

1. Overview



Chapters 6 and 7 consider the origins and characteristics of the **framework data themes** that make up the United States' proposed National Spatial Data Infrastructure (NSDI). The seven themes include geodetic control, orthoimagery, elevation, transportation, hydrography, government units (administrative boundaries), and cadastral (property boundaries). **Most framework data, like the printed topographic maps that preceded them, are derived directly or indirectly from aerial imagery.** Chapter 6 introduces the field of photogrammetry, which is concerned with the production of geographic data from aerial imagery. The chapter begins by considering the nature and status of the U.S. NSDI in comparison with other national mapping programs. It considers the origins and characteristics of the geodetic control and orthoimagery themes. The remaining five themes are the subject of Chapter 7.

Objectives

Students who successfully complete Chapter 6 should be able to:

1. explain how the distribution of authority for mapping and land title registration among various levels of government affects the availability of framework data;
2. describe how topographic data are compiled from aerial imagery;
3. explain the difference between a vertical aerial photograph and an orthoimage;
4. list and describe characteristics and status of the USGS National Map; and
5. discuss the relationship between the National Map and the NSDI framework.

"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.



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](#).

The Nature of Geographic Information

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