

LAND COVER CLASSES

The land cover map contains 31 land cover classes: 12 forest; 3 portray grassland and developed land. The detailed descriptions of shrubland; 6 barren land/ grasslands; 7 developed land types including cropland, mosaic and built-up areas; and 2 non-vegetated land cover types. Green colours generally represent needleleaf forest; brownish colours portray more northern needleleaf forest; yellow/orange to reddish colours stand for broadleaf and various mixed forest classes; ight greenish yellow to beige represent poorly forested land cover northern part of the needleleaf forest; and lighter colours in the south

land cover types are given below, together with examples of some cover types as they appear on the ground or from a low-flying aircraft. Many of the pixels are mixtures of the various cover types, owing to the spatial resolution of the input data. Nevertheless, multitempora AVHRR data appear to be an effective data source for classifying land wypes including wetlands: in the north, bluish colours stand for barren cover at regional scales. More detailed information as well as accuracy classes except for recent burns which are shown in dark blue in the assessment results are available in the references cited below

Land dominated by vegetation with a tree (woody plants with a height exceeding approximately 5 m in most cases) crown density (percentage of the surface covered by projected tree crown perimeters) greater than 10%. 1.1 Evergreen Needleleaf Forest
Land occupied by forest containing more than 80% needleleaf trees.

1.1.1 High Density (1)

Land with herbaceous (non-woody) less than 10%. This class is limited to the prairie region.

Land containing usually less than 10% of tree crown density. It often contains shrubs-

mainly low shrubs (less than 1 m in height), lichen, herbaceous vegetation cover, bare soil, rock, or small water bodies. It is found mostly north of the treeline, but also

in mountainous regions and after disturbance in more southern areas. In barren land classes, reflectance depends on the proportions of five main cover types: shrubs

2.4.1 Shrub and Lichen Dominated

n northern boreal forest or mountainous areas sparsely treed.

lichens, herbaceous species, bare soil (rock outcrop) and water bodies. The subcategories are differentiated by the dominance of one or more of these cover

Barren land in which shrubs and lichen are the dominant cover type. Generally, the

shrubs are lower than in the Shrubland classes (2.2). The two classes (2.4.1.1 and 2.4.1.2) have a latitudinal gradient. They occur mainly north of the treeline, but also

2.4.1.1 Lichen and others (17)

2.4.2.1 Heather and Herbs (19)

2.4.2.2 Low Vegetation Cover (20)

2.4.2.3 Very Low Vegetation Cover (21)

2.4.2.4 Bare soil and rock (22)

3.1 Cropland
Land covered with herbaceous (typically annual) crops which may contain a small

proportion (less than 10%) of trees or shrubs.

3.1.2 Medium Biomass (24)

exerts some effect on reflectance. South of

line, but also in mountainous areas or in northern boreal forest, mostly after

d lichen are the prevalent vegetation cover he landscape typically consists of a pattern f shrubs, lichen, herbs, bare soil, and rock

approximately 40% of the ground cover.

pproximately 20% of the ground cover area.

ck outcrop are the prevalent land covers.

biomass, due to cover type (e.g. corn) or climate (adequate precipitation). May contain

mall proportions of other vegetation types

(subhumid). This class occurs mainly in the

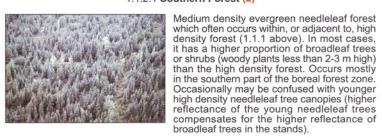
biomass, due to cover type (e.g. grain) or climate (semi-arid region). This class occurs

2.3 Grassland (16)

vergreen needleleaf forest (southern boreal; ee Rowe, 1972) with crown density of the

eedleleaf species above approximately 60% Often contains small water bodies in the landscape. Occasionally, it contains stands vith less than 80% needleleaf trees (higher portion of water compensates spectrally the increased proportion of broadleaf trees).

Evergreen needleleaf forest with crown density of the needleleaf species between approximately 40-60%. Due to the low resolution of the data, pixels may include a mosaic of denser and thinner tree cover. 1.1.2.1 Southern Forest (2)



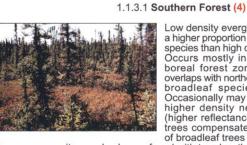
lensity forest (1.1.1 above). In most cases thas a higher proportion of broadleaf tree Varying amount of land cover in which lichens exert a strong effect on reflectance. In northern shrubs (woody plants less than 2-3 m high an the high density forest. Occurs mostl low to very low density needleleaf forest wit asionally may be confused with younger lass may also include abundant water bodies compensates for the higher reflectance of broadleaf trees in the stands). Reflectances are lowered by trees in northern rock outcrops north of the treeline



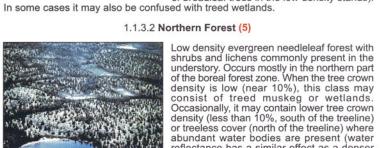
Medium density evergreen needleleaf forest with shrubs and lichens commonly present in the understory. Occurs in the northern part 2.4.1.2 Shrub/Lichen Dominated (18) the boreal forest zone but in some cases, patches are found in more southern areas fter old perturbations such as fire.

Evergreen forest with crown density of the needleleaf species approximately 10-40%. Due to the low resolution of the data, pixels may contain a mosaic of denser and lower tree cover, including openings such as cut-overs or others.

Barren land occurring north of the treeline, but also in mountainous areas.

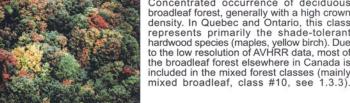


es than high density forest (1.1.1 above eal forest zone, with some latitudina dleaf species are more abundant er density needleleaf trees canopi s compensates for the high reflectance



lectance has a similar effect as a dense after perturbations (burns) or on more humid sites), there is some latitudinal overla vith southern forest (1.1.3.1) because of the similarity of the ground cover (especia regarding low shrubs).





and occupied by forest containing 20-80% evergreen needleleaf or deciduous

eedleleaf trees exceeding approximately 60%

broadleaf trees (determined as the percentage of the number of the trees present, not as tree crown density). Due to the low resolution of the data, pixels may contain 1.3.1 Mixed Needleleaf Forest (7)



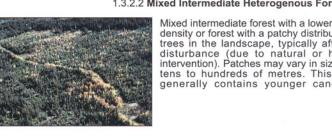
(as % of all trees present). Occasionally ma (more than 80% of the tree population) but in a younger canopy (higher reflectance of the her reflectance of broadleaf trees in older 1.3.2 Mixed Intermediate Forest

Mixed forest having a proportion of evergreen needleleaf (or deciduous broadleaf) trees of approximately 40-60% (as proportion of all trees present). The proportion of needleleaf trees may be higher in young stands (higher reflectance of the young

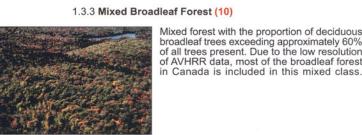


pically with a higher crown density

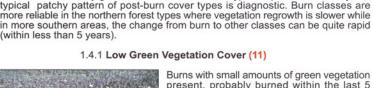








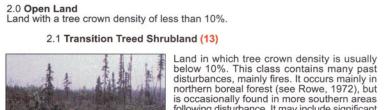
Land previously occupied by forest which was subjected to fire. At present it ma contain broadleaf or needleleaf trees with a tree crown density of less than 10 with concentrations of water bodies. Depending on site conditions, fire intensi and age, land cover after burns may be quite variable. It varies from bare soil to vegetation cover approaching low density forest canopy. This is the reason who ome burns or parts of burns, after few years, are classified as low density northe forest with a shrubby ground cover; or as another type of open land. Usually, the typical patchy pattern of post-burn cover types is diagnostic. Burn classes are more reliable in the northern forest types where vegetation regrowth is slower whi





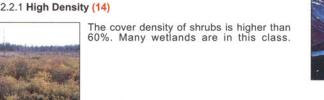


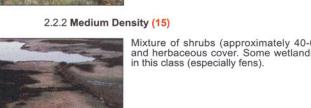




orthern boreal forest (see Rowe, 1972), but ccasionally found in more southern areas owing disturbance. It may include significant

Land covered mainly by low (less than 1 m in height) to intermediate woody shrubs (woody vegetation generally less than 2-3 m high). Generally the proportion of high canopy in early regeneration stages after perturbations. Most of the large wetlands 2.2.1 High Density (14)





Land containing a mix of cropland, forest, shrubland, grassland or built-up areas in which no one component comprises more than about 70% (by area) of the landscape. 3.2.1 Cropland-Woodland (26) revalent than forest cover. Depending on the egion, lower cropland biomass may be ompensated for by a higher proportion of rest. Occasionally, this class may occur in

areas where herbaceous vegetation replaces the cropland component (e.g. in parks).

3.2.2 Woodland- Cropland (27)

