management Solutions
- Application Development
- Database Marketing
- Data Conversion and Creation
- Database Scrubbing
- Geocoding Services
- GIS Consulting
- Technical Support

* Postal Code is an official mark of Canada Post Corporation

Technical Support, Error Reporting & Product Enhancement Services

DMTI Spatial is committed to building the best products possible for our customers. By using our data every day in your mission critical application you are our best source for product refinement. Please let us know if you have an enhancement request or found an error in any of our products so that we can make the correction for the next release.

This is your opportunity to provide feedback directly to the DMTI Spatial Product Development Team. Please be as specific as possible so that we can improve our products quickly and accurately. To submit an error or request technical assistance please visit:

<http://www.dmtispatial.com/en/Resources/TechSupport.aspx>

If you have an idea for a new product, or an enhancement request for an existing product, please e-mail: pm@dmτισpatial.com

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Technical Support: <http://www.dmtispatial.com/helpdesk/index.aspx>

Trademarks and Notices

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About the Canadian Atlas Map Bundle (CAMB)

The Canadian Atlas Map Bundle consists of the National Atlas Information Service (NAIS) 1:2 million, 1:7.5 million, and 1:30 million scale digital maps created by Natural Resources Canada (NRCan) for the National Atlas of Canada publication.

Also included are DMTI's Populated Placenames and Landmarks files that are based on the Canadian Geographic Names Database, also from NRCan. The NAIS 1:2 million-scale dataset provides detailed provincial or regional maps. The 1:7.5 and 1:30 million scale digital datasets provide excellent map data at a national level. The Populated Placenames file provides a rich and extensive database of cities, towns, villages and hamlets across Canada. The Landmarks file includes the names and locations of named geographic features, such as lakes, rivers, mountains, parks and islands.

Using the Canadian Atlas Map Bundle (CAMB)

Workspaces and Directories

For MapInfo and ArcView users, DMTI has organized the files into different workspaces and project files, making them simple and intuitive to use.

For the NAIS 1:2 million files there is a separate workspace/project file for each region of the country. The 1:7.5 million-scale map and the 1:30 million-scale maps have been included in separate workspaces/project files covering all of Canada.

Populated Placenames and Landmarks files also are separated into workspaces/project files for each region of the country. The workspaces/project files included are:

Workspace/ Project Files	Description
<i>province</i> (e.g. Ontario)	This file consists of the NAIS 1:2 million map (by region) containing all layers found in that file with the addition of a new major highways layer enhanced by DMTI.
<i>provppn</i> (e.g. ONppn)	This file consists of the NAIS 1:2 million map (by region) containing all layers as well as the Landmarks file. DMTI's Populated Placenames have been added in addition to the enhanced major highways layer.
<i>prov_all</i> (e.g. ont_all)	This file contains all layers of the NAIS 1:2 million map as well as all layers of the entire Populated and Landmarks file (by region). Included in this workspace is the new major highways layer as well as DMTI's Populated Placenames.
nais75	This file consists of the NAIS 1:7.5 million map for all of Canada containing all layers found in that file.
sur75	This file consists of the NAIS 1:7.5 million map of areas surrounding the 1:7.5 million Canada file. It contains Greenland, Alaska, part of Russia, and the northern parts of the USA.
nais30	This file consists of the NAIS 1:30 million map containing all layers found in that file.

All of the files are organized into directories by regions. The directories and corresponding regions covered are:

NAIS Files:

Directory	Region
AT	Atlantic
BC	British Columbia
TRS	Northwest Territories , Yukon & Nunavut
ON	Ontario
QC	Quebec
PRA	Prairies
NAIS75	All of Canada
NAIS30	All of Canada
Surround	Surrounding Countries

Populated Placenames and Landmarks Files

Directory	Region
AT	Atlantic
BC	British Columbia
TRS	Northwest Territories , Yukon & Nunavut
ON	Ontario
QC	Quebec
PRA	Prairies

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

NAIS 1:2 million Files

File Description

The NAIS 1:2 million maps have been structured into 11 different layers including roads, railways, hydrography, parks and provincial outlines. The layering system used is as follows: (the first layer being the bottom layer and the last layer being the top layer in the workspace).

Layer Name	Description
PROVFILL	Province or region land area
PROVPARK	Parks and Indian Reserves
PROVHYDRO	Lakes and rivers
PROVISLE	Islands
PROVIII	Islands in islands (e.g. Islands in Lakes in Ellesmere Island)
PROVPIL	Parks in islands
PROVLII	Lakes and rivers in islands
PROVCOAST	Coastal outline
PROVRAIL	Railways
PROVhwy	Major Highways enhanced by DMTI
PROVBOUND	Political boundary (Provincial and International)

Note: The layer name consists of a 2 or 3 letter abbreviation for the applicable region and ends with the layer type abbreviation. For example the layer name for the province or region land area for Ontario is ONFILL.

Map Enhancements

The NAIS 1:2 million maps have been significantly enhanced by DMTI. The following improvements have been made to the different map layers:

Layer	Description of Enhancement
Parks:	Federal lands such as parks and Indian Reserves have all been attributed with the feature name and feature type.
Hydro:	Major lakes and rivers have been attributed with the feature name
Isle:	Major islands have been attributed with the island name.
III:	Major islands in islands have been attributed with the island name.
PIL:	All federal lands have been attributed with the feature name and type.
LII:	Major lakes and rivers in islands have been attributed with the feature name.
	Enhanced June 2001
Roads:	All roads have been labeled with road name, road type and province. In addition, the roads types have been differentiated by colour shading (i.e. Expressway or Primary Highway). The positions of the roads have been enhanced and new highways have been added where appropriate. E.g. Highway 407 in Ontario and the Richmond Expressway in British Columbia.
Places	Populated Placenames have been added. Placename points have been aligned with DMTI Spatial's CanMap® Streetfiles product (1:50,000 scale) greatly improving their positional accuracy.
Fill	Fill layers have been attributed with Provincial field.

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

NAIS 1:7.5 million File

File Description

The NAIS 1:7.5 million map covers all of Canada and has been structured into 7 layers. The layering system for this map is as follows:

Layer Name	Description
BORDER75	Provincial and Country Borders
PARKS75	Parks
HYDRO75	Lakes and rivers
ISLE75	Islands
RAIL75	Railways
ROADS75	Roads
BOUND75	Fill area for Canada land area

Map Enhancements

The NAIS 1:7.5 million map has been enhanced by DMTI. The following improvements have been made to the different map layers:

Layer	Enhancement
Parks	Federal lands such as parks and Indian Reserves have all been attributed with the feature name and feature type.
Hydro	Most major lakes and rivers have been attributed with the feature name.
Roads	All roads have been labeled with road name.

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

NAIS 1:7.5 million Surrounding Countries File

File Description

The NAIS 1:7.5 million Surrounding Countries map consists of the NAIS 1:7.5 million map of areas surrounding the 1:7.5 million Canada file. It contains Greenland, Alaska, part of Russia, and the northern parts of the USA.

The layering system for this map is as follows:

Layer Name	Description
SUR_H2O	Hydrography
SUR_ROAD	Roads
SUR_BDY	Fill area for land masses

Map Enhancements

The NAIS 1:7.5 million Surrounding Countries map has been enhanced by DMTI. The country names have been added to the file.

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

NAIS 1:30 million File

File Description

The NAIS 1:30 million scale map covers all of Canada and has been structured into 5 layers. The layering system for this map is as follows:

Layer Name	Description
RIVER30	Rivers
LAKES30	Lakes
RAIL30	Railways
ROADS30	Roads
BNDY30M	Fill area for Canada land area

Map Enhancements

The NAIS 1:30 million map has been enhanced by DMTI. The following improvements have been made to the different map layers:

Layer	Description of Enhancement
Rivers	Some of the rivers have been attributed with the feature name.
Lakes	All lakes have been attributed with the feature name.
Roads	All roads have been labeled with road name.

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

Populated Placenames and Landmarks Files

File Description

The information contained in our Landmarks dataset is based on the Canadian Geographic Names Database. The dataset is comprised of 4 files, each containing a separate feature type. The chart below sets out each file name, description of the files and the associated generic code (a descriptive code assigned by NRCAN) for the files within the dataset. Each filename begins with the region covered by the file and ends with the feature type. For example, the terrain features layer in Ontario is called ONter.

Map Filename	Description	Associated Generic Codes
<i>PRadm</i>	Administrative Areas - Parks	518 - 599
<i>PRwat</i>	Water Features - Flowing Freshwater	600-1464
<i>PRter</i>	Terrain Features	1600-3906
<i>PRman</i>	Manmade Features	4101-4606

The Populated Placenames files are based on the latest version of the Canadian Geographic Names Database (1999) from NRCAN. These files provide a rich and extensive database of cities, towns, villages and communities across Canada.

Map Filename	Description	
<i>PRmjppn</i>	Cities	Major Placenames
<i>PRmdppn</i>	Towns and villages	Medium-sized Placenames
<i>PRmnppn</i>	Communities, Hamlets, Settlements	Minor Placenames

The Landmark layers can be described in more detail as:

Layer Name	Feature Type	Generic Code
Administrative Areas	Parks	510-599 (excluding 543,552)
	Indian Reserves	543,552
Water Features	Flowing Freshwater	600-652
	Features on Flowing Water	700-797
	Standing Water Surrounded by Land	951-997
	Water Sources	1150-1158
	Standing Water Connected to Two or More Bodies of Water	1200-1249
	Tidal Water Features	1352-1358
	Shoreline Water Features	1400-1463
Terrain Features	Elevated Shoreline Features	1600-1653
	Low-lying Shoreline Features	1900-1932
	Underwater Features	2000-2069
	Terrain Surrounded by Water	2300-2436
	Elevated	2700-2859
	Depressed	2901-2955
	Flat	3100-3115
	Ice and Snow Features	3200-3213
	Forested Areas	3500-3515
	Open Areas with Low Vegetation	3570-3628
	Underground	3700-3705

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

	Volcanic Features	3900-3906
Manmade Features	Resource Related	4101-4122
	Transportation Related	4301-4387
	Others	4500-4606

Field Descriptions for the Landmarks file are as follows:

Field Name	Field Description
Prov	Alpha code that identifies the province or territory of Canada where the feature/place is found. See Province Codes (below).
Prov_Code	Numeric code that identifies the province or territory of Canada where the feature/place is found. See Province Codes (below).
Feature_Name	Name of the feature or place
Unique_Key	Unique identifier. The first character indicates the province or territory to which the feature/place belongs.
Border Flag	Indicates whether a feature crosses a provincial/territorial international boundary.
Generic_Code	Code that identifies the type of feature or place.
Generic_Term	Identification of the generic code, indicating the type of feature or place.
UTM_Map	The NTS 1:50 000 scale map (if not available, the 1:250 000 NTS or a CHS chart) where the approved coordinates of the feature lie.

Field Descriptions for the Populated Placenames file are as follows:

Field Name	Field Type	Field Description
Name	Char(68)	Name of the feature or place
Prov	Char (2)	Identifies the province or territory of Canada where the feature/place is found.
PPN_Code	Decimal (3,0)	Populated Placename Code that identifies the type of feature or place.
Longitude	Decimal (11,6)	Longitude
Latitude	Decimal (11,6)	Latitude
Prec_Code	Decimal (2,0)	Code which identifies the method used to geographically position the coordinate
Mjr_City	Logical	Flag which identifies cities that have a population greater than 100,000
Capital	Logical	Identifies Capital Cities across Canada
PRCDCSD	Char (8)	Code which identifies the Municipality within which the point falls
CSD_Name	Char(68)	Municipal Name within which the point falls
CSD_Pop96	Decimal (11,0)	Represents the 1996 Population for the Municipality within which the point falls

Using the Canadian Atlas Map Bundle (CAMB) (cont'd)

Province Codes

Prov	Prov_Code	Province
NL	10	Newfoundland & Labrador
PE	11	Prince Edward Island
NS	12	Nova Scotia
NB	13	New Brunswick
QC	24	Quebec
ON	35	Ontario
MB	46	Manitoba
SK	47	Saskatchewan
AB	48	Alberta
BC	59	British Columbia
YT	60	Yukon
NT	61	Northwest Territories
NU	62	Nunavut

Additional files included in the Map Bundle are:

Filename	Description
provdesc.tab (e.g. ondesc)	A file that contains 2 fields: unique_key and description, that can be linked to any Places and Landmarks file through the unique_key field. It contains a location description of the place and/or landmarks.
allcodes	Detailed list of Generic Codes for the Places and Landmarks file.
nts250; nts50; obmindex	Grid indices for the National Topographic Database 1:250,000 and 1:50,000 scale maps and the Ontario Base Maps. These grids can be overlaid onto the NAIS files to determine the corresponding NTDB or OBM mapsheet for that geographic region.
prcodes	List of all generic codes in each province and a count of the number of records with each code.

Appendix: CanMap® Data Set Configuration for MapGuide

1. Installing the Files:

~~Once the files are on the local hard drive, it is recommended that you move the SDF and DBF files to another directory where they can be better protected from the Internet. Please refer to the MapGuide manual for permissions and security recommendations.~~

~~The following folders will be provided:~~

Folder	Description
dbms\Canada	databases for free Canada directory
dbms\AREA	databases for desired geographic area
docs	files for setup etc.
images	wmf, bmp, tiff, jpeg, etc.
maps	map window files

~~mlf _____ map layer files, if available~~
~~reports _____ Cold Fusion templates~~
~~scripts _____ if available~~
~~sdf\AREA _____ MapGuide spatial data files for desired geographic area~~
~~sdf\Canada _____ MapGuide spatial data files for free Canada directory~~

2. Web Setup (if required)

~~If the files are moved to other directories, drives or machines than specified above, then you will have to create paths to these machines. MapGuide and Cold Fusion support UNC paths but they may require setup where they are installed to take advantage of this distributed environment. Please see the MapGuide documentation on the website www.mapguide.com~~

~~You may also have to modify paths in the Map Window Files (.mwf) for reports.~~

3. MapGuide Setup:

~~In MapGuide Server Admin, there is a path setting for both Sdf directories. Leaving the default paths in place, and using your own directory structure you would use the following:~~

SDF Search Path:

~~After the default directory `C:\Program Files\Autodesk\MapGuideServer4\sdf`, add your own paths to sdf directories using a semi-colon to separate each sub-directory listing.~~

~~Note: the path directories are NOT case sensitive.~~

4. ODBC Setup:

~~The database setups are required so that any thematics for roads or land use etc. can be displayed and so that report queries can be generated.~~

~~**Note:** You will receive a set of dbf files for each project. It is highly recommended that you import the dbf files into an ODBC compliant database management program that is relational and allows the key fields to be indexed, e.g. Access, SQL Server, etc. Index the fields that define the unique database field and any field that has a theme generated from it, e.g. carto in the street layers.~~

~~You can set the DSN's up through the Control Panel > ODBC or you can use the Cold Fusion Administrator. Again, these settings are NOT case sensitive. Also note that if you are using Control Panel, each Data Source must be a System DSN not a User DSN.~~

~~If you are not using Cold Fusion, then you will have to convert the .cfm templates into your preferred reporting language.~~

5. MapGuide Window File Setup:

~~Each mwf file will have to be modified to use your Intra/Internet server name. The files you will receive will point to DMTI_MAPGUIDE.~~

~~**Step 1.** Open the mwf file and select all the layers in the left hand column. > Right click over these layers and select Properties... > replace dmti_mapguide with your web server name (e.g. `www.
.com`)~~

Step 2. From the pull-down menus, select File > Properties... to bring up the mwf properties. Select the Reports Tab > Under the Properties URL, replace dmti_mapguide with your web server name for each report. Reports that can be generated include; all Roads layers (rds,hwy,hrd), POI layers, the lur layer and the mun layer.

Step 3. Select the Zoom Goto Tab to replace dmti_mapguide with your web server name. Zoom Goto's are provided for the Municipal Centroids (munc) layer.

Step 4. Select OK for the Properties Dialogue box and Save the Map Window File.