



# GeoBase

## Principles, Policies and Procedures

*Fundamental geographic data of choice for Canada –  
collected once, maintained and available without  
restrictions*



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Version: 1.5





## Revision History

<u>Ver</u>	<u>Date</u>	<u>Description</u>	<u>Name</u>
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## Table of Contents

Revision History .....	i
Table of Contents .....	ii
1 Introduction.....	1
2 What is GeoBase?.....	2
2.1 The GeoBase Vision and Envisioned End State.....	2
2.1.1 GeoBase Vision .....	2
2.1.2 GeoBase End State.....	2
2.1.3 Implementation of the vision and the envisioned end state .....	3
3 GeoBase Principles .....	5
4 GeoBase Data.....	7
4.1 Technical Characteristics of GeoBase Data.....	7
4.2 What Data Themes Are Available? .....	8
4.2.1 Canadian Digital Elevation Data .....	8
4.2.2 Canadian Geodetic Network.....	8
4.2.3 Canadian Geographical Names.....	9
4.2.4 Canadian Geopolitical Boundaries .....	9
4.2.5 National Hydro Network.....	10
4.2.6 National Road Network .....	11
4.2.7 Satellite Orthoimagery .....	11
4.3 New Data Themes.....	13
4.4 Process for Identifying New Data Themes .....	13
4.5 Process for Adding New Data Themes .....	13
4.6 Criteria for Accepting New Data Themes .....	15
5 GeoBase Standards .....	19
5.1 Standards Criteria.....	19
5.2 Current Standards.....	19
5.2.1 Grandfathered Standards.....	19
5.3 Standards Development and Acceptance Process.....	20
5.4 Standards Maintenance Process.....	20
6 GeoBase Portal.....	21
6.1 Operational Policies .....	21

6.1.1	Data Distribution Clearance.....	21
6.1.2	Portal Maintenance .....	21
6.1.3	Portal Online Availability .....	21
6.1.4	The Portal Provides Data and Not Application Services .....	21
6.2	Future Directions .....	22
7	GeoBase Governance.....	25
7.1	General.....	25
7.2	General Federal and Provincial/Territorial Responsibilities.....	25
7.3	Specific Federal and Provincial/Territorial Roles and Responsibilities .....	26
7.3.1	Federal Roles .....	26
7.3.2	Provincial Roles .....	26
7.3.3	GeoBase Organizational Structure.....	27

## Appendices

Appendix A	Glossary and Definitions
Appendix B	GeoBase Unrestricted Use Licence Agreement
Appendix C	CCOG Resolutions on GeoBase
Appendix D	Original GeoBase Themes and their Definitions
Appendix E	Fit Between GeoBase Principles, Technical Characteristics and Acceptance Criteria
Appendix F	GeoBase Steering Committee Terms of Reference



# 1 Introduction

The creation of GeoBase began in 2001 following the release of a report entitled “**The Case to Upgrade the National Geospatial Information Base**” prepared for Natural Resources Canada by Hickling Arthurs Low. This report, generally called the HAL report, identified basic geographic information in Canada as being in danger of becoming irrelevant unless significant investment was made at all levels of government.

To counter this, GeoBase was formed as a joint initiative of federal, provincial, and territorial government mapping agencies. A great deal of coordination and consultation took place in order to bring GeoBase to reality. As a result, GeoBase has changed the way in which national geomatics activities take place, particularly with respect to the collection and maintenance of fundamental base, or framework, geographic datasets.

This document is the collection of GeoBase principles, policies, and procedures. It also contains those decisions made by the Canadian Council on Geomatics (CCOG) related to the development and direction of GeoBase. The document is updated regularly to reflect the continuing evolution of GeoBase.

Comments on this document should be directed to the GeoBase Steering Committee through the [GeoBase Secretariat](#).

## 2 What is GeoBase?

GeoBase is a federal, provincial and territorial government initiative that is overseen by the Canadian Council on Geomatics (CCOG). It was undertaken to ensure the provision of and access to, common, up-to-date and maintained, fundamental base, or framework, geographic data for all of Canada. (Framework data is geographic data providing reference, context and underpinning to a wide variety of geographical data themes for government, business and individual applications.)

GeoBase is built on partnerships and innovative technology. By working together, multiple levels of government are increasing their efficiency in collecting and maintaining framework data. This also reduces duplication of effort among agencies.

GeoBase data is produced and made available in accordance with established national standards and includes explicit metadata to facilitate its use. Canadians benefit from access to GeoBase data and from ongoing data updates delivered through the GeoBase portal.

GeoBase is the key framework data component of the Canadian Geospatial Data Infrastructure (CGDI). The CGDI is promoted and facilitated through GeoConnections. The GeoConnections program has and continues to provide significant funding for the preparation of, and accessibility to GeoBase framework data. The GeoBase portal complies with GeoConnections' CGDI vision and principles.

Through the GeoBase portal ([www.geobase.ca](http://www.geobase.ca)), users with an interest in the field of geomatics have access to this quality framework data at no cost, without restrictions, under a common license agreement.

### 2.1 *The GeoBase Vision and Envisioned End State*

This section discusses the vision and the envisioned end state of GeoBase. It also explores some of the key activities and processes that will be required to achieve the end state. By having a clear understanding of the desired end state; choices, options, and decisions can be evaluated as to whether or not they will advance progression to the end state.

The discussion is focused on how GeoBase will be used by GeoBase users. For this reason it does not address how the vision will be achieved, nor does it address obstacles to be overcome or how GeoBase operates. These are the concern of the implementers and operators. Much of this information is covered elsewhere in this document.

#### 2.1.1 GeoBase Vision

Fundamental geographic data of choice for Canada – collected once, maintained and available without restrictions.

#### 2.1.2 GeoBase End State

When GeoBase is in a steady state operating mode:



- 1) The GeoBase portal will provide access to national coverage of framework data through a single access point.
- 2) The portal will not store data. Rather it will access the data providers' databases, in real time, when a data request is received. (This eliminates the possibility of having two different versions of data available at the same time.)
- 3) The portal will support downloads of arbitrary regions and combinations of data. (This ensures that users will be able to access only the data they need without having to deal with data they don't need.)
- 4) The portal will also support direct application access to data in real time, eliminating the need for users to store or manage datasets.
- 5) The data available through the portal will be maintained according to a published standard.
- 6) The data provided through the portal and the methods used to access it will be based on well-accepted and used national and international standards.
- 7) The data available through the portal will meet 90% of framework data requirements of GeoBase users.
- 8) The data available through the portal will be available at no charge and without limitations on its subsequent use.

### **2.1.3 Implementation of the vision and the envisioned end state**

The GeoBase vision and envisioned end state is far-reaching and cannot be implemented immediately. Realisation of the vision and of the envisioned end state will require achievement of some technological advances and developments. It will also require changes in the way the federal, provincial, territorial, and municipal governments work together to collect, manage, maintain, and distribute geographical data.

In this section each of the end state statements in the previous section is discussed with respect to the issues surrounding their achievement. This is followed by some ideas of how and when the vision and end state can be achieved.

- 1) Single port access is currently available through [www.geobase.ca](http://www.geobase.ca). There are currently seven framework data themes (Digital Elevation Data, Geodetic Network, Geographical Names, Geopolitical Boundaries, National Hydro Network, National Road Network and Satellite Imagery). It is realistic to plan on the addition of between one and four new data themes each year for the next several years. Addition of a theme requires significant effort and commitment by data suppliers. Requirements are outlined in Section 4 of this document.
- 2) The achievement of a portal that accesses databases across the country in real time to fulfill a data request requires improvements in technology. These range from ensuring sufficient

bandwidth to developing standard data access and exchange services. The technological capacity will probably be available within the next few years. In the meantime, the portal contains copies of source datasets and effort is required to keep copies and the source datasets in synch.

- 3) Currently, the portal supports file-based downloads without the ability to specify and download regions of interest. Technological capacity exists to do so but it has not been a priority to implement it.
- 4) Direct access to the portal from an application is not supported sufficiently by current technologies. This is an area of considerable research and development effort. Access through standardised services such as the OGC WFS service is expected to be available within the next few years.
- 5) All data themes currently on the GeoBase portal are maintained according to a published standard. The frequency of updates varies with the volatility (rate of change) of the data theme.
- 6) All data themes on the GeoBase portal currently adhere to a published standard. The existence of such a standard is a requirement for the inclusion of additional data themes on the portal. Over time greater uniformity of the data is expected. Currently there are regional differences that reflect differing priorities amongst the data suppliers. As the standards continue to evolve to reflect changing user requirements, data will be updated to reflect those changes.
- 7) The data themes do not currently meet 90% of the user requirements. It could take up to 10 years of adding additional data and possibly enhancing the existing data to meet this requirement. Identification and addition of additional data themes will continue to be a critical activity for several years to come.
- 8) All data available through the GeoBase portal is currently available without cost or restriction and under a common data license. Effort will be required to ensure that this continues to be the case.

GeoBase has had significant success to date, not the least of which was the initial development of the National Road Network (NRN) data theme and its subsequent enhancement to NRN 2.0. Building the NRN required collaboration by all the provincial, territorial, and federal governments in the development of data standards and a data model, data collection and maintenance, data sharing, and data delivery. This high level of collaboration will need to continue if the GeoBase vision is to be achieved.

GeoBase does not operate in a vacuum. Collaboration with other national and local initiatives is also required. For example, GeoConnections is developing many of the technical standards, and data discovery and exchange standards that GeoBase needs to succeed. The National Land and Water Information Service (NLWIS) and other national initiatives requiring framework data can both add to and make use of the GeoBase data content.

### 3 GeoBase Principles

Principles are things that we hold to be true. They define the milieu in which we propose to operate. While we can adhere to principles in striving towards a goal, it must be recognized that the intended goal may not be achievable quickly, easily or at all. But, whether the goal is achievable or not does not diminish the value and importance of the principle.

This section describes the fundamental principles that GeoBase operates under and that direct the decision making process on a regular basis.

**1) Source, regional and, where practical, national data all share the same geometry.**

We want to get away from using different geometric representations of the same object at different scales. We also need to address the use of shared geometry between different data themes, ensuring that there is no conflict. (For example, if a municipal boundary is the centreline of a waterway the same line should be used in the hydro theme as in the municipal boundary theme.) It is recognized that technology may not yet allow this to happen in a cost effective manner and therefore some leniency will be required in interpreting this requirement.

**2) GeoBase provides national data coverages.**

Each GeoBase theme will provide full national coverage of the data. (“National coverage” is defined in item 5 of Section 4.6 on page 16.) Data at the level of local interest only is excluded.

**3) Source data is collected once and used by many.**

One of the key tenets of GeoBase is to eliminate (or at least significantly reduce) duplication of effort in data collection. Prior to GeoBase it was not uncommon for two different agencies to collect essentially the same information for the same area at the same time without knowing about each others’ efforts. GeoBase reduces this by making the data freely and widely available to other agencies, eliminating their need to collect data unnecessarily. A communication / coordination component helps agencies avoid unknowingly duplicate data collection activities.

**4) Source data is collected and maintained closest to source.**

Service providers within various levels of government, as well as outside of government rely on GeoBase data. A commitment to providing data to GeoBase is also a commitment to continuing to maintain data and to provide stability in the availability of data to GeoBase data users. The agency or organization with the most direct, vested interest in a particular GeoBase data theme should be responsible for capturing and managing that data. The cost of maintenance and update is shared among the levels of government.

This principle recognises that while only one party will be maintaining the data, other parties will benefit from the maintenance and should therefore contribute to the cost of the maintenance. It is also expected that the maintenance is carried out in as economical a manner as possible.

#### **5) All GeoBase data is available at no charge.**

There are no charges for GeoBase data or for the cost of distribution of the data through the GeoBase portal. Subsequent users of the data may charge for the redistribution of the data and for value added services based on the data.

This principle is key to achieving the objectives of both increasing the use of geomatics data in Canada and having all geomatics data users working from a common set of information.

#### **6) GeoBase data has no restrictions on its subsequent use.**

All GeoBase data distributed by governments has unrestricted use. Data users may use the data and may re-distribute the data either as is or as part of a value added product. The only restriction is that the user may not alter the data and represent it as being GeoBase data.

#### **7) GeoBase data uses a common license.**

All GeoBase data is made available using a common data license that was developed by GeoConnections. The full text of the GeoBase license is provided in Appendix “B” of this document.

## 4 GeoBase Data

### 4.1 *Technical Characteristics of GeoBase Data*

#### 1) **GeoBase data elements carry a unique identifier.**

Each data element has a unique identifier (ID) and every instance and representation of that element carries the same ID. This enables different geometric representations of data to share attributes. The IDs are created as Universal Unique Identifiers (UUIDs) as described, defined and documented in the product specifications of each of the framework data themes on the GeoBase Web site.

#### 2) **GeoBase data comply with a standard data model and meet or exceed a minimum standard for accuracy, resolution and currency.**

There is a published data standard that has been adopted as a national standard by the Canadian Council on Geomatics for each of the GeoBase data themes. The published standard is available on the GeoBase web site. The standard includes the data model (or models in some cases) as well as data collection standards and maintenance standards that define the currency and accuracy requirements of the data.

#### 3) **Metadata is defined and standardized at the entity level.**

All GeoBase data themes include FGDC compliant metadata that uses the current Canadian national profile. ISO 19155 compliant metadata will be added in the future, replacing the FGDC metadata.

#### 4) **GeoBase data and all associated tools adhere to international standards.**

In order to ensure that GeoBase data is compatible with both commercial and custom geomatics applications, the GeoBase datasets and any associated tools consider international standards in their development. As well, those developing GeoBase data and tools pay close attention to emerging standards as well in order to ensure continuing conformance.

#### 5) **GeoBase data is seamless across Canada.**

Data provided by different data custodians is edge matched to ensure seamless data. During maintenance the edge matching is respected unless there is agreement by the custodians on either side of the edge to move the edge. Data custodians are expected to cooperate when issues are found at the interface between datasets.

**6) GeoBase data is consistent across themes.**

As far as technically possible and feasible all GeoBase data themes fit together vertically correctly.

**4.2 What Data Themes Are Available?**

In 2003, six data themes having national coverage were made available to the Canadian geomatics community via the GeoBase portal. Not all six data themes went through the full definition and acceptance process that has been established for new GeoBase data themes. This was to ensure that a critical mass of existing, valuable information was made available as rapidly as possible.

In 2007, a seventh data theme—the National Hydro Network—was added to the GeoBase portal. By 2010, Land Cover and Municipal Boundary data themes will be available. Other data themes are also under consideration. These most recently added data themes were added to the GeoBase portal using the acceptance processes outlined in this document. The addition of future data themes will follow these processes as well.

Currently the GeoBase portal contains the following fundamental framework data themes:

**4.2.1 Canadian Digital Elevation Data**

The Canadian Digital Elevation Data (CDED) consists of an ordered array of ground elevations at regularly spaced intervals. The source data for CDED are the hypsographic and hydrographic elements of the 1:50,000 and 1:250,000 scale data in the National Topographic Database (NTDB) and/or data acquired from the provinces and territories.

The 1:250,000 scale CDED dataset contains complete coverage of the Canadian landmass. The 1:50,000 scale CDED dataset continues to be built. Currently, 75% of the 1:50,000 scale CDED dataset is complete. Most of the remaining work to be done is in northern Quebec, the Northwest Territories and Nunavut. The 1:50,000 CDED dataset is scheduled to be completed by 2012.

<b>Status:</b>	1:50,000 scale: Underway
	1:250,000 scale: Complete coverage
<b>Maintenance frequency:</b>	Error correction only.

Detailed product specifications for the [Canadian Digital Elevation Data](#) can be found on the GeoBase portal.

**4.2.2 Canadian Geodetic Network**

The Canadian Network contains horizontal and vertical geodetic control information for thousands of geodetic markers distributed across Canada, in four principal control networks:

- Canadian Base Network
- Primary Vertical Bench Marks
- Federal 3-D Densification Network
- Federal 2-D Densification Network

The point information for each marker includes; geographic and UTM coordinates, orthometric height, marker information description, and inspection data.

<b>Status:</b>	Complete
<b>Maintenance frequency:</b>	Annual

Detailed product specifications for the [Canadian Geodetic Network](#) can be found on the GeoBase portal.

### 4.2.3 Canadian Geographical Names

The Canadian Geographical Names Database (CGNDB) is the data bank of Canada's geographical names, maintained by Natural Resources Canada. The CGNDB stores the names and attributes of geographical locations that have been approved by the Geographical Names Board of Canada (GNBC). These authoritative records are made available for government and public use. Changes to the CGNDB are provided by naming authorities across Canada.

A subset of CGNDB data is available on GeoBase Portal for data extraction and visualization. This dataset contains the officially approved names, and is referred to as the Canadian Geographical Names collection. This collection is also available through the Canadian Geographical Names Service (CGNS).

<b>Status:</b>	Complete
<b>Maintenance frequency:</b>	Annual

Detailed product specifications for the [Canadian Geographical Names](#) can be found on the GeoBase portal.

### 4.2.4 Canadian Geopolitical Boundaries

This data theme contains the international, inter-provincial and territorial boundaries, as well as the boundaries of Canada's exclusive economic zone. It is not intended for legal use, and should be utilized for cartographic and edge matching purposes only.

The dataset is comprised of three files: an administrative boundary file, an administrative areas file and a metadata file.

<b>Status:</b>	Complete
<b>Maintenance frequency:</b>	As required but infrequently. These boundaries are static.

Detailed product specifications for the [Canadian Geopolitical Boundaries](#) can be found on the GeoBase portal.

#### 4.2.5 National Hydro Network

The National Hydro Network (NHN) is framework data representing the inland surface waters of Canada. The NHN is the evolution from a graphical representation of Canada's inland surface waters to an intelligent network organized by drainage basins, or "watersheds". NHN data enables water flow analysis that will, in turn, aid in the management of watersheds and the species that live in them. In emergency situations such as flooding or chemical spills, NHN data could be used to monitor conditions and to assist decision-making processes to minimize flood damage or optimize control of a spill. For planning, the NHN could be used to decide where to most effectively place a dam or power plant. NHN data could also be an important tool in managing and monitoring drinking water and fresh water supplies.

##### *Levels of completion*

NHN data will be delivered in staged 'levels of completion' which describe the content of the data:

- First level of completion is the output of an automatic process whereby watershed data is extracted from the federal National Topographic Database (NTDB). The result of this processing is linear networks, including direction of flow and toponymy for more than 80% of the linear network segments.
- Second level of completion defines all the waterbody areas.
- Third level of completion completes the structuring of the linear network into drainage areas.
- Fourth level of completion finishes and updates the toponymy of the NHN.

The NHN data standards and data model were developed in consultation between federal, provincial and territorial partners. It is important to note that as delivery and maintenance schedules for NHN data are reached, NTDB data will be replaced by the closest-to-source provincial and territorial data. As provincial and territorial data become available, higher levels of completion are achieved.



By the end of 2008, close to 1,100 drainage areas will provide complete coverage of at least first level completion for all of Canada. Fourth level completion has been achieved for all of British Columbia, and for a number of drainage areas in the Yukon, Manitoba and Newfoundland and Labrador.

<b>Status:</b>	1 <sup>st</sup> Level: Underway
	2 <sup>nd</sup> Level: Underway
	3 <sup>rd</sup> Level: Underway
	4 <sup>th</sup> Level: Underway
<b>Maintenance frequency:</b>	As required

A detailed description of the [NHN](#) and [NHN levels of completion](#) is available on the GeoBase Web site.

#### 4.2.6 National Road Network

GeoBase offers access to over 1,000,000 kilometres of accurate, up-to-date road network data. The National Road Network (NRN) is a representation of the centerline of all non-restricted use roads in Canada (5 meters or more in width, drivable and no barriers denying access).

In 2005, the second edition of the NRN model was adopted by the Inter-Agency Committee on Geomatics (IACG) members and the Canadian Council on Geomatics (CCOG) members.

The second edition, NRN 2.0 will gradually be populated with a basic set of address attributes including; street names, place names and address ranges between intersections.

<b>Status:</b>	NRN 1.0: Complete
	NRN 2.0: Underway
<b>Maintenance frequency:</b>	Annual

Detailed product specifications for the [NRN](#) are available on the GeoBase portal.

#### 4.2.7 Satellite Orthoimagery

Since 2003 GeoBase has provided full national coverage of satellite orthoimagery. The first set of GeoBase satellite orthoimagery was created from Landsat 7 data. This data was acquired between

1999 and 2003. Two Radarsat 1 scenes, circa 2001-2002, complete the satellite orthoimagery coverage over far northern Canada.

The GeoBase satellite orthoimagery is being updated with the addition of orthoimagery derived from SPOT 4 and SPOT 5 satellite data. The SPOT 4 and SPOT 5 orthoimagery improves upon the resolution of the Landsat 7 orthoimagery. Full coverage of the Canadian landmass south of the 81<sup>st</sup> parallel will be acquired between 2005 and 2010. In January 2008 the first 1000 SPOT 4 and SPOT 5 orthoimages were released on the GeoBase portal. Approximately 5,000 images will complete the GeoBase Orthoimage 2005-2010 dataset.

Availability of the SPOT 4 and 5 orthoimagery was made possible through collaborative agreements among Natural Resources Canada, Agriculture and Agri-Food Canada, Environment Canada, Parks Canada, Public Safety Canada, provincial and territorial governments, with the support of GeoConnections.

Detailed product specifications for the [SPOT 4 and SPOT 5 orthoimagery](#), for the [Landsat 7 orthoimagery](#) and for the [RADARSAT 1 orthoimages](#) are available on the GeoBase portal.

<b>Status:</b>	Landsat 7 – Complete
	SPOT 4 and SPOT 5 – Underway
<b>Maintenance frequency:</b>	Error correction only. Satellite orthoimagery is a snap shot product and is updated on a special project basis.

#### 4.2.7.1 Control Points for Landsat 7 Imagery

An auxiliary product of the satellite orthoimagery is a Data Alignment Layer containing the control points that were used for the geometric correction of Landsat 7 satellite imagery. These can also be used to correct vector data and, as georeferenced point data, can be displayed with geographic data from various sources and at various scales.

Detailed product specifications for the [control points for Landsat 7 orthoimagery](#) can be found on the GeoBase portal.

<b>Status:</b>	Complete
<b>Maintenance frequency:</b>	Error correction only, as required.

### **4.3 New Data Themes**

The Canadian Council on Geomatics (CCOG) expects GeoBase to continue to grow the number of available data themes. The addition of new GeoBase data themes follows the process outlined in this document (see sections 4.4 and 4.5).

In 2007, CCOG agreed to the addition of the NHN, NRN 2.0, Land Cover and Municipal Boundary data themes to the GeoBase portal. In 2008, NHN and NRN 2.0 data was released on the GeoBase portal. Work is underway to define the data standards and data models for the Land Cover and Municipal Boundary data themes. Data for these themes is expected to be available by 2010.

Other potential data themes, identified through a 2007 survey of the Inter-Agency Council on Geomatics (IACG) and CCOG members include:

- Cadastral Mapping
- Railroads
- Power lines
- Structures
- Aboriginal and First Nations Lands
- Key buildings
- Electoral boundaries
- Parks

### **4.4 Process for Identifying New Data Themes**

There is no formal mechanism for identifying new themes to be added to GeoBase. Instead GeoBase relies on the Canadian Council on Geomatics members and the GeoBase user community to propose new data themes for GeoBase.

The GeoBase Steering Committee makes use of user needs surveys, in conjunction with other organisations such as GeoConnections and the IACG, to help identify what data themes users would like to be made available through GeoBase. When a Steering Committee review has been completed results are brought forward to CCOG for consideration.

Should an organization wish to identify a data theme for inclusion in GeoBase, they should contact NRCan, the Chair of the GeoBase Steering Committee, through the [GeoBase Secretariat](#).

### **4.5 Process for Adding New Data Themes**

A process is required for the acceptance of a new data theme into GeoBase. The objectives of having such a process are to ensure that:

1. any data added to GeoBase will meet the requirements of most Canadian geomatics data users.
2. the data to be added is or will be available with some long term certainty.
3. data custodians and coordinators will adhere to the GeoBase principles.

In the following section (4.6 Criteria for Accepting New Data ) the criteria that any new data theme must meet is defined. These criteria must be met as the steps, outlined below, for acceptance of a new data theme into GeoBase are followed. The steps for acceptance of a new data theme are:

1. The data proponent presents a proposal to the GeoBase Steering Committee. The proposal should address:
  - a. the content of the data theme at a high level. (e.g. Classified wetlands and their relationship to the hydro network.) A detailed definition is not required at this point but will be needed later;
  - b. why the data theme should be included in GeoBase; and
  - c. how GeoBase principles are met with the inclusion of the data theme.
2. The GeoBase Steering Committee will make an initial determination that either:
  - a. there is no interest in including the proposed data theme, in which case the process is terminated and members of CCOG are notified of the decision and the reasons for it; or
  - b. there is interest and the process continues.
3. The GeoBase Steering Committee will ask the proponent to review the criteria and to respond to each of the items. The GeoBase Steering Committee or members of the GeoBase Steering Committee will assist the data proponent in preparing material.
4. The GeoBase Steering Committee will notify members of CCOG that a proposal for a new data theme has been received and is under consideration.
5. Once the GeoBase Steering Committee has been satisfied that the proposed data theme meets all the criteria and should be added to GeoBase, the GeoBase Steering Committee will prepare a resolution to the Canadian Council on Geomatics recommending the inclusion of the proposed data theme. The resolution will include the evaluation based on the established criteria and also an estimate of the costs and schedule of incorporating the proposed data theme.

(It is expected that any CCOG members who will participate in the development or maintenance of the new data theme be brought into the process well before the preparation

of the resolution so that they will be in a position to support the resolution when it is raised at the CCOG meeting.)

6. The Canadian Council on Geomatics will make the final decision on the inclusion of the proposed new data theme. Their decision will be based on how well the data theme meets defined criteria for inclusion and on the affordability of the theme.

#### **4.6 Criteria for Accepting New Data Themes**

The following is a set of questions designed to determine the eligibility of a data theme for inclusion in GeoBase and to ensure that data themes meet the GeoBase principles. Each question can be answered simply yes or no. Following each question is a brief discussion of the reason behind the requirement and what is required to be able to give a positive response to the question.

Appendix “E” shows, for each of these acceptance criteria, which GeoBase principles and technical characteristics the acceptance criteria addresses.

All questions must be answered positively for a data theme to be eligible for inclusion in GeoBase.

##### **1) Is there a data coordinator identified?**

In order to ensure long term availability and maintenance it is essential that a data coordinator (as defined in Appendix “A”) be identified. The coordinator will ensure that appropriate custodian(s) will be in place for the data.

##### **2) Is there a reasonably broad user base for the information?**

GeoBase was developed to be a provider of fundamental base, or framework, geographic information. The information on the GeoBase portal is intended to be the reference, context and underpinning to which GeoBase users attach their geographic or other information datasets in order to create products and services.

There is no benefit in delivering data themes of limited or specialized use. These are better served by niche providers.

##### **3) Is the dataset well defined, or, if it currently is not, will the definition be developed as part of the data project?**

To be well defined the data must have the following:

- ◆ A nationally accepted standard data model that has been approved by the Canadian Council on Geomatics and that includes:
  - all entities and attributes defined;
  - relationships between entities and attributes defined;
  - domains defined for all attributes;
  - definition of a minimum content level (both for entities and attributes); and

- unique identifiers on all objects.
- ◆ Compatibility with any international standards (e.g. ISO TC211 standards, OGC) applicable to the data theme.
- ◆ Metadata in a CGDI compliant format.

#### **4) Is there a defined and accepted maintenance cycle for the data theme?**

The maintenance cycle needs to take into account the volatility of the data and the needs of the various user groups that will be using the data. Some data are static and will require no or very long cycles of updates. An example is the elevation data which can be considered static. The road network, on the other hand, will require frequent updating.

There also needs to be a formal acceptance of responsibility for maintenance by the primary maintenance authority for the data theme as well as a formal commitment by any partners to maintenance. Where there is a partnership arrangement (which is expected in the majority of cases), formal commitment should be executed as a contract or agreement between the partners. This agreement would also serve as evidence of commitment by the primary maintenance authority to maintaining the data. In the case of a single maintenance authority, formal commitment would take the form of a letter to the Chair of the Canadian Council on Geomatics committing to maintaining the data theme. It is important that the level of maintenance committed to be sufficient to support the needs and expectations of GeoBase data users.

It is important that what is meant by “maintenance” is well-defined. Maintenance is the modification of the dataset to reflect incremental changes that have occurred since the data was originally collected or since the last maintenance cycle. Typically changes in a maintenance cycle will affect only a small percentage of the data elements in a dataset. Maintenance also applies to correcting errors in the data.

Maintenance does not include updating a dataset to reflect changes made to the data standard or definition that was originally used for the dataset. This would be considered an upgrade and would have to be negotiated on a case by case basis.

#### **5) Does, or will, the data theme have national coverage?**

National coverage means that the information contained in the data theme will be collected for every portion of the country where:

- The information actually exists. (A database of salt water reefs could be considered to have national coverage in spite of it containing no information from the prairie provinces.)
- The information is of sufficient value to future users of the data theme to justify the cost of its collection. (A soil fertility theme that contains information for the rural portions of the country with a growing season of 100 days or more may be considered to have national coverage.)

It is not necessary to achieve national coverage with the first release of data for a particular data theme; however, there must be an achievable plan and schedule for reaching national coverage of that data theme.

**6) Will having this data theme available on GeoBase eliminate or significantly reduce or prevent redundant collection of the information?**

The objectives of GeoBase include:

- Elimination of redundant collection of the same information by different agencies or groups. This is expected to reduce costs.
- Provision of a common base, ensuring that everyone is working from the same information.

It should be noted that GeoBase data derived from other data is not redundant collection since the data is still only collected once.

**7) Will the information be collected by agencies closest to the source or with their participation?**

The most authoritative data is generally that data collected by the agency that is the closest to the source. Where closest-to-source collection is not possible, collection by another agency is acceptable, as long as all reasonable efforts to work with the closest-to-source agency have been made.

(Note that closest-to-source does not preclude a single agency operating on behalf of many other agencies, as long as it is with the agreement and participation of the many agencies. For reasons ranging from efficiencies of scale to consistency of results, many closest-to-source agencies may work with a single agency but that agency is acting as the agent for the closest-to-source agencies.)

**8) Will the information be made available at no charge to the users and with no restrictions on the use of the data?**

It is a policy of GeoBase that the information is to be made available for the public good without cost or restriction, as long as the data is not misrepresented or modified and redistributed as GeoBase data. In accordance with the GeoBase license, GeoBase must be acknowledged as the source of the data.

Evaluation of unrestricted distribution of data needs to consider privacy, legislation, and security issues.

**9) Are all issues related to hosting the data, whether on the GeoBase Portal or elsewhere, identified and resolutions identified?**

Where the data theme is expected to require extremely large storage requirements (e.g. orthoimagery) or extremely large bandwidth, consideration should be given to resolving these issues.



## 5 GeoBase Standards

One of the characteristics of GeoBase data is that “*GeoBase data comply with a standard data model and meet or exceed a minimum standard for accuracy, resolution and currency.*” In this section we discuss how the standards are developed, including what criteria the standards must meet and also what standards have been adopted.

### 5.1 Standards Criteria

- 1) GeoBase standards need to fit with international standards.
- 2) GeoBase standards define *what* and *when* but not *how*.
- 3) GeoBase standards will be maintained.

### 5.2 Current Standards

To date three sets of standards have been through the full development and acceptance process described in section 5.3 of this document. These are:

- National Road Network (NRN) 1.0,
- National Road Network 2.0 (which consists of revisions to the NRN 1.0 standard to include street names, place names and address ranges between intersections).
- National Hydrographic Network (NHN)

Full documentation of these standards is available on the GeoBase web site.

#### 5.2.1 Grandfathered Standards

For several of the data themes available on the GeoBase site existing standards were used that have not been through the full development and acceptance process identified in this document. These include the standards for:

- Digital Elevation Data
- Geodetic Network
- Geographical Names
- Geopolitical Boundaries
- Satellite orthoimagery

The standards for these products were presented to the CCOG and were adopted by Resolution F05-11. These adopted standards will serve as the starting point for any future standards development for these data themes.

No further standards will be grandfathered. All future standards will follow the processes outlined in this document.

### **5.3 Standards Development and Acceptance Process**

Standards development is a joint process with the development teams co-chaired by federal and provincial/territorial representatives. The chairs of the development team are responsible for ensuring adequate representation of interested federal/provincial/territorial members on the development team. They will also ensure that the development process allows ample time for consultation and input from user communities. CCOG members will be expected to perform sufficient consultation within their own jurisdictions and to provide appropriate feedback.

The standards development and acceptance process is as follows:

- 1) CCOG sanctions a request for a new standard and identifies the co-chairs for the standards development team;
- 2) Co-chairs, custodian and willing partners draft the standard;
- 3) The draft standard is circulated broadly for review and comment;
- 4) Comments are reflected in the draft standard;
- 5) NRCan reviews the draft standard against applicable international standards and against other data themes to ensure consistency, and provides advice on any non-conformity to the participating agencies and to the GeoBase Steering Committee;
- 6) Workshops are held with appropriate experts (internal and external) across Canada to further review and modify the draft standard;
- 7) The revised draft standard is sent to CCOG members for review;
- 8) After at least a two-month review period, the draft standard is tabled for a vote of acceptance by CCOG; and
- 9) The Standard is accepted if 75% of voting CCOG members are in favour of acceptance.

### **5.4 Standards Maintenance Process**

Any CCOG member can identify the need for a change to a standard. In order to move forward with the change 75% of voting CCOG members must be in favour.

The process for the change is the same as for a new standard.

## 6 GeoBase Portal

The GeoBase portal, located at [www.geobase.ca](http://www.geobase.ca), is the publicly visible part of GeoBase. As such it is important that it is useful, informative, and reflects positively on the GeoBase initiative and its partners. While the primary purpose of the portal is to provide access to the GeoBase data the portal is also a critical GeoBase communications tool.

The portal contains all the GeoBase standards associated with the datasets, providing one location to obtain the data and to understand the data and how it can be used. The portal is also used to provide users with updates and news about improvements to GeoBase and other changes of interest.

The following sections discuss the operational policies and future directions for the GeoBase portal.

### 6.1 Operational Policies

#### 6.1.1 Data Distribution Clearance

As a final step prior to loading a particular dataset into GeoBase the data custodians will be required to provide a letter to the chair of CCOG confirming their release of the data for public distribution and also confirming their commitment to the maintenance of the data according to the agreed upon schedule.

#### 6.1.2 Portal Maintenance

The GeoBase Portal maintenance is provided by Natural Resources Canada. Portal maintenance covers the following tasks:

- Assuring the on-line availability of the portal, and
- Assuring the availability of data for downloading from the Portal

#### 6.1.3 Portal Online Availability

The GeoBase Portal availability falls under the service standards of the CTI-S websites which ensure the availability of the Portal site 90% of the time on a monthly basis, 24 hours a day, 7 days a week. Service standards are managed by the CTI-S ISO-9001 quality assurance system and follow the NRCAN policies and processes on security.

#### 6.1.4 The Portal Provides Data and Not Application Services

The GeoBase portal will not be providing services to data users other than basic data provision services. For example it is expected that the portal will offer such services as web mapping services (WMS) and also data conversion services (e.g. coordinate transformation) but will not be providing services such as route location.

## 6.2 Future Directions

Apart from the subject of additional datasets which is discussed in section 4.3 of this document, there are four aspects to consider when considering future changes to the GeoBase portal:

- How does data get to the portal?
- How does a user find the data?
- How does a user access the data?
- How does a user report problems or ask questions about the data?

### 1) How does data get to the portal?

The GeoBase portal currently distributes copies of data provided by the data custodians. The GeoBase copy is essentially a controlled duplication of the custodians' own data base, and must be maintained separately from the custodians' data base, possibly resulting in different versions of the data being available at the same time from the two different sources.

This situation is not optimal and needs to be improved in the future. That said, there are reasons for the current situation. The current approach allowed the rapid creation of the portal and the early achievement of the primary objective of GeoBase – providing data to our users.

In the near future the portal will need to be upgraded to ensure that it is always providing the same information as the data custodian is providing. There are two ways that this can be achieved (with many variations of each).

The first, referred to as the “push” option, is for the data custodian to provide the updates to the GeoBase portal immediately once they are available on the data custodians' data base. The primary disadvantage to the push option is that it will require that the GeoBase portal continue to store and maintain a copy of all the data available through it while the primary advantage is that the data is directly available to users trying to access it through the GeoBase portal.

The second option, referred to as the “pull” option is for the GeoBase portal to not store any data but to simply access it from the data custodians' data base on an as needed basis. The advantage of this option is that the GeoBase portal does not need to store any information and the data custodians do not need to carry out any action specifically to keep the GeoBase current. The disadvantages of this approach are the additional network and data access loads that the data custodians will need to support.

More work is required to determine which approach will best serve the users of GeoBase.

### 2) How does the user find the data?

The GeoBase portal includes metadata search and query functions and data viewing functions that are CGDI compatible. These allow users to find and preview the data they require before actually downloading the data.

In the current implementation of the GeoBase portal the data is available in predefined packages. The package size varies from national coverage to half a 1:50,000 NTS map sheet as shown in the following table.

<u>Dataset</u>	<u>Delivery Unit</u>
Canadian Digital Elevation Data (CDED)	1:50,000 and 1:250,000 NTS map sheets (Each delivery is in two parts, an east half and a west half)
Geodetic Data	1:250,000 NTS map sheet
Geographic Names	1:50,000 NTS map sheet
Geopolitical boundaries	National coverage
National Hydro Network	NHN Work units
National Road Network	Full provincial coverages
Satellite orthoimagery	Full or part scenes

In future implementations of the portal additional functionality will be provided to allow users to define a specific area of interest for the data that they need. Currently someone who needs road network data for Windsor Ontario, for example, has to download all the Ontario road network data, including the City of Toronto.

The data selection criteria will include geographical selections and attribute based selections of data. The user will be able to preview the data on screen, including the use of pan and zoom functions.

### 3) How does the user access the data?

In the current implementation the user selects the files of interest and then downloads the files one at a time using either FTP or HTTP download functions. This can result in many downloads to obtain the information for a region. In future implementations of the portal users will be able to download the data for their specific area of interest in a single download. As well, users will be able to access the data using the standards web feature, web mapping, and/or web coverage services as defined by the Open GIS Consortium (OGC) and adopted by the CGDI.

#### 4) How does the user report problems or ask questions about the data?

The current incarnation of the portal includes a generic “contact us” web form. The questions (or trouble reports) go to the NRCan help desk at CTI-S. In the future the contact page will need to direct the comments to the appropriate data coordinator when reporting problems with a particular component or portion of a data theme. General comments should be directed to the [GeoBase Secretariat](#) for distribution to the members of the GeoBase Steering Committee and comments specific to the portal should be directed to the operators of the portal.

## 7 GeoBase Governance

### 7.1 General

Federal and provincial/territorial governments all deliver geomatics programs to assist in the administration of land and resources within their jurisdictions. Each of these governments has respective responsibility to generate geomatics data and/or use geomatics information to deliver their programs and services. At the same time, there is a shared desire to avoid duplication of effort and maximize co-operation in carrying out geomatics activities.

As a CCOG initiative, GeoBase was undertaken within the framework of the Geomatics Accord with the intent of having federal, provincial and territorial governments work together cooperatively to ensure the availability of quality digital base data for Canada.

The guiding principles for GeoBase, as stated in the Geomatics accord are:

- Data should be collected only once, closest to the source and in the most efficient way possible.
- Data should be integrated both horizontally and vertically across jurisdictions, to reduce duplication of effort and to promote the concept of “collect data once – use many times.”

In carrying out the activities of GeoBase, the federal and provincial/territorial members of GeoBase have some common (as well as some specific) responsibilities.

### 7.2 General Federal and Provincial/Territorial Responsibilities

Within the Geomatics Accord the federal and provincial/territorial roles and responsibilities were defined as:

The Government of Canada is generally responsible for:

- national leadership and co-ordination with international agencies;
- co-ordination of activities among federal agencies;
- provision and maintenance, directly or indirectly, of national databases;
- distribution of products generated from national-scale databases; and
- provision of a network that facilitates the discovery of and access to federal geomatics data and information, and links to similar provincial and territorial networks.

The provincial and territorial governments are generally responsible for:

- provincial/territorial leadership and co-ordination among provincial/territorial agencies;
- liaison/co-ordination with local government agencies;
- provision and maintenance, directly or indirectly, of provincial/territorial databases; and

- distribution of products generated from provincial/territorial databases.

In addition, all members of CCOG are committed to work cooperatively toward:

- the establishment of a Canadian Geospatial Data Infrastructure (CGDI);
- data and information production, integration, and sharing;
- data distribution and licensing;
- standards and specifications;
- technical and policy research; and
- applications development.

### **7.3 Specific Federal and Provincial/Territorial Roles and Responsibilities**

In practice, the two levels of government have specific roles to play within GeoBase and the Geomatics Accord.

#### **7.3.1 Federal Roles**

The federal participants in GeoBase are expected to:

- Lead standards and policy development initiatives and provide coordination with similar international initiatives.
- Encourage the use of GeoBase standards, policies, licences and data within federal departments and agencies and their users and suppliers.
- Participate in and represent coordinated federal efforts to utilize data that is collected once, closest to the source to reduce collection and maintenance costs – particularly by looking to provincial and territorial sources of data where such data is appropriate and cost effective.
- Provide high level coordination of GeoBase data themes including the addition of new data themes, the withdrawal of current data themes or addition of new attributes to current data themes. The federal participants are also expected to coordinate the maintenance of current data themes and the development of mutually agreeable cost sharing agreements for data capture and maintenance either through specific GeoBase projects or through agreements between individual federal and provincial/territorial ministries.
- Handle operation of the GeoBase Portal.

#### **7.3.2 Provincial Roles**

Provincial participants in GeoBase are expected to:

- Participate in the development of geomatics standards and policies and to lead the implementation of these standards and policies within their jurisdictions where possible.



- Provide leadership and coordination among provincial and territorial departments and agencies in the use of GeoBase policies, standards and data.
- Participate in activities and agreements that lead to development, maintenance and distribution of closest-to-source framework data sourced from provincial/territorial data holdings.
- Enter into long-term agreements with federal departments that will further the objectives of the Geomatics Accord in general and the provision and maintenance of closest-to-source framework data that is current, correct, maintained and available through the GeoBase Portal in specific.

### **7.3.3 GeoBase Organizational Structure**

CCOG is the governing body for GeoBase. The specific roles of CCOG's various committees and working groups are detailed in the Terms of Reference for each group. In 2006, CCOG began the process of renewing the Geomatics Accord, and restructured the governance of CCOG itself. Updated Terms of Reference for CCOG's governing bodies are available at the [CCOG Web site](#).

The roles and responsibilities of the GeoBase Steering Committee and its related committees and working groups are updated as necessary to align with direction provided by CCOG. The GeoBase Steering Committee Terms of Reference are attached in Appendix F of this document.



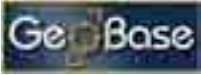
## **Appendix A**

### **Glossary and Definitions**



<b><u>Term</u></b>	<b><u>Definition</u></b>
<b>Base Map (or Base Data)</b>	A dataset that the Data User uses as the foundation on which the decision or business application is built. What is “base” depends on the user’s requirement, not the supplier’s definition. Given that the concept of base data is so varied and wide, it is an artificial distinction that is of minimal use and causes significant confusion. Try to avoid the term altogether.
<b>Data Coordinator</b>	The individual responsible for negotiating relationships, funding mechanisms, and agreements across the country. The Data Coordinator will also ensure that Data Custodians are in place and that appropriate standards are determined and implemented. Normally the Data Coordinator will be an employee of the Federal Government with a leadership interest in the data.
<b>Data Custodian</b>	The department, agency, etc. responsible for all aspects of the data, including its availability, currency, accuracy, etc. The data custodian also establishes all the rules and controls respecting the data. In doing so, they are expected to follow any regulations, policies, or guidelines that have been established by the government as a whole and their department. In short, the data custodian has full responsibility for and control over the data.
<b>Data Owner</b>	Always the Government as a whole and not individual departments, branches, agencies, ...
<b>Data Steward</b>	A third party engaged by the data custodian to carry out some or all of the data custodian’s responsibilities and / or exercise some of the control functions. The data steward reports only to the data custodian. The data custodian always has the responsibility for the data and its management. The use of a steward is an operational level decision by the custodian.
<b>Data User</b>	The person or agency using data in a decision-making process. Data users may have specific responsibilities as defined in an agreement between them and the data custodian (usually a license).
<b>Framework Data</b>	A consistent view of a particular data theme from a regional (1:10,000 – 1:250,000 scale) or national (1:250,000 – 1:3,000,000 scale) perspective. Framework data provides reference, context and underpinning to other geographic data.

<p><b>Maintenance</b></p>	<p>Maintenance is critical to the success of GeoBase. However, it will be considered on a theme by theme basis. Maintenance can be thought of as two activities: changes to the data as a result of actual changes to the features (both spatial and attribute), and changes required as a result of corrections to errors. Maintenance does not include enhancements or upgrades such as the addition of a new attribute or an increase in spatial accuracy beyond the described standards. Time frames listed in maintenance standards shall be from the time of discovery (in the case of an error) or the time of the actual feature change (where physical changes have occurred) until the change is reflected in the production database.</p>
<p><b>Metadata</b></p>	<p>Data that describes the spatial dataset (or any dataset).</p>
<p><b>Source Data</b></p>	<p>Data collected and managed by a data custodian to meet a specific business requirement.</p>
<p><b>Spatial Data</b></p>	<p>Any data that can be related to a location on, above, or below the surface of the earth. The spatial reference need not be by coordinate nor need it be precise or accurate. For example, a table of median family income by province is spatial data because it can be related to a location (province). Spatial Data is also known as geospatial data, geographic data, positionally referenced data, and many other synonyms.</p>



## **Appendix B**

# **GeoBase Unrestricted Use Licence Agreement**





## GeoBase Unrestricted Use Licence Agreement

This is a legal agreement between you (Licensee) and Her Majesty the Queen in Right of Canada (Canada) as represented by the Minister of Natural Resources Canada. BY ACCESSING, DOWNLOADING, PRINTING OR USING THE DATA, INFORMATION AND MATERIALS BEING PROVIDED WITH, OR ACCESSIBLE PURSUANT TO THIS AGREEMENT, YOU ARE AGREEING TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, YOU MUST IMMEDIATELY DISPOSE OF ANY SUCH DATA, INFORMATION, MATERIALS AND ANY DERIVED PRODUCTS.

- I **WHEREAS** Canada is the owner of or has rights in the data (the Data) addressed by the terms and conditions of this Agreement;
- II **AND WHEREAS** the Licensee wishes to obtain certain rights to the Data, on terms and conditions herein contained;
- III **AND WHEREAS** Canada represents that it has full authority to grant the rights desired by the Licensee on the terms and conditions herein contained;
- IV **AND WHEREAS** the parties hereto are desirous of entering into a licence agreement on the basis herein set forth.

**NOW, THEREFORE**, in consideration of the covenants contained in this Agreement, the parties agree as follows:

### 1.0 DEFINITIONS

1. **Canada's Data** means any and all Data, the Intellectual Property Rights of which vest with Canada.
2. **Canada's Licensed Rights** means those rights conferred upon Canada by third parties over the use of Data which is not Canada's Data.
3. **Data** means any digital data, meta-data, or documentation subject to the terms and conditions of this Agreement.
4. **Derivative Products** means any product, system, sub-system, device, component, material or software that incorporates or uses any part of the Data.
5. **Intellectual Property Rights** means any intellectual property right recognised by law, including any intellectual property right protected through legislation, such as that governing, but not limited to, copyright and patents.

### 2.0 LICENCE GRANT

1. Subject to this Agreement, Canada hereby grants to the Licensee a non-exclusive, fully paid, royalty-free right and licence to exercise all Intellectual Property Rights in the Data. This includes the right to use, incorporate, sublicense (with further right of

sublicensing), modify, improve, further develop, and distribute the Data; and to manufacture and / or distribute Derivative Products derived from or for use with the Data.

2. The Intellectual Property Rights arising from any modification, improvement, development or translation of the Data, or from the manufacture of Derivative Products, effected by or for the Licensee, shall vest in the Licensee or in such person as the Licensee shall decide.

### **3.0 PROTECTION AND ACKNOWLEDGEMENT OF SOURCE**

1. The Licensee shall identify GeoBase® as a data source where any of the Data are redistributed, or contained within Derivative Products, and use of the Data shall not be construed as an endorsement by GeoBase® of those Derivative Products.

### **4.0 WARRANTY, LIABILITY, INDEMNITY**

1. Canada makes no representation or warranty of any kind with respect to the accuracy, usefulness, novelty, validity, scope, completeness or currency of the Data and expressly disclaims any implied warranty of merchantability or fitness for a particular purpose of the Data. Canada does not ensure or warrant compatibility with past, current or future versions of your browser to access the site's Data.
2. The Licensee shall have no recourse against Canada, whether by way of any suit or action, for any loss, liability, damage or cost that the Licensee may suffer or incur at any time, by reason of the Licensee's possession or use of the Data.
3. The Licensee shall indemnify Canada and its officers, employees, agents and contractors from all claims alleging loss, costs, expenses, damages or injuries (including injuries resulting in death) arising out of the Licensee's possession or use of the Data.
4. The Licensee shall license all individuals (or companies) who obtain Data or Derivative Products from the Licensee the right to use the Data or Derivative Products by way of a license agreement, and that agreement shall impose upon these individuals (or companies) the same terms and conditions as those contained in section 4.0 of this Agreement.
5. The Licensee's liability to indemnify Canada under this Agreement shall not affect or prejudice Canada from exercising any other rights under law.

### **5.0 TERM**

1. This Agreement is effective as of the date and time of acceptance (Eastern Time) and shall remain in effect for a period of one (1) year, subject to subsections 5.2 and 6.0 below.
2. At the end of the first term, this Agreement shall automatically be extended for successive one (1) year terms, subject to section 6.0 below, provided the Licensee is not then in breach of any of the terms and conditions of this Agreement.

## 6.0 TERMINATION

1. Notwithstanding section 5.0, this Agreement shall terminate:
  - i. **automatically and without notice**, if the Licensee commits or permits a breach of any of its covenants or obligations under this Agreement;
  - ii. **upon written notice** of termination by the Licensee at any time, and such termination shall take effect thirty (30) days after the receipt by Canada of such notice; or
  - iii. **upon mutual agreement** of the parties.
2. Upon the termination for whatever reason of this Agreement, the Licensee's obligations under section 4.0 shall survive; and the Licensee's rights under section 2.0 shall immediately cease.
3. Upon the termination for whatever reason of this Agreement, the Licensee shall delete or destroy all Data acquired under this Agreement immediately or within a reasonable timeframe where the Data is required to complete orders of Derivative Products made before the termination date of this Agreement.

## 7.0 GENERAL

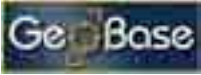
1. **Applicable Law**

This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the laws of Ontario. The parties hereto attorn to the jurisdiction of the Superior Court of the Province of Ontario and Canada as applicable.
2. **Entire Agreement**

This Agreement constitutes the entire agreement between the parties with respect to its subject matter. This Agreement may only be amended in writing, signed by both parties, which expressly states the intention to amend this Agreement.
3. **Dispute Resolution**

If a dispute arises concerning this Agreement, the parties shall attempt to resolve the matter first, by negotiation; second, by mediation by a mutually acceptable mediator; and, failing these, the dispute shall be finally settled by binding arbitration in accordance with the rules of the Commercial Arbitration Act (Canada), and judgement upon the award rendered by the arbitrators may be entered in any court having jurisdiction over the matter.





## **Appendix C**

### **CCOG Resolutions on GeoBase**



The following are all the resolutions related to GeoBase that have been passed by the Canadian Council on Geomatics at the annual and spring meetings since the inception of GeoBase.

<u>Res. #</u>	<u>Resolution</u>
<b><u>F01-1</u></b>	<p><b><u>Endorsement of the Vision and Principles for the GeoBase</u></b></p> <p><b>Whereas</b> the GeoBase is essential to users; and</p> <p><b>Whereas</b> working in collaboration to provide a national GeoBase will provide greater benefits and will lead to greater efficiencies and reduced overlap;</p> <p><b>Be it resolved</b> that the Council acknowledges the excellent collaboration and work of the CCOG sub-committee on the GeoBase in reviewing the HAL business case (response to resolution Spring 01-03) and assessment of its recommendations; and furthering the advancement of the GeoBase through the development of a vision and principles for the GeoBase;</p> <p><b>Be it further resolved</b> that CCOG shall be the governing body for the GeoBase to collaboratively establish standards, specifications and actions;</p> <p><b>Be it further resolved</b> that the Council endorses the vision, principles, roles and responsibilities as developed by the CCOG sub-committee describing the GeoBase (as presented to the 2001 CCOG annual meeting);</p> <p><b>Be it further resolved</b> that the Council establish a GeoBase Steering Committee, comprised of the members of the CCOG sub-committee and any other interested CCOG members, chaired by Francois Faucher, and that this group provide Council an updated action plan by December 15th, 2001; and</p> <p><b>Be it further resolved</b> that the steering committee report back at the mid-term Spring 2002 meeting to present technical details (content, standards), and governance (a draft fed-prov-terr agreement on roles and responsibilities) for the national GeoBase.</p>
<b><u>F01-2</u></b>	<p><b><u>Support for GeoBase Action Plan</u></b></p> <p><b>Whereas</b> Council recognizes that the development of the GeoBase requires the continued collaboration and collective efforts of Council members;</p> <p><b>Be it resolved</b> that Council acknowledges the need for a new operating environment to develop that GeoBase; and</p> <p><b>Be it further resolved</b> that the Council supports the GeoBase action plan (presented at the Fall 2001 CCOG meeting), and its proposed actions to begin operationalizing the GeoBase through pilot projects, developing consensus on technical and operational details, and in further development of the business case.</p>

<p><b><u>F01-4</u></b></p>	<p><b><u>Establishment of Dedicated Team for GeoBase</u></b></p> <p><b>Whereas</b> Council supports the recommendation that CCOG needs to continue and accelerate the work on the GeoBase; and</p> <p><b>Whereas</b> Council recognizes that a dedicated team be assigned to work full-time on the advancing the GeoBase;</p> <p><b>Be it resolved</b> that the CCOG GeoBase Steering Committee develop job descriptions for these posts that will be circulated to CCOG members, and that the CCOG GeoBase Steering Committee run a competition and review candidates, and select two persons by January 2002 for a one year-term; and</p> <p><b>Be it further resolved</b> that CCOG members share the costs of this dedicated team using the following formula -- \$30,000 in total from provincial/territorial members and the balance of the funds from federal government members.</p>
<p><b><u>F01-07</u></b></p>	<p><b><u>Proposal on Framework Data Partnerships</u></b></p> <p><b>Whereas</b> the broad user community, the private sector and Council members each recognize the importance of framework data and the need for broader access to this data; and</p> <p><b>Whereas</b> the Council endorses the concept of more freely accessible framework data (the seven themes defined as GeoBase by the GeoConnections Framework Data Node), but recognizes the limitations in implementing this concept in various member agencies; and</p> <p><b>Whereas</b> Council members have valuable framework databases that can contribute to the development of GeoBase, and accelerate the progress of delivering regional framework data to users;</p> <p><b>Be it resolved</b> that Francois Faucher, Chair of the GeoBase Steering Committee, seek Management Board support to develop a proposal on the investment of framework data program funds to accelerate the transition to free and unrestricted user access to a maintained GeoBase; and</p> <p><b>Be it further resolved</b> that pending support from the GeoConnections Management Board, that the GeoBase Steering Committee develop the proposal on the transition approach for the Spring 2002 Session.</p>
<p><b><u>S02-2</u></b></p>	<p><b><u>Advancing GeoBase Coordination</u></b></p> <p><b>Whereas</b> Council recognizes that the development of GeoBase requires the continued collaboration of its members;</p> <p><b>Be it resolved</b> that Council recommend to the GeoConnections Management Board the merger of the Framework Data Node and the GeoBase Steering Committee, with the merged entity to report regularly to Council and Board; and</p> <p><b>Be it further resolved</b> that GeoBase create an advisory body to provide an effective forum for industry, non-government agencies and users in the development, evolution and maintenance of GeoBase; and</p> <p><b>Be it further resolved</b> that Council acknowledge the need for a GeoBase</p>



	<p>Secretariat and support efforts to create the Secretariat that reassign the existing personnel of the GeoConnections Framework Data Secretariat and add two new persons.</p>
<p><b><u>S02-3</u></b></p>	<p><b><u>Speeding Transition to GeoBase</u></b></p> <p><b>Whereas</b> the broad user community, the private sector and Council members all recognize the importance of framework data and the need for broader access to these data; and</p> <p><b>Whereas</b> Council members have valuable framework data that can contribute to the development of GeoBase and accelerate the delivery of regional-resolution framework data to users;</p> <p><b>Be it resolved</b> that Council support the criteria proposed and the approach put forward by the GeoBase Steering Committee (as amended at the meeting and attached) regarding the GeoConnections funds (up to \$1 million per year) directed to accelerating the transition to free and unrestricted user access to a maintained GeoBase; and</p> <p><b>Be it further resolved</b> that these criteria be used to evaluate proposals and determine the allocation of the funds.</p>
<p><b><u>F02-1</u></b></p>	<p><b><u>Support for GeoBase Coordination</u></b></p> <p><b>Whereas</b> Council recognizes that efforts on GeoBase continue to advance rapidly and provide the means to coordinate inter-jurisdictional efforts, reduce duplication and improve the development and maintenance of geospatial framework data for Canada; and</p> <p><b>Whereas</b> the Council acknowledges the excellent work of the CCOG GeoBase Steering Committee (GBSC), and efforts to develop the representation and governance approaches in support of the GeoBase efforts;</p> <p><b>Be it resolved</b> that the Council supports the work on representation and governance and that the Council approves the GeoBase Steering Committee Terms of Reference (as appended to the Fall 2002 resolutions), as well as the proposed use of task-oriented work groups and establishment of an advisory committee to further support GeoBase work;</p> <p><b>Be it further resolved</b> that Council support the revised membership of the GeoBase Steering Committee to include Nancy Vanstone (NS), Brian Maloney (ON), David Downing (YK), Roger Balsler (BC), Lt Col. Pierre Bilodeau (DND), Gordon Deecker (StatsCan), Jeff Labonte (GeoConnections), Yves Belzile (NRCan), and chaired by Jean Cooper (NRCan).</p>
<p><b><u>F02-2</u></b></p>	<p><b><u>Maintenance of the GeoBase Secretariat</u></b></p> <p><b>Whereas</b> Council appreciates the important work of the GeoBase Secretariat in moving forward the GeoBase initiative through cooperation, policy and project development, and technical efforts; and</p> <p><b>Whereas</b> the Council recognizes the need to continue and advance the work on the</p>

	<p>GeoBase through a dedicated full-time team;</p> <p><b>Be it resolved</b> that the Council members support that the GeoBase Steering Committee add the necessary staff to the GeoBase Secretariat from member agencies (federal, provincial or territorial); and</p> <p><b>Be it further resolved</b> that CCOG members continue to share the costs of this dedicated team using the following formula -- \$30,000 in total from provincial/territorial members, and the balance of the funds from federal government members.</p>
<p><b><u>F03-04</u></b></p>	<p><b><u>GeoBase Portal Opening</u></b></p> <p><b>Whereas</b> GeoBase is a national initiative undertaken in the spirit of the Geomatics Accord whereby the Federal and Provincial/Territorial governments have agreed to work together with all stakeholders to ensure the availability of quality base geospatial data over all of Canada in the short and long run; and</p> <p><b>Whereas</b> CCOG is the governing body for the GeoBase initiative; and</p> <p><b>Whereas</b> CCOG has commissioned a Steering Committee to plan and direct the implementation of GeoBase; and</p> <p><b>Whereas</b> the Steering Committee and Council members have worked diligently to develop version 1.0 of the GeoBase Portal; and</p> <p><b>Whereas</b> version 1.0 of the GeoBase Portal will consist of the six minimum level themes: geodetic network, road network, imagery, landform, administrative boundaries and place names;</p> <p><b>Be it resolved</b> that the Council approves the recommendation of the GeoBase Steering Committee to open version 1.0 of the GeoBase Portal on International GIS Day November 19, 2003; and</p> <p><b>Be it further resolved</b> that NRCan complete the implementation of the portal to deliver the six minimum themes under the direction of the GeoBase Steering Committee to ensure the successful opening of the GeoBase Portal Version 1 on November 19, 2003.</p>
<p><b><u>F03-05</u></b></p>	<p><b><u>GeoBase Data Standards Maintenance</u></b></p> <p><b>Whereas</b> National Data Standards were established for GeoBase themes but have not been officially approved by the Council; and</p> <p><b>Whereas</b> the National Data Standards were developed cooperatively and through consultation by one or more agencies; and</p> <p><b>Whereas</b> the responsibility for the maintenance of National Data Standards needs to continue in a cooperative and collaborative manner;</p> <p><b>Be it resolved</b> that the Council members approve the content of national standards (providing a national consultation has taken place) and will be accepted if 75% of all voting members are in favour; and</p> <p><b>Be it further resolved</b> that requests for new standards be made to the GeoBase</p>

	<p>Steering Committee; and</p> <p><b>Be it further resolved</b> that Council sanction requests for a new national standard and determine the leadership and maintenance for the standard; and</p> <p><b>Be it further resolved</b> that NRCan will provide advice regarding applicable international standards and ensure consistency between the themes defined by the national standards.</p>
<p><b><u>F03-06</u></b></p>	<p><b><u>Evolution of CGDI Data Alignment Layer</u></b></p> <p><b>Whereas</b> the CGDI Data Alignment Layer (CDAL) was created to help users move their existing data holdings to the national framework data themes; and</p> <p><b>Whereas</b> the points in CDAL were derived from a previous version of the National Topographic Data Base (Version 3.1), and can no longer satisfy evolving user needs in the context of GeoBase; and</p> <p><b>Whereas</b> there is a need for users to register other datasets to the GeoBase reference framework;</p> <p><b>Be it resolved</b> that Council members approve the abolition of the CDAL in favour of a new product called the “GeoBase DAL” containing the updated and more precise reference points derived from the GeoBase Landsat-7 ortho-images collaborative project.</p>
<p><b><u>F03-07</u></b></p>	<p><b><u>GeoBase Roles and Responsibilities</u></b></p> <p><b>Whereas</b> members of CCOG recognize that we have common objectives; and</p> <p><b>Whereas</b> the members recognize that the optimum way to achieve these objectives is through collaborative partnerships; and</p> <p><b>Whereas</b> for a partnership to succeed it is critical that the roles, responsibilities and accountabilities of partners be well defined and understood by each partner and their constituents;</p> <p><b>Be it resolved</b> that CCOG establish a task force of federal, provincial and territorial members to:</p> <ol style="list-style-type: none"> <li>1. review the current GeoBase roles and responsibilities of the different levels of government, and</li> <li>2. reports to Council for the fall 2004 meeting on the current state and provides recommendations on potential changes on roles, responsibilities and accountabilities to avoid duplication of effort and to meet GeoBase objectives and client requirements.</li> </ol>

<p><b><u>F04-06</u></b></p>	<p><b><u>Confirmation of GeoBase Steering Committee Membership</u></b></p> <p><b>Whereas</b> CCOG is accountable for confirming the GeoBase Steering Committee membership on an annual basis;</p> <p><b>Be it resolved</b> that CCOG appreciates and acknowledges the GeoBase Steering Committee contributions of members from the Yukon Territory and British Columbia;</p> <p><b>Be it further resolved</b> that CCOG confirms members from Saskatchewan and the North West Territories as new participants on the GeoBase Steering Committee;</p> <p><b>Be it further resolved</b> that CCOG confirms Denis DeGagne as a federal member of the GeoBase Steering Committee; and</p> <p><b>Be it further resolved</b> that CCOG confirms Jean Cooper as Chair of the GeoBase Steering Committee for an additional term of two years (ending fall 2006).</p>
<p><b><u>F04-07</u></b></p>	<p><b><u>Implementation of GeoBase Roles and Responsibilities</u></b></p> <p><b>Whereas</b> CCOG established a task force to report on recommended roles, responsibilities and accountabilities for GeoBase; and</p> <p><b>Whereas</b> the task force has completed its work and submitted its report to CCOG; and</p> <p><b>Whereas</b> the Council is in substantive agreement with the content of the report;</p> <p><b>Be it resolved</b> that the each CCOG member examine the recommended roles and responsibilities and the operational implementation of these in their respective jurisdictions by December 15, 2004 and provide feedback to the GeoBase Secretariat; and</p> <p><b>Be it further resolved</b> that the GeoBase Steering Committee prepare a draft report on recommended actions for presentation at the CCOG spring special session to support the implementation by CCOG members of the roles and responsibilities identified in the task force report, and that the task force report be finalized by the CCOG fall 2005 meeting.</p>
<p><b><u>F04-08</u></b></p>	<p><b><u>GeoBase Working Group on the Business Case</u></b></p> <p><b>Whereas</b> the GeoBase effort is delivering benefits to CCOG members; and CCOG members would benefit from further information on the benefits/costs and results of additional efforts; and</p> <p><b>Whereas</b> there exists a need for a thorough examination of the issues and development of the business case for further advancement of the GeoBase effort;</p> <p><b>Be it resolved</b> that CCOG members support the development of a thorough business case, and that CCOG appoint a four-person GeoBase WG (equal membership of federal/provincial and territorial representation) to develop the key questions, issues and information required from CCOG members for the business case;</p> <p><b>Be it further resolved</b> that the GeoBase WG provide a draft report of the business</p>

	<p>case requirements by December 15, 2004; and</p> <p><b>Be it further resolved</b> that the GeoBase Steering Committee develop a business case development plan to be tabled at the CCOG spring special session, with the full business case to be developed by the CCOG fall 2005 meeting.</p>
<p><b><u>S05-05</u></b></p>	<p><b><u>Advancing the Business Case through Value Management</u></b></p> <p><b>Whereas</b> the CCOG has been working to establish a business case to identify and highlight the value of GeoBase to Canada and collaboration among CCOG members; and</p> <p><b>Whereas</b> the Council was provided an overview presentation on value management and the development of value chains with performance measurement;</p> <p><b>Be it resolved</b> that CCOG endorses the increased analysis of results chains and value management to further the business case and demonstrate both the value of GeoBase to Canada and benefits of collaboration among CCOG members; and</p> <p><b>Be it further resolved</b> that this activity would complete CCOG resolution F04-08.</p>
<p><b><u>S05-06</u></b></p>	<p><b><u>GeoBase Strategic and Communication Plan</u></b></p> <p><b>Whereas</b> CCOG members had a presentation on GeoBase communications that outlined the need for a strategic plan and to expand communications activities over the next six months;</p> <p><b>Be it resolved</b> that CCOG endorses and will provide \$300,000 to support the GeoBase Secretariat in the development and adoption of a strategic plan and aligned communications plan and that the funding be equally shared between provincial/territorial members and the federal government;</p> <p><b>Be it further resolved</b> that the CCOG Chair ensure that the provincial/territorial members cooperatively determine the shares among respective members and that StatsCan and DND coordinate the shares from the federal government and that both groups will report results to the Chair of the GeoBase SC by June 27th, 2005; and</p> <p><b>Be it further resolved</b> the CCOG plan celebration activities on the second anniversary of the GeoBase Portal opening.</p>
<p><b><u>S05-07</u></b></p>	<p><b><u>Movement of CCOG Standards to the Canadian General Standards Board (CGSB)</u></b></p> <p><b>Whereas</b> the CCOG has and will continue to produce important CCOG standards for geomatics data and related technologies; and</p> <p><b>Whereas</b> the formal process for the establishment of national geomatics standards is submission and acceptance by the Canadian General Standards Board (CGSB);</p> <p><b>Be it resolved</b> that CCOG has agreed to a formal process to determine and submit geomatics standards to the CGSB; and</p>

	<p><b>Be it further resolved</b> that CCOG will follow a formal process where adopted CCOG standards that are in production in at least three jurisdictions will be submitted to the CGSB according to the formal process outlined at the 2005 Spring session.</p>
<p><b>F05-05</b></p>	<p><b><u>Special CCOG spring session</u></b></p> <p><b>Whereas</b> the council is undertaking significant work with respect to the senior executive group; and</p> <p><b>Whereas</b> the GeoBase Steering Committee has been requested to produce the first draft of the Principles, Policies and Procedures (PPP) manual;</p> <p><b>Be it resolved</b> that:</p> <ol style="list-style-type: none"> <li>1. A special spring 2006 session of CCOG hosted by the federal government be held in Ottawa to consider these items and other that may arise.</li> <li>2. All CCOG members are encouraged to participate in this meeting.</li> </ol>
<p><b>F05-07</b></p>	<p><b><u>Confirmation of GeoBase Steering Committee membership</u></b></p> <p><b>Whereas</b> CCOG is accountable for confirming the GeoBase Steering Committee membership on an annual basis;</p> <p><b>Be it resolved</b> that CCOG appreciates and acknowledges past GeoBase Steering Committee contributions of Lt. Col. Pierre Bilodeau from the Department of National Defence;</p> <p><b>Be it further resolved</b> that CCOG confirms LtCol Steve Gregory from the Department of National Defence as a new participant on the GeoBase Steering Committee; and</p> <p><b>Be it further resolved</b> that CCOG confirms the current membership of the GeoBase Steering Committee for an additional year.</p>
<p><b>F05-09</b></p>	<p><b><u>Production of the GeoBase Principles, Policy and Procedures Manual</u></b></p> <p><b>Whereas</b> the GeoBase Steering Committee has completed a values management study; and</p> <p><b>Whereas</b> the Steering Committee has produced a draft GeoBase Strategic Plan and Principles, Policy and Procedures Manual;</p> <p><b>Be it resolved</b> that CCOG directs the GeoBase Steering Committee to continue its work on integrating these documents and bring them forward for approval at a</p>

	<p>spring 2006 special session of CCOG.</p>
<p><b>F05-11</b></p>	<p><b><u>GeoBase standards</u></b></p> <p><b>Whereas</b> the specifications for the GeoBase themes: Canadian Digital Elevation Data, Administrative Boundaries, Canadian Geodetic Network, Geographic Names and Satellite Imagery have been in use since the opening of the GeoBase Portal in November 2003; and</p> <p><b>Whereas</b> CCOG recognizes the importance of demonstrating their commitment to the provision of GeoBase data; and</p> <p><b>Whereas</b> CCOG wishes to assure users that GeoBase data will be provided in accordance with recognized standards for geospatial data;</p> <p><b>Be it resolved</b> that CCOG hereby adopt the standards for these aforementioned data themes as they appear on the GeoBase Portal on October 18, 2005 as officially adopted CCOG Standards.</p>
<p><b>F05-12</b></p>	<p><b><u>GeoBase National Road Network version 2 standards</u></b></p> <p><b>Whereas</b> the proposed NRNV2 standards were distributed to members on July 28<sup>th</sup>, 2005; and</p> <p><b>Whereas</b> comments received have been incorporated in the proposed standard;</p> <p><b>Be it resolved</b> that the current NRNV2 standard is adopted as an approved CCOG standard.</p>
<p><b>F05-13</b></p>	<p><b><u>NRNV2 Maintenance Pact for Geometry, Road Names and Address Ranges</u></b></p> <p><b>Whereas</b> the workgroup of the provincial and federal representatives has successfully developed a maintenance pact as required by resolution S05-03; and</p> <p><b>Whereas</b> the pact was presented to CCOG at this meeting;</p> <p><b>Be it resolved</b> that:</p> <ol style="list-style-type: none"> <li>1. CCOG recognizes the efforts and accomplishments of the S05-03 task group.</li> <li>2. CCOG endorses the maintenance pact (as amended) as a basis for individual federal-provincial/territorial agreements.</li> <li>3. CCOG members are encouraged to seek appropriate authorization to implement and execute the pact and to report back at the proposed spring special session.</li> <li>4. Release of the additional attributes on GeoBase will be discussed at the</li> </ol>

	<p>special 2006 spring session.</p>
<p><b>S06-02</b></p>	<p><b><u>GeoBase Principles, Policies and Procedures (GPPP) Manual</u></b></p> <p><b>Whereas</b> the GeoBase Steering Committee has completed the GeoBase Principles, Policies and Procedures Manual as directed in resolution F05-09; and</p> <p><b>Whereas</b> the members of CCOG have reviewed this document within their jurisdictions and are satisfied with its contents;</p> <p><b>Be it resolved</b> that CCOG adopts the GeoBase Principles, Policies and Procedures Manual and directs the GeoBase Steering Committee and the members of CCOG to respect the principles and follow the policies and procedures when dealing with GeoBase related matters; and</p> <p><b>Be it further</b> resolved that the GeoBase Steering Committee be directed to incorporate any proposed changes or additions into the Manual and to submit the revisions at a subsequent CCOG meeting for approval.</p>
<p><b>F06-03</b></p>	<p><b><u>GeoBase: Confirmation of (1) the GeoBase Steering Committee Membership and (2) the GeoBase Principles, Polices and Procedures Manual</u></b></p> <p><b>Whereas</b> CCOG is accountable for confirming the membership GeoBase Steering Committee on an annual basis; and</p> <p><b>Whereas</b> the GeoBase Principles, Polices and Procedures (PPP) Manual was adopted at the CCOG Spring 2006 meeting; and</p> <p><b>Whereas</b> the GeoBase Steering Committee advises that no additional updates are required at this time;</p> <p><b>Be it resolved</b> that CCOG confirms the current membership of the GeoBase Steering Committee for an additional year;</p> <p><b>Be it further resolved</b> that Council directs the GeoBase Steering Committee to review annually the Principles, Polices and Procedures Manual and present any recommended changes at the CCOG Fall meeting; and</p> <p><b>Be it further resolved</b> that CCOG recognizes the work of the GeoBase Steering Committee over the past year.</p>
<p><b>F06-04</b></p>	<p><b><u>Funding of the Operations of the GeoBase Steering Committee and Secretariat</u></b></p> <p><b>Whereas</b> CCOG members remain committed to the support of the GeoBase Steering Committee and Secretariat;</p>

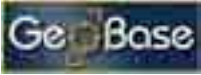


	<p><b>Be it resolved</b> that CCOG will provide \$300,000 to the support of the activities of the GeoBase Steering Committee and Secretariat for fiscal year 2007/08 in continuation of the existing funding model. 50% of the funding will be provided by the federal members and the other 50% by provincial territorial members;</p> <p><b>Be it further resolved</b> that the provincial/territorial members will determine the division of their contribution amongst their members and the federal members will determine the division of the federal contribution amongst federal members; and</p> <p><b>Be it further resolved</b> that both groups will report the agreed-upon distributions to the GeoBase Secretariat by the 30<sup>th</sup> of November, 2006 and the funding will be payable no later than the 30<sup>th</sup> of June.</p>
<p><b>F06-06</b></p>	<p><b><u>Sustainability and Funding of the GeoBase Initiative</u></b></p> <p><b>Whereas</b> the CCOG Strategic Steering Committee has directed CCOG to report on jurisdictional costs, options and recommendations on GeoBase related issues related to resource commitments (money and people), data maintenance and updating, addition of data themes and governance of GeoBase taking into account user needs;</p> <p><b>Be it resolved</b> that the GeoBase Steering Committee provide templates to jurisdictions in order to coordinate and facilitate the presentation to CCOG Council at the Spring 2007 Special Session the following materials;</p> <ul style="list-style-type: none"> <li>• a report on the GeoBase service and formal commitments by jurisdictions related to the Secretariat and current GeoBase data themes;</li> <li>• a report on the prioritization of new GeoBase themes and attributes including the formal commitments of resources and funding to the new themes by individual jurisdictions;</li> <li>• a commitment from NRCan for the continuing support and operation of the GeoBase Portal; and</li> <li>• a report on the on options and recommendations for the governance of GeoBase taking into account user needs and the evolving geomatics environment in Canada.</li> </ul> <p><b>Be it further resolved</b> that CCOG members agree to respond to requests for information and to complete the templates provided by the GeoBase Steering Committee regarding the development of materials in relation to this resolution.</p>
<p><b>S07-01</b></p>	<p><b><u>GeoBase Sustainability and Priorities for New Data Layers</u></b></p> <p><u>Sustainability</u></p> <p><b>Whereas</b> the it was found that members funding commitments showed broad</p>

	<p>support of the GeoBase Secretariat and in maintaining the current GeoBase data layers;</p> <p><b>Be it resolved</b> that based on the information collected the sustainability of the GeoBase initiative is demonstrated;</p> <p><u>New data layers</u></p> <p><b>Whereas</b> a survey of members confirmed commitment and interest in the expansion of GeoBase and confirmed priority rankings of potential new theme layers to be added to GeoBase;</p> <p><b>Be it resolved</b> that the new data layers to be added to GeoBase are:</p> <ul style="list-style-type: none"> <li>- National Hydro Network (NHN),</li> <li>- National Road Network Version 2 (NRNv2),</li> <li>- Municipal Boundaries, and</li> <li>- Land cover</li> </ul> <p><b>Be it further resolved</b> that the development of the new data layers be undertaken by the following task teams:</p> <ul style="list-style-type: none"> <li>- NHN: NRCan, Newfoundland, British Columbia</li> <li>- NRNv2: StatsCan, NRCan</li> <li>- Municipal Boundaries: Canada Post, NRCan, British Columbia, Ontario</li> <li>- Land Cover: Agriculture Canada, NRCan</li> <li>- The Steering Committee acquires some level of independence from CCOG, so that operational issues and requirements could be disconnected from policy makers.</li> </ul>
<p><b>S07-02</b></p>	<p><b><u>GeoBase Governance</u></b></p> <p><b>Whereas</b> three governance models for the GeoBase initiative were presented and discussed;</p> <p><b>Whereas</b> the council agreed that the governance model supports the collaborative spirit of CCOG and the Canadian Geomatics Accord;</p> <p><b>Be it resolved</b> that governance should continue to operate under the modified status quo model whereby:</p> <ul style="list-style-type: none"> <li>- User community representation is added to the Steering Committee.</li> <li>- The role of the GeoBase Secretariat to follow-up and report progress on actions, including those actions delegated to CCOG is increased, and that the communications aspect of the Secretariat role is increased.</li> <li>- The Steering Committee moves away from the requirement for 100%</li> </ul>

	<p>partner participation prior to adding a new layer.</p>
<p><b>F07-03</b></p>	<p><b><u>GeoBase PPP, Steering Committee Terms of Reference, and Communications Plan</u></b></p> <p><b>Whereas</b> the modifications to the GeoBase Steering Committee Terms of Reference and the GeoBase PPP documents have been presented to CCOG;</p> <p><b>Whereas</b> a communication plan has been developed;</p> <p><b>Whereas</b> additional time is needed for review of the documents;</p> <p><b>Be it resolved</b> that members will review the material (Terms of Reference, Communications Plan, and Long Term Vision) and e-mail their comments to the GeoBase Secretariat by November 1, 2007, after which time the GeoBase Secretariat will poll CCOG by e-mail for acceptance of these changes.</p>
<p><b>F07-04</b></p>	<p><b><u>Support of the GeoBase Steering Committee and Secretariat</u></b></p> <p><b>Whereas</b> the CCOG remain committed to the support of the GeoBase steering committee and secretariat;</p> <p><b>Whereas</b> the provincial/territorial members have determined the distribution of the provincial/territorial share of the support;</p> <p><b>Whereas</b> the federal members have determined the distribution of the federal share of the support;</p> <p><b>Be it resolved</b> that the provincial/territorial members using the same distribution will finalize agreements by December 1, 2007;</p> <p><b>Be it further resolved</b> that the federal members using the same distribution will finalize agreements by December 1, 2007.</p>
<p><b>F07-05</b></p>	<p><b><u>Revised Policy for Adding Data to GeoBase</u></b></p> <p><b>Whereas</b> the CCOG is interested in adding additional data to GeoBase;</p> <p><b>Whereas</b> there is a minimum profile for each data layer;</p> <p><b>Whereas</b> contributors may wish to provide data beyond the profile;</p> <p><b>Be it resolved</b> that CCOG supports the addition of such data subject to the requirement that these additions follow the process described in the GeoBase Principles, Policies and Procedures (PPP). (see Annex 1 – PPP document)</p>

<p><b>F07-06</b></p>	<p><b><u>Completing GeoBase Data Layers</u></b></p> <p><b>Whereas</b> there is a desire to continue to have uniformity across GeoBase themes:</p> <p><b>Whereas</b> some jurisdictions are unable to contribute to fulfilling these requirements with closest to source data;</p> <p><b>Be it resolved</b> that the GeoBase Steering Committee should study timelines and identify alternatives methods for completing the data layers and report back to the next CCOG meeting on possible alternate sources.</p>
<p><b>F07-07</b></p>	<p><b><u>Addition of Two GeoBase Layers</u></b></p> <p><b>Whereas</b> GeoBase Steering Committee has recommended the addition of two layers, namely the First Nation reserves and Federal Electoral boundaries;</p> <p><b>Be it resolved</b> that CCOG accepts the addition of these layers to GeoBase subject to the requirement that these additions follow the process described in the PPP.</p>



## **Appendix D**

### **Original GeoBase Themes and their Definitions**

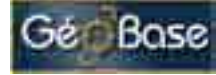


The following table contains the first definitions of the inaugural GeoBase themes. More complete, and possibly more current, definitions of the themes can be found on the GeoBase web site.

Theme	Definition	<u>Minimum-level content</u>
<b>1. Administrative Boundaries</b>	Administrative Boundaries or limits of land under federal and provincial jurisdictions.	International boundary; Inter-provincial/territorial boundaries; Exclusive Economic Zone of Canada (200 nautical mile offshore area).
<b>2. Geodetic Networks</b>	Horizontal and vertical geodetic control information in the form of thousands of points distributed across Canada.	Four Canadian Spatial Reference System (CSRS) products of over 95,000 horizontal and vertical geodetic points: Canadian Base Network, Primary Vertical Network, Federal 3D Densification Network, and Federal 2D Densification Network.
<b>3. Place Names</b>	Officially approved place names of Canadian land features and water bodies.	A subset (345,000 out of approx. 500,000 names) of the Canadian Geographic Names Database (CGNDB). Current and official names as approved by the Geographical Names Board of Canada (GNBC). These names are available in a floating point format (names attached to geographical coordinates).
<b>4. National Road Network</b>	Vector description of the primary and secondary roads in Canada forming a continuous network of over 1,000,000 km following the National Road Network (NRN) standards.	Up-to-date and accurate (6 metres on average) seamless centrelines of the Canadian road network for all provinces and territories. This version of the road network doesn't include—though the model permits it—resource roads (cart tracks and dry-weather roads).
<b>5. Imagery</b>	National coverage of recent ortho-rectified satellite images picturing the Canadian landmass.	Landsat-7 ortho-rectified multi-band images with 15,30,60 metres ground resolutions and a positional accuracy of 15-20 metres in average.

<b>6. Landform</b>	Digital Elevation Models (DEM) consisting of an ordered array of regularly spaced ground elevation points depicting the topography of the country.	Complete national coverage at the 1:50,000 scale or better. From provincial data in B.C., ON, and N.S. (partnerships); 1:50,000 existing contours elsewhere; and from RadarSat imagery where no 1:50,000 map exists (currently in feasibility study stage in collaboration with the Canadian Space Agency).
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## **Appendix E**

# **Fit Between GeoBase Principles, Technical Characteristics and Acceptance Criteria**



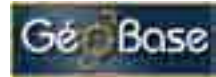
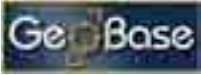
## Fit Between GeoBase Principles, Technical Characteristics and Acceptance Criteria

	<u>Acceptance Criteria</u>							
	Is there a data custodian identified?	Is there a reasonably broad user base for the information?	Is the dataset well defined, or, if it currently is not, will the definition be developed as part of the data project?	Is there a defined and accepted maintenance cycle for the theme?	Does, or will, the data theme have national coverage?	Will having this theme available on GeoBase eliminate or significantly reduce redundant collection of the information?	Will the information be collected by agencies closest to the source or with their participation?	Will the information be made available at no cost to the user and with no restrictions on the use of the data?
<u>GeoBase Principles</u>								
Source, regional and, where practical, national data should all share the same geometry.		✓			✓	✓	✓	✓
GeoBase will provide national data coverages.		✓			✓	✓		
Source data should be collected only once.		✓	✓	✓	✓	✓	✓	✓

	<u>Acceptance Criteria</u>							
	Is there a data custodian identified?	Is there a reasonably broad user base for the information?	Is the dataset well defined, or, if it currently is not, will the definition be developed as part of the data project?	Is there a defined and accepted maintenance cycle for the theme?	Does, or will, the data theme have national coverage?	Will having this theme available on GeoBase eliminate or significantly reduce redundant collection of the information?	Will the information be collected by agencies closest to the source or with their participation?	Will the information be made available at no cost to the user and with no restrictions on the use of the data?
Source data should be collected and maintained by the responsible data custodian.	✓			✓		✓	✓	
Source data programs must be sustainable in the long term.	✓	✓	✓	✓		✓	✓	
The cost of maintenance and update must be shared among the partners.		✓		✓		✓	✓	
There will be no charges for GeoBase data (Free Data).								✓
GeoBase data will have no restrictions on its subsequent use.								✓

<u>Acceptance Criteria</u>								
	Is there a data custodian identified?	Is there a reasonably broad user base for the information?	Is the dataset well defined, or, if it currently is not, will the definition be developed as part of the data project?	Is there a defined and accepted maintenance cycle for the theme?	Does, or will, the data theme have national coverage?	Will having this theme available on GeoBase eliminate or significantly reduce redundant collection of the information?	Will the information be collected by agencies closest to the source or with their participation?	Will the information be made available at no cost to the user and with no restrictions on the use of the data?
GeoBase data will all use a common license.								✓
GeoBase is a data provider primarily directed at providing data to service providers.		✓						
<u>Technical Characteristics</u>								
GeoBase data elements carry a unique and singular ID.			✓					
GeoBase data comply with a standard data model and meet or exceed a minimum standard for accuracy, resolution and currency.			✓					

<u>Acceptance Criteria</u>								
	Is there a data custodian identified?	Is there a reasonably broad user base for the information?	Is the dataset well defined, or, if it currently is not, will the definition be developed as part of the data project?	Is there a defined and accepted maintenance cycle for the theme?	Does, or will, the data theme have national coverage?	Will having this theme available on GeoBase eliminate or significantly reduce redundant collection of the information?	Will the information be collected by agencies closest to the source or with their participation?	Will the information be made available at no cost to the user and with no restrictions on the use of the data?
Metadata is defined and standardized at the entity level.			✓					
GeoBase data and all associated tools, services and applications adhere to international standards.			✓					
GeoBase data is seamless across Canada.	✓					✓		



## **Appendix F**

# **GeoBase Steering Committee Terms of Reference**



## CANADIAN COUNCIL ON GEOMATICS (CCOG)

### GeoBase Steering Committee Terms of Reference

#### A. Introduction

GeoBase is a federal, provincial and territorial government initiative that is overseen by the Canadian Council on Geomatics (CCOG). It has been undertaken to ensure the provision of, and access to, a common, up-to-date and maintained base of quality geospatial data for all of Canada. Through the GeoBase portal, users with an interest in the field of geomatics have access to quality geospatial information at no cost and with unrestricted use.

GeoBase responds to Canadians' requests for access to data at no cost to users. It is built on partnerships and innovative technology. By working together, multiple levels of government are increasing their efficiency in collecting and maintaining geospatial data. This also reduces duplication of efforts among agencies.

GeoBase data has been produced and is available in accordance with established national standards and includes explicit metadata to facilitate its use. GeoBase data provides reference, context and underpinning to a wide variety of thematic data for government, business and individual applications. Canadians will not only benefit from access to data, but also from ongoing geospatial data updates, that will be delivered through the GeoBase portal.

GeoBase is a key component of the Canadian Geospatial Data Infrastructure that has been promoted and facilitated through GeoConnections. The GeoConnections program has provided significant funding for the preparation of, and accessibility to, GeoBase data and the GeoBase portal complies with GeoConnections' vision and principles.

#### B. Background

The GeoBase initiative grew from the realization - by Canadian government mapping agencies - that existing base map coverage was outdated and inaccurate. Initially, the GeoBase initiative was developed through the efforts and activities of two inter-related but separate committees; the CCOG GeoBase Steering Committee, and the GeoConnections Framework Data Node, both having recognized the importance of a current, consistent, and maintained base of geographical information.

With the creation of the GeoBase Steering Committee in 2001, CCOG and the GeoConnections Management Board merged the two committees. The merged GeoBase Steering Committee, governed by the CCOG, was to plan and direct the development and implementation of GeoBase, and to ensure the delivery of GeoConnections Framework Data commitments.



The CCOG endorsed the Vision and the Principles, Policies and Procedures of GeoBase, and continues to support the GeoBase Steering Committee, the GeoBase Secretariat, and if necessary, any associated advisory and/or working groups.

This document presents the role, governance model and operating principles of the GeoBase Steering Committee.

### C. Role

Reporting to the CCOG, the role of the GeoBase Steering Committee is:

1. To develop and recommend to the CCOG the strategy for the implementation of GeoBase;
2. To provide high level directions on the implementation of approved strategy and related action plans;
3. To review progress on the development of GeoBase, report and recommend adjustments as necessary;
4. To assist the CCOG members in aligning with and supporting the GeoBase concept, strategy and implementation plan;
5. To present, explain and promote the GeoBase initiative to the Canadian stakeholders community including:
  - federal, provincial and territorial Ministers,
  - NRCan Minister's National Advisory Board (MNABE),
  - federal Inter-Agency Committee on Geomatics (IACG) along with their provincial/territorial counterparts,
  - Geomatics industry and academic associations, and
  - Other major user groups.

### D. Members

GeoBase Steering Committee membership has been designed to provide a broad spectrum of views on the GeoBase initiative.

The Steering Committee is composed of ten members with eight members representing the Federal and Provincial/Territorial governments, one member representing the geomatics industry, and one member representing the geomatics academic community. The eight government members of the GeoBase Steering Committee members are drawn from CCOG participating agencies, and are equally divided into federal and provincial/territorial representation with four federal members, and four regionally-represented provincial/territorial members. Memberships shall be reconfirmed or renewed at the Fall meetings of the CCOG.

Provincial/territorial members are appointed for two years with the possibility of renewal at the option of the provincial and territorial members of the CCOG.

Provincial/territorial representation on the GeoBase Steering Committee is regional, with members representing; the Atlantic provinces, Central Canada, the Western provinces and the Northern Territories.

If changes in regional representation are made, they are made in alternating years, in order to facilitate continuity on the GeoBase Steering Committee. Representation from the Atlantic and Western provinces are appointed or re-confirmed in odd numbered years, and from Central Canada, and the Northern Territories in even numbered years.

Federal members are appointed for two years with the possibility of renewal at the option of the federal IACG.

On the federal side, representation falls broadly into the following constituencies: IAGC users, IAGC producers, Communities of Practice (CoPs), and Major Federal projects. Changes to, and/or re-confirmations of federal representation are also to be made in alternating years in order to foster continuity on the GeoBase SC.

The two members representing the Canadian geomatics industry and academic community will change or be re-confirmed every two years.

Members shall serve as independent experts providing strategic directions to this national initiative, GeoBase. In the event that a member feels that his/her independence is compromised, he/she must disclose the potential conflicts of interest to the Chair.

#### **E. Chair**

In addition to the Committee membership, there will be a Chair of the GeoBase Steering Committee. The chair is normally the Director General of the Surveys and Mapping Branch of NRCan. An alternative may be appointed chair with the agreement of the CCOG.

#### **F. Governance**

The GeoBase Steering Committee reports to the CCOG as the governing body for the GeoBase initiative.

The GeoBase Steering Committee strives for consensus. Should a vote be deemed appropriate, a majority of votes is required. The Chair will have voting privileges equal to that of any other GeoBase Steering committee member.

#### **G. Committees**

The GeoBase Steering Committee may, at its discretion, appoint an advisory committee, and/or task-oriented committees or working groups with specific terms of reference.

#### **H. Secretariat**

The GeoBase Secretariat reports to the Chair of the Steering Committee and is hosted by NRCan. It is a national organization funded and staffed by federal and provincial/territorial organizations 1) to provide professional and logistical support to the Steering Committee and related advisory and working committees; 2) to produce, maintain and execute the GeoBase implementation work plan; and 3) to liaise with the GeoBase stakeholder community.

#### **I. Meetings**

The Steering Committee will meet at least quarterly and will maximize the use of electronic means such as telephone or videoconferences and electronic mail. Face to face meeting will be kept to a minimum and be convened only on an as-required basis. The GeoBase Secretariat can also call for a meeting upon request from one of the members to the Chair in order to address an important and urgent question. Semi-annual reports will be produced by the Chair and/or Secretariat and be distributed to the Steering Committee members and the CCOG.

#### **J. Remuneration**

Steering Committee members serve without remuneration, but may be provided with appropriate assistance with travel expenses for attending and participating in meetings.

#### **K. Amending procedures**

Amendments to these terms of reference must be approved through a CCOG resolution or vote. Any proposed amendment must be circulated to CCOG members at least 7 days prior to the vote.