I. INTRODUCTION AND DEFINITIONS

Data about the land, having spatial characteristics, is used for the purpose of: assessing, evaluating, designing, planning, managing, regulating, and communicating. A premise of this chapter is that these activities are part of one continuous and ongoing process exemplified by the phrase "spatial data analysis and information communication." To explain this continuous process it is necessary to examine (i) the evolution and development of analysis and communication techniques; (ii) the types of communication analysis users; and (iii) examples and studies of analysis and communication techniques.

There is a fundamental difference between data lists and data with spatial descriptions. This difference has resulted in a variety of methods for dealing with spatial data. In addition to two-dimensional data formats (e.g., maps) many other techniques exist by which to record, use, and analyze spatial data. The use and application of any of these forms tends to be determined by need, knowledge, cost, and available technology. The costs associated with land data gathering and producing have been shown not to be trivial. For example, Wisconsin residents spent $17.00 each or 86 million dollars in 1976 for obtaining land and related data (Larsen, 1978). Effective use and communication of land data, therefore, seems quite warranted. This chapter of the monograph presents an array of examples from traditional to contemporary techniques. Definitions of terms utilized in this chapter follow.

- **Spatial**
  Relating to, or occupying, or having the character of, space.

- **Data**
  Factual information used as a basis for reasoning, discussion, or calculating.

- **Analysis**
  Separation of the whole into its component parts: an examination of a complex, its elements, and their relations.

- **Information**
  The communication or reception of knowledge obtained from investigation study, or instruction.