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(Land Use / Cover Area Frame Survey)

**Technical Reference
Document:**

**C-3 Land use and Land Cover
Classification (revised)**

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DOCUMENT CHANGE RECORD			
<i>ISSUE</i>	<i>DATE</i>	<i>CHANGE AUTHORITY / AUTHOR</i>	<i>REASON FOR CHANGE AND AFFECTED SECTIONS</i>
3.5	08/02/2012	Eurostat	Update after Training Workshops and Coordination meeting with Eurostat 03.02.2012
1.1	03/01/2013	Eurostat	Update review at the LUCAS2012 Campaign final.
1.2	04/10/2013	Eurostat	Clarifications and corrections related to the basic unit of observation and extended window of observation across the document. Removal of references for U364 - Nature reserves.

Scope and Introduction

This document is part of a series of reference documents defining the framework of the Land Use / Cover Area frame statistical Survey (LUCAS). The LUCAS reference documents are continuously improved and adapted taking into account the experience from the implemented surveys and the requirements of the LUCAS data & information users.

This document gives detailed information about the land cover and land use classification system of the LUCAS survey. Information about the implementation of the survey in general and of all other parameters and the way how they should be surveyed can be found in reference document C-1 *Instructions for Surveyors*.

The LUCAS Survey classification has separate classification systems for land cover (LUCAS SU LC) and land use (LUCAS SU LU). Land cover is the physical cover of the Earth's surface and land use is the socio-economic function of the land.

The same classification is applied in all EU countries in the LUCAS survey. It also allows comparisons in time. It is as much as possible compatible with the existing land cover/use systems (e.g. FAO, NACE and Farm Structure Survey).

Land cover

Land cover has 8 main categories, which are indicated by letter:

- A: Artificial land
- B: Cropland
- C: Woodland
- D: Shrubland
- E: Grassland
- F: Bareland
- G: Water
- H: Wetlands

Every main category has subclasses, which are indicated by the combination of the letter of the category and digits. The most detailed class is to be used during the survey. Altogether there are 84 classes. Each class is described by the following characteristics:

- code and title of the class
- short definition of the class
- inclusions ("This class includes")
- exclusions ("This class excludes")
- the principle of observation rule
- the "Links with land use".

Land use

Land use is the description of the same areas in terms of their socio-economic function. For rare and exceptional combinations, please consult Annex 4 & 5 (Matrix of combinations) of C-1 *Instructions for Surveyors*. Land use has 14 main categories. It has altogether 33 classes, which are indicated by the combination of the letter "U" and three digits. Each class is described by the following characteristics:

- code and title
- short definition of the class
- inclusions ("This class includes") according to the NACE classification¹ if it is possible, and exclusions ("This class excludes") with the correct land use code.

¹ Statistical Classification of Economic Activities in the European Community, Rev. 1.1 (2002) (NACE Rev. 1.1)

LUCAS survey classification comparison 2009 - 2012

The LUCAS 2012 Survey classification is not fundamentally different from the 2009 survey classification. Main changes are the following:

- Energy crops (e.g. Miscanthus) are assigned to B84 Permanent Industrial Crops
- In the class B43 Fresh vegetables all roots-bulbs-tubers (carrots [*Daucus carota*], garlic [*Allium sativum*], onions [*Allium cepa*], radishes [*Raphanus sativus*], red beet [*Beta vulgaris* var. *conditiva*], shallots [*Allium ascalonicum*], turnips [*Brassica rapa* var. *rapifera*]) were moved to B23 Other root crops
- The forest types according to the EUNIS classification on forests <http://eunis.eea.europa.eu/about.jsp> remains to be assigned under the condition that the woodland exceeds 0.5ha in size and 20m in width.
- Introduction of new LC classes:
 - o spruce (C21) and pine (C22) dominated coniferous and other coniferous (C23) woodland;
 - o this implies introduction of spruce (C31) and pine (C32) dominated as well as other woodland (C33).
- Introduction of new LC classes under F00 Bare land and lichens/moss:
 - o F10 Rocks, F20 Sands, F30 Lichens and Moss & F40 Other bare soil.
- Suppression of classes:
 - o U150 Hunting has been suppressed (moved to special status in field form)
 - o U364 Nature Reserve has been suppressed (moved to special status in field form)

Land cover and land use: general explications

In general, the establishment of nomenclatures follows some principles:

- **Spatial consistency:** the data shall be comparable over different regions and applicable to different regions. It means that the nomenclature is applicable to any region, knowing that there will be classes without any entry because not all classes exist in all regions.
- **Temporal consistency:** Observation of stocks allows change detection over time, e.g. construction site of a road is a construction site and not yet a road.
- **Compatibility with existing systems** (e.g. FSS, NACE, FAO). This means that when defining classes, existing nomenclatures shall be taken into account. It does not mean that any class definition from another nomenclature can be taken one-to-one. There is a trade-off to be done.
- **Independency from observation method.** The observation method shall not interfere in the definition of the nomenclature. On the contrary, the observation method shall be chosen to enable best the data collection according to the chosen nomenclature. Of course, there is always a trade-off to be made due to time/budget constraints. This can imply the collection of data at different detail resolution level of the nomenclature, if the data collection method does not allow retrieving the level of detail expected. For example remote sensing is hard to be used for the LUCAS classification at the 3rd level of detail.
- **No gaps and no overlaps:**
 - exhaustive list of categories: no category “unclassified”
 - each object belongs to only one category

It means that for any type of land cover or land use, the nomenclature needs to provide a class. This implies that there shall be a possibility to include new classes, for example at a more detailed level. Hierarchical nomenclatures provide for that.

- **Hierarchy of the nomenclature:**

Another principle applied at the LUCAS nomenclature is that of a hierarchy in the classification system. This allows collecting information at different levels of detail. If there is no information available for a certain category at a 3rd or 4th level of the classification, there is still the possibility to extrapolate data on the upper level.

Specific to the LUCAS classification

In LUCAS, the concept of land is extended to inland water areas (lakes, rivers, coastal areas: estuaries, lagoons). The land concept does not embrace uses below the earth's surface (mine deposits, subways, mushroom beds, ground levels of buildings).

In the LUCAS classification, there is a clear distinction between land COVER and land USE.

LAND COVER = physical cover (“material”) observed at the earth's surface

LAND USE = socio-economic function of the observed earth's surface

This separation enables a greater flexibility of the classification, i.e. it allows combining different LC and LU classes to retrieve specific information. For example: sealed track within arable land that is mainly used by the farmer to access the fields can be retrieved by combining the LC A22 with the LU U111.

Detailed definitions of the categories for both land use and land cover are to be found in the following chapters.

The basic unit and the extended window of observation

Of course, applying a classification in a defined framework of a data collection survey requires specifying a number of rules.

As the LUCAS Survey is a point survey, the size of the point in the real world needs to be defined.

The “point” (or **basic unit of observation**) is in fact a circle with a radius of 1,5m, corresponding to an identifiable point on an orthophoto.

As we have not only homogeneous classes that we would like to observe, for example forests (forest definition requires observing a certain area to define the crown coverage or canopy of the trees, orchards may consist in more than one tree species etc.) the LUCAS observation framework also specifies an observation area, the “**extended window of observation**” which is the area defined by a 20m radius around the point, for specified classes, indicated in this document.

There are many more rules defined for the data collection survey, which are detailed in the separate LUCAS Reference Document C-1 *Instructions for Surveyors*.

To aid in the identification of plant species, a Plant Identification Guide (LUCAS Reference Document C-5) was produced.

Land Cover Classification (LUCAS SU LC)

A00 ARTIFICIAL LAND

Areas characterized by an artificial and often impervious cover of constructions and pavement.

A10 BUILT-UP AREAS

Roofed constructions built for permanent purposes which can be entered by persons.

A11 Buildings with one to three floors

Roofed constructions with one to three floors or less than 10 meters of height in total



This class includes

- single-family houses
- mobile homes
- summer cottages
- industrial or cultural buildings or stores of less than 10m of height
- agricultural buildings of less than 10m of height
- market halls
- temporary constructions
- visitor stations or centers of less than 10 m of height



Principles of observation

Basic observation unit



Links with Land Use

- | | |
|------------|---|
| A11 > U111 | Small agricultural buildings, farms, stables, poultry yards |
| A11 > U120 | Small buildings used for forestry purpose |
| A11 > U130 | Small buildings used for fishery production |
| A11 > U140 | Small buildings used for mining and quarrying purposes |
| A11 > U210 | Small buildings used for energy production purposes |
| A11 > U22x | Small industrial plants and buildings |
| A11 > U31x | Small buildings used for transport purposes |
| A11 > U32x | Small buildings used for waste and water treatment |
| A11 > U330 | Small buildings in construction |
| A11 > U340 | Small buildings used for commercial purposes |
| A11 > U350 | Small buildings used for community services |
| A11 > U36x | Small buildings used for recreation or nature protection |
| A11 > U370 | Individual residential houses |
| A11 > U410 | Abandoned buildings |

A12 Buildings with more than three floors

Roofed constructions with more than three floors or more than 10 meters of height in total.



This class includes

- industrial buildings, stores, technical infrastructures of more than 10m of height
- residential or cultural buildings of more than 10m of height
- agricultural buildings of more than 10m of height
- visitor centers of more than 10 m of height



Principles of observation

Basic observation unit



Links with Land Use

A12 > U111	Tall agricultural buildings, farms, stables, poultry yards
A12 > U120	Tall buildings used for forestry purpose
A12 > U130	Tall buildings used for fishery production
A12 > U140	Tall buildings used for mining and quarrying purposes
A12 > U210	Tall buildings used for energy production purposes
A12 > U22x	Tall industrial plants and buildings, coking plants, blast furnaces
A12 > U31x	Tall buildings used for transport purposes: Railway stations, hangars, airport buildings
A12 > U32x	Tall buildings used for waste and water treatment
A12 > U330	Tall buildings in construction
A12 > U340	Tall buildings used for commercial purposes: garages, supermarkets, banks, stores, hotels, restaurants, offices
A12 > U350	Tall buildings used for community services: Administrative buildings, parliaments, ministries, town halls, law courts, fire brigade and police barracks, military buildings, hospitals, clinics, sanatoria, orphans, schools, universities, churches, monasteries
A12 > U36x	Tall buildings used for recreational or nature protection purposes: e.g. Libraries, Museums, Cinemas, Theatres, Stadiums, Sport halls, Visitor Centers
A12 > U370	Collective residential houses
A11 > U410	Abandoned buildings

A13 Greenhouses

Installations of glass, plastic or any other material which is translucent but impervious to water.

If crops are identified they should be registered using the corresponding land cover category (double codification greenhouse + crop)



This class includes

- All greenhouses, used or not



This class excludes

- Crops covered by protection fabric without raised structures



Principles of observation

Basic observation unit



Links with Land Use

A13 > U111	Greenhouses used for agricultural production
A13 > U113	Kitchen garden
A13 > U120	Forestry
A13 > U317	Greenhouses used for storage (caravans)
A13 > U330	Construction
A13 > U340	Greenhouses used for commercial purposes
A13 > U350	Community services
A13 > U361-3	Greenhouses of botanical gardens
A13 > U370	Greenhouses attached to residential use
A13 > U410	Abandoned greenhouses

A20 ARTIFICIAL NON-BUILT UP AREAS

Non built-up areas characterized by an artificial and/or impervious cover of hard artificial materials, concrete, gravel

A21 Non built-up area features

Non built-up area features characterized by an artificial and/or impervious cover of hard artificial materials, concrete, gravel

- 📁
This class includes
 - yards, farmyards, cemeteries car parking areas, artificialised areas of railway station precincts and aerodromes
 - quays, loading and unloading zones, dry docks
 - open dump sites
- ✂
This class excludes
 - Bare land (F)
- 🕒
Principles of observation
 - Basic observation unit
- 🔗
Links with Land Use
 - A21 ➤ U111 Farmyards and parking areas attached to agricultural buildings
 - A21 ➤ U120 Yards, parking areas attached to buildings used for forestry purpose
 - A21 ➤ U130 Yards and parking areas attached to buildings used for fishery purpose
 - A21 ➤ U140 Yards, parking areas, storage areas used for mining, quarrying
 - A21 ➤ U210 Yards, parking areas, storage areas on industrial sites for energy production
 - A21 ➤ U22x Yards, parking areas, storage areas on industrial sites
 - A21 ➤ U31x Yards, parking areas, storage areas attached to railway stations, airports, motorways,
 - A21 ➤ U32x Yards, parking areas, storage areas attached to installations of waste and water treatment
 - A21 ➤ U330 Yards, parking areas, storage areas attached to installations for construction
 - A21 ➤ U340 Parking areas of supermarkets
 - A21 ➤ U350 Parking areas of administrations; cemeteries
 - A21 ➤ U36x Parking areas of leisure and recreation activities, tennis courts
 - A21 ➤ U370 Yards and parking areas of residential zones
 - A21 ➤ U410 Abandoned non built-up area features

A22 Non built-up linear features

Non built-up linear features characterized by an artificial and/or impervious cover of hard artificial material, concrete or gravel.

(only linear features of more than 3m of diameter of width are to be registered)

- 📁
This class includes
 - roads, railways, runways, bridges (width >3m)
- ✂
This class excludes
 - Linear features less than 3m of width (not registered as land cover)
- 🕒
Principles of observation
 - Basic observation unit
- 🔗
Links with Land Use
 - A22 ➤ U111 Roads used for agricultural purposes and accesses to farms
 - A22 ➤ U120 Roads used for forestry purpose
 - A21 ➤ U130 Roads used for fishery purpose

A22 ➤ U14 0	Roads or railways used for specific mining, quarrying purposes
A22 ➤ U210	Roads or railways used for specific energy production purposes
A22 ➤ U22x	Roads or railways used for specific industrial purposes
A22 ➤ U31x	Roads, railways, airport runways
A22 ➤ U32x	Roads used for specific purposes of waste and water treatment
A21 ➤ U330	Roads used for specific construction purposes
A22 ➤ U340	Roads used for commercial, financial and business activities
A22 ➤ U350	Roads used for specific purposes of community services; dykes
A22 ➤ U36x	Roads used for specific purposes of leisure, riding tracks, car racing circuits
A22 ➤ U370	Roads used for specific access of residential areas
A22 ➤ U410	Abandoned non built-up linear area features

B00 CROPLAND

Areas where crops are planted and cultivated.

B10 CEREALS

For detailed instructions on the identification of cereals: see C-5 "Plant Identification Guide"

B11 Common wheat

Areas where common wheat (*Triticum aestivum*) is planted, whether as spring or as winter wheat

- 📁
This class includes
 - Spelt (*Triticum spelta*)
- ⦿
Principles of observation
 - Basic observation unit
- **Links with Land Use**
 - B11 ➤ U111 Agricultural production
 - B11 ➤ U112 Fallow land
 - B11 ➤ U113 Kitchen garden
 - B11 ➤ U210 Energy production
 - B11 ➤ U361 Amenities, museums, leisure

B12 Durum wheat

Areas where durum wheat (*Triticum durum*) is planted

- 📁
This class includes
 - Emmer (*Triticum turgidum*)
 - Einkorn (*Triticum monococcum*)
- ⦿
Principles of observation
 - Basic observation unit
- **Links with Land Use**
 - B12 ➤ U111 Agricultural production
 - B12 ➤ U112 Fallow land
 - B12 ➤ U113 Kitchen garden
 - B12 ➤ U210 Energy production
 - B12 ➤ U361 Amenities, museums, leisure

B13 Barley

Areas where barley (*Hordeum vulgare*) is planted

- ⦿
Principles of observation
 - Basic observation unit
- **Links with Land Use**
 - B13 ➤ U111 Agricultural production
 - B13 ➤ U112 Fallow land
 - B13 ➤ U113 Kitchen garden
 - B13 ➤ U210 Energy production
 - B13 ➤ U361 Amenities, museums, leisure

B14 Rye

Areas where rye (*Secale cereale*) is planted

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B14 ➤ U111 Agricultural production
- B14 ➤ U112 Fallow land
- B14 ➤ U113 Kitchen garden
- B14 ➤ U210 Energy production
- B14 ➤ U361 Amenities, museum, leisure

B15 Oats

Areas where oats (*Avena sativa*) is planted

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B15 ➤ U111 Agricultural production
- B15 ➤ U112 Fallow land
- B15 ➤ U113 Kitchen garden
- B15 ➤ U210 Energy production
- B15 ➤ U361 Amenities, museum, leisure

B16 Maize

Areas where maize (*Zea mays*) is planted

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B16 ➤ U111 Agricultural production
- B16 ➤ U112 Fallow land
- B16 ➤ U113 Kitchen garden
- B16 ➤ U210 Energy production
- B16 ➤ U361 Amenities, museum, leisure

B17 Rice

Areas where rice (*Oryza sativa*) is planted

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B17 ➤ U111 Agricultural production
- B17 ➤ U112 Fallow land
- B17 ➤ U113 Kitchen garden
- B11 ➤ U210 Energy production
- B17 ➤ U361 Amenities, museum, leisure

B18 Triticale

Areas where triticale (*Triticosecale*) is planted

⊙ **Principles of observation**

Basic observation unit



Links with Land Use

- B18 > U111 Agricultural production
- B18 > U112 Fallow land
- B18 > U113 Kitchen garden
- B18 > U210 Energy production
- B18 > U361 Amenities, museum, leisure

B19 Other cereals

Areas where other cereals are planted. The surveyor must note the cereal species in the LC plant species field.



This class includes

- **B19a** - Sorghum (*Sorghum bicolor*)
- **B19b** - Buckwheat (*Fagopyrum esculentum* Mill.)
- **B19c** - Common, golden or proso millet (*Panicum miliaceum* L.)
- **B19d** - Canary grass (*Phalaris canariensis* L.)
- **B19e** - Corn-cob-mix (*Zea mays* L. harvested as humid grain)
- **B19f** - Quinoa (*Chenopodium quinoa*)
- **B19g** - Fonio (*Digitaria* spp.)
- **B19h** - Other cereals not specified elsewhere, e.g.
 - o - Barnyard or Japanese millet (*Echinochloa frumentacea*);
 - o - Ragi, finger or African millet (*Eleusine coracana*);
 - o - Teff (*Eragrostis abyssinica*);
 - o - Koda or ditch millet (*Paspalum scrobiculatum*);
 - o - Pearl or cattail millet (*Pennisetum glaucum*);
 - o - Foxtail millet (*Setaria italica*)



This class excludes

- Common wheat (B11)
- Durum wheat (B12)
- Barley (B13)
- Rye (B14)
- Oats (B15)
- Maize (B16)
- Rice (B17)
- Mixed cereals for fodder (B54)



Principles of observation

Basic observation unit



Links with Land Use

- B19 > U111 Agricultural production
- B19 > U112 Fallow land
- B19 > U113 Kitchen garden
- B19 > U210 Energy production
- B19 > U361 Amenities, museum, leisure

B20 ROOT CROPS**B21 Potatoes**

Areas where potatoes (*Solanum tuberosum*) are planted

- 📁 **This class includes**
 - early potatoes and seeds
- 🕒 **Principles of observation**
 - Basic observation unit
- 🔗 **Links with Land Use**
 - B21 > U111 Agricultural production
 - B21 > U112 Fallow land
 - B21 > U113 Kitchen garden
 - B21 > U210 Energy production
 - B21 > U361 Amenities, museum, leisure

B22 Sugar beet

Areas where sugar beet (*Beta vulgaris* var. *altissima*) is planted

- 🕒 **Principles of observation**
 - Basic observation unit
- 🔗 **Links with Land Use**
 - B22 > U111 Agricultural production
 - B22 > U112 Fallow land
 - B22 > U113 Kitchen garden
 - B22 > U210 Energy production
 - B22 > U361 Amenities, museum, leisure
- ✂ **This class excludes**
 - Fodder beet (B23)

B23 Other root crops

Areas where other root crops are planted. The surveyor must note the root crop species in the LC plant species field.

- 📁 **This class includes**
 - **B23a** - Fodder beet (roots of *Beta vulgaris*)
 - **B23b** - Fodder kale (*Brassica oleracea* L.)
 - **B23c** - Swedes (*Brassica napus* L. var. *napobrassica* (L.) Robb.)
 - **B23d** - Carrots (roots of *Daucus carota* L.)
 - **B23e** - Turnips (roots of *Brassica napus* L.)
 - **B23f** - Jerusalem artichoke (*Helianthus tuberosus* L.)
 - **B23g** - Sweet potatoes (*Ipomoea batatas* (L.) Lam.)
 - **B23h** - Fodder parsnips (*Pastinaca sativa* L.)
 - **B23i** - Yam (*Discorea* sp.)
 - **B23j** - Manioc, Cassava (*Manihot esculenta* Crantz, syn. *M. utilissima*)
 - **B23k** - Horseradish (*Cochlearia armoracia*)
 - **B23l** - Tuberous chervil (*Chaerophyllum bulbosum*)
 - **B23m** - Other tropical tubers, e.g.
 - - Taros (*Colocasia esculenta*),
 - **B23n** - Other root or tubers crops not specified elsewhere, e.g.

- - Garlic (*Allium sativum*),
- - Onions (*Allium cepa*),
- - Radishes (*Raphanus sativus*),
- - Red beet (*Beta vulgaris* var. *conditiva*),
- - Shallots (*Allium ascalonicum*),
- - Turnips (*Brassica rapa* var. *rapifera*)
- - Mangolds and beet (*Beta vulgaris* var. *alba*)



This class excludes

- Potatoes (B21)
- Sugar beet (B22)



Principles of observation

Basic observation unit



Links with Land Use

- B23 ➤ U111 Agricultural production
- B23 ➤ U112 Fallow land
- B23 ➤ U113 Kitchen garden
- B23 ➤ U210 Energy production
- B23 ➤ U361 Amenities, museum, leisure

B30 NON-PERMANENT INDUSTRIAL CROPS

B31 Sunflower

Areas where sunflower (*Helianthus annuus*) is planted

- ⊙ Principles of observation
 - Basic observation unit
- ⌕ Links with Land Use
 - B31 > U111 Agricultural production
 - B31 > U112 Fallow land
 - B31 > U113 Kitchen garden
 - B31 > U210 Energy production
 - B31 > U361 Amenities, museum, leisure

B32 Rape and turnip rape

Areas where rape (*Brassica napus* var. *oleifera*) and turnip rape (*Brassica rapa*) are planted

- 📁 This class includes
 - Turnip rape and other rape species
- ✂ This class excludes
 - Garden turnips (B43)
- ⊙ Principles of observation
 - Basic observation unit
- ⌕ Links with Land Use
 - B32 > U111 Agricultural production
 - B32 > U112 Fallow land
 - B32 > U113 Kitchen garden
 - B32 > U210 Energy production
 - B32 > U361 Amenities, museum, leisure

B33 Soya

Areas where soya beans (*Glycine soja*) are planted

- ⊙ Principles of observation
 - Basic observation unit
- ⌕ Links with Land Use
 - B33 > U111 Agricultural production
 - B33 > U112 Fallow land
 - B33 > U113 Kitchen garden
 - B33 > U210 Energy production
 - B33 > U361 Amenities, museum, leisure

B34 Cotton

Areas where cotton (*Gossypium* spp.) is planted

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B34 ➤ U111 Agricultural production
- B34 ➤ U112 Fallow land
- B34 ➤ U113 Kitchen garden
- B34▣ U210 Energy production
- B34 ➤ U361 Amenities, museum, leisure

B35 Other fibre and oleaginous crops

Areas where other fibre and oleaginous crops are planted. The surveyor must note the fibre and oleaginous crop species in the LC plant species field.

📁 **This class includes**

- **B35a** - Flax (*Linum usitatissimum* straw)
- **B35b** - Hemp (*Cannabis sativa* straw)
- **B35c** - Poppy seeds (*Papaver somniferum* L.)
- **B35d** - Mustard seeds (*Sinapis alba* L., *Sinapis nigra*)
- **B35e** - Safflower (*Carthamus tinctorius* L.)
- **B35f** - Earth almond (*Cyperus esculentus* L.)
- **B35g** - Sesame (*Sesamum indicum*)
- **B35h** - Jute (*Corchorus* spp.)
- **B35i** - Ramie (*Boehmeria nivea*)
- **B35j** - Sisal (*Agave sisalana*)
- **B35k** - Kenaf (*Hibiscus cannabinus*)
- **B35l** - Bird rape (*Brassica rapa* var. *silvestris*)
- **B35m** - Castor beans (*Ricinus communis*)
- **B35n** - Other fibre and oleaginous crops not elsewhere specified

✕ **This class excludes**

- Sunflower (B31),
- Rape seeds (B32),
- Soya (B33),
- Cotton (B34),
- Olive groves (B81)

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B35 ➤ U111 Agricultural production
- B35 ➤ U112 Fallow land
- B35 ➤ U113 Kitchen garden
- B35 ➤ U210 Energy production
- B35 ➤ U361 Amenities, museum, leisure

B36 Tobacco

Areas where tobacco (*Nicotiana tabacum*) is planted

⊙ Principles of observation

Basic observation unit

➤< Links with Land Use

- B36 ➤ U111 Agricultural production
- B36 ➤ U112 Fallow land
- B36 ➤ U113 Kitchen garden
- B36 ➤ U361 Amenities, museum, leisure

B37 Other non-permanent industrial crops

Areas where other non-permanent industrial crops are planted. The surveyor must note the non-permanent industrial crop species in the LC plant species field.

📁 This class includes

- **B37a** - Chicory roots (*Cichorium intybus* var. *sativum*)
- **B37b** - Hops (*Humulus lupulus*)
- **B37c** - Medicinal plants
 - Common balm (*Melissa officinalis*),
 - Common lungwort (*Pulmonaria officinalis*),
 - Common mallow (*Malva silvestris*),
 - Marshmallow (*Althaea officinalis*),
 - Poison hemlock (*Conium maculatum*),
 - Pot marigold (*Calendula officinalis*),
 - Purple foxglove (*Digitalis purpurea*),
 - Soapwort (*Saponaria officinalis*),
 - Sweet chamomile (*Chamaemelum nobile*),
 - Valerian (*Valeriana officinalis*),
 - Vervain (*Verbena officinalis*)
- **B37d** - Spices and aromatic plants
 - Anise (*Pimpinella anisum*),
 - Badain, star anise (*Illicium verum*),
 - Basil (*Ocimum basilicum*),
 - Coriander (*Coriandrum sativum*),
 - Dill (*Anethum graveolens*),
 - Tarragon (*Artemisia dracunculus*),
 - Fennel (*Foeniculum vulgare*),
 - Garden chervil (*Anthriscus cerefolium*),
 - Cumin (*Cuminum cyminum*),
 - Marjoram (*Origanum sp.*),
 - Parsley (*Petroselinum crispum*),
 - Rosemary (*Rosmarinus officinalis*),
 - Spearmint (*Mentha sp*),
 - Sorrel (*Rumex acetosa*),
 - Sage (*Salvia officinalis*),
 - Thyme (*Thymus vulgaris*);
- **B37e** - Sugar cane (*Saccharum officinarum*)
- **B37f** - Other non-permanent industrial crops not specified elsewhere

- ✂ **This class excludes**
- Tobacco (B36),
 - Permanent industrial crops (B84)

⊙ **Principles of observation**

Basic observation unit

➤➤ **Links with Land Use**

- B37 ➤ U111 Agricultural production
- B37 ➤ U112 Fallow land
- B37 ➤ U113 Kitchen garden
- B37 □ U210 Energy production
- B37 ➤ U361 Amenities, museum, leisure

B40 DRY PULSES, VEGETABLES AND FLOWERS

B41 Dry pulses

Areas where dry pulses are planted



This class includes

- Dry peas, garden pea (*Pisum sativum*),
- Chickpea, garbanzo bean (*Cicer arietinum*),
- Cowpea (*Vigna sinensis*; *Dolichos sinensis*),
- Pigeon pea (*Cajanus cajan*)
- Field peas (*Pisum arvense*),
- Field beans (*Vicia faba* spp.),
- Lentils (*Lens culinaris*),
- Lentil vetches (*Vicia ervilia*)
- Vetches, spring or common vetch (*Vicia sativa*, *Vicia villosa*)
- Lupins (*Lupinus* spp.)
- Peanuts (*Arachis hypogaea*)



This class excludes

- Soya (B33)



Principles of observation

Basic observation unit



Links with Land Use

- B41 > U111 Agricultural production
- B41 > U112 Fallow land
- B41 > U113 Kitchen garden
- B41 > U361 Amenities, museum, leisure

B42 Tomatoes

Areas where tomatoes (*Lycopersicon esculentum*) are planted



Principles of observation

Basic observation unit



Links with Land Use

- B42 > U111 Agricultural production
- B42 > U112 Fallow land
- B42 > U113 Kitchen garden
- B42 > U361 Amenities, museum, leisure

B43 Other fresh vegetables

Areas where other fresh vegetables are planted. The surveyor must note the fresh vegetable species in the LC plant species field.



This class includes

- **B43a** - Brassicas
 - o Cabbages (*Brassica oleracea* spp.),
 - o Cauliflowers (*Brassica oleracea* var. *botrytis*)
- **B43b** - Leaf and stalked vegetables other than brassicas
 - o Artichokes (*Cynara scolymus*),
 - o Asparagus (*Asparagus officinalis*),
 - o Cardoons (*Cynara cardunculus*,

- Celery (*Apium graveolens*),
- Chervil (*Anthriscus cerefolium*),
- Chicory (*Cichorium intybus* var. *foliosum*),
- Cress (*Lepidium sativum*),
- Endives (*Cichorium. endivia* var. *crispa*),
- Garden orache (*Atriplex hortensis*),
- Leeks (*Allium porrum*),
- Lettuce (*Lactuca sativa*),
- Rhubarb (*Rheum* spp.),
- Purslane (*Portulaca oleracea*),
- Spinach (*Spinacia oleracea*),
- Rocket (*Eruca sativa*),
- Watercress (*Nasturtium officinale*)
- **B43c** - Leguminous vegetables, including production for tins
 - Green beans (*Phaseolus* and *vigna* spp.)
 - Green peas
- **B43e** - Vegetables cultivated for fruit other than tomatoes
 - Melons (*Cucumis melo*),
 - Cucumbers (*Cucumis sativus*),
 - Egg-plants (*Solanum melongena*),
 - Okras (*Abelmoschus esculentus*, *Hibiscus esculentus*),
 - Peppers (*Capsicum annum*, *C. frutescens*, *Pimenta officinalis*),
 - Pumpkins (*Cucurbita* spp),
 - Watermelons (*Citrullus vulgaris*)
- **B43f** - Cultivated mushrooms
 - *Boletus edulis*,
 - *Agaricus campestris*,
 - *Morchella* spp.
 - *Tuber magnatum*
- **B43g** - Wild products (e.g.truffle, water chestnut)
- **B43h** - Other fresh vegetables not specified elsewhere



This class excludes

- Tomatoes (B42),
- Strawberries (B45),
- Horseradish (B23)



Principles of observation

Basic observation unit



Links with Land Use

- B43 > U111 Agricultural production
- B43 > U112 Fallow land
- B43 > U113 Kitchen garden
- B43 > U361 Amenities, museum, leisure

B44 Floriculture and ornamental plants

Areas where flowers and ornamental plants are planted



This class includes

- Bulbs and tubers, cut-flowers

alstroemeria, amaranthus, anemone, anthurium, campanula, celosia, centaurea, cymbidium, dendranthema, dianthus, echinops, eryngium, euphorbia, forsythia, gerbera, gladiolus, helianthus, hydrangea, hyacinthus, iris, liatris, liliun, lysimachia, muscari, narcissus, papaver, paphiopedilum, protea, ranunculus, rosa, strelitzia, tulipa, veronica, zantedeschia, zinnia

- Cut- leafage

acacia, achillea, alchemilla, arbutus, asparaguspidistra, aster, camellia, cedrus, cornus, cyperus, erica, gypsophilia, hibiscus, hosta, ilex, limonium, melaleucea, molluccela, panicum, pennisetum, philodendrum, physalis, rhododendron, ruscus, salix, sedum, solidago, solidaster, syringe, thuya, trachelium, viburnum, weigela

- Ornamental plants

abelia, agapanthus, araucaria, azalea, begonia, berberis, betula, bougainvillea, callistemon, chamaecyparis, chamaerops, croton, cupressus, cycas, cyclamen, cymbidium, deutzia, dimorphoteca, dracaena, eounymous, euphorbia, euryops, ficus, forsythia, grevillea, hydrangea, lavandula, leptospermum, lonicera, morus, myrtus, olea, paphiopedilum, pelargonium, petunia, phoenix, photinia, piracanta, rosmarinus, saintpaulia, scindapsus, spiraea, syngonium, viburnum, washintonia, wisteria, yucca

✂ This class excludes

- Nurseries (B83)

⊙ Principles of observation

Basic observation unit

➤ Links with Land Use

- B44 ➤ U111 Agricultural production
- B44 ➤ U112 Fallow land
- B44 ➤ U113 Kitchen garden
- B44 ➤ U340 Commerce, Finance, Business
- B44 ➤ U350 Community services
- B44 ➤ U361 Leisure (allotments)
- B44 ➤ U350 Community service

B45 Strawberries

Areas where strawberries (*Fragaria* spp.) are planted

⊙ Principles of observation

Basic observation unit

➤ Links with Land Use

- B45 ➤ U111 Agricultural production
- B45 ➤ U112 Fallow land
- B45 ➤ U113 Kitchen garden

B50 FODDER CROPS (mainly leguminous)

B51 Clovers

The various species of clover, annual or perennial cultivated alone.

📁 This class includes

- Crimson clover (*Trifolium incarnatum* L.)
- Red clover (*Trifolium pratense* L.)
- White clover (*Trifolium repens* L.)
- Egyptian clover (*Trifolium alexandrinum*)
- Persia clover (*Trifolium resupinatum*)

⊙ Principles of observation

Basic observation unit

➤ Links with Land Use

- B51 ➤ U111 Agricultural production
- B51 ➤ U112 Fallow Land
- B51 ➤ U113 Kitchen garden
- B51 ➤ U210 Energy production

B51 > U361 Amenities, museum, leisure

B52 Lucerne

The various types of lucerne cultivated alone.

**This class includes**

- Lucerne (*Medicago sativa* L., *Medicago falcata* L. and hybrids)

**Principles of observation**

Basic observation unit

**Links with Land Use**

- B52 > U111 Agricultural production
- B52 > U112 Fallow Land
- B52 > U113 Kitchen garden
- B52 > U210 Energy production
- B19 > U361 Amenities, museum, leisure

B53 Other Leguminous and mixtures for fodder

Other leguminous or mixtures of predominantly leguminous (normally > 80 %) forage crops and grass plants, harvested green or as dried hay. It is accepted that legumes can be associated with graminaceous plants, i.e.

- at the time of the setting up when the germination of the legume is protected by an annual graminaceous plant
- at the time of the setting up with a view to an association between the two families of plants

Included here are: annual crops belonging to other families such as the cruciferous and that are not mentioned elsewhere, e.g. the California bluebell (*Phacelia tanacetifolia* Benth), if they are harvested green. The surveyor must note the leguminous or fodder species in the LC plant species field.

**This class includes**

- **B53a** - Sainfoin (*Onobrychis viciifolia* Scop.)
- **B53b** - Sweet clover (*Lotus corniculatus* L.)
- **B53c** - Chickling vetch (*Lathyrus sativus*)
- **B53d** - Trefoil (*Medicago lupulina* L.)
- **B53e** - Melilot (*Melilotus alba* Lam.)
- **B53f** - Serradella (*Ornithopus sativus*)
- **B53g** - Fenugreek (*Trigonella foenum-graecum*)
- **B53h** - Sulla (*Hedysarium coronarium*)
- **B53i** - Sweet lupins (*Lupinus albus*, *Lupinus angustifolius*, *Lupinus luteus*)
- **B53j** - California bluebell (*Phacelia tanacetifolia*)
- **B53k** - Other leguminous and mixture for fodder not specified elsewhere

**This class excludes**

- Mix of cereals for fodder (B54)
- Temporary grassland (B55)

**Principles of observation**

Basic observation unit

**Links with Land Use**

- B53 > U111 Agricultural production
- B53 > U112 Fallow Land
- B53 > U113 Kitchen garden
- B53 > U210 Energy production
- B53 > U361 Amenities, museum, leisure

B54 Mix of cereals

Mix of more than two cereals used in most cases for fodder, often as winter crop and harvested green.

**This class includes**

- Common wheat (B11),
- Durum wheat (B12),
- Barley (B13),
- Rye (B14),
- Oats (B15),
- Maize (B16),
- Triticale (B18),
- Other cereals (B19)

if mixed and harvested for fodder

**This class excludes**

- Common wheat (B11)
- Durum wheat (B12)
- Barley (B13)
- Rye (B14)
- Oats (B15)
- Maize (B16)
- Rice (B17)
- Triticale (B18)
- Other cereals (B19)

if only one or two species are sown and harvested for human consumption

**Principles of observation**

Basic observation unit

**Links with Land Use**

- B54 > U111 Agricultural production
- B54 > U112 Fallow Land
- B54 > U113 Kitchen garden
- B54 > U210 Energy production
- B54 > U361 Amenities, museum, leisure

B55 Temporary grassland

Land occupied by temporary and artificial pastures, occupying the ground for at least one crop year and less than five years, the seeds being either pure or mixed grass, on cropland areas. If the soil is ploughed and/if the grass is sown the same year, the grassland is very likely a temporary one and not a permanent one.

**This class includes**

- Italian ryegrass
- Other ryegrasses
- Cock's foot
- Fescues
- Timothy
- Other temporary pastures on agricultural areas/cropland

**This class excludes**

- Permanent grassland (EXX)
- Mix of legumes with gramineous plants for fodder (B53)
- Mix of cereals for fodder (B54)

⊙ **Principles of observation**

Basic observation unit

➤ **Links with Land Use**

- B55 ➤ U111 Agricultural production
- B55 ➤ U113 Kitchen garden
- B55 ➤ U210 Energy production
- B55 ➤ U361 Amenities, museum, leisure

B70 PERMANENT CROPS: FRUIT TREES**B71 Apple fruit**

Surfaces occupied by apple trees

**This class includes**

- *Malus pumila*
- *Pyrus malus*
- Abandoned apple orchards

**Principles of observation**

Extended window of observation

**Links with Land Use**

- B71 > U111 Agricultural production
- B71 > U112 Fallow land
- B71 > U113 Kitchen garden
- B71 > U361 Amenities, museum, leisure

B72 Pear fruit

Surfaces occupied by pear trees

**This class includes**

- *Pyrus communis*
- Abandoned pear orchards

**Principles of observation**

Extended window of observation

**Links with Land Use**

- B72 > U111 Agricultural production
- B72 > U112 Fallow land
- B72 > U113 Kitchen garden
- B72 > U361 Amenities, museum, leisure

B73 Cherry fruit

Surfaces occupied by cherry trees

**This class includes**

- *Prunus cerasus*
- *Cerasus acida*
- Abandoned cherry orchards

**Principles of observation**

Extended window of observation

**Links with Land Use**

- B73 > U111 Agricultural production
- B73 > U112 Fallow land
- B73 > U113 Kitchen garden
- B19 > U361 Amenities, museum, leisure

B74 Nuts trees

Surfaces occupied by nuts trees

**This class includes**

- Almonds (*Prunus amygdalus*)
- Chestnuts (*Castanea* spp.)
- Hazelnuts (*Corylus avellana*)
- Pistachios (*Pistacia vera*)
- Walnuts (*Juglans* spp.)
- Abandoned nuts trees orchards

**Principles of observation**

Extended window of observation

**Links with Land Use**

- B74 > U111 Agricultural production
- B74 > U112 Fallow land
- B74 > U113 Kitchen garden
- B74 > U361 Amenities, museum, leisure

B75 Other fruit trees and berries

Surfaces occupied by other fruit trees and berries. The surveyor must note the fruit tree/berry species in the LC plant species field.

**This class includes**

- **B75a** - Apricot (*Prunus armeniaca*)
- **B75b** - Cornel (*Cornus mas*)
- **B75c** - Figs (*Ficus carica*)
- **B75d** - Juneberry (*Amelanchier vulgaris*)
- **B75e** - Kiwi (*Actinidia chinensis*)
- **B75f** - Loquat (*Eriobotrya japonica*)
- **B75g** - Medlar (*Mespilus germanica*)
- **B75h** - Mirabellas (*Prunus insititia* var. *syriaca*)
- **B75i** - Peach and nectarines (*Prunus persica*; *Amygdalus persica*; *Persica laevis*)
- **B75j** - Persimons (*Diospyros kaki*)
- **B75k** - Plums (*Prunus domestica*)
- **B75l** - Pomegranates (*Punica granatum*)
- **B75m** - Oleaster (*Eleagnus* sp.)
- **B75n** - Quinces (*Cydonia oblonga*)
- **B75o** - Sloes (*Prunus spinosa*)
- **B75p** - Small fruit and berries
 - o Blackberries (*Morus nigra*)
 - o Black currants (*Ribes nigrum*)
 - o Blueberries (*Vaccinium myrtillus*)
 - o Cowberries (*Vaccinium vitis-idaea*)
 - o Cranberries (*Vaccinium macrocarpon*)
 - o Dangleberries (*Gaylussacia* spp.)
 - o Dewberries (*Rubus arcticus*)
 - o Gooseberries (*Ribes uva-crispa*)
 - o Mulberries (*Morus alba*; *Morus rubra*)
 - o Myrtle berries (*Myrtus communis*)

- Raspberries (*Rubus idaeus*)
 - **B75q** - Tropical fruits
 - Bananas (*Musa* sp.),
 - Avocado (*Persea americana*)
 - **B75r** - Other fruit trees and berries not specified elsewhere
- abandoned orchards



This class excludes

- Apples (B71)
- Pears (B72)
- Cherries (B73)
- Nuts (B74)
- Strawberries (B45)
- Citrus fruits (B76, B77)



Principles of observation

Extended window of observation



Links with Land Use

- B75 > U111 Agricultural production
- B75 > U112 Fallow land
- B75 > U113 Kitchen garden
- B75 > U361 Amenities, museum, leisure

B76 Oranges

Surfaces occupied by orange trees



This class includes

- *Citrus sinensis*
- *Citrus aurantium*
- Abandoned oranges orchards



Principles of observation

Extended window of observation



Links with Land Use

- B76 > U111 Agricultural production
- B76 > U112 Fallow land
- B76 > U113 Kitchen garden
- B76 > U361 Amenities, museum, leisure

B77 Other citrus fruit

Surfaces occupied by other citrus fruit trees. The surveyor must note the citrus species in the LC plant species field.



This class includes

- **B77a** - Bergamot (*Citrus bergamia*)
- **B77b** - Citron (*Citrus medica* var. *cedrata*)
- **B77c** - Grapefruit and pomelo (*Citrus maxima*, *Citrus grandis*, *Citrus paradisea*)
- **B77d** - Lemons (*Citrus limon*);
- **B77e** - Limes (*Citrus aurantifolia*; *Citrus limetta*)
- **B77f** - Satsumas (*Citrus unshiu*)
- **B77g** - Mandarines (*Citrus deliciosa*, *Citrus nobilis*)
- **B77h** - Clementines (*Citrus clementina*)
- **B77i** - Kumquats (*Fortunella* sp.)
- **B77j** - Citrus orchards

- B77k - Other citrus fruit not specified elsewhere
- Abandoned citrus orchards



This class excludes

- Oranges (B66)



Principles of observation

Extended window of observation





Links with Land Use


- B77 ➤ U111 Agricultural production
- B77 ➤ U112 Fallow land
- B77 ➤ U113 Kitchen garden
- B77 ➤ U361 Amenities, museum, leisure

B80 OTHER PERMANENT CROPS

B81 Olive groves



Surfaces occupied by olive groves


-  **This class includes**
 - *Olea europea*
 - Abandoned olive groves
-  **Principles of observation**

Extended window of observation
-  **Links with Land Use**
 - B81 > U111 Agricultural production
 - B81 > U112 Fallow land
 - B81 > U113 Kitchen garden
 - B81 > U361 Amenities, museum, leisure

B82 Vineyards




Surfaces occupied by vineyards


-  **This class includes**
 - *Vitis vinifera*
 - Abandoned vineyards
-  **Principles of observation**

Extended window of observation
-  **Links with Land Use**
 - B82 > U111 Agricultural production
 - B82 > U112 Fallow land
 - B82 > U113 Kitchen garden
 - B82 > U361 Amenities, museum, leisure

B83 Nurseries

Surfaces permanently occupied by young woody open-air seedlings for transplantation. The type of main plant/tree has to be noted as LC2.

-  **This class includes**
 - Vine and root-stock nurseries
 - Fruit tree nurseries
 - Ornamental nurseries
 - Tress and bushes for planting in gardens, parks, embankments
-  **This class excludes**
 - Forest tree nurseries (CXX)
-  **Principles of observation**

Basic observation unit
-  **Links with Land Use**
 - B83 > U111 Agricultural production
 - B83 > U113 Kitchen garden
 - B83 > U361 Amenities, museum, leisure

B84 Permanent industrial crops

Surfaces occupied by permanent industrial crops. The surveyor must note the permanent industrial crop species in the LC plant species field.

**This class includes**

- **B84a** - Reeds, canary grass (*Phalaris arundinacea*) when cultivated and not natural
- **B84b** - Other plants for plaiting
 - o Osier
 - o Rushes
 - o Rattans
- **B84c** - Coffee
- **B84d** - Tea
- **B84e** - Other industrial plants for beverages
 - o Cocoa
 - o Mate
- **B84f** - Industrial plants for oil
 - o Coconut
 - o Palm
- **B84g** - Permanent aromatic plants
 - o Black or red pepper
 - o Cinnamon
 - o Cloves
 - o Ginger
 - o Vanilla
 - o Cardamom
- **B84h** - Permanent textile plants
 - o Abaca
 - o Agave,
 - o Kapok
- **B84i** - Plants for rubber and tannin
 - o *Hevea*,
 - o Red quebracho
- **B84j** - Rose trees cultivated for rose-oil production (not as ornamental plants)
- **B84k** - Other permanent industrial crops
 - o Lavender (*Lavandula* spp)
 - o *Citronella*
 - o Sage
 - o Quinine
 - o Areca nuts
 - o Mulberries for sow production
 - o Carobs
- **B84l** - *Miscanthus* (*Miscanthus giganteus*)
- **B84m** - Willow

**Principles of observation**

Extended window of observation

**Links with Land Use**

- B84 > U111 Agricultural production
- B84 > U112 Fallow land
- B84 > U113 Kitchen garden
- B84 > U210 Energy production
- B84 > U361 Amenities, museum, leisure

C00 WOODLAND

Areas covered by trees with a canopy of at least 10% (of the extended window). Also woody hedges belong to this class.

NB: Height of trees at maturity and width of woody features have to be assessed

C10 Broadleaved woodland

Areas with a canopy of more than 10% (of the extended window) and composed of more than 75% of broadleaved species



This class includes

stands with the following species

- Acacia (*Acacia* spp.)
- Alder (*Alnus* spp)
- Ash (*Fraxinus excelsior*)
- Aspens (*Populus tremula*)
- Beech trees (*Fagus sylvatica*)
- Birch (*Betula* sp.)
- Carob (*Ceratonia siliqua*)
- Elm (*Ulmus* sp.)
- Eucalyptus (*Eucalyptus globulus*)
- Hedge (*Acer campestre*)
- Hornbeam (*Carpinus betulus*)
- Linden (*Tilia* spp.)
- Maple (*Acer* sp.)
- Palm trees of the Mediterranean and Macaronesian zones (*Phoenix theophrasti*, *Phoenix canariensis*)
- Poplars (*Populus nigra*)
- Oaks (*Quercus* sp)
- Rowan (*Sorbus aucuparia*)
- Wild olive (*Olea europaea* ssp. *sylvestris*)
- Willows (*Salix* sp.)
- Young natural stands and managed plantations having yet to reach a canopy of 10%
- Forest nurseries



SOURCE: Maxim Bobrovsky



Principles of observation

Extended window of observation



Links with Land Use

- C10 > U111 Agricultural use: grazing or crops in dehesas
- C10 > U120 Forestry (wood production)
- C10 > U210 Energy production
- C10 > U340 Wooded areas connected to commercial areas
- C10 > U350 Wooded areas connected to community services
- C10 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C10 > U370 Wooded areas in residential areas (urban parks)
- C10 > U420 Not used wooded areas

C20 Coniferous woodland

Areas with a canopy of more than 10% (of the extended window) and composed of more than 75% of coniferous species

C21 Spruce dominated coniferous woodland

Stands where >75% of the part of coniferous trees are spruce



This class includes

stands with the following species

- Spruce (*Picea* sp),
- Christmas trees
- Young stands and plantations having yet to reach a canopy of 10%
- Forest nurseries



Principles of observation

Extended window of observation



Links with Land Use

- C21 > U111 Agricultural use: grazing
- C21 > U120 Forestry (wood production)
- C21 ▫ U210 Energy production
- C21 > U340 Wooded areas connected to commercial areas
- C21 > U350 Wooded areas connected to community services
- C21 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C21 > U370 Wooded areas in residential areas (urban parks)
- C21 > U420 Not used wooded areas

C22 Pine dominated coniferous woodland

Stands where >75% of the part of coniferous trees are pine species



This class includes

stands with the following species

- Pines (*Pinus* sp.)
 - o Scots pines
 - o Black pines
 - o Siberian pines
 - o Weymouth pines
 - o Maritime pine
 - o Mediterranean stone pine, etc.
- Young stands and plantations having yet to reach a canopy of 10%
- Forest nurseries



Principles of observation

Extended window of observation



Links with Land Use

- C22 > U111 Agricultural use: grazing
- C22 > U120 Forestry (wood production)
- C22 ▫ U210 Energy production
- C22 > U340 Wooded areas connected to commercial areas
- C22 > U350 Wooded areas connected to community services
- C22 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C22 > U370 Wooded areas in residential areas (urban parks)
- C22 > U420 Not used wooded areas

C23 Other coniferous woodland

Stands where no coniferous species is represented >75%

**This class includes**

stands with the following species:

- Cedars (*Cedrus* sp.),
- Cypresses (*Cupressus sempervirens*),
- Firs (*Abies* sp.),
- Douglas firs (*Pseudotsuga menziesii*),
- Larches (*Larix* ssp),
- Pines (*Pinus* sp.)
- Spruce (*Picea* sp.),
- Xerophyte conifers
 - o Brutia pine,
 - o Umbrella pine,
 - o Aleppo pine,
 - o Corsican pine
- Christmas trees
- Young stands, plantations having yet to reach a canopy of 10%
- Forest nurseries

**Principles of observation**

Extended window of observation

**Links with Land Use**

- C23 ➤ U111 Agricultural use: grazing
- C23 ➤ U120 Forestry (wood production)
- C23 □ U210 Energy production
- C23 ➤ U340 Wooded areas connected to commercial areas
- C23 ➤ U350 Wooded areas connected to community services
- C23 ➤ U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C23 ➤ U370 Wooded areas in residential areas (urban parks)
- C23 ➤ U420 Not used wooded areas

C30 Mixed woodland

Areas with a canopy of more than 10% and composed of broadleaved and coniferous comprising both >25% of the tree canopy

C31 Spruce dominated mixed woodland

Stands where >75% of the coniferous trees are spruce

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- C31 > U111 Agricultural use: grazing
- C31 > U120 Forestry (wood production)
- C31 □ U210 Energy production
- C31 > U340 Wooded areas connected to commercial areas
- C31 > U350 Wooded areas connected to community services
- C31 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C31 > U370 Wooded areas in residential areas (urban parks)
- C31 > U420 Not used wooded areas

C32 Pine dominated mixed woodland

Stands where >75% of the coniferous trees are pine

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- C32 > U111 Agricultural use: grazing
- C32 > U120 Forestry (wood production)
- C32 □ U210 Energy production
- C32 > U340 Wooded areas connected to commercial areas
- C32 > U350 Wooded areas connected to community services
- C32 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C32 > U370 Wooded areas in residential areas (urban parks)
- C32 > U420 Not used wooded areas

C33 Other mixed woodland

Stands with all other coniferous species and less than 75% of spruce and/or pine trees

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- C3 > U111 Agricultural use: grazing
- C33 > U120 Forestry (wood production)
- C33 □ U210 Energy production
- C33 > U340 Wooded areas connected to commercial areas
- C33 > U350 Wooded areas connected to community services
- C33 > U36x Wooded areas specifically managed for recreational purposes and in nature reserves
- C33 > U370 Wooded areas in residential areas (urban parks)
- C33 > U420 Not used wooded areas

FOREST TYPES (LUCAS SU FT)

If the forest is larger than 0.5 ha, the height of trees is above 5 m at maturity and the width of the wooded feature is more than 20 m, the surveyor has to indicate the forest cover code in the respective "LC plant species" field, according to the forest type classification of the European Environment Agency².

A key for recognizing the forest types and a biogeographical map of Europe can be found in the ANNEXES to document C1.

CXX1 Boreal forest

Coniferous and mixed broadleaved-coniferous forest of the Boreal (climate) zone of Europe, known also as taiga. Two conifer species, Scots pine (*Pinus sylvestris*) and Norway spruce (*Picea abies*) dominate the boreal forest zone; both of them have quite broad habitat amplitudes and may grow from very dry to wet habitats. Pine generally prevails on drier soils, in areas with a more continental climate and with a high fire frequency. Spruce, on the other hand, prevails on more nutrient-rich, mesic-moist soils, in areas with a more oceanic climate and on sites with a low fire frequency. Birch species (e.g. *Betula pubescens*, *Betula pendula*) as well as other deciduous trees, such as aspen, rowan and grey alder can be frequently found growing amongst the conifers. Admixtures of spruce or pine with birch species are also typical of the pioneer stages of the forest succession.



This class includes

- Young stands and plantations having yet to reach a canopy of 10%



This class excludes

- Alpine forests in Scandinavia (CXX3)



Principles of observation

Extended window of observation



Links with Land Use

- CXX1 > U111 Agricultural use: grazing
- CXX1 > U120 Forestry (wood production)
- CXX1 > U350 Wooded areas connected to community services
- CXX1 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX1 > U370 Wooded areas in residential areas (urban parks)
- CXX1 > U420 Not used wooded areas

CXX2 Hemiboreal forest and nemoral coniferous forest and mixed broadleaved-coniferous forest

The hemi-boreal zone is a transitional zone between the boreal and temperate forest of nemoral Europe. It is characterized by the coexistence of boreal coniferous – on poor soils – and temperate broadleaved tree species (*Fraxinus excelsior*, *Ulmus glabra*, *Tilia cordata*, *Quercus robur*) on the most fertile soils. The structure and composition of hemiboreal forest is maintained by a complex admixture of natural and cultural disturbances.

The type is characterized by mixtures of Scots pine (*Pinus sylvestris*) and Norway spruce (*Picea abies*) with broadleaved deciduous trees such as Birch (*Betula spp*), aspens (*Populus tremula*), alder (*Alnus sp*) and rowan (*Sorbus aucuparia*). *The broadleaved trees generally characterize early to mid-successional stages; with age the dominance of coniferous species increases.*



This class includes

- Young stands and plantations having yet to reach a canopy of 10%



Principles of observation

² See the document: European forest types. Categories and types for sustainable forest management reporting and policy. EEA Technical Report No 9/2006) downloadable at http://reports.eea.europa.eu/technical_report_2006_9/en

Extended window of observation

**Links with Land Use**

- CXX2 > U111 Agricultural use: grazing
- CXX2 > U120 Forestry (wood production)
- CXX2 > U350 Wooded areas connected to community services
- CXX2 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX2 > U370 Wooded areas in residential areas (urban parks)
- CXX2 □ U420 Not used wooded areas

CXX3 Alpine coniferous forest

Forests occurring in the alpine biogeographical region dominated by coniferous trees, mainly Norway spruce (*Picea abies*), Silver fir (*Abies alba*), Scots pine (*Pinus sylvestris*), Swiss stone pine (*Pinus cembra*), mountain pine (*Pinus mugo*, *Pinus uncinata*), Macedonian pine (*Pinus peuce*) and Bosnian pine (*Pinus heldreichii*). Included in this category is the forest vegetation of high altitudinal vegetation belts of the central European mountain ranges dominated by spruce (*Picea abies*), silver fir (*Abies alba*) and, under local microclimatic and edaphic conditions, termophilous pure Austrian pine (*Pinus nigra*) forests of the southern Alps.

**This class includes**

- Young stands and plantations having yet to reach a crown density of 10% or 5m tree height
- Alpine forests in Scandinavia

**This class excludes**

- Boreal forests (CXX1)

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX3 > U111 Agricultural use: grazing
- CXX3 > U120 Forestry (wood production)
- CXX3 > U350 Wooded areas connected to community services
- CXX3 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX3 > U370 Wooded areas in residential areas (urban parks)
- CXX3 □ U420 Not used wooded areas

CXX4 Acidophilous oak and oak-birch forest

Acidophilous oakwoods and mixed oak-birch forest characteristic of oligotrophic soils of the nemoral forest zone. The main areas of distribution of the class are the Atlantic and Continental biogeographical regions. Lowland to submountainous forests are dominated by acidophilous oaks (*Quercus petraea* and *Quercus robur*). In the wide natural range of distribution of beech trees (*Fagus sylvatica*) oakwoods are pushed back to areas with poor acid soils, with variable soil moisture or thin soil layers. Pioneers such as birch (*Betula pendula*, *Betula pubescens*) are important during the regeneration phase in the western parts of the area of occurrence. In the eastern parts pine (*Pinus* sp.) and locally spruce (*Picea* sp) can form together with oak the tree layer. In the south-western areas of occurrence some Mediterranean species can participate in the tree layer. Aspen (*Populus tremula*), rowan (*Sorbus aucuparia*), Norway maple (*Acer platanoides*), ash (*Fraxinus excelsior*), linden (*Tilia cordata*) and Wych elm (*Ulmus glabra*) can be found in the southern boreal region.

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX4 > U111 Agricultural use: grazing
- CXX4 > U120 Forestry (wood production)
- CXX4 > U350 Wooded areas connected to community services
- CXX4 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX4 > U370 Wooded areas in residential areas (urban parks)
- CXX4 > U420 Not used wooded areas

CXX5 Mesophytic deciduous forest

Forests, typically with mixed canopy composition, on rich and moderately rich soils. The category includes forests dominated by mixtures of Hornbeam (*Carpinus betulus*), Sessile oak (*Quercus petraea*), Pedunculate oak (*Quercus robur*), ash (*Fraxinus excelsior*, *Fraxinus angustifolia*), hedge (*Acer campestre*) maple (*Acer pseudoplatanus*) and linden (*Tilia cordata*).

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX5 > U111 Agricultural use: grazing
- CXX5 > U120 Forestry (wood production)
- CXX5 > U350 Wooded areas connected to community services
- CXX5 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX5 > U370 Wooded areas in residential areas (urban parks)
- CXX5 > U420 Not used wooded areas

CXX6 Beech forest

Beech forests are characterised by the dominance of beech (*Fagus sylvatica*) L. or its transitional hybrids with oriental beech (*Fagus orientalis* Lipsky) in the eastern and southern parts of the Balkan Peninsula, and along the eastern periphery of the Carpathians. These latter were described as Balkan beech (*Fagus moesiaca* Csecz.), Podolian or Moldovian beech (*Fagus podolica* Yap.) and Crimean beech (*Fagus taurica* Popl). Specific elevation range (from lowlands to submountainous, 0 to 600(-800) meters above sea level) and the lack of conifers define this type often referred to as lowland and submountainous beech forest. Important additional tree species include Norway maple (*Acer platanoides*), Sycamore Maple (*Acer pseudoplatanus*), birch (*Betula pendula*), hornbeam (*Carpinus betulus*), Sweet chestnut (*Castanea sativa*), ash (*Fraxinus excelsior*), aspen (*Populus tremula*), wild cherry (*Prunus avium*), oak (*Quercus petraea*, *Quercus robur*), rowan (*Sorbus aucuparia*), linden (*Tilia cordata*, *Tilia platyphyllos*), Wych elm (*Ulmus glabra*).

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX6 > U111 Agricultural use: grazing
- CXX6 > U120 Forestry (wood production)
- CXX6 > U350 Wooded areas connected to community services
- CXX6 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX6 > U370 Wooded areas in residential areas (urban parks)
- CXX6 > U420 Not used wooded areas

CXX7 Mountainous beech forest

Mountainous beech forests are defined by the altitudinal range of distribution, by the dominance of *Fagus* and, in most cases, by the presence of coniferous species (*Abies alba* and/or *Picea abies*) as important components. Locally important additional tree species include Norway maple (*Acer platanoides*), Sycamore Maple (*Acer pseudoplatanus*), birch (*Betula pendula*), hornbeam (*Carpinus betulus*), Sweet chestnut (*Castanea sativa*), ash (*Fraxinus excelsior*), aspen (*Populus tremula*), wild cherry (*Prunus avium*), oak (*Quercus petraea*, *Quercus robur*), rowan (*Sorbus aucuparia*), linden (*Tilia cordata*, *Tilia platyphyllos*), Wych elm (*Ulmus glabra*), oriental beech (*Fagus orientalis Lipsky*) and Goat willow. (*Salix caprea*). depending on trophic status and/or successional phase.

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX7 > U111 Agricultural use: grazing
- CXX7 > U120 Forestry (wood production)
- CXX7 > U350 Wooded areas connected to community services
- CXX7 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX7 > U370 Wooded areas in residential areas (urban parks)
- CXX7 > U420 Not used wooded areas

CXX8 Thermophilous deciduous forest

Forest dominated by deciduous or semideciduous thermophilous species, mainly Downy Oak (*Quercus pubescens*); other oaks associate with or replace (*Q. pubescens* in submediterranean woods: *Quercus faginea*, *Q. pyrenaica* and *Q. canariensis* (Spain), *Q. cerris* (Italy), *Q. frainetto*, *Q. trojana* (Greece)). The species typically associated in these oak woods are maples (*Acer monspessulanus*, *Acer opalus*, *Acer obtusatum*) and, in eastern areas, Hop-hornbeam (*Ostrya carpinifolia*), Manna ash (*Fraxinus ornus*), Oriental hornbeam (*Carpinus orientalis*). Forest dominated by thermophilous deciduous oaks, under local microclimatic or edaphic conditions, are found also far north in the Atlantic region, Pannonic and Continental regions.

**This class includes**

- Other deciduous non-alluvial formations of meso- and supra-Mediterranean zone, dominated by *Fraxinus* spp., *Ostrya carpinifolia*, *Carpinus orientalis*, *Acer* spp., *Tilia* spp., *Carpinus betulus*, *Aesculus hippocastanus* and *Juglans regia*;
- *Castanea sativa* dominated forests, represented, for the most part, by old established and naturalised plantations.
- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXX8 > U111 Agricultural use: grazing
- CXX8 > U120 Forestry (wood production)
- CXX8 > U350 Wooded areas connected to community services
- CXX8 > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX8 > U370 Wooded areas in residential areas (urban parks)
- CXX8 > U420 Not used wooded areas

CXX9 Broadleaved evergreen forest

Forests characteristic of the Mediterranean and warmtemperate humid zones of Macaronesia biogeographical regions, dominated by broadleaved sclerophyllous or lauriphyllous evergreen trees. Broadleaved evergreen forests can be dominated by the evergreen sclerophyllous oaks (*Quercus suber*, *Q. ilex*, *Q. rotundifolia*, *Q. coccifera*, *Q. alnifolia*).

Cork oak and holm oak form the most widespread evergreen woodland in the Mediterranean Region.

Forest dominated by holm oak (*Quercus ilex*), are typical of the meso-Mediterranean level, but ingression to the supra-mediterranean level is also common. Holm oak woodland is often, but not necessary, calcicolous.

Cork oak (*Quercus suber*) dominated woodland has a west-Mediterranean distribution and is associated to siliceous substrates. It is usually more thermophilous and hygrophilous than holm oak woodland. In some areas, holm-oak and cork-oak woodland are closely related and the two oaks occur in mixed stands.

Arborescent formations dominated by Kermes oak (*Quercus coccifera*, *Quercus 'calliprinos'*, *Quercus 'pseudococcifera'*) or Golden oak (*Quercus alnifolia*); occurring in the Iberian Peninsula, Greece and eastern Mediterranean (Cyprus, Anatolia).

Thermo-Mediterranean woodland dominated by arborescent tree layer, often open, of wild olive (*Olea europaea ssp. sylvestris*), carob (*Ceratonia siliqua*) or a mixture of the two; found in southern

Spain (Andalucia, Menorca, Maiorca), southern Italy (Puglia, Calabria, Sardinia, Sicilia), Crete, Cyprus and Turkey.

Woods, often riparian, formed by palm trees of the Mediterranean and Macaronesian zones, *Phoenix theophrasti* of Crete and western Anatolia, and *Phoenix canariensis* of the Canary Islands.

**This class includes**

- young stands, plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

- < Links with Land Use
- CXX9 ➤ U111 Agricultural use: grazing
- CXX9 ➤ U120 Forestry (wood production)
- CXX9 ➤ U350 Wooded areas connected to community services
- CXX9 ➤ U36x Wooded areas managed for recreational purposes and in nature reserves
- CXX9 ➤ U370 Wooded areas in residential areas (urban parks)
- CXX9 ➤ U420 Not used wooded areas

CXXA Coniferous forest of the Mediterranean region

The category covers a wide range of xerophytic forests dominated by coniferous species (pines, firs, junipers, cypress, cedar) found in the Mediterranean, Anatolian and Macaronesian biogeographical Regions.

Woodland dominated by thermophilous Pine species (*Pinus pinaster ssp. pinaster*, *Pinus pinea*, *Pinus halepensis*, *Pinus brutia*). These pinewoods constitute thermo-Mediterranean pioneer formations, largely widespread in the coasts and lowlands of the circummediterranean regions. Woods dominated by Black pine (*Pinus nigra spp.*), characteristic of the mountainous level of the Mediterranean and Anatolia regions. Scots pine forest (*Pinus sylvestris*) in the Mediterranean region have a mountainous and oro-Mediterranean distribution. Local treeline formations of Bosnian pine (*Pinus heldreichii* and *Pinus leucodermis*) are restricted to the southern Balkans, northern Greece and southern Italy. Fir woods (*Abies*) are distributed along the rim of the southern Mediterranean basin and western Anatolia. Woods dominated by Junipers (*Juniperus spp.*) of the Mediterranean and Anatolian mountains. Pure or mixed forests of Lebanon cedar (*Cedrus libani*) of the southern Anatolia and locally north-eastern Anatolia (subpontic forests) and endemic endangered *Cedrus brevifolia* forest of Cyprus.



This class includes

- young stands, plantations having yet to reach a canopy of 10%



Principles of observation

Extended window of observation



Links with Land Use

- CXXA > U111 Agricultural use: grazing
- CXXA > U120 Forestry (wood production)
- CXXA > U350 Wooded areas connected to community services
- CXXA > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXXA > U370 Wooded areas in residential areas (urban parks)
- CXXA > U420 Not used wooded areas

CXXB Mire and swamp forests

Coniferous or broadleaved forested wetlands, located mainly in Fennoscandia with scattered occurrences on peaty soils throughout Europe. Forested wetlands consist of a heterogeneous complex of wet and moist forest types, and they are characterized by a high water table of variable duration. The terminology used to characterize them differs between countries. In Sweden, for example, swamp forests are classified as forests and not as mires if the annual forest productivity exceeds 1 m³ per ha or if the tree layer has a crown projection exceeding 30 %. In Finland, however, the classification is based on botanical and hydrological criteria. As a consequence, wet and moist forests are assigned to the mire series regardless of forest productivity and tree cover. Therefore, many herb-rich vegetation types are included in this category.

The dominating trees are spruces (*Picea sp.*) and birches (*Betula sp.*) in swamps or pines (*Pinus sp.* in bogs. Swamp forests can be dominated by alder (*Alnus sp.*), birch (*Betula sp.*), pedunculate oaks (*Quercus robur*) or aspen (*Populus tremula*).

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**This class excludes**

- Peat bogs (H12)

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXXB > U111 Agricultural use: grazing
- CXXB > U120 Forestry (wood production)
- CXXB > U350 Wooded areas connected to community services
- CXXB > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXXB > U370 Wooded areas in residential areas (urban parks)
- CXXB > U420 Not used wooded areas

CXXC Floodplain forests

Alluvial and riparian woodlands and galleries close to main European river channels. These are species-rich often multi-layered communities characterised by different assemblages of forest dominant trees. Forest composition and structure largely depends on the frequency of flooding.

Included are those forest communities typically associated with alluvial or riparian woodlands that may constitute locally important forest types e.g. in Bulgaria, the dense forests of field elm and ashes associated to alluvial and riparian mixed forests.

Riparian forests of the boreal, boreo-nemoral and nemoral zone growing on low-lying areas and organic soils frequently flooded and close to river channels. Characteristically dominated by species of alder (*Alnus*), birch (*Betula sp.*), aspens (*Populus tremula*) and willows (*Salix sp.*).

In the Mediterranean and Macaronesian regions additions local species (e.g. *Fraxinus angustifolia*, *Platanus orientalis*, *Alnus orientalis*, *Nerium Oleander*, *Tamarix*, *Liquidambar* and *Flueggea tinctoria*) exist.

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXXC > U111 Agricultural use: grazing
- CXXC > U120 Forestry (wood production)
- CXXC > U350 Wooded areas connected to community services
- CXXC > U36x Wooded areas managed for recreational purposes and in nature reserves
- CXXC > U370 Wooded areas in residential areas (urban parks)
- CXXC > U420 Not used wooded areas

CXXD Non-riverine alder, birch or aspen forest

Non-riparian, non-marshy forest formations dominated by alder (*Alnus glutinosa*, *Alnus incana*, *Alnus cordata*), birch (*Betula pendula*, *Betula pubescens*, *Betula celtiberica*, *Betula aetnensis*) or aspen (*Populus tremula*).

**This class includes**

- Young stands and plantations having yet to reach a canopy of 10%

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXXD ➤ U111 Agricultural use: grazing
- CXXD ➤ U120 Forestry (wood production)
- CXXD ➤ U350 Wooded areas connected to community services
- CXXD ➤ U36x Wooded areas managed for recreational purposes and in nature reserves
- CXXD ➤ U370 Wooded areas in residential areas (urban parks)
- CXXD ➤ U420 Not used wooded areas

CXXE Exotic forest

The class covers forest and self-sown stands of exotic species.

**This class includes**

- Eucalyptus (*Eucalyptus* spp)
- Douglas fir (*Pseudotsuga menziesii*)
- Sitka spruce (*Picea sitkensis*)
- Young stands and plantations having yet to reach a canopy of 10%

**This class excludes**

- Plantations of autochthonous species

**Principles of observation**

Extended window of observation

**Links with Land Use**

- CXXE > U111 Agricultural use: grazing
- CXXE > U120 Forestry (wood production)
- CXXE > U340 Wooded areas connected to commercial areas
- CXXE > U350 Wooded areas connected to community services
- CXXE > U36x Wooded areas managed for recreational purposes and in nature reserves (but not yet converted to more natural stands)
- CXXE > U370 Wooded areas in residential areas (urban parks)
- CXXE > U420 Not used wooded areas

D00 SHRUBLAND

Areas dominated (more than 10% of the surface) by shrubs and low woody plants capable of reaching height up to 5m. It may include sparsely occurring trees within a maximum limit of 10% canopy.

In central Europe, only heath lands and some rural communities are falling into this category.

D10 Shrubland with sparse tree cover

Areas dominated (more than 10% of the surface) by shrubs and low woody plants, including sparsely occurring trees with a canopy between 5 and 10 %.

NB: Height of trees at maturity (field 20) and width of features (field 21) have to be assessed and noted in the field form when area size is larger than 0,5 ha.



This class includes

- Scrub land (pines, rhododendrons, maquis, matorral and deciduous thickets)
- Heathland with gorse, heather or broom



This class excludes

- Shrubland where tree cover is more than 10% (CXX)
- Shrub-like crops: orchards, vineyards in production (B7X-B8X)



Principles of observation

Extended window of observation



Links with Land Use

- D10 > U111 Agricultural use: grazing
- D10 > U112 Abandoned agricultural land
- D10 > U120 Forestry (Wood production)
- D10 □ U210 Energy production
- D10 > U36x Leisure areas and nature reserves
- D10 > U420 Natural shrubland areas and areas outside agricultural areas not used

D20 Shrubland without tree cover

Areas dominated (more than 10% of the surface) by shrubs and low woody plants. Sparsely occurring trees should not cover more than 5% of the area

**This class includes**

- Scrub land (pines, rhododendrons, maquis, matorral and deciduous thickets)
- Dwarf shrub tundra with dwarf birches and willows
- Heather and dwarf juniper vegetation
- Garrigues with strawberry trees, thyme, white rock rose, lavender and rosemary
- Heathland with gorse, heather or broom
- Spiny mediterranean heaths (*Phrygana*)
- Xerophytic areas with succulents

**This class excludes**

- Shrubland where tree cover is more than 10% (CXX)
- Shrubland where the tree cover is between 5-10% (D10)
- Shrub-like crops: orchards, vineyards (B7X-B8X)

**Principles of observation**

Extended window of observation

**Links with Land Use**

- D20 ➤ U111 Agricultural use: grazing
- D20 ➤ U112 Abandoned agricultural land
- D20 ➤ U120 Forestry (Wood production)
- D20 ➤ U36x Leisure areas and nature reserves
- D20 ➤ U420 Natural shrubland areas and areas outside agricultural land not used

E00 GRASSLAND

Land predominantly covered by communities of grassland, grass-like plants and forbs. It may include sparsely occurring trees within a limit of a canopy of <10% and shrubs within a total limit of cover (including trees) of 20%.

E10 Grassland with sparse tree/shrub cover

Land predominantly covered by communities of grassland, grass-like plants and forbs including sparsely occurring trees (the canopy is between 5 and 10% and the total of the tree+shrub canopy is between 5 and 20% of the area). Fruit trees on grassland are classified with their species in as B7x in second land cover.

NB: Height of trees at maturity (field 20) and width of features (field 21) have to be assessed when area size is larger than 0,5 ha.



This class includes

- dry grasslands
- dry edaphic meadows
- steppes with gramineae and artemisia
- plain and mountainous grassland
- wet grasslands
- alpine and subalpine grasslands
- saline grasslands
- arctic meadows
- temporarily unstocked areas within forests



Principles of observation

Extended window of observation



Links with Land Use

- E10 > U111 Agriculture: Permanent pastures, rough grazing, alpages, meadows
- E10 > U112 Fallow and abandoned land
- E10 > U120 Clear cuts within previously existing forests
- E10 > U210 Energy production
- E10 > U31x Associated areas of transport areas
- E10 > U340 Grassland attached to commerce, finance or business areas
- E10 > U350 Grassland attached to community service areas
- E10 > U36x Grassland for recreation: public gardens, golf courses and nature reserves
- E10 > U370 Grassland attached to residential areas
- E10 > U4x0 Natural grassland or abandoned grassland outside agricultural areas not used

E20 Grassland without tree/shrub cover

Land predominantly covered by communities of grassland, grass like plants and forbs without trees and shrubland (density of tree+shrub crown is less than 5%).



This class includes

- dry grasslands
- dry meadows and steppes
- plain and mountainous grassland
- wet grasslands
- alpine and subalpine grasslands
- saline grasslands
- arctic meadows
- temporarily unstocked areas within forests

⊙ **Principles of observation**

Extended window of observation

⌕ **Links with Land Use**

- E20 > U111 Agriculture: Permanent pastures, rough grazing, alpages, meadows
- E20 > U112 Fallow and abandoned land
- E20 > U120 Clear cuts within previously existing forests
- E20 > U31x Associated areas of transport areas (e.g. aerodromes)
- E20 > U340 Grassland attached to commerce, finance or business areas
- E20 > U350 Grassland attached to community service areas
- E20 > U36x Grassland for recreation: public gardens, golf courses, sports fields and nature reserves
- E20 > U370 Grassland attached to residential areas
- E20 > U4x0 Natural grassland or abandoned grassland outside agricultural areas not used

E30 Spontaneously re-vegetated surfaces

It consists of mostly agricultural land which has not been cultivated this year or the years before. It has not been prepared for sowing any crop this year. This class can also be found on clear-cut forest areas, industrial “brownfields”, storage land and of course on abandoned or unused land etc.

Main case is agricultural land not providing a crop during the entire year or abandoned earlier agricultural surfaces. It is occupied by spontaneous vegetation in case of set-aside arable land, with some tall herbs or weeds. This class applies as well for former grassland or hedge margins which are currently not used anymore but covered by tall herbs fringes. There might be some bare land pockets or crop residues and spontaneous re-grown crops of the before management period. Only surfaces which have not been deliberately sown and do not have any fodder crops like mixed cereals or are temporary grasslands classify for this land cover class.

📁 **This class includes**

- Set aside land within agricultural areas
- Unused artificial land

✕ **This class excludes**

- Other Legumes and mixtures for Fodder (B53)
- Mixed cereals (B54)
- Temporary grassland (B55)
- Grassland without tree/shrub cover (E20)
- Bare land (F00)

⊙ **Principles of observation**

Extended window of observation

⌕ **Links with Land Use**

- E30 > U112 Spontaneous vegetation on fallow land
- E30 > U120 Clear cuts within previously existing forests)
- E30 > U140 Mining and quarrying if in use
- E30 > U21x Energy and industrial production surfaces with spontaneous vegetation cover if still in use
- E30 > U31x Transport, storage, water and waste treatment etc. Surfaces with spontaneous vegetation cover if in use
- E30 > U420 Unused, spontaneously vegetated land

F00 BARE LAND AND LICHENS/MOSS

Areas with no dominant vegetation cover on at least 90% of the area or areas covered by lichens.

F10 Rocks and Stones



This class includes

- inland rock cliffs
- areas of rock outcrop and limestone parent
- scree
- block litter and mountain top debris
- land covered with recent volcanic features



Principles of observation

Basic observation unit



Links with Land Use

- F10 > U140 Scrapped or excavated areas for quarrying, mining purposes
- F10 > U21x Rocky areas attached to energy production
- F10 > U22x Rocky areas attached to industrial use
- F10 > U31x Rocky areas attached to transport areas
- F10 > U330 Construction sites
- F10 > U340 Rocky areas attached to commercial services
- F10 > U350 Rocky areas attached to community services
- F10 > U36x Rocky areas used for recreational and leisure purposes and nature reserves
- F10 > U370 Rocky areas attached to residential areas
- F10 > U4x0 Rocky areas not used (inland rocks, top mountains)



F20 Sand



This class includes

- areas of sand, shingle and mud: beaches, dunes, sand hills
- gravel or sand banks above water level



This class excludes

- Intertidal areas (H23)



Principles of observation

Basic observation unit



Links with Land Use

- F20 > U120 Clear cuts within previously existing forests
- F20 > U140 Scrapped or excavated areas for quarrying, mining purposes
- F20 > U21x Sandy areas attached to energy production
- F20 > U22x Sandy areas attached to industrial use
- F20 > U31x Sandy areas attached to transport areas
- F20 > U330 Construction sites
- F20 > U340 Sandy areas attached to commercial services
- F20 > U350 Sandy areas attached to community services
- F20 > U36x Sandy areas used for recreational and leisure purposes and nature reserves
- F20 > U370 Sandy areas attached to residential areas
- F20 > U4x0 Sandy areas not used (inland rocks, top mountains)

F30 Lichens and Moss**This class includes**

- areas covered by lichens
- areas covered by moss

**Principles of observation**

Basic observation unit

**Links with Land Use**

- F30 > U120 Clear cuts within previously existing forests
- F30 > U140 Scrapped or excavated areas for quarrying, mining purposes
- F30 > U21x Areas attached to energy production
- F30 > U22x Areas attached to industrial use
- F30 > U31x Areas attached to transport areas
- F30 > U330 Construction sites
- F30 > U340 Areas attached to commercial services
- F30 > U350 Areas attached to community services
- F30 > U36x Areas used for recreational and leisure purposes and nature reserves
- F30 > U370 Areas attached to residential areas
- F30 > U4x0 Areas not used (inland rocks, top mountains)

F40 Other bare soil**This class includes**

- bare arable land
- temporarily unstocked areas within forests (clear cuts)
- burnt areas
- tracks and parking areas/ yards with bare land cover

**Principles of observation**

Basic observation unit

**This class excludes**

- Impervious cover (A2x)
- Dune grassland (E20)
- Dunes with heaths, scrub and woods (DXX)
- Peat bogs (H12)

**Principles of observation**

Basic observation unit

**Links with Land Use**

- F40 > U111 Agricultural bare land, tilled and/or prepared for seeding
- F40 > U112 Fallow land with crop residues
- F40 > U120 Clear cuts within previously existing forests
- F40 > U140 Scrapped or excavated areas for quarrying, mining purposes
- F40 > U21x Bare areas attached to energy production
- F40 > U22x Bare areas attached to industrial use
- F40 > U31x Bare areas attached to transport areas
- F40 > U330 Construction sites
- F40 > U340 Bare areas attached to commercial services
- F40 > U350 Bare areas attached to community services
- F40 > U36x Bare areas used for recreational and leisure purposes and nature reserves
- F40 > U370 Bare areas attached to residential areas
- F40 > U4x0 Bare areas abandoned or not used



G00 WATER AREAS

Inland or coastal areas without vegetation and covered by water and flooded surfaces, or likely to be so over a large part of the year.

Temporarily submerged islands and sandbanks are to be assigned in F classes.

G10 Inland water bodies

Inland areas of still open water



This class includes

- Lakes
- Ponds
- Meres
- Reservoirs



Principles of observation

Basic observation unit



Links with Land Use

- G10 > U111 Small ponds attached to agricultural use
- G10 > U130 Fish farming
- G10 > U140 Gravel and sand extraction under water
- G10 > U210 Energy production
- G10 > U22x Industrial bodies of water, dockyards
- G10 > U313 Bodies of water used for transport
- G10 > U32x Decanters, reservoirs
- G10 > U340 Bodies of water attached to commercial services
- G10 > U350 Bodies of water attached to community services
- G10 > U361-3 Swimming pools
- G10 > U370 Swimming pools
- G10 > U4x0 Abandoned or not used bodies of water

G20 Inland running water

Inland channels of running water



This class includes

- Rivers
- Streams
- Springs
- Canals
- Temporary streams



Principles of observation

Basic observation unit



Links with Land Use

- G20 > U111 Agriculture
- G20 > U130 Fish farming
- G20 > U140 Gravel and sand extraction under water
- G20 > U313 Rivers, canals used for transport
- G20 > U361-3 Recreation, leisure, sport
- G20 > U4x0 Abandoned or not used

G30 Coastal water bodies

Water surfaces in estuaries and lagoons

**This class includes**

- Estuaries: the wide portion of rivers at their mouths subject to the influence of the sea into which the water course flows: the limit is fixed at the point where width is less than 5 km at high tide and greater than 3 km at low tide
- Lagoons: cut off from the sea by coastal banks or other forms of relief with, however, certain possible openings

**Principles of observation**

Basic observation unit

**Links with Land Use**

- G30 ➤ U130 Marine aquaculture
- G30 ➤ U140 Salt extraction
- G30 ➤ U313 Bodies of water used for transport
- G30 ➤ U361-3 Specific leisure, recreational equipment
- G30 ➤ U420 Unused

G50 Glaciers, permanent snow

Areas covered by glaciers (generally measured at the time of their greatest expansion in the season) or permanent snow

**Principles of observation**

Basic observation unit

**Links with Land Use**

- G50 ➤ U361-3 Ski tows on glaciers
- G50 ➤ U420 Unused

H00 WETLANDS

Wetlands are areas that fall between land and water. These are areas that are wet for long enough periods that the plants and animals living in or near them are adapted to, and often dependent on, wet conditions for at least part of their life cycle.

Wetlands are defined as land that is:

- Inundated with water on a temporary or permanent basis.
- Inundated with water that is usually slow moving or stationary.
- Inundated with water that is shallow.
- Inundated with water that may be fresh, brackish or saline.

H10 Inland wetlands

Wetlands located in inland.

H11 Inland marshes

Inland marshes are wetlands usually saturated around the year and seasonally flooded dominated by grasses or grasslike plants.

- 📁 **This class includes**
 - Inland marshes
 - Reeds (inland)
- ✂ **This class excludes**
 - Peatbogs, fens (H12)
 - Salt marshes (H21)
 - Rice fields (B17)
 - Plantations of plants for plaiting including reeds (B84)
- 🕒 **Principles of observation**
 - Extended window of observation
- **Links with Land Use**
 - H11 ➤ U210 Energy production
 - H11 ➤ U321 Water supply and treatment
 - H11 ➤ U4x0 Abandoned or Unused

H12 Peatbogs

Bogs accumulate acidic peat, a deposit of dead plant material—usually mosses.

- 📁 **This class includes**
 - Turf
 - Peat bogs
 - Fens
- ✂ **This class excludes**
 - Mire and swamp forests (CXX)
 - Alluvial forests (canopy more than 10 %) (CXX)
 - Lichens (F30)
- 🕒 **Principles of observation**
 - Extended window of observation
- **Links with Land Use**
 - H12 ➤ U140 Mining and quarrying: Peat extraction

H12 > U4x0 Abandoned or Unused

H20 Coastal wetlands

Wetlands located on marine coasts.

H21 Salt marshes

A salt marsh is a type of marsh that is a transitional intertidal between land and salty or brackish water.

**This class includes**

- Salt marshes
- Marine reeds

**This class excludes**

- Inland marshes (H11)
- Salines (H22)

**Principles of observation**





Extended window of observation

**Links with Land Use**

H21 □ U210 Energy production
 H21 > U4x0 Abandoned or Unused





H22 Salines

Actively used or abandoned salt evaporation ponds and salt pans with clear parcels and embankment systems.

-  **This class includes**
 - Active or abandoned salines
-  **This class excludes**
 - Salt marshes (H21)
-  **Principles of observation**
 - Extended window of observation
-  **Links with Land Use**
 - H22 > U140 Salt extraction
 - H22 > U410 Abandoned

H23 Intertidal flats

Normally unvegetated mud, sand or rock flats located between high and low tide water marks.

-  **This class includes**
 - Rock, sand and mud flats affected by tides
-  **This class excludes**
 - Salt marshes (H21)
 - Active or abandoned salines (H22)
 - Beaches normally above the water level (F10)
-  **Principles of observation**
 - Extended window of observation
-  **Links with Land Use**
 - H23 > U130 Fishing: Collect of water organisms
 - H23 > U420 Unused

LAND USE CLASSIFICATION

(LUCAS SU LU)

U110 AGRICULTURE

U111 Agriculture (excluding fallow land and kitchen gardens)

Areas used for agricultural purposes (NACE Section A01)

This class includes the production of crop products and production of animal products. This class includes growing of crops in open fields as well in greenhouses. The preparation of products for the primary markets is included here. These areas are normally harvested with use of agricultural machinery (exc. delicate crops). The class also includes field construction (e.g. agricultural land terracing, drainage, preparing rice paddies etc. - NACE section F), as well as landscape care and maintenance (NACE 81.30).



This class includes

- 01.1 Growing of non-perennial crops
 - Growing of cereals (except rice), leguminous crops and oil seeds
 - Growing of rice
 - Growing of vegetables and melons, roots and tubers
 - Growing of sugar cane
 - Growing of tobacco
 - Growing of fiber crops
 - Growing of fodder crops (including temporary grassland)
 - Growing of other non-perennial crops (including industrial reed beds)
- 01.2 Growing of perennial crops
 - Growing of grapes
 - Growing of tropical and subtropical fruits
 - Growing of citrus fruits
 - Growing of pome fruits and stone fruits
 - Growing of other tree and bush fruits and nuts
 - Growing of oleaginous fruits
 - Growing of beverage crops
 - Growing of spices, aromatic, drug and pharmaceutical crops
 - Growing of other perennial crops
- 01.3 Plant propagation
 - Growing of plants for planting
 - Growing of plants for ornamental purposes, including turf for transplanting
 - Growing of live plants for bulbs, tubers and roots; cuttings and slips; mushroom spawn
- 01.4 Animal production
(includes raising (farming) and breeding of all animals, except aquatic animals)
 - Raising of dairy cattle (including the grazing areas)
 - Raising of other cattle and buffaloes (including the grazing areas)
 - Raising of horses and other equines (including the grazing areas)
 - Raising of sheep and goats (including the grazing areas)
 - Raising of swine/pigs
 - Raising of poultry
 - Raising of other animals (including the grazing areas)
- 01.5 Growing of crops combined with farming of animals (mixed farming)
 - Crop growing in combination with farming of livestock at mixed activity units with a specialization ratio in either one of less than 66%

01.6 Support activities to agriculture and post-harvest crop activities

Support activities for crop production
 Support activities for animal production
 Post-harvest crop activities
 Seed processing for propagation

✂ This class excludes

- Any subsequent processing of the agricultural products beyond that needed to prepare them for the primary markets
- Manufacture of food products and beverages and tobacco products (U221)
- Manufacturing of textile products (U222)
- Fallow agricultural land (U112)
- Kitchen gardens (U113)

U112 Fallow land

Agricultural land (cropland) not used for the entire year for crop production, as part of the field rotation. Also, all agricultural land which is set aside long-term is included.

📁 This class includes

- Set aside within agricultural areas
- Bare land for agricultural use (used in other years)

✂ This class excludes

- Grazing of lucerne, clover, sainfoin, trefoil, black medick, etc (U111)
- Abandoned permanent crops (U410)

U113 Kitchen garden

Gardens, where the crops are planted heterogeneously and mainly for own consumption. These areas are mostly fenced (by metal fences or hedges) and mostly situated in residential areas or as allotment gardens.

📁 This class includes

- Allotment gardens
- Kitchen gardens and fruit/nut trees (around the house)

✂ This class excludes

- Industrial agriculture (U111)

U120 FORESTRY

U120 Forestry

Areas used for forestry purpose (NACE A02)

This class includes the production of round wood as well as the extraction and gathering of wild growing non-wood forest products. Besides the production of timber, forestry activities result in products that undergo little processing, such as firewood, charcoal and round wood used in an unprocessed form (e.g. pit-props, pulpwood etc.). These activities can be carried out in natural or planted forests.



This class includes

- Forestry and logging
- Growing of standing timber: planting, replanting, transplanting, thinning and conserving of forests and timber tracts
- Growing of coppice, pulpwood and fire wood
- Operation of forest tree nurseries
- Logging: felling of timber and production of wood in the rough such as pit-props, split poles, pickets or fuel wood
- Gathering of wild growing forest materials : balatta and other rubber-like gums, cork, lac, resins, balsams, vegetable hair, eel grass, acorns, horse-chestnuts, mosses, lichens
- Support services to forestry
- Growing of Christmas trees



This class excludes

- Growing of cork trees (U111)
- Further processing of wood beginning with sawmilling and planing of wood (U227)

U130 AQUACULTURE AND FISHING

U130 Aquaculture and Fishing

Areas used for fishing and aquaculture (NACE A03)

This class includes capture fishery and aquaculture, covering the use of fishery resources from marine, brackish or freshwater environments, with the goal of capturing or gathering fish, crustaceans, mollusks and other water organisms and products (e.g. aquatic plants, pearls, sponges).



This class includes

- Fishing
- Aquaculture (fish farming)

U140 MINING AND QUARRYING

U140 Mining and quarrying

Areas used for mining and quarrying purposes (NACE Section B)

Mining and quarrying include the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by different methods such as underground or surface mining, well operation etc. This section includes supplementary activities aimed at preparing the crude materials for marketing, for example, crushing, grinding, cleaning, drying, sorting, concentrating ores, liquefaction of natural gas and agglomeration of solid fuels.



This class includes

- Mining of coal and lignite
- Extraction of crude petroleum and natural gas
- Mining of metal ores
- Quarrying of stone, sand and clay
- Mining of chemical and fertiliser minerals
- Extraction of peat
- Extraction of salt
- Other mining and quarrying n.e.c.
- Mining support service activities



This class excludes

- Areas of waste disposal and treatment (U322)
- Processing of the extracted materials
 - o Coal, oil and metal processing (U223)
 - o Production of non-metal mineral goods (U224)
 - o Chemical and allied industries and manufacturing (U225)
- Usage of the extracted materials without a further transformation for construction purposes (U330)

U210 ENERGY PRODUCTION

U210 Energy production

Areas used for producing and generating energy (NACE D 35).

This section includes the activity of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure of lines, mains (supply network) and energy production plants, including renewable energy such as hydropower, solar and wind power as well as biogas. This section includes the operation of electric and gas utilities, which generate and control electric power or gas. Manufacture of gas by purification, blending and other processes from gases and production of gas for the purpose of gas supply by carbonation of coal or from by-products of agriculture or from waste.



This class includes

- Electricity (incl. renewable energy),
 - Gas,
 - Steam,
 - Air conditioning supply
- and the attached areas



This class excludes

- Operation of water and sewage utilities (U321).
- Typically long-distance transport of gas, water etc through pipelines (U315).

U220 INDUSTRY AND MANUFACTURING

U221 Manufacturing of food, beverages and tobacco products

Areas used for production of food and beverage products and luxury foodstuff (NACE C10, 11, 12)

This class includes the processing of the products of agriculture, forestry and fishing into food for humans or animals, Some activities are considered manufacturing (for example, those performed in bakeries, pastry shops, and prepared meat shops etc. which sell their own production) even though there is retail sale of the products in the producers' own shop. It includes the manufacture of beverages and mineral water, as well as the processing of tobacco for final consumption.



This class includes

- Manufacture of food products
- Manufacture of beverages
- Manufacture of tobacco products and the relevant attached areas



This class excludes

- Preparation of meals for immediate consumption, such as in restaurants (U340).

U222 Manufacturing of textile products

Areas used for manufacturing of textile products (NACE C13, 14, 15)

This class includes preparation and spinning of textile fibres as well as textile weaving, finishing of textiles and wearing apparel, manufacture of made-up textile articles and apparel (e.g. household linen, blankets, rugs, cordage etc.). It also includes all tailoring (ready-to-wear or made-to-measure), in all materials (e.g. leather, fabric, knitted and crocheted fabrics etc.), of all items of clothing and accessories. Furthermore, dressing and dyeing of fur and the transformation of hides into leather by tanning or curing and fabricating the leather into products for final consumption. And it includes the manufacture of similar products from other materials, such as rubber footwear, textile luggage etc.



This class includes

- Manufacture of textiles
- Manufacture of wearing apparel
- Manufacture of leather and related products and the attached areas

U223 Coal, oil and metal processing

Areas used for coal, oil and metal processing (NACE C19, 24, 25)

This class includes the transformation of crude petroleum and coal into usable products (petroleum refining), manufacture of gases as products of petroleum refineries. It also includes the activities of smelting and/or refining ferrous and non-ferrous metals and the manufacture of "pure" metal products (such as parts, containers and structures. The manufacture of weapons and ammunition is also included in this class.



This class includes

- Manufacture of coke and refined petroleum products
- Manufacture of basic metals
- Manufacture of fabricated metal products, except machinery and equipment and the attached areas



This class excludes

- The manufacture of petrochemicals from refined petroleum (U225)

U224 Production of Non-metal mineral goods

Areas used for manufacturing of non-metal mineral goods (NACE C23)

This class includes manufacturing activities related to a single substance of mineral origin. It includes the manufacture of glass and glass products (e.g. flat glass, hollow glass, fibres, technical glassware etc.), ceramic products, tiles and baked clay products, and cement and plaster, from raw materials to finished articles. The manufacture of shaped and finished stone and other mineral products is also included in this class.



This class includes

- Manufacture of glass and glass products
- Manufacture of refractory products
- Manufacture of clay building materials
- Manufacture of other porcelain and ceramic products
- Manufacture of cement, lime and plaster
- Manufacture of articles of concrete, cement and plaster
- Cutting, shaping and finishing of stone
- Manufacture of abrasive products and non-metallic mineral products n.e.c.

and the attached areas

U225 Chemical and allied industries and manufacturing

Areas used for industrial and manufacturing of chemical and related products (NACE C20-22, 25)

This class includes the transformation of organic and inorganic raw materials by a chemical process and the formation of products, also the production of basic pharmaceutical products and pharmaceutical preparations, medicinal chemical and botanical products, rubber and plastic products.



This class includes

- Manufacture of chemicals and chemical products
- Manufacture of basic pharmaceutical products and pharmaceutical preparations
- Manufacture of rubber and plastic products

and the attached areas

U226 Machinery and equipment

Areas used for production of machinery and equipment (NACE C18.2, 26-30, 31, 32)

This class includes the manufacture of machinery and equipment: of computers, electronic products, consumer electronics, measuring, testing and navigating equipment, magnetic and optical media as well as the reproduction of recorded media, such as compact discs, videos, software on discs or tapes, records etc. This class includes the manufacture of products that generate, distribute and use electrical power, of general-purpose and special machinery, of motor vehicles and transport equipment (boats, airplanes etc), manufacture of furniture of any but wooden material, other manufacturing,



This class includes

- Reproduction of recorded media
- Manufacture of computer, electronic and optical products
- Manufacture of electrical equipment
- Manufacture of machinery and equipment n.e.c.
- Manufacture of motor vehicles, trailers and semi-trailers
- Manufacture of other transport equipment
- Manufacture of furniture (if of any other than wooden material)
- Other manufacturing

and the attached areas



This class excludes

- Areas where waste is sorted to prepare recycling of used material (U322)
- Repair and installation of machinery and equipment (U340)

U227 Wood based products

Areas used for production of wood-based products and of articles of cork, straw and plaiting materials (NACE C16-18.1, 31)

This class includes the manufacture of wood products and prefabricated wood buildings. The production processes include sawing, planing, shaping, laminating, and assembling of wood products. Also included is the manufacture of furniture, or the installation of wooden fittings and the like. This class also includes the manufacture of pulp, paper and converted paper products as well as printing of such products.





This class includes

- Manufacture of wood and of products of wood and cork
 - Manufacture of paper and paper products
 - Printing and service activities related to printing
 - Manufacture of furniture (if of wooden material)
- and the attached areas

U310 TRANSPORT, COMMUNICATION NETWORKS, STORAGE, PROTECTIVE WORKS


U311 Railways

Areas used for railways transport (NACE 49.1, 49.2)

-  **This class includes**
- All types of railways
 - TGV traces
 - Railway stations
 - Funiculars
-  **This class excludes**
- Tramways and tram stations (U312)



U312 Roads

Land areas used for roads (NACE 49.4)

-  **This class includes**
- All types of areas used for road transportations (streets, overland roads, highways) and associated areas (e.g. rest areas)
 - Car parking
 - Bus stations
 - Tramways and tram stations



U313 Water transport

Areas used for transport on water (NACE 50)

-  **This class includes**
- Channels
 - Rivers used for ship transportation
 - Lakes
 - Estuaries
 - Areas used for harbors and ports
-  **This class excludes**
- Areas used for storage of goods (U317)
 - Docks (U226)

U314 Air transport

Areas used for air transport (NACE 51)

-  **This class includes**
- Airports for people and freight transportation
 - Airports with and without concrete runways
-  **This class excludes**
- Areas used for storage of goods (U317)
 - Docks for aircrafts (U226)

U315 Transport via Pipelines

Areas used for transport via pipelines (NACE 49.5)

**This class includes**

- Transport of oil, water, gas or other material via pipelines

U316 Telecommunication

Areas used for telecommunication infrastructures and postal services (NACE 53, partly 61.1)

**This class includes**

- Postal and courier activities
- Telecommunications networks

**This class excludes**

- Theatres, production studios (TV, Movies), etc. (U361)

U317 Storage

Areas used for storage of goods and warehousing (NACE 52)

This class includes warehousing and support activities for transportation, such as operating of transport infrastructure (e.g. airports, harbours, tunnels, bridges, etc.), the activities of transport agencies and cargo handling.

**This class includes**

- Warehousing and storage
- Support activities for transportation

**This class excludes**

- Attached areas to land used in other categories (e.g. in U22x)

U318 Protection works

Areas used for protection infrastructures

**This class includes**

- Protection infrastructure against land slides
- Dikes

U320 WATER AND WASTE TREATMENT

U321 Water supply and treatment

Areas used for water collection, treatment and supply (NACE E 36, 37)

This class includes the collection, treatment and distribution of water for domestic and industrial needs. Collection of water from various sources, as well as distribution by various means is included. It also includes the operation of sewer systems or sewage treatment facilities that collect, treat, and dispose of sewage. Furthermore: recovering and purifying water: stations to raise water levels, for purifying waste water, decanters, spreader areas, storage (reservoir), extraction of water.



This class includes

- Water collection, treatment and supply
- Sewerage



This class excludes

- Distribution of water via pipeline (U315)

U322 Waste treatment

Areas used for waste treatment (NACE E 38, 39)

This class includes the collection, treatment, and disposal of waste materials. This also includes local hauling of waste materials and the operation of materials recovery facilities.



This class includes

- Waste collection, treatment and disposal activities; materials recovery (recycling)
- Remediation activities and other waste management services



This class excludes

- Incineration stations for energy production (U210)

U330 CONSTRUCTION

U330 Construction

Areas used for construction whatever the degree of completion (NACE F)

This section includes general construction and specialized construction activities for buildings and civil engineering works. It includes new work, repair, additions and alterations, the erection of prefabricated buildings or structures on the site and also construction of a temporary nature. Thus, the construction of entire dwellings, office buildings, stores and other public and utility buildings, farm buildings etc., or the construction of civil engineering works such as motorways, streets, bridges, tunnels, railways, airfields, harbors and other water projects, irrigation systems, sewerage systems, industrial facilities, pipelines and electric lines, sports facilities etc.



This class includes

- Construction of buildings
- Civil engineering
- Specialised construction activities (e.g. demolition)

U340 COMMERCE, FINANCE, BUSINESS

U340 Commerce, finance, business

Areas used for commercial, financial and general business activities, including handicraft (NACE CXX3, G, I55.1, 56, K, L, M, N)

This section includes wholesale and retail sale of any type of goods, and rendering services incidental to the sale of merchandise. It includes the specialized repair of goods produced in the manufacturing sector with the aim to restore machinery, equipment and other products to working order, as well as the provision of general or routine maintenance (i.e. servicing) on such products. This section also includes the provision of short-stay accommodation for visitors and other travelers and the provision of complete meals and drinks fit for immediate consumption. It covers financial service activities, including insurance, reinsurance and pension funding activities and activities to support financial services, as well as real estate activities. This section also includes, specialized professional, scientific and technical activities, which require a high degree of training, and make specialized knowledge and skills available to users, are covered. This section includes support general business operations (renting and leasing activities, employment and travel agencies, private security activities, service to buildings and landscape, office services, ,



This class includes

- Repair and installation of machinery and equipment
- Wholesale and retail trade
- Hotels and similar accommodation
- Food and beverage service activities
- Financial and insurance activities
- Real estate activities
- Professional, scientific and technical activities
- Administrative and support service activities



This class excludes

- Holiday and other short-stay accommodation (U363)
- Camping grounds, recreational vehicle parks and trailer parks (U363)

U350 COMMUNITY SERVICES

U350 Community services

Areas used for public administration, local authorities, defense, education, health and social work, religion (NACE M75, O, P, Q, U)

This section includes activities of a governmental nature, normally carried out by the public administration, and extraterritorial, international organizations. This section includes education at any level or for any profession, public as well as private education. This section includes the provision of health and social work activities. Religious areas (like churches, graveyards) are falling under this category as well. Military areas belong also to this group.



This class includes

- Veterinary services
- Public administration and defense (military)
- Education
- Human health and social work activities
- Religion
- Activities of extraterritorial organisations and bodies

U360 RECREATION, LEISURE, SPORT

U361 Amenities, museums, leisure

Areas used for cultural purposes, amenities and leisure, recreation, amusement and show activities (groups 59.1, 60.1, 60.2, 90, R91.0 93.2, of NACE)



This class includes

- Library, archives, museum and other cultural activities
- Preservation of historical sites, including botanical and zoological gardens
- Creative, arts and entertainment activities
- Amusement and recreation activities, including parks and beaches
- Motion picture, video, radio and television activities

U362 Sport

Areas used for sport activities (group 93.1 of NACE)



This class includes

- Sporting activities

U363 Holiday camps

Areas used for holidays camps (short-stay lodging e.g. apartments, camping) (NACE 55.2, 55.3)

This class includes the provision of accommodation, principally for short stays by visitors. This may take the form of apartments or flats in small free-standing multi-storey buildings or clusters of buildings, or single storey bungalows, chalets, cottages and cabins, as well as camping grounds, recreational vehicle and trailer parks.



This class includes

- Holiday and other short-stay accommodation (holiday apartment lots)
- Camping grounds, recreational vehicle parks and trailer parks (also closed holiday camps)



This class excludes

- Hotels (U340)

U370 RESIDENTIAL

U370 Residential

Areas used for housing purpose



This class includes

- Residential gardens



This class excludes

- Hotels (U340)
- Old people homes, children homes, prisons, monasteries, convents (U350)

U400 UNUSED AND ABANDONED AREAS

U410 Abandoned areas

This class consists of abandoned areas with signs or structures of previous use of any kind.

Areas belonging to the abandoned class are not in use and can't anymore be used for the original purpose without major reparation/renovation work.



This class includes

- abandoned industrial areas
- abandoned transport areas (e.g. railways)
- abandoned residential areas
- abandoned residential gardens
- abandoned agricultural areas, mainly permananet crops (e.g. orchards, vineyards)
- abandoned construction sites
- abandoned mining areas



This class excludes

- Fallow land (U112)
- Construction sites (U330)

U420 Semi-natural and Natural areas not in use

This class includes areas which are in natural / semi-natural state and no signs of any use are visible



This class excludes

- Unused land formerly developed, now vacant or derelict (U410)
- Fallow land, Agricultural land which is temporarily not used (U112)
- Grazed areas (U111)

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