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Census of Environment: Spatial information products

Land Cover Register: Data product specifications

by Lauren Allen and Frédéric Bédard

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1 Overview

1.1 Title

Land Cover Register: Data product specifications

1.2 Reference date

2025-05-13

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

Land cover: The observed (bio)physical cover on the Earth's surface.¹

Land use: The arrangements people undertake, as well as their activities and inputs, in relation to a certain land cover type to produce, change or maintain it.²

1.6 Abbreviations and acronyms

AAFC	Agriculture and Agri-Food Canada
CCMEO	Canada Centre for Mapping and Earth Observation
CFS	Canadian Forest Service
CoE	Census of Environment
EA	Ecosystem Accounting
GeoTIFF	Geographic Tagged Image File Format
ISO	International Organization for Standardization
LCC	2020 Land Cover of Canada
LCR	Land cover register
LCV2	2020 Land Cover version 2
NRCan	Natural Resources Canada
SDLU	2020 Semi-decadal Land Use Time Series
SEEA	System of Environmental Economic Accounting

1. Di Gregorio, A., & Jansen, L. J. M. (2000). [Land Cover Classification System: Classification Concepts and User Manual](#)

2. Di Gregorio, A., & Jansen, L. J. M. (2000). [Land Cover Classification System: Classification Concepts and User Manual](#)

1.7 Informal description of the data product

This product, referred to as the land cover register (LCR), is a raster dataset that maps Canada's terrestrial and freshwater extent using an 11-class classification system. The main purpose of the dataset is to help identify land cover and land use assets to support ecosystem accounting.

This product represents land cover circa 2020 and has a 30-metre spatial resolution. It was created through the integration of multiple land cover and land use datasets.

The LCR was created to serve four main purposes within Statistics Canada's Census of Environment (CoE) program:

1. to serve as an accurate, spatially explicit, pixel-based representation of land cover assets³
2. to support spatial analysis for measuring ecosystem condition, characteristics (such as proximity, fragmentation and homogeneity) and services
3. to serve as a base for estimating land cover extent through design-based area estimation
4. to serve as a base and input for building spatially explicit, object-based representations of ecosystem assets and maps.

This dataset is released as part of a suite of products associated with the 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. Land cover is relevant under the land accounts of the SEEA Central Framework and the extent accounts of the SEEA EA.

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 LCR dataset

2.4 Level description

Gridded dataset of land cover for all terrestrial and freshwater areas of Canada

2.5 Extent

2.5.1 Description

This product is a two-dimensional land cover dataset (no elevation) covering Canada's terrestrial and freshwater extent with a temporal extent circa 2020.

3. The purpose of asset accounts is "to record the opening and closing stock of environmental assets and the different types of changes in the stock over an accounting period" (United Nations et al. [2014]. [System of Environmental-Economic Accounting](#) 2012—Central Framework, p. 19., <https://seea.un.org/content/seea-central-framework>).

2.5.2 Vertical extent

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

2.5.3 Horizontal extent

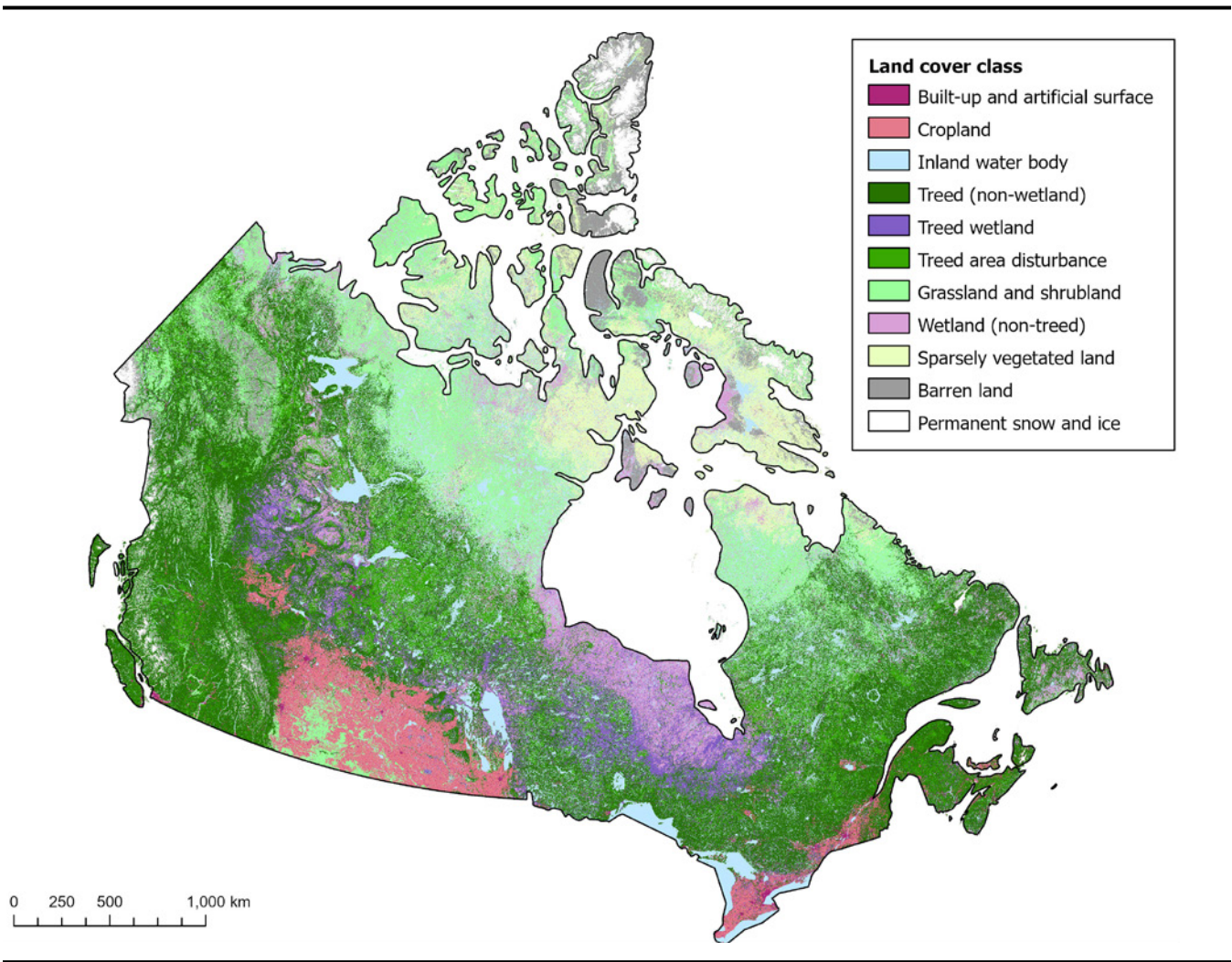
The dataset covers all areas of Canada’s terrestrial and freshwater extent.

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 land cover register



Source: Statistics Canada, Environment Accounts and Statistics Division.

2.5.4 Temporal extent

The information in the product represents land cover circa 2020. The dataset was created based on the integration of multiple spatial datasets, most of which represent the year 2020; however, some represent a point in time just prior to or just after 2020. Table 6 in Section 7.1 lists the datasets used to create the LCR and the year of each.

2.6 Coverage

The information applies to all coverages.

3 Data product identification

Table 2
Data product identification for the land cover register

Title	Land cover register
Alternate title	LCR_RCT_2020
Abstract	Land cover for Canada's terrestrial and freshwater extent. Each 30 metre x 30 metre pixel is assigned one of eleven land cover classes.
Purpose	This product provides users with geographic and thematic data on the land cover of Canada by class. It was produced in the context of developing land cover, land use and ecosystem extent data for ecosystem accounts following the System of Environmental Economic Accounting (SEEA) Central Framework and SEEA Ecosystem Accounting.
Topic category	Environment, imageryBaseMapsEarthCover
Spatial representation type	Grid
Spatial resolution	30 metres
Geographic description	Authority: International Organization for Standardization (ISO) ISO 3166-1:1997 Codes for the representation of names of countries and their subdivisions – Part 1: Country codes. Reference date of the ISO 3166-1 standard: 1997-10-01 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 of land cover for Canada's terrestrial and freshwater extent, based on an 11-class classification system.

4.2 Feature information

Not applicable

4.3 Coverage information

4.3.1 Description

Name: Land cover register

Technical description: The product represents land cover of Canada circa 2020 at 30-metre resolution. It includes 11 land cover classes. This product was created by integrating multiple spatial datasets.

Type of coverage content: Thematic classification

4.3.2 Coverage type

Discrete 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: Land cover register

Value data type: Integer (0-255)

Table 3
Land cover register classification system

Class name	Class description	Class code
Built-up and artificial surface	Any area with a predominantly artificial surface, including roads and buildings. Vegetated areas associated with these areas, such as parks (including treed urban parks), lawns and golf courses, are also included. This class also includes industrial areas, resource extraction areas, infrastructure and cleared land that is not used for agriculture or forestry.	1
Cropland	Land used for growing annual and perennial crops. This class includes pasture (other than natural grasslands used for pasture) and herbaceous crops used for hay. ¹	2
Inland water body	Any area covered for most of the year by inland water bodies. In some cases, the water can be frozen for part of the year (less than 10 months). Riverbeds that may only have water flow during the high-water season (particularly in mountainous northern regions) are also included in this class.	3
Treed (non-wetland)	Land covered by trees with a canopy cover over 10% and a minimum height of five metres. In northern and mountainous regions, the tree height may be reduced to two to three metres.	4
Treed wetland	Wetland covered by trees with a canopy cover over 10% and a minimum height of five metres. In northern and mountainous regions, the tree height may be reduced to two to three metres.	5
Treed area disturbance	Treed areas that have experienced forest harvest or forest fire from 1990 to 2020.	6
Grassland and shrubland	Land dominated by natural herbaceous plants or shrubs with a cover of 20% or more. Trees can be present if their cover is less than 10%. In the Prairie regions, unimproved pasture is included in this class.	7
Wetland (non-treed)	Wetland with herbaceous or shrub vegetation that is at or above the surface of the water.	8
Sparsely vegetated land	Areas dominated by natural abiotic surfaces (bare soil, sand, rocks, etc.) where natural vegetation cover (which generally grows in clumps) is between 2% and 20%.	9
Barren land	Areas dominated by natural abiotic surfaces (bare soil, sand, rocks, etc.) where the natural vegetation is absent or almost absent (covering less than 2%).	10
Permanent snow and ice	Areas persistently covered by snow or glaciers.	11

¹ Pasture can be either improved (i.e., seeded or fertilized) or unimproved. Improved pasture is included in the cropland class for all regions. In the Prairie provinces, where grassland ecosystems naturally occur, unimproved pasture is included in the grassland and shrubland class in the LCR, while outside the Prairies, it is included in the cropland class. In the Prairies, natural grassland is the original land cover type for pastures, while outside this region, pastures were created by clearing the original land cover (which was most often treed). All pastures are classified as cropland outside the Prairies because grasslands are not the original land cover type in these regions.

Source: Statistics Canada, Environment Accounts and Statistics Division.

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

Table 4
Spatial reference system

Projected coordinate system	NAD83_Statistics_Canada_Ecosystem_Register_Albers
Geographic coordinate system	GCS_North_American_1983
Datum	D_North_American_1983
Spheroid	GRS_1980
Semimajor axis	6378137.0
Inverse flattening	298.257222101
Prime meridian	Greenwich (0.0)
Angular unit	Degree (0.0174532925199433)
Projection	Albers
False easting	6200000.0
False northing	3000000.0
Central meridian	-91.8666666666667
Standard parallel 1	49.0
Standard parallel 2	90.0
Latitude of origin	63.390675
Linear unit	Metres (1.0)

Source: Statistics Canada, Environment Accounts and Statistics Division.

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 at a 30-metre resolution.

6.1.1 Commission

Since boundaries between freshwater, intertidal and coastal waters are difficult to define, dynamic and transitional in nature, some areas along the coastline identified in the LCR as inland water may be coastal or marine waters. Additionally, where water courses drain into coastal waters, portions that could be considered coastal or marine may be classified as inland water in the LCR.

6.1.2 Omission

Boundaries between freshwater, intertidal and coastal waters are difficult to define, dynamic and transitional in nature. Where water courses drain into coastal waters, portions that could be considered freshwater may be omitted from the inland water class of the LCR.

6.2 Logical consistency

6.2.1 Conceptual consistency

This dataset was created primarily for ecosystem accounting and analysis. It is meant to represent the best spatially explicit estimates of land cover assets, for spatial analysis in measuring ecosystem condition and services, and for use as an input for generating more accurate land cover area estimates using a design-based approach. The dataset is not primarily intended for mapping and visualization. For this reason, trade-offs were made in integrating the best available data on a large regional level, resulting in some spatial inconsistencies in the data between classes, particularly in classes that are more difficult to map or identify, such as wetlands in northern areas.

This dataset is meant for use at the national or large regional scale and is not recommended as a primary source in local or finer-resolution analysis or reporting. Additionally, the dataset is not designed for or intended to support change detection. While new versions of the LCR may be published in the future, it is not recommended to infer land cover change by simply comparing products, since perceived changes could be the result of differences in the datasets used as inputs. These can include differences in class definitions between datasets, temporal variability and misclassification, as opposed to real land cover change.

6.2.2 Domain consistency

Verification and validation procedures limited the presence of land cover classes occurring in unexpected locations.

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, 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 m E, 0 m).

6.3 Positional accuracy

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

6.4 Temporal accuracy

While most of the datasets integrated in this product represent the year 2020, some datasets represent time periods just prior to or just after this year. It is recommended that users consider this product as approximately representative of the year 2020.

6.5 Thematic accuracy

Table 5 displays the level of agreement by land cover type at the national level. It is expressed in the form of the F-score, which quantifies how well the LCR maps the actual land cover type. The F-score combines results of the user's and producer's accuracies. The overall weighted F-score is 74.9%. The degree of agreement is not uniform across land cover classes. Four land cover classes have a high level of agreement (greater than 80%), covering 48.3% of the country's inland area. They are cropland, inland water body, treed (including treed wetlands) and permanent snow and ice. The remaining classes are between 60.7% and 76.8% agreement, aside from sparsely vegetated land which has an agreement of 43.4%.

Table 5
Percentage agreement between reference data and the land cover register

Land cover class	Area	Percentage of total land	F-Score	User's accuracy	Producer's accuracy
	km ²		percent		
Built-up and artificial surface	67,634	0.7	60.7	64.5	57.5
Cropland	427,540	4.3	82.6	73.1	95.0
Inland water body	1,257,268	12.6	87.2	88.5	85.9
Treed (including treed wetlands)	2,953,811	29.6	82.7	79.1	87.0
Treed area disturbance	725,223	7.3	76.8	76.7	77.4
Grassland and shrubland	1,903,336	19.1	65.3	67.4	64.2
Wetland (non-treed)	1,270,536	12.7	67.4	72.2	63.5
Sparsely vegetated land	545,920	5.5	43.4	39.9	47.6
Barren land	638,862	6.4	73.3	77.8	71.2
Permanent snow and ice	178,111	1.8	94.6	92.5	96.8
Overall	9,968,242	100.0	74.9	74.6	76.0

Note: Since each area estimate has been rounded to the nearest square kilometre, totals will be close but not always equal to the sum of their components.

Source: Statistics Canada, Environment Accounts and Statistics Division.

While thematic misclassifications can occur in all classes, certain class-specific limitations should be noted. The treed area disturbance class may include disturbances resulting from phenomena other than fire and harvest, such as insect infestation and wind damage. Further, partial harvesting (e.g., through selective logging) may not be captured in the disturbance data.

Wetlands are underrepresented in some regions. For example, in the Prairie region, prairie potholes are wetlands that are often small and/or narrow in shape. They collectively make up a large proportion of the land base but are likely to be misclassified in this data product because of their size in relation to the spatial resolution of the available land cover data and the influences of temporal variability.

Since treed wetlands are difficult to differentiate from treed uplands using image interpretation, the accuracy of the treed wetland class was not assessed. Users are advised to exercise caution when using this class.

Linear features, such as roads, railways and powerlines, were integrated into the LCR. Although these features are generally narrower than the 30-metre resolution of the product and are often not the dominant land cover in a pixel, they were included since they can have significant impacts on ecosystems.

Users should exercise caution when using the LCR in coastal areas. Misclassifications are more common in dynamic and transitional areas along the coast because of factors such as shifting coastlines, fluctuating water levels, areas where freshwater and saltwater mix and other hydrological factors. Misalignment of different spatial data products may also lead to classification errors.

7 Data capture

7.1 Description

Over recent decades, advances in the field of Earth observation and mapping, combined with those in computing power and data storage, have enabled the production of medium-resolution land cover maps with coverage of large areas. Various government bodies, including Natural Resources Canada's (NRCan's) Canada Centre for Mapping and Earth Observation (CCMEO), the Canadian Forest Service (CFS), and Agriculture and Agri-Food Canada (AAFC), have produced high-quality multi-class and class-specific land cover maps. Each of these maps was produced for a certain purpose, using a classification system and spatial coverage to suit that need.

An assessment of available land cover maps revealed that no single map fully met the needs of ecosystem accounting: accurate, nationally consistent, up to date, and with the required classes to estimate land cover and (eventually) ecosystem assets. Therefore, Statistics Canada produced the LCR to take advantage of the best available land cover products in Canada by integrating multiple spatial datasets.

The multi-class land cover datasets used as the base for this integration process were the 2020 Semi-decadal Land Use Time Series produced by AAFC (AAFC, 2023), the 2020 Land Cover of Canada produced by NRCan's CCMEO (NRCan, Canada Centre for Remote Sensing, 2024) and the 2020 Land Cover version 2 produced by

the CFS (Hermosilla et al., 2016). The following acronyms are used for these datasets for the remainder of this document: AAFC SDLU (2020 Semi-decadal Land Use Time Series), CCME0 LCC (2020 Land Cover of Canada) and CFS LCV2 (2020 Land Cover version 2).

The three multi-class land cover datasets vary in terms of their purpose and spatial coverage. The AAFC SDLU covers all areas south of 60°N latitude, the CCME0 LCC covers all of Canada and the CFS LCV2 covers the forested ecosystems of Canada.

The three main datasets were supplemented with other data products to take advantage of each of their strengths on a region-by-region and class-by-class basis, while also preserving national comparability as much as possible. All datasets that were used had national or large regional coverage. While more accurate regional data often exist at the provincial and territorial level or below, these datasets were not considered in order to maintain as much national comparability as possible. Table 6 lists all datasets used in the LCR and indicates whether they were integrated in the register or used as ancillary data to support decision making.

More details on how the datasets were used can be found in [Land Cover Register: Documentation](#).

Table 6
Datasets used to develop the land cover register

Dataset name	Dataset acronym	Data producer	Mapped year	Data format	Spatial resolution or scale	Integrated or ancillary	Link if publicly available
Semi-decadal Land Use Time Series	AAFC SDLU	Agriculture and Agri-Food Canada	2020	Raster	30 m	Integrated	AAFC Land Use - Open Government Portal
Land Cover of Canada	CCMEQ LCC	Canada Centre for Remote Sensing, Canada Centre for Mapping and Earth Observation, Natural Resources Canada (North American Land Change Monitoring System collaboration)	2020	Raster	30 m	Integrated	2020 Land Cover of Canada - Open Government Portal
National Terrestrial Ecosystem Monitoring System for Canada, Land Cover version 2	CFS LCV2	Canadian Forest Service, Natural Resources Canada	2019	Raster	30 m	Integrated	National Terrestrial Ecosystem Monitoring System for Canada
Northern Anthropogenic Disturbance Mapping	NORDIS	Environment and Climate Change Canada	2020	Vector	1:60,000	Integrated	...
Canada Landsat Burned Severity product 1985-2020 ¹	CanLaBS	Canadian Forest Service, Natural Resources Canada	1985 to 2020	Raster	30 m	Integrated	Canada Landsat Burned Severity product 1985-2015 (CanLaBS) - Open Government Portal
National Terrestrial Ecosystem Monitoring System for Canada, Forest Harvest	...	Canadian Forest Service, Natural Resources Canada	1985 to 2020	Raster	30 m	Integrated	National Terrestrial Ecosystem Monitoring System for Canada
National Terrestrial Ecosystem Monitoring System for Canada, Forest Fires	...	Canadian Forest Service, Natural Resources Canada	1985 to 2020	Raster	30 m	Integrated	National Terrestrial Ecosystem Monitoring System for Canada
Canadian Wetland Inventory Map version 3	CWIM3	Natural Resources Canada	2017 to 2020	Raster	10 m	Integrated	The Third Generation of Pan-Canadian Wetland Map at 10 m Resolution Using Multisource Earth Observation Data on Cloud Computing Platform IEEE Journals & Magazine IEEE Xplore
Spatialized Canadian National Forest Inventory, version 1.1	SCANFI	Canadian Forest Service, Natural Resources Canada	2020	Raster	30 m	Ancillary	SCANFI: the Spatialized Canadian National Forest Inventory data product - Open Government Portal
Prairie Ecozone Grasslands	...	Environment and Climate Change Canada	2020	Raster	30 m	Integrated	...
Annual Crop Inventory	ACI	Agriculture and Agri-Food Canada	2019 to 2023	Raster	30 m	Integrated	Annual Crop Inventory - Open Government Portal
CanVec Snow and Ice	...	Natural Resources Canada	...	Vector	1:50,000	Integrated	Topographic Data of Canada - CanVec Series - Open Government Portal
CanVec Wetlands	...	Natural Resources Canada	...	Vector	1:50,000	Integrated	Topographic Data of Canada - CanVec Series - Open Government Portal
Global Land Cover and Land Use	GLCLU	University of Maryland	2019	Raster	30 m	Integrated	Global land cover and land use 2019 GLAD
Road Network File	...	Statistics Canada	2021	Vector	...	Integrated	Road network files
National Road Network	...	Natural Resources Canada	2014	Vector	1:50,000	Integrated	National Road Network - NRN - GeoBase Series - Open Government Portal
National Railway Network	...	Natural Resources Canada	2017	Vector	1:50,000	Integrated	National Railway Network - NRWN - GeoBase Series - Open Government Portal

Table 6
Datasets used to develop the land cover register

Dataset name	Dataset acronym	Data producer	Mapped year	Data format	Spatial resolution or scale	Integrated or ancillary	Link if publicly available
National Terrestrial Ecosystem Monitoring System for Canada, FAO [Food and Agricultural Organization of the United Nations] Forest	...	Canadian Forest Service, Natural Resources Canada	2019	Raster	30 m	Ancillary	National Terrestrial Ecosystem Monitoring System for Canada
National Terrestrial Ecosystem Monitoring System for Canada, Forest Age 2019	...	Canadian Forest Service, Natural Resources Canada	2019	Raster	30 m	Ancillary	National Terrestrial Ecosystem Monitoring System for Canada
Distribution of peatlands in Canada using National Forest Inventory forest structure and ancillary land cover data	...	Canadian Forest Service, Natural Resources Canada	2011	Raster	250 m	Ancillary	Distribution of peatlands in Canada using National Forest Inventory forest structure and ancillary land cover data (2011) - Open Government Portal
Census of Agriculture	...	Statistics Canada	2021	Vector	Census division	Ancillary	Census of Agriculture: Data Linked to Geographic Boundaries - Open Government Portal
CanVec Waterbodies	...	Natural Resources Canada	...	Vector	1:50,000	Ancillary	Lakes, Rivers and Glaciers in Canada - CanVec Series - Hydrographic Features - Open Government Portal
CanVec Resources Management Features	...	Natural Resources Canada	...	Vector	1:50,000	Ancillary	Mines, Energy and Communication Networks in Canada - CanVec Series - Resources Management Features - Open Government Portal
Dynamic Surface Water Maps of Canada	...	Canada Centre for Remote Sensing, Canada Centre for Mapping and Earth Observation, Natural Resources Canada	1984 to 2019	Raster	30 m	Ancillary	Dynamic Surface Water Maps of Canada from 1984-2023 Landsat Satellite Imagery - Open Government Portal
World Imagery	...	Esri	Varies	Raster	Varies	Ancillary	...
Imagery	...	Google Earth Pro	Varies	Raster	Varies	Ancillary	...
Sentinel-2 and Landsat False Colour Image Composites	...	Esri web services	1989 to 2024	Raster	10 to 30 m	Ancillary	...
Normalized Difference Vegetation Index time series from moderate resolution satellite imagery	...	NASA and European Spatial Agency	1989 to 2024	Raster	10 to 30 m	Ancillary	...
Circumpolar Arctic Region Tree Line	...	Circumpolar Arctic Vegetation Map Project	2003	Vector	1:4,000,000	Ancillary	Circumpolar Arctic Vegetation, Geobotanical, Physiographic Maps, 1982-2003, https://doi.org/10.3334/ORNLDAAAC/1323
2021 Census - Boundary files (provinces and territories)	...	Statistics Canada	2021	Vector	Varies depending on source data	Ancillary	2021 Census Boundary files
Canada / United States of America Boundary	...	International Boundary Commission	2018	Vector	Not indicated	Ancillary	Digital boundary International Boundary Commission

... not applicable

1 A more recent dataset than that currently published online was provided by the Canadian Forest Service, extending to 2020.

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 Land Cover Register in Map 1 is defined by a pre-established colour scheme chosen to optimize the visual representation of the land cover classes. The raster dataset consists of 11 discrete classes, each represented by a specific RGB (Red, Green, Blue) colour value. A colormap has been provided with the dataset, specifying the class codes and their associated RGB values. This colormap allows users to reproduce the original graphic representation accurately, ensuring visual consistency when displaying or analyzing the data. The suggested colour scheme is presented in table 7.

Table 7
Suggested colour scheme

Class name	Class code	Colour code (Red, Green, Blue [RGB])
Built-up and artificial surface	1	174, 38, 121
Cropland	2	229, 122, 138
Inland water body	3	190, 232, 255
Treed (non-wetland)	4	38, 115, 0
Treed wetland	5	129, 93, 198
Treed area disturbance	6	56, 168, 0
Grassland and shrubland	7	155, 255, 155
Wetland (non-treed)	8	217, 160, 215
Sparsely vegetated land	9	233, 255, 190
Barren land	10	156, 156, 156
Permanent snow and ice	11	255, 255, 255

Source: Statistics Canada, Environment Accounts and Statistics Division.

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 georeference 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 (LCR_RCT_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 255.
- .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: Specifies the codepage for identifying the character set to be used.

10.1.5 Language

No linguistic content

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.

Land cover register: LCR_RCT_2020.tif

10.2.2 Transfer size

The compressed (.zip) file size is approximately 1.86 GB. Once unzipped, the size of the entire set of files is approximately 2.12 GB.

10.2.3 Medium name

File transfer

[Open Government of Canada website](#)

www.geo.ca

10.2.4 Other delivery information

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

10.3 Reference to specification scope

Main

11 Additional information

Statistics Canada also produces tabular estimates of land cover areas by ecoprovince, sub-drainage area and drainage region as part of the CoE. These estimates are generated through design-based area estimation and will differ from those obtained by using the land cover register to generate area estimates. A link to the tabular estimates and methods can be found on the [Physical asset accounts](#) page of the *Methodological Guide: Canadian System of Environmental-Economic Accounting*.

12 Metadata

Additional details on the purpose, methodology and limitations of this product can be found in [Land Cover Register: Documentation](#).

12.1 Reference to specification scope

Main