

Land Capability Classification

(a) Definition. Land capability classification is a system of grouping soils primarily on the basis of their capability to produce common cultivated crops and pasture plants without deteriorating over a long period of time.

(b) Classes. Land capability classification is subdivided into capability class and capability subclass nationally. Some states utilize a capability unit.

(c) Significance. Land capability classification has a value as a grouping of soils. National Resource Inventory information and many field office technical guides have been assembled according to these classes. The system has been adopted in many textbooks and has public acceptance. Some state legislation has used the system for various applications. Users should reference Agriculture Handbook No. 210 (Exhibit 622-2) for a listing of assumptions and broad wording used to define the capability class and capability subclass.

(d) Application.

All map unit components are assigned a capability class and subclass. Agriculture Handbook No. 210 (Exhibit 622-2) provides general guidance, and individual state guides provide assignments of the class and subclass applicable to the state. Land capability units can be used to differentiate subclasses at the discretion of the state. Capability class and subclass are assigned to map unit components in the national soil information system.

(e) Categories.

(1) Capability Class.

(i) Definition. Capability class is the broadest category in the land capability classification system. Class codes 1, 2, 3, 4, 5, 6, 7, and 8 are used to represent both irrigated and nonirrigated land capability classes.

(ii) Classes and definitions.

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or require very careful management, or both.

Class 5 soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.

Class 6 soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.

Class 7 soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.

Class 8 soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for esthetic purposes.

(2) Capability Subclass.

(i) Definition. Capability subclass is the second category in the land capability classification system. Class codes e, w, s, and c are used for land capability subclasses.

(ii) Subclasses and definitions.

Subclass **e** is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass.

Subclass **w** is made up of soils for which excess water is the dominant hazard or limitation affecting their use. Poor soil drainage, wetness, a high water table, and overflow are the factors that affect soils in this subclass.

Subclass **s** is made up of soils that have soil limitations within the rooting zone, such as shallowness of the rooting zone, stones, low moisture-holding capacity, low fertility that is difficult to correct, and salinity or sodium content.

Subclass **c** is made up of soils for which the climate (the temperature or lack of moisture) is the major hazard or limitation affecting their use.

(iii) Application. The subclass represents the dominant limitation that determines the capability class. Within a capability class, where the kinds of limitations are essentially equal, the subclasses have the following priority: e, w, s, and c. Subclasses are not assigned to soils or miscellaneous areas in capability classes 1 and 8.

(3) Capability Unit.

(i) Definition. Capability unit is the third category in the land capability classification system. It is a grouping of one or more individual soil mapping units having similar potentials and continuing limitations or hazards.

(ii) Application. Use of this category and definition of codes are state options. Valid entries in NASIS are integers ranging from 1 to 99.

(f) Entries. Enter the appropriate capability class and subclass code for each map unit component. Enter the appropriate capability unit code, if one is to be used in the area. Allowable entries for capability class are 1, 2, 3, 4, 5, 6, 7, or 8. Allowable entries for subclass are e, w, s, or c. Enter subclass for all classes except 1 and 8. Valid entries for capability unit are integers ranging from 1 to 99. Nonirrigated land capability classes and subclasses should be entered for all soils. Enter the irrigated land capability class and subclass if the soil component is irrigated or potentially will be irrigated.