National Hydro Network

NHN Index Description

Edition 1.2

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Gouvernement du Canada
Ressources naturelles Canada
Centre canadien de la cartographie et d'observation de la Terre

Service à la clientèle de GéoGratis
Téléphone : +01-819-564-4857
1-800-661-2638 (Canada et États-Unis)
Télécopieur : +01-819-564-5698
Courriel : geoginfo@RNCan.gc.ca
URL : www.GeoGratis.gc.ca

Canada

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RELEASES HISTORY

Date	Version	Description
2008-03-05	1.0	Initial version
2008-05-20	1.1	Section 2 – Product Identification and 5 – Attributes Identification have been modified.
2012-02-13	1.2	Removal of “drainage area” from sections 1- Overview and 4.1 NHN Index Feature Class. Update of the source for the last eight attributes in section 5- Attributes Identification.

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1 OVERVIEW

The National Hydro Network (NHN) product is acessible on the GeoBase Web portal (www.geobase.ca) since October 1, 2007. Each NHN dataset corresponds to a NHN Work Unit Limit which delimits the territory covered by the dataset. This limit makes up the territorial divisions from which are produced and distributed NHN datasets.

The **NHN Index** is a national index that groups together all "NHN Work Unit Limits" at a specific time "T" for the entire Canadian landmass. This index is updated and published at interval on the GeoBase portal according to a "per release" approach, synchronized with NHN data publication. Update and publication frequency is determined according to NHN data publication. The NHN Index was first published March 20, 2008. Because it is generated at a specific time "T" and comprises all "NHN Work Unit Limits in the country, those limits are thus at different editing stages, where some have been fully edited and others partially or not at all. Moreover, it is important to realize that "NHN Work Unit Limits" will be modified over time, for example when new more up-to-date source data become available.

The NHN Index is distributed in SHAPE (ESRI™) format. This document thus provides its description for this format. In particular, it describes file names, features and attributes that make up the index.

2 PRODUCT IDENTIFICATION

Name:	NHN Index
Version:	XX (Different for each new release of the NHN Index) (e.g. 01, 02, 03)
Date:	YYYY-MM-DD (Different for each new release of the NHN Index)

3 DISTRIBUTION FORMATS IDENTIFICATION

3.1 Shape (ESRI™)

Name:	Shape
Version:	01
Date:	July 1998
Specifications:	ESRI Shapefile Technical Description, an ESRI White paper - July 1998 (http://www.esri.com/library/whitepapers/pdfs/shapefile.pdf)

4 DISTRIBUTION FILES IDENTIFICATION

4.1 NHN Index feature class

All NHN datasets include a "NHN Work Unit Limit" feature. This feature delimits the territory covered by the NHN data and is the limit from which each NHN dataset is produced and distributed.

The "NHN Index" contains one single feature, namely:

- "**NHN Index Work Unit Limit**"

This feature's **definition** is the same as the "NHN Work Unit Limit" feature, that is to say:

Polygon delimiting an NHN dataset.

At a specific time “T”, this feature geometrically corresponds to the “NHN Work Unit Limit” feature provided with each NHN dataset. However, in the case of the NHN Index, all existing “NHN Work Unit Limit” feature occurrences are provided together, instead of one single “NHN Work Unit Limit” feature provided with each NHN dataset.

Same as for the “NHN Work Unit Limit” feature, the “NHN Index Work Unit Limit” feature has an area (polygon) type geometric representation.

4.2 Shape file names

The NHN Index unique feature is represented in Shape (ESRI™) file names as follows:

NHN_INDEX_<edition>_INDEX_WORKUNIT_LIMIT_2.shp where

- NHN = National Hydro Network product;
- INDEX = Product index;
- <edition> = NHN Index edition;
- INDEX_WORKUNIT_LIMIT = “NHN Index Work Unit Limit” feature class written in an abbreviated manner;
- 2 = Code indicating the geometric representation of the feature. A value “2” means that it is an area (polygon) type feature class;
- .shp = Extension of the main geometry file name.

In Shape (ESRI™) format, there are also three other file types which usually complete the main geometry file of an NHN feature:

- an attribute file (.dbf for dBASE® file);
- a spatial index file (.shx) containing an offset (relative position) for each record of the main geometry file;
- a projection file (.prj) holding information about the geospatial reference system used and the cartographic projection parameters.

4.3 File name of the distributed compressed file (ZIP)

Actually, only one single NHN Index file is published on the GeoBase Web portal (www. Geobase.ca) for the Shape (ESRI™) format. It is a file compressed using the ZIP (.zip) format, which contains .dbf, .prj, .shp, and .shx files, and having the following filename:

NHN_INDEX_<edition>_INDEX_WORKUNIT_LIMIT_2.zip where

- NHN = National Hydro Network product;
- INDEX = Product index;
- <edition> = NHN Index edition;
- INDEX_WORKUNIT_LIMIT = “NHN Index Work Unit Limit” feature class written in an abbreviated manner;
- 2 = Code indicating the geometric representation of the feature. A value “2” means that it is an area (polygon) type feature class;
- .zip = Extension of the ZIP compressed file name.

5 ATTRIBUTES IDENTIFICATION

The “NHN Index Work Unit Limit” feature has many attributes, namely :

- Province Code 1;
- Province Code 2;
- Province Code 3;
- Province Code 4;
- Validity Date;
- Edition;
- Dataset Name;
- Version;
- Completeness Level;
- WSCMDA (Water Survey of Canada Major Drainage Area);
- WSCSDA (Water Survey of Canada Sub-Drainage Area);
- WSCSSDA (Water Survey of Canada Sub-Sub-Drainage Area);
- FDA (Fundamental Drainage Area);
- Ocean;
- WSCMDA Name;
- WSCSDA Name;
- WSCSSDA Name;

The first eight (8) attributes above are identical to those of the “NHN Work Unit Limit” feature that is found in each NHN dataset.

The Completeness Level attribute effectively provides the completeness level of the NHN dataset corresponding to the drainage area or NHN Work Unit identified under the “Dataset Name” attribute, when existent of course. Possible values for the “Completeness Level” attribute are:

- NHN-CL1 (NHN-Completeness Level 1);
- NHN-CL2 (NHN-Completeness Level 2);
- NHN-CL3 (NHN-Completeness Level 3);
- NHN (NHN complete, which corresponds also to NHN-Completeness Level 4);
- No Data (no NHN data available for this NHN drainage area);
- Non Applicable (used when the NHN Completeness Level is not defined or not applicable).

The eight (8) attributes following the “Completeness Level” attribute above come from the **Fundamental Drainage Areas** data file (**canadfda_p.dbf**) from the **Atlas of Canada 1,000,000 National Frameworks Data, Hydrology - Drainage Areas** product available on the GeoGratis Web portal (www.geogratis.ca).

NB Attributes highlighted in YELLOW above and below are those selected for the tabular version of the NHN Index, which can also be found on the GeoBase site. This tabular version file is actually a subset of the present index.

5.1 “NHN Index Work Unit Limit” feature attributes in Shape format

In the following table, the data type is expressed as:

- Int = integer;
- Real = real number;
- C(c) = character (c = number of character);
- N(n,d) = number (n = number of digits, d = number of decimals).

Nom de l'attribut	Nom d'attribut en format Shape	Type de données
Province Code 1	PROVCD_1	C(100)
Province Code 2	PROVCD_2	C(100)
Province Code 3	PROVCD_3	C(100)
Province Code 4	PROVCD_4	C(100)
Validity Date	VALDATE	C(8)
Edition	EDITION	C(2)
Dataset Name	DATASETNAM	C(50)
Version	VERSION	C(2)
Completeness Level	COMPLEVEL	C(20)
WSCMDA	WSCMDA	C(2)
WSCSDA	WSCSDA	C(3)
WSCSSDA	WSCSSDA	C(4)
FDA	FDA	C(5)
Ocean	OCEAN	C(20)
WSCMDA Name	WSCMDANAME	C(100)
WSCSDA Name	WSCSDANAME	C(100)
WSCSSDA Name	WSCSSDANAM	C(100)

where

WSCMDA: Water Survey of Canada Major Drainage Area
WSCSDA: Water Survey of Canada Sub-Drainage Area
WSCSSDA: Water Survey of Canada Sub-Sub-Drainage Area
FDA: Fundamental Drainage Area