



## **Land Cover, circa 2000-Vector**

### **Feature Catalogue**

**2009-05-04**

**Scope: Land Cover**  
**Functional Language: English / French**

**Centre for Topographic Information**  
**Earth Sciences Sector**  
**Natural Resources Canada**  
2144 King Street West, Suite 010  
Sherbrooke (Quebec) Canada  
J1J 2E8

Telephone: 819 564-4857  
1 800 661-2638 (Canada and USA)  
Fax: 819 564-5698  
E-mail: support[geobase@nrcan.gc.ca](mailto:geobase@nrcan.gc.ca)  
URL: <http://www.geobase.ca>

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**REVISION HISTORY**

<b>Date</b>	<b>Edition</b>	<b>Description</b>
2009-05-04	1.0	First Edition

The description of the entities and attributes of this catalogue is in part extracted from the international standard *ISO 14825 — Intelligent transport systems — Geographic Data Files — Overall data specifications* from the technical committee ISO/TC 204.

This catalogue has been adapted from the international standard *ISO 19110 — Geographic information — Methodology for feature cataloguing* prepared by the technical committee ISO/TC 211.

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## ACRONYMS AND ABBREVIATIONS

AAFC	Agriculture and Agri-Food Canada
CCRS	Canada Centre for Remote Sensing
CFS	Canadian Forest Service
CMAS	Circular Map Accuracy Standard
CSRS	Canadian Spatial Reference System
CTI	Centre for Topographic Information
EOSD	Earth Observation for Sustainable Development is a project being developed to monitor the sustainable development of Canada's forests from space. Two federal partners, the Canadian Forest Service and the Canadian Space Agency, are creating the ten-year project in cooperation with the provinces and territories.
GDB	Geospatial Database
GPS	Global Positioning System
ID	Identifier
ISO/TC	international standards organisation, Technical Committee
NLWIS	National Land and Water Information Service
LCC2000-V	Land Cover, circa 2000-Vector
NID	National Identifier
NRCan	Natural Resources Canada
NTS	National Topographic System
UUID	Unique Universal Identifier

## TERMS AND DEFINITIONS

<b>Attribute</b>	Characteristic of a feature. (For example the feature validity date)
<b>Circa 2000</b>	Circa (sometimes italicized to show it is Latin) means "in approximately", generally referring to a year when the dates of events are approximately known. Circa 2000 refer to the year 2000 more or less a few years.

**Class** Description of a group of objects sharing the same attributes, operations, methods, relations and semantic. A Class has not always a geometry associated with it (e.g. trees class – Attribute code 200).

**UUID** The definition and method used to generate a Unique Universal Identifier is described in the document *National vector data – Identification rules* available on the Geobase portal ([www.geobase.ca](http://www.geobase.ca)).

## OBJECT METADATA

*The attributes described in the section object metadata apply for all feature classes.*

Attribute Name	Attribute Definition															
<b>Coverage</b>	This value indicates if the metadata are applicable to all objects and/or entities or just part of it.															
	<p><b>Domain :</b></p> <table border="1"> <thead> <tr> <th>Code</th> <th>Label</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>-1</td> <td>Unknown</td> <td>Impossible to determine.</td> </tr> <tr> <td>1</td> <td>Complete</td> <td>Metadata applies on the entire geometry or attribute event.</td> </tr> <tr> <td>2</td> <td>Partial</td> <td>Metadata applies on a portion of the geometry or attribute event.</td> </tr> </tbody> </table>	Code	Label	Definition	-1	Unknown	Impossible to determine.	1	Complete	Metadata applies on the entire geometry or attribute event.	2	Partial	Metadata applies on a portion of the geometry or attribute event.			
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1	Complete	Metadata applies on the entire geometry or attribute event.														
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<b>Validity date</b>	Date of the data source used to create, revise or confirm an object. A source corresponds to any analog or digital document or field validation (e.g. aerial photography, imagery, GPS).															
	<p><b>Domain :</b> A date in the format YYYYMMDD. If the month or the day is unknown, the corresponding characters are left blank (e.g. 20060630, 200606, 2006). The whole field is left blank if unknown.</p>															
<b>Provider</b>	The affiliation of the organization that generated (created or revised) the object.															
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<b>Dataset Name</b>	National Topographic System (NTS) identifier.															
	<p><b>Domain:</b> NTS Identifier (up to 4 characters).</p>															
<b>Planimetric Accuracy</b>	The planimetric accuracy expressed as the circular map accuracy standard (CMAS).															
	<p><b>Domain:</b> [-1,0, ..., 50]: A real value equal or greater than the accuracy of the Landsat 7 orthorectified product for the concerned area. Value "-1" is used when non applicable.</p> <p><b>Type of data :</b> Natural</p>															
<b>Acquisition Technique</b>	The type of data source or technique used to populate (create or revise) the dataset.															
	<p><b>Domain :</b></p> <table border="1"> <thead> <tr> <th>Code</th> <th>Name</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>Classified image</td> <td>An image composed of a mosaic of pixels that belongs to a particular theme. This image is essentially a thematic representation of the original image.</td> </tr> </tbody> </table>	Code	Name	Definition	20	Classified image	An image composed of a mosaic of pixels that belongs to a particular theme. This image is essentially a thematic representation of the original image.									
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**Feature class :**

Name - ( french name )	Is Abstract	Geometry
Land Cover, Circa 2000-Vector - ( Couverture du sol, circa 2000-vectorielle )	No	Surface

**Définition**

Land Cover, Circa 2000-Vector data are the result of vectorization of raster thematic data originating from classified Landsat 5 and Landsat 7 ortho-images, for agricultural and forest areas of Canada, and for Northern Territories. The forest cover was produced by the Earth Observation for Sustainable Development (EOSD) project, an initiative of the Canadian Forest Service (CFS) with the collaboration of the Canadian Space Agency (CSA) and in partnership with the provincial and territorial governments. The agricultural coverage is produced by the National Land and Water Information Service (NLWIS) of Agriculture and Agri-Food Canada (AAFC). Northern Territories land cover was realized by the Canadian Centre of Remote Sensing (CCRS).

**Attribute section:**

Attribute name	Attribute definition																											
Coverage type	Coverage classified according to the combined legends coming from the forest cover by the Earth Observation for Sustainable Development (EOSD) project from the Canadian Forest Service (CFS), the agricultural coverage by the the National Land and Water Information Service (NLWIS) of Agriculture and Agri-Food Canada (AAFC) and the Northern Territories land cover from the Canada Centre for Remote Sensing (CCRS).																											
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Attribute name	Attribute definition	
	<b>33</b>	Exposed land River sediments, exposed soils, pond or lake sediments, reservoir margins, beaches, landings, burned areas, road surfaces, mudflat sediments, cutbanks, moraines, gravel pits, tailings, railway surfaces, buildings and parking, or other non-vegetated surfaces.
	<b>34</b>	Developed Land that predominantly built-up or developed and vegetation associated with these land covers. This includes road surfaces, railway surfaces, buildings and paved surfaces, urban areas, industrial sites, mine structures and farmsteads.
	<b>35</b>	Sparsely vegetated bedrock Barren surfaces with 2-10% vegetation cover on acidic, igneous, mostly consolidated bedrock. Vegetation cover generally consists of graminoids and prostrate dwarf shrubs.
	<b>36</b>	Sparsely vegetated till-colluvium Barren surfaces with 2-10% vegetation cover on nonacidic and calcareous bedrock and colluvium. Vegetation cover generally consists of graminoids and prostrate dwarf shrubs.
	<b>37</b>	Bare soil with cryptogam crust - frost boils Unconsolidated barren surfaces having experienced significant cryoturbation with 2-10% vegetation cover consisting of graminoids and cryptogam plants.
	<b>40</b>	Bryoids Bryophytes (mosses, liverworts, and hornworts) and lichen (foliose or fruticose; not crustose); minimum of 20% ground cover or one-third of total vegetation must be a bryophyte or lichen.
	<b>50</b>	Shrubland Predominantly woody vegetation of relatively low height (generally $\pm 2$ meters). Comments: May include grass or grassland wetlands with woody vegetation, regenerating forest.
	<b>51</b>	Shrub tall At least 20% ground cover which is at least one-third shrub; average shrub height greater than or equal to 2 m. In the North, moist to wet erect tall shrub > 40 cm forming more than 25% of the vegetated cover, consisting mainly of dwarf birch ( <i>Betula</i> ), willow ( <i>Salix</i> ) and / or alder ( <i>Alnus</i> ). Remaining cover consists of graminoids, lichen and may contain < 10% prostrate dwarf shrubs and bare soil.
	<b>52</b>	Shrub low At least 20% ground cover which is at least one-third shrub; average shrub height less than 2 m. In the North, Moist erect low shrub < 40 cm forming more than 25% of the vegetated cover, consisting mainly of dwarf birch ( <i>Betula</i> ) and/or willow ( <i>Salix</i> ). Remaining cover consists of graminoids, lichen and may contain prostrate dwarf

Attribute name	Attribute definition	
		shrubs and bare soil.
	53 Prostrate dwarf shrub	Dryas/heath, usually on bedrock or till. Generally dry > 50% vegetated cover consisting of prostrate dwarf shrubs, graminoids and may contain < 10% lichen and moss.
	80 Wetland	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes (semi-permanent or permanent wetland vegetation, including fens, bogs, swamps, sloughs, marshes, etc.). Comments: This class is mapped based on cover properties corresponding with image date(s) conditions.
	81 Wetland - Treed	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is coniferous, broadleaf, or mixed wood.
	82 Wetland - Shrub	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is tall, low, or a mixture of tall and low shrub.
	83 Wetland - Herb	Land with a water table near/at/above soil surface for enough time to promote wetland or aquatic processes; the majority of vegetation is herb.
	100 Herb	Vascular plant without woody stem (grasses, crops, forbs, graminoids); minimum of 20% ground cover or one-third of total vegetation must be herb.
	101 Tussock graminoid tundra	Moist tussock tundra with < 25% dwarf shrubs < 40 cm tall and moss. May also include lichen.
	102 Wet sedge	Graminoids and bryoids. Wet sedge including cottongrass that is saturated for a significant part of the growing season, also includes moss and may include < 10% dwarf shrubs < 40 cm tall.
	103 Moist to dry non-tussock graminoid/dwarf shrub tundra	Moist to dry non-tussock tundra with 50-70% vegetated cover. Vegetation includes a mixture of graminoids, dwarf erect < 40 cm and prostrate dwarf shrubs. May also include tract amounts of lichen and moss.
	104 Dry graminoid prostrate dwarf shrub tundra	Upland or well drained non-tussock graminoid tundra with low to prostrate dwarf shrub heath greater than 70% cover.
	110 Grassland	Native Grass: Predominantly native grasses and other herbaceous vegetation may include some shrubland cover. Land used for range or native unimproved pasture may appear in this class. Comments: Alpine

Attribute name	Attribute definition
	<p>meadows fall into this class.</p> <p><b>120</b> Cultivated Agricultural Land Agricultural land, including annual and perennial crops; and would exclude grassland. Comments: This class is mapped when the distinction of sub-agricultural covers (classes 121-122) is not possible.</p> <p><b>121</b> Annual Cropland Annually cultivated cropland and woody perennial crops. Includes annual field crops, vegetables, summer fallow, orchards and vineyards. Comments: Classification process primarily detects and delineates lands that change from bare cover to green/vegetated cover during the growing season.</p> <p><b>122</b> Perennial Cropland and Pasture Periodically cultivated cropland. Includes tame grasses and other perennial crops such as alfalfa and clover grown alone or as mixtures for hay, pasture or seed. Comments: Fall seeded crops such as winter wheat may be erroneously identified in this class. Grassland and shrubland may be delineated within in this class.</p> <p><b>200</b> Forest/Tree classes Predominantly forested or treed areas. Comments: This class is mapped only if the distinction of sub-forest covers (classes 210, 220, 230) is not possible.</p> <p><b>210</b> Coniferous Forest Predominantly coniferous forests or treed areas. May include mixed forests and shrubland areas.</p> <p><b>211</b> Coniferous Dense Greater than 60% crown closure; coniferous trees are 75% or more of total basal area.</p> <p><b>212</b> Coniferous Open 26-60% crown closure; coniferous trees are 75% or more of total basal area.</p> <p><b>213</b> Coniferous Sparse 10-25% crown closure; coniferous trees are 75% or more of total basal area.</p> <p><b>220</b> Deciduous Forest Predominantly broadleaf/deciduous forests or treed areas. May include mixed forests and shrubland areas.</p> <p><b>221</b> Broadleaf Dense Greater than 60% crown closure; broadleaf trees are 75% or more of total basal area.</p> <p><b>222</b> Broadleaf Open 26-60% crown closure; broadleaf trees are 75% or more of total basal area.</p> <p><b>223</b> Broadleaf Sparse 10-25% crown closure; broadleaf trees are 75% or more of total basal area.</p> <p><b>230</b> Mixed Forest Mixed coniferous and broadleaf/deciduous forests or treed areas.</p> <p><b>231</b> Mixedwood Dense Greater than 60% crown closure; neither coniferous nor broadleaf tree account for 75% or more of total basal area.</p> <p><b>232</b> Mixedwood Open 26-60% crown closure; neither coniferous nor broadleaf tree account for 75% or more</p>

Attribute name	Attribute definition
	233 Mixedwood Sparse of total basal area. 10-25% crown closure; neither coniferous nor broadleaf tree account for 75% or more of total basal area.
<b>NID_Geobase</b>	Geobase feature identifier used by the NRCan/CTI Geospatial Database (GDB).
	<b>Domain :</b> A UUID.
<b>Object Metadata</b>	Link to the attributes described in the Object Metadata Attributes section.