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determined by correlation and principal components analysis. As a result of this analysis, it is felt that gently sloping landforms, which are currently portrayed on the

A CLASSIFICATION OF LANDFORMS--ILLINOIS

landscape in a plains area. It is concluded that this classification system would be feasible for a universal system for classifying land in the central plains of the United States as an approach to a universal system of landform classification. If enough comparative studies were made to further ascertain the validity of the components chosen and the appropriateness superior to those currently in use. A subsidiary objective of the study is to determine the relative significance of selected terrain variables. A twenty-five per cent sample of five-minute topographic rectangles in Illinois is used as the data base for study.

The methodology for developing a landform classification system is seen as consisting of four problems, each of which is addressed in this investigation: (1) selection of components; (2) choice of individual; (3) measurement and indexing of criteria; and (4) the assignment of individuals to mutually exclusive classes. Four components (gently sloping land, local relief, profile, and texture) are chosen after analysis of previously applied variables. A map is developed for each and compared, when possible, to previous maps. A final map, Illinois Landform Classification Map, is prepared from data furnished from a computer program (cluster analysis) which groups individuals according to their similarities without previously assigning significance values to components or groups. The significance and interrelationships of the components are

An Abstract of a Thesis

Presented to the Department

of Geography of Western Illinois University

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Macomb, Illinois

August, 1969

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determined by correlation and principal components analysis. As a result of this analysis, it is felt that gently sloping land and profile, together with texture, adequately portray the landscape in a plains area. It is concluded that this classification system would be feasible for a universal system for classifying landforms in the central plains of the United States as an approach to a universal system if enough comparative studies were made to further ascertain the validity of the components chosen and the appropriateness superior to those currently in use. A subsidiary objective of the size of the individual is to determine the relative significance of selected terrain variables. A twenty-five per cent sample of five-minute topographic rectangles in Illinois is used as the data base for study.

The methodology for developing a landform classification system is seen as consisting of four problems, each of which is addressed in this investigation: (1) selection of components; (2) choice of individual; (3) measurement and indexing of criteria; and (4) the assignment of individuals to mutually exclusive classes. Four components (gently sloping land, local relief, profile, and texture) are chosen after analysis of previously applied variables. A map is developed for each and compared, when possible, to previous maps. A final map, Illinois Landform Classification Map, is prepared from data furnished from a computer program (cluster analysis) which groups individuals according to their similarities without previously assigning significance values to components or groups. The significance and interrelationships of the components are

determined by correlation and principal components analysis. As a result of this analysis, it is felt that gently sloping land and profile, together, will adequately portray the landscape in a plains area. It is concluded that this classification system would be feasible for a universal system if enough comparative studies were made to further ascertain the validity of the components chosen and the appropriateness of the size of the individual.

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A Thesis

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