1. Overview

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Geographic data are expensive to produce and maintain. Data often accounts for the lion's share of the cost of building and running geographic information systems. The expense of GIS is justifiable when it gives people the information they need to make wise choices in the face of complex problems. In this chapter, we'll consider one such problem: the search for suitable and acceptable sites for low level radioactive waste disposal facilities. Two case studies will demonstrate that GIS is very useful indeed for assimilating the many site suitability criteria that must be taken into account, provided that the necessary data can be assembled in a single, integrated system. The case studies will allow us to compare vector and raster approaches to site selection problems.

The ability to integrate diverse geographic data is a hallmark of mature GIS software. The know-how required to accomplish data integration is also the mark of a truly knowledgeable GIS user. What knowledgeable users also recognize, however, is that while GIS technology is well suited to answering certain well-defined questions, it often cannot help resolve crucial conflicts between private and public interests. The objective of this final, brief chapter is to consider the challenges involved in using GIS to address a complex problem that has both environmental and social dimensions.

Objectives

Students who successfully complete Chapter 9 should be able to:

- recognize the characteristics of geographic data that must be taken into account to overlay multiple data layers;
- compare and contrast vector and raster approaches to site suitability studies;
- gave realistic expectations about what geographic data analysis can achieve.

"Try This!" Activities

Take a minute to complete any of the Try This activities that you encounter throughout the chapter. These are fun, thought provoking exercises to help you better understand the ideas presented in the chapter.

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The Nature of Geographic Information

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