1. Overview

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Chapter 7 concluded with the statement that the raster approach is well suited not only to terrain surfaces but to other continuous phenomena as well. This chapter considers the characteristics and uses of raster data produced with airborne and satellite remote sensing systems. Remote sensing is a key source of data for land use and land cover mapping, agricultural and environmental resource management, mineral exploration, weather forecasting, and global change research.

Summarizing the entirety of remote sensing in a single brief chapter is a daunting task. You may know that the Penn State Online Geospatial Education program offers a four-course remote sensing curriculum. This introduction is meant to familiarize you with the remote sensing-related competencies included in the U.S. Department of Labor's Geospatial Technology Competency Model. If the chapter interests you, consider enrolling in one or more of the specialized remote sensing courses if your schedule permits.

Objectives

The overall goal of the chapter is to acquaint you with the properties of data produced by airborne and satellite-based sensors. Specifically, students who successfully complete Chapter 8 should be able to:

1. identify the common characteristics and sources of remotely sensed image data;
2. demonstrate familiarity with trends in remote sensing technologies, methods, and organizations;
3. explain why and how remotely sensed image data are processed; and
4. identify examples of active and passive remote sensing systems and applications.

"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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This textbook is used as a resource in Penn State's Online Geospatial Education online degree and certificate programs. If this topic is interesting to you and you want to learn more about online GIS and GEOINT education at Penn State, check out our Geospatial Education Program Office.

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