

Catalogue no. 16-510-X
ISBN 978-0-660-99832-9

Census of Environment: Spatial information products

Human landscape modification index: Data product specifications

by Rebecca Cameron

Release date: June 25, 2026



Statistics
Canada

Statistique
Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

Email at infostats@statcan.gc.ca

Telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following numbers:

- | | |
|---|----------------|
| • Statistical Information Service | 1-800-263-1136 |
| • National telecommunications device for the hearing impaired | 1-800-363-7629 |
| • Fax line | 1-514-283-9350 |

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "Contact us" > "[Standards of service to the public](#)."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Published by authority of the Minister responsible for Statistics Canada

© His Majesty the King in Right of Canada, as represented by the Minister of Industry, 2026

Use of this publication is governed by the Statistics Canada [Open Licence Agreement](#).

An [HTML version](#) is also available.

Cette publication est aussi disponible en français.

Table of contents

1 Overview	5
1.1 Title	5
1.2 Reference date.....	5
1.3 Responsible party	5
1.4 Language	5
1.5 Terms and definitions.....	5
1.6 Abbreviations and acronyms	6
1.7 Informal description of the data product	6
2 Specification scope	6
2.1 Scope identification	6
2.2 Level.....	6
2.3 Level name.....	6
2.4 Level description.....	6
2.5 Extent.....	7
2.5.1 Description Description	7
2.5.2 Vertical extent	7
2.5.3 Horizontal extent	7
2.5.4 Temporal extent	8
2.6 Coverage	8
3 Data product identification	9
4 Data content and structure.....	9
4.1 Description.....	9
4.2 Feature information	9
4.3 Coverage information	9
4.3.1 Description	9
4.3.2 Coverage type	9
4.3.3 Specification.....	10
4.4 Reference to the specification scope	10
5 Reference systems	10
5.1 Spatial reference system	10
5.2 Linear reference system.....	10
5.3 Temporal reference system.....	10
5.4 Reference to specification scope	10

6 Data quality	10
6.1 Completeness	10
6.1.1 Commission	10
6.1.2 Omission	10
6.2 Logical consistency	11
6.2.1 Conceptual consistency	11
6.2.2 Domain consistency	11
6.2.3 Format consistency	11
6.2.4 Topological consistency	11
6.3 Positional accuracy	11
6.4 Temporal accuracy	11
6.5 Thematic accuracy	11
7 Data capture	12
7.1 Description	12
7.2 Reference to the specification scope	15
8 Data maintenance	15
8.1 Description	15
8.2 Reference to the specification scope	15
9 Portrayal	15
10 Data product delivery	15
10.1 Delivery format information	15
10.1.1 Format name	15
10.1.2 Version	15
10.1.3 Specification	15
10.1.4 File structure	15
10.1.5 Language	16
10.1.6 Character set	16
10.2 Delivery medium information for static files	16
10.2.1 Units of delivery	16
10.2.2 Transfer size	16
10.2.3 Medium name	16
10.2.4 Other delivery information	16
10.3 Reference to specification scope	16
11 Additional information	16
12 Metadata	16
12.1 Reference to specification scope	16

Human landscape modification index: Data product specifications

by Rebecca Cameron

1 Overview

1.1 Title

Human landscape modification index: Data product specifications

1.2 Reference date

2026-06-25

1.3 Responsible party

Census of Environment

Environment Accounts and Statistics Division, Statistics Canada

150 Tunney's Pasture Driveway

Ottawa, Ontario

K1A 0T6

Email: statcan.environ-environ.statcan@statcan.gc.ca

1.4 Language

eng — English

fra — French

1.5 Terms and definitions

Composite index: An aggregation of several variables or indicators into a single measure.

Cutline: A corridor cleared through the landscape to facilitate cadastral or seismic surveys or create fire breaks. Often used to transport survey equipment for natural resource exploration.

Degree of modification: The degree to which a landscape has been modified from a natural state. Heavily built-up areas with a large proportion of artificial surfaces and a lower proportion of natural and semi-natural areas can be considered the most modified or the least intact.

Human landscape modification index: A composite index used to measure direct human modifications to the landscape, based on the degree that an area has been modified from a natural or semi-natural state, the relationship of an area to the nearest patch of natural and semi-natural land and the size of that patch, the relationship of an area to the nearest linear feature, and the density of nearby linear features. Values range from 0 to 100, with higher scores indicating more intensively modified areas and lower scores representing more intact areas.

Landscape fragmentation: The division of natural and semi-natural landscapes into smaller and more disconnected or isolated patches.

Linear feature density: A measure of linear features that cut across a landscape, calculated based on the length of roads, rail lines, cutlines and electrical transmission lines per unit area. The linear feature dataset used in the human landscape modification index does not include most pipelines.

Natural and semi-natural patch: All land cover classes except built-up and artificial surfaces (including linear features), cropland, and forest harvested from 1990 to 2020. A single patch of natural and semi-natural land has a minimum size of 9 pixels (where the size of one pixel is 30 metres by 30 metres).

1.6 Abbreviations and acronyms

CanLaD	Canada Landsat Disturbance
CoE	Census of Environment
EA	Ecosystem Accounting
EO	Earth observation
GeoTIFF	Geographic tagged image file format
HLMI	Human landscape modification index
ISO	International Organization for Standardization
LCR	Land Cover Register
NSN	Natural and semi-natural
SEEA	System of Environmental Economic Accounting

1.7 Informal description of the data product

This product, called the human landscape modification index (HLMI), is a raster dataset representing the degree to which an area has been directly modified from a natural state. It covers Canada's terrestrial and freshwater extent (excluding the Great Lakes), represents the period around 2020, and has a 30-metre spatial resolution. The HLMI is a composite index that aggregates three components of human modification: land use, natural and semi-natural (NSN) patch size, and linear features. Values range from 0 to 100, with higher scores indicating more intensively modified ecosystems. The main purpose of the dataset is to help measure ecosystem condition to support ecosystem accounting.

This dataset is released as part of a suite of products associated with the Census of Environment (CoE). The CoE organizes data on Canada's natural environment based on the [System of Environmental Economic Accounting](#) (SEEA) international statistical standard, which includes the SEEA Central Framework and the SEEA Ecosystem Accounting (EA) module. The SEEA EA takes a spatial approach to accounting for ecosystems and natural capital. This product is relevant under the condition accounts of the SEEA EA and is considered a landscape-level characteristic of ecosystem condition.

This dataset will be updated on an occasional basis.

2 Specification scope

In these specifications, only one scope is used.

2.1 Scope identification

Main

2.2 Level

Dataset

2.3 Level name

Main scope of the HLMI dataset

2.4 Level description

Gridded dataset of the degree of human modification of all terrestrial and freshwater areas of Canada (excluding the Great Lakes)

2.5 Extent

2.5.1 Description

This product is a two-dimensional direct landscape modification dataset covering Canada's terrestrial and freshwater extent (excluding the Great Lakes) with a temporal extent around 2020.

2.5.2 Vertical extent

The data are two-dimensional. There is no elevation (z) associated with the data.

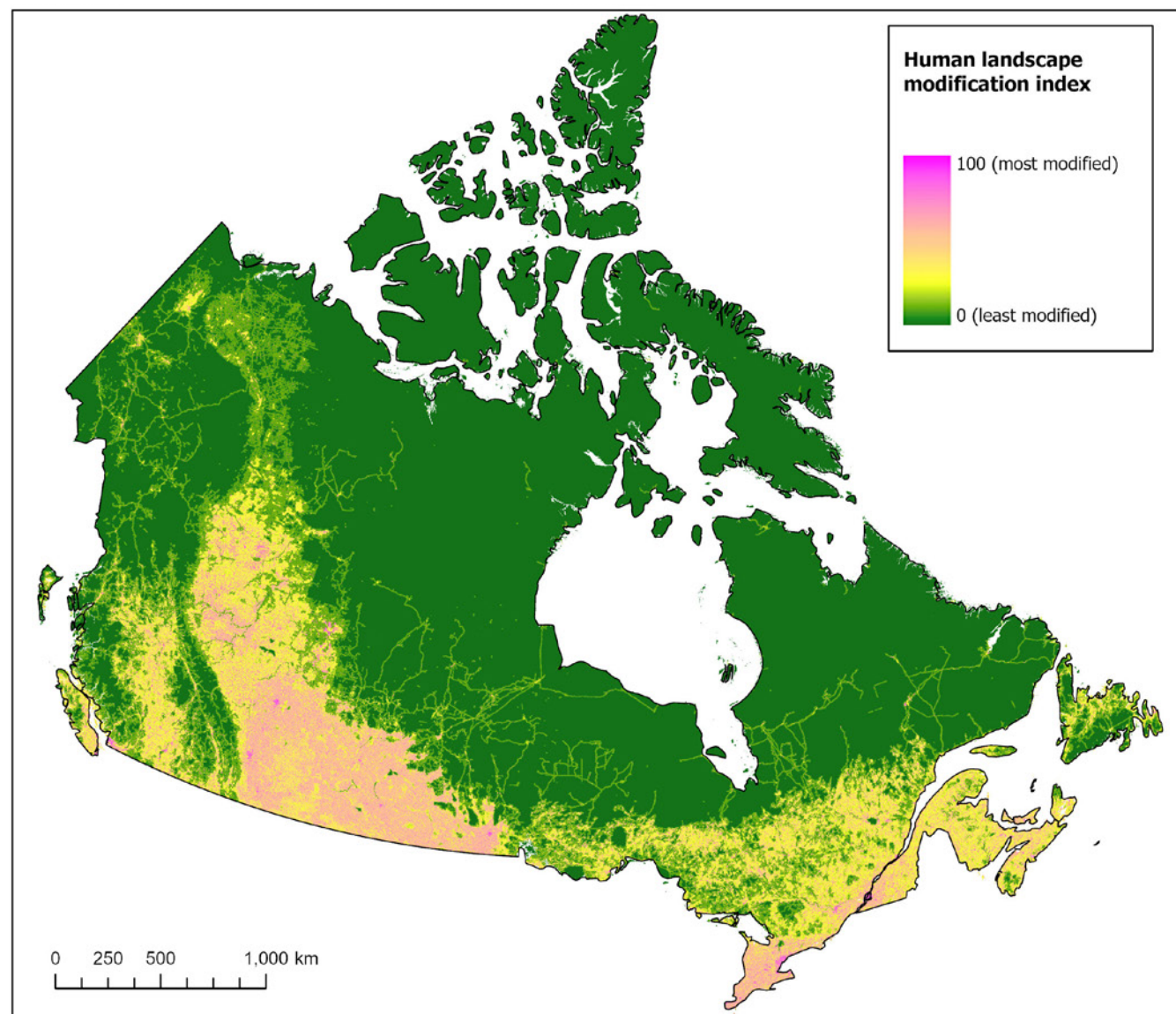
2.5.3 Horizontal extent

The dataset covers all areas of Canada's terrestrial and freshwater extent (excluding the Great Lakes).

Table 1
Longitude and latitude boundaries

	Degrees
West bounding longitude	-141
East bounding longitude	-52
South bounding latitude	41
North bounding latitude	84

Source: Statistics Canada, Environment Accounts and Statistics Division.

Map 1**Extent of the human landscape modification index**

Source: Statistics Canada, Environment Accounts and Statistics Division.

2.5.4 Temporal extent

This product represents directly modified land around 2020. The dataset was derived from multiple spatial datasets, including the Land Cover Register (LCR)¹ representing the year 2020; however, some linear feature datasets used to produce the HLMI represent a point in time before or after 2020. Table 3 in Section 7.1 lists the datasets used to create the HLMI and their vintage.

2.6 Coverage

The information applies to all coverages.

1. Statistics Canada. (2025). [Land Cover Register](#)

3 Data product identification

Table 2
Data product identification for the Human Landscape Modification Index

Title	Human landscape modification index
Alternate title	HLMI_IMPH_2020
Abstract	Human landscape modification index for Canada's terrestrial and freshwater extent (excluding the Great Lakes). Each 30-metre by 30-metre pixel is assigned an index value ranging from 0 (low modifications) to 100 (high modifications).
Purpose	This product provides users with geographic and thematic data on the human landscape modification index of Canada. It was produced in the context of developing measures of direct landscape modifications for ecosystem condition accounts following the System of Environmental Economic Accounting Ecosystem Accounting framework.
Topic category	Environment, imageryBaseMapsEarthCover
Spatial representation type	Grid
Spatial resolution	30 metres
Geographic description	Authority: International Organization for Standardization (ISO) ISO 3166-1:2020 Codes for the representation of names of countries and their subdivisions—Part 1: Country codes Reference date of the ISO 3166-1 standard: 2020-08-25 Data type: Publication Code: CA—Canada Extent type code: Inclusion
Specification scope	Main

Source: Statistics Canada, Environment Accounts and Statistics Division.

4 Data content and structure

4.1 Description

This product is a raster dataset that uses a composite index to represent the degree of direct modifications to Canada's terrestrial and freshwater extent (excluding the Great Lakes).

4.2 Feature information

Not applicable

4.3 Coverage information

4.3.1 Description

Name: Human landscape modification index

Technical description: The product represents the degree of direct modifications to Canada's terrestrial and freshwater areas (excluding the Great Lakes) around 2020 at a 30-metre resolution. It is an index with values ranging from 0 to 100. Higher HLMI scores indicate a higher degree of modification from the natural ecosystem state; they occur where NSN ecosystems have been converted to more intensive land uses such as settlements and agroecosystems or where there is more landscape fragmentation. Lower HLMI scores represent lower rates of direct human modification and indicate where ecosystem functions are more likely to be closer to their natural state.

Type of coverage content: Physical measurement

4.3.2 Coverage type

Continuous quadrilateral grid coverage

4.3.3 Specification

4.3.3.1 Domain extent

Refer to Section 2.5 of this document.

4.3.3.2 Range type

Name: Human landscape modification index

Value data type: Integer (0 to 100)

4.3.3.3 Common point rule

Not applicable

4.4 Reference to the specification scope

Main

5 Reference systems

5.1 Spatial reference system

For information on the spatial reference system, refer to the [Statistical Ecosystem Register grid system reference files: Data product specifications](#).

5.2 Linear reference system

Not applicable

5.3 Temporal reference system

Gregorian calendar

5.4 Reference to specification scope

Main

6 Data quality

6.1 Completeness

This product covers the entirety of Canada's terrestrial and freshwater extent (excluding the Great Lakes) at a 30-metre resolution.

6.1.1 Commission

Some degree of misclassification is present in all datasets derived from Earth observation (EO). Misclassification of linear features is also possible in the input vector files. It is therefore possible that some pixels were misclassified as directly modified in the input datasets, and this would affect their HLMI score.

6.1.2 Omission

The linear feature data used to produce the HLMI were amalgamated from a variety of sources. It is possible that some linear features were not captured in this process, since datasets had varying levels of completeness and detail. Additionally, pipelines were not included as a specific linear feature type in the linear feature dataset because of insufficient data availability and coverage.

6.2 Logical consistency

6.2.1 Conceptual consistency

This dataset is meant for use at the national and regional scales and is not recommended for finer-resolution analysis or reporting. The HLMI is not intended as a primary source for analysis of settled areas; however, if this is of interest, it is recommended that users supplement the HLMI with other datasets. Additionally, the dataset is not designed for or intended to support change detection. While new versions of the HLMI may be published in the future, it will likely not be possible to infer change with a high degree of confidence, since the changes could be the result of differences in methods and datasets used as inputs.

6.2.2 Domain consistency

Verification and validation procedures ensure the range of values remains coherent.

6.2.3 Format consistency

The use of well-established commercial software to generate distribution formats ensures format consistency for product distribution.

6.2.4 Topological consistency

The product was aligned to the CoE 30-metre grid,² which uses the spatial reference system described in Section 5.1 and has a point of origin at the bottom left corner of (3,000,000 metres East, 0 metres).

6.3 Positional accuracy

Unknown. Reprojection and alignment of the various datasets that were integrated to create the HLMI may have introduced positional error.

6.4 Temporal accuracy

While the land cover dataset integrated into this product represents the year 2020, some of the linear feature datasets represent time periods before or after this year. It is recommended that users consider this product as approximately representative of the year 2020.

6.5 Thematic accuracy

The HLMI uses datasets derived from EO. Uncertainty in EO-derived data arises from a variety of factors, including scale dependency, classification errors and limitations, and positional and temporal accuracy.

Since the HLMI was created by integrating multiple spatial datasets representing different temporal periods, the HLMI should be considered as around the year it was named.

Many road, rail, powerline and cutline layers (originating from sources exhibiting a range of quality, accuracy and completeness) were merged to create the linear feature layer input for the HLMI. Because of the complexity and sheer number of linear feature segments, not all hanging nodes (i.e., unconnected linear segments) were connected. Every effort was made to connect the hanging nodes of the road, rail and powerline features along provincial and territorial boundaries; however, for the cutline features, this was more difficult.

Certain linear feature files used as an input for this product were modified, specifically features outside the scope of the project or those that were duplicated among sources (e.g., ferry routes, paths and airport strips).

2. Whiteley, J. (2025). [Statistical Ecosystem Register grid system reference files: Data product specifications](#)

7 Data capture

7.1 Description

The HLMI is an indicator of ecosystem integrity and provides a measure of the degree to which an area has been modified from its natural state as represented by direct land use practices on the landscape. It is an index with values ranging from 0 to 100, where high values represent a higher degree of direct landscape modification from the natural ecosystem state and low values represent a lower degree of direct landscape modification, similar to the natural state.

The HLMI is a composite index made up of several indicators of human-driven modifications and fragmentation, as well as a green index. The HLMI method is as follows:

1. Linear feature fragmentation index = (linear feature density *0.5) + (linear feature distance *0.5)
2. Natural patch fragmentation index = (size of closest NSN patch *0.5) + (distance to nearest NSN patch *0.5)
3. Fragmentation index = (linear feature fragmentation index *0.5) + (natural patch fragmentation index *0.5)
4. Green index = NSN pixels (value of 0) + forest harvest and managed grassland (value of 25) + cropland and settlement forest or vegetated settlement area (value of 50) + built-up and artificial surfaces (value of 100)
5. HLMI = (green index *0.5) + (fragmentation index *0.5)
6. Pixel values are rescaled from 0 to 100.

NSN patches are defined as contiguous areas of land not classified as one of the following: built-up and artificial surfaces (including linear features and settlement forest or vegetated settlement area), cropland, or recent forest harvest. Statistics Canada's LCR¹ was used to identify built-up and artificial surfaces and cropland. The Canadian Forest Service's Canada Landsat Disturbance (CanLaD) dataset³ was used to identify forest harvest occurring from 1990 to 2020. The linear features dataset described below was used to identify additional linear features. Any pixel from the LCR that was not identified as one of these land covers was considered to be in the NSN class. A single patch of NSN land has a minimum size of 9 pixels (where the size of one pixel is 30 metres by 30 metres). During the HLMI process, the NSN patches were extracted separately to calculate the natural patch fragmentation index, which involves calculating the size and distance to the nearest NSN patch.

The green index layer was created by assigning values to land cover classes as follows, from most to least modified: built-up and artificial surfaces (value of 100), cropland (value of 50), settlement forest or vegetated settlement (value of 50), recent forest harvest (value of 25), managed grassland (value of 25), and NSN (value of 0). The forest harvest and managed grassland layers were given an index value of 25 as they have some degree of modification on the HLMI continuum. Similar to the NSN patches, the LCR was used to identify built-up and artificial surfaces and cropland, while CanLaD was used to identify harvested forest. Managed grassland and settlement forest or vegetated settlement areas were identified using version 4 of Agriculture and Agri-Food Canada's Land Use Time Series.⁴

The linear features dataset was compiled using publicly available datasets from provincial, territorial and open-source databases (when provincial and territorial layers were either not available or not sufficient). This allowed for the creation of a highly detailed linear feature component in the HLMI. Table 3 lists all datasets used in the HLMI. Linear features were downloaded and compiled as vector features and subsequently rasterized at a 30-metre resolution to be integrated into the HLMI following the method above.

3. Perbet, P., Guindon, L., Correia D.L.P., P. Villemaire, O., Reisi Gahrouei R. St-Amant. (2025). [Canada Landsat Disturbance](#) with pest (CanLaD): a Canada-wide Landsat-based 30-m resolution product of fire, harvest and pest outbreak detection and attribution since 1987. <https://doi.org/10.23687/902801fd-4d9d-4df4-9e95-319e429545cc>.

4. Agriculture and Agri-Food Canada. (2025). [AAFC Land Use](#)

Table 3
Datasets used to develop the human landscape modification index

Dataset name	Producer	Geographic coverage	Mapped year	Mapped entity	Link to dataset
Land Cover Register (LCR)	Statistics Canada	Canada	2020	Land cover	Land Cover Register: Geospatial files
Canada Landsat Disturbance (CanLaD)	Natural Resources Canada	South of 60°N latitude	2020	Forest harvest	Canada Landsat Disturbance (CanLaD) – Including Forest Insect Pest - Open Government Portal
Semi-decadal Land Use Time Series (version 4)	Agriculture and Agri-Food Canada	South of 60°N latitude	2020	Managed grassland and settlement forest or vegetated settlement	AAFC Land Use - Open Government Portal
Road Network (NBRN)	Government of New Brunswick	New Brunswick	2024	Road	Data Catalogue - GeoNB
Forest Roads	Government of New Brunswick	New Brunswick	2023	Road	Forestry
OpenStreetMap (OSM)	Geofabrik, OSM	Newfoundland and Labrador	2024	Road	Download OpenStreetMap for Canada Geofabrik Download Server
Resource Roads, Newfoundland	Government of Newfoundland and Labrador	Newfoundland and Labrador	2025	Road	Resource Roads - Newfoundland GeoHub
Resource Roads, Labrador	Government of Newfoundland and Labrador	Newfoundland and Labrador	2023	Road	Resource Roads - Labrador GeoHub
Nova Scotia Topographic DataBase (NSTDB)	Government of Nova Scotia	Nova Scotia	2025	Road	Nova Scotia Topographic DataBase - Roads, Trails and Rails (Line Layer) - Open Government Portal
OpenStreetMap (OSM)	Geofabrik, OSM	Prince Edward Island	2024	Road	Download OpenStreetMap for Canada Geofabrik Download Server
AQréseau+	Gouvernement du Québec	Quebec	2024	Road	Adresses Québec - AQréseau+ - Données Québec
Ontario Road Network: Road Net Element	Government of Ontario	Ontario	2025	Road	Ontario Road Network: Road Net Element - Dataset - Ontario Data Catalogue
Ministry of Natural Resources road segments	Government of Ontario	Ontario	2025	Road	Ministry of Natural Resources road segments - Dataset - Ontario Data Catalogue
OpenStreetMap (OSM)	Geofabrik, OSM	Manitoba	2024	Road	Download OpenStreetMap for Canada Geofabrik Download Server
Saskatchewan Updated Road Network (SURN)	Government of Saskatchewan	Saskatchewan	2020	Road	Saskatchewan Updated Road Network ArcGIS Hub
Human Footprint Inventory	Alberta Biodiversity Monitoring Institute (ABMI)	Alberta	2021	Road	Wall-to-Wall Human Footprint Inventory - Year 2021
Digital Road Atlas (DRA)	Government of British Columbia	British Columbia	2024	Road	Digital Road Atlas (DRA) - Master Partially-Attributed Roads - Full province in geodatabase format - 258MB - Data Catalogue

Table 3
Datasets used to develop the human landscape modification index

Dataset name	Producer	Geographic coverage	Mapped year	Mapped entity	Link to dataset
Surface disturbance linear features	Government of Yukon	Yukon	2021	Road	Surface disturbance linear features - Data - Open government portal - Government of Yukon
OpenStreetMap (OSM)	Geofabrik, OSM	Northwest Territories	2024	Road	Download OpenStreetMap for Canada Geofabrik Download Server
OpenStreetMap (OSM)	Geofabrik, OSM	Nunavut	2024	Road	Download OpenStreetMap for Canada Geofabrik Download Server
Topographic Data of Canada – CanVec Series	Natural Resources Canada	Canada	2019	Rail	Topographic Data of Canada - CanVec Series - Open Government Portal
OpenStreetMap (OSM)	Geofabrik, OSM	Canada	2024	Rail (suppl.)	Download OpenStreetMap for Canada Geofabrik Download Server
Topographic Data of Canada – CanVec Series	Natural Resources Canada	Canada	2019	Powerline	Topographic Data of Canada - CanVec Series - Open Government Portal
Northern Anthropogenic Disturbance Mapping (NORDIS)	Environment and Climate Change Canada	Canada	2020	Powerline (suppl.)	...
Surface disturbance linear features	Government of Yukon	Yukon	2021	Powerline (suppl.)	Surface disturbance linear features - Data - Open government portal - Government of Yukon
BC Transmission Lines	Government of British Columbia	British Columbia	2017	Powerline (suppl.)	BC Transmission Lines - Datasets - Data Catalogue
Human Footprint Inventory	Alberta Biodiversity Monitoring Institute (ABMI)	Alberta	2021	Powerline (suppl.)	Wall-to-Wall Human Footprint Inventory - Year 2021
Utility Line	Government of Ontario	Ontario	2020	Powerline (suppl.)	Utility Line Ontario GeoHub
Topographic Data of Canada – CanVec Series	Natural Resources Canada	Canada	2019	Cutline	Topographic Data of Canada - CanVec Series - Open Government Portal
Northern Anthropogenic Disturbance Mapping (NORDIS)	Environment and Climate Change Canada	Canada	2020	Cutline (suppl.)	...
Human Footprint Inventory	Alberta Biodiversity Monitoring Institute (ABMI)	Alberta	2021	Cutline (suppl.)	Wall-to-Wall Human Footprint Inventory - Year 2021
Geophysical lines	Government of British Columbia	British Columbia	2021	Cutline (suppl.)	Cumulative Effects Framework (CEF) Data - Province of British Columbia
Anthropogenic disturbance mapping	Environment and Climate Change Canada	Saskatchewan	2020	Cutline (suppl.)	2020 - Anthropogenic disturbance footprint within boreal caribou ranges across Canada - As interpreted from 2020 Landsat satellite imagery - Open Government Portal

... not applicable

Source: Statistics Canada, Environment Accounts and Statistics Division.

7.2 Reference to the specification scope

Main

8 Data maintenance

8.1 Description

The dataset is updated on an occasional basis.

8.2 Reference to the specification scope

Main

9 Portrayal

The portrayal of the HLMI in Map 1 is defined by a pre-established (recommendation only) colour scheme chosen to optimize the gradual visual representation of direct landscape modifications. The raster dataset consists of a colour ramp from 0 to 100, with a green-yellow-fuchsia colour gradient representing low-mid-high direct landscape modifications. A colourmap (.clr) has been provided with the dataset, specifying the suggested RGB (Red, Green, Blue) colour values for each pixel. This allows users to reproduce the original graphic representation accurately, ensuring visual consistency when displaying or analyzing the data.

10 Data product delivery

10.1 Delivery format information

Geographic Tagged Image File Format (GeoTIFF)

10.1.1 Format name

GeoTIFF

10.1.2 Version

GeoTIFF 6.0

10.1.3 Specification

GeoTIFF is a format extension for storing georeferences and geocoding information in a TIFF 6.0-compliant raster file by tying a raster image to a known model space or map projection.

10.1.4 File structure

The dataset is delivered as a zipped folder containing the main GeoTIFF file (HLMI_IMPH_2020.tif) and auxiliary files. The auxiliary files must be stored in the same directory as the main file and include:

- .tfw: ASCII text file describing the location (expressed in projection coordinates), scale and orientation of the raster file.
- .aux.xml: additional information that cannot be stored in the raster file itself.
- .clr: a space-delimited text file that defines the default mapped colour for each pixel value expressed with red, green and blue channel values ranging from 0 to 100.
- .ovr: pyramid layers enabling fast display of the raster dataset at all scales.
- .vat.dbf: a dBase file with "VALUE" and "COUNT" fields containing all the unique values in the raster file and their associated frequency.
- .vat.cpg: file extension that specifies the code page for identifying the character set to be used.

10.1.5 Language

eng—English

10.1.6 Character set

UTF-8

10.2 Delivery medium information for static files

10.2.1 Units of delivery

The dataset is presented as a GeoTIFF.

Human landscape modification index: HLMI_IMPH_2020.tif

10.2.2 Transfer size

The compressed (.zip) file size is approximately 740 MB. Once unzipped, the size of the entire set of files is approximately 1.13 GB.

10.2.3 Medium name

File transfer

[Open Government Portal](#)

www.geo.ca

10.2.4 Other delivery information

Information regarding the use of the data is defined in the [Statistics Canada Open Licence](#).

10.3 Reference to specification scope

Main

11 Additional information

Statistics Canada produces tabular estimates of ecosystem integrity measures as part of the CoE ([Linear features, landscape fragmentation and human landscape modification by ecoprovince and ecozone](#) and [Linear features, landscape fragmentation and human landscape modification by sub-drainage area, major drainage area and drainage region](#)). These tables present information by ecological and drainage area geographies, which are based on the Ecological Land Classification and the Standard Drainage Area Classification.

Methods are available upon request using the email provided in Section 1.3 of this document.

12 Metadata

Not applicable

12.1 Reference to specification scope

Main