

IMPERIAL BUREAU OF SOIL SCIENCE

TECHNICAL COMMUNICATION No. 43

LAND CLASSIFICATION FOR LAND-USE PLANNING

by

G. V. JACKS



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APPENDIX

OUTLINE OF A U.S. SOIL-SURVEY REPORT

(Reproduced from [44])

In order to achieve some uniformity in the treatment and arrangement of subject matter in the report, especially for the convenience of those using large numbers of these reports, the outline which follows has been prepared. This outline cannot be followed blindly, as each area has its own particular features and problems requiring emphasis, and certain sections, given only broad headings, must be carefully organized in subdivisions.

GENERAL ARRANGEMENT OF MATERIAL IN THE SOIL-SURVEY REPORT

I. Description of the area surveyed.

(A) Location and extent of the area.

- (1) General location within the State or Territory.
- (2) Distance of county seat or principal town from one or more important places.
- (3) Size of area in square miles.

(B) Physiography.

- (1) Mention of the physiographic division of the United States in which the area is located.
- (2) General description of the physiography and geology of the area.

(C) Relief.

- (1) Discussion of any modification of the physiographic surface by natural dissection.
- (2) Sketch map of relief areas if such a sketch is of material assistance to the discussion.

(D) Elevation.

- (1) General elevation of the area and ranges in elevation.
- (2) Altitude of some of the main topographic features.
- (3) Altitude of towns or other known points. (Cite authority for data.)

(E) Vegetation.

- (1) General but brief discussion of the vegetation, including especially the original and present forests, grasses, or shrubs. (Ordinarily there should be no detailed description of species unless this is important where many comparatively uncommon plants are mentioned. The common names should be used, but a glossary of botanical names should be given, especially where noncrop plants need to be discussed at length.)

- (F) Organization and population of the county.
 - (1) Date of settlement.
 - (2) Important historical data.
 - (3) Source and distribution of the population.
 - (4) Nationality of the settlers. (To be supported by census data.)
- (G) County seat and principal towns.
 - (1) Name of county seat.
 - (2) Principal towns and their relation to the agriculture of the area.
- (H) Transportation, markets, and other cultural features.
 - (1) Railroads and highways and the service rendered by them.
 - (2) Any service rendered by steamship lines.
 - (3) The disposition and marketing of farm products.
 - (4) Conditions of public roads.
 - (5) Schools, churches, telephones, and other features relating to rural culture and social life.
- (I) Industries.
 - (1) Important nonagricultural manufacturing industries, mining, and other industries affecting the area should be mentioned and any relationship these have to the agriculture of the area noted. (The plants engaged in processing agricultural products, such as flour mills and cheese factories, are discussed under H (3).)

2. Climate.

- (1) General type, that is, oceanic, continental, etc.
- (2) Variations among seasons.
- (3) Distribution of rainfall during the growing season.
- (4) Influence of physiography and bodies of water on climate in different parts of the area.
- (5) Climate as a factor in the production of special crops.
- (6) Discussion on value of the data on average dates of frost and average frost-free periods.
- (7) Discussion on value of data on average annual means for precipitation.
- (8) Conditions, favorable or unfavorable, for farm work.
- (9) Tables from Weather Bureau of temperature, precipitation, and frosts.
- (10) Discussion of unusual weather conditions, such as winds, storms, and hail.

3. Agricultural history and statistics.
 - (A) Early agricultural development of the area.
 - (B) Important changes that have taken place in the use of the land since settlement.
 - (C) Census data on the agriculture of the area as far back as available and up to and including latest census reports.
 - (D) Present condition of agriculture.
 - (1) Use of fertilizers, lime, and other amendments.
 - (a) Amount and cost.
 - (b) Kind of fertilizers used.
 - (2) Labor.
 - (a) Kind and availability of labor. (Do not discuss the specific wages paid in different farm operations as conditions change from year to year.)
 - (3) Size of farms.
 - (a) General range in the size of farms and the size of the average farm. (To be checked by census data.)
 - (b) Any trends toward change in size of farms and the reasons for such change.
 - (4) Tenure of farms.
 - (a) Percentage of farms operated by the owners and by tenants.
 - (b) Systems of rental, such as cash rent, share of crop, or other.
4. Soil-survey methods and definitions.
 - (1) Description of methods used in mapping soils.
 - (2) Definition of terms used in the description and classification of soils.
5. Soils and crops.
 - (1) General characteristics of the soils of the area.
 - (2) Systems of agriculture practiced.
 - (3) Relationship between soils and agriculture.
 - (4) Grouping of soils on the basis of capability for use.
 - (5) Brief description of each group.
 - (a) Agronomic relationships.
 - (b) Characteristics common to soils in the group that determine use.
 - (c) The names of series in the group and the characteristics of the types of the series brought into this group.

(d) Description of each type and phase of the group, including all the following features, if applicable.

i. Describe each horizon as to :—

- a. Color.
- b. Texture.
- c. Structure.
- d. Consistence.
- e. Thickness.
- f. Reaction.
- g. Content of organic matter.
- h. Stoniness.
- i. Root penetration.
- j. Salt or alkali.

2. Important variations within the type.

3. Location and extent of soil.

- a. General location of the larger areas and definite location of areas of minor types.
- b. Estimate in square miles of areas of each type.

4. Relief.

5. Geologic origin of parent material.

6. Drainage (external and internal).

7. Native vegetation, if important.

8. Uses to which soil is put and crop yields woven in with capabilities of soil.
Approximate acreage in different crops.

9. Management of the soil. Systems of management compared with those of area as a whole. Susceptibility to erosion or deterioration from other causes under wrong management.

10. Methods of drainage or irrigation.

11. Water supply if related to soil type.

6. Land uses and agricultural methods.

(A) Capabilities of soils for use.

(1) Crops, (2) native pasture, (3) forests.

(2) Successful and improved methods of management as demonstrated within the area.

(3) Results obtained by experiment on soil types or closely related types, including :—

- (a) Use of various fertilizers, lime or other chemical treatments.
- (b) Rotations.
- (c) Farm implements.
- (d) Prevention of erosion.
- (e) Tillage.
- (f) Drainage.
- (g) Varieties of plants.
- (h) Plant diseases, insect pests, and noxious weeds.

(This discussion should be specific in respect to the separate soils.)

7. Drainage, irrigation, or alkali amelioration (not always necessary).
(Indicate exact meaning of the term "alkali" in each particular report.)

8. Productivity ratings.

(Instructions on this chapter will be supplied in each instance.)

9. Morphology and genesis of soils.

(A) Location of the area with reference to the great soil groups.

(B) Parent materials.

(C) Factors of environment influencing soil development.

(D) Description of normal regional profile and a few of the more important variations.

(E) Character of intrazonal and azonal soils.

10. Summary.

(A) Brief discussion of area and its agriculture.

(B) Uses made of soils and reason for such use.

(C) General statement of the character of the soils.

(D) Brief description of the soil groups and their relation to agriculture.

(E) Names of the principal soils, their characteristics, and their influence on the agriculture.

This outline should be followed in preparing the report, unless some special individual feature of an area makes some change imperative in order to achieve a logical presentation of the material.

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