Chapter 6
An Examination of Job Titles Used for GIScience Professionals

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ABSTRACT
Over the last 20 years the increasing availability, utility, and importance of geospatial data has led to new kinds of positions in government agencies, non-profit organizations and private businesses. While employment opportunities have grown substantially, guidelines for assigning titles, qualifications and responsibilities have not kept pace. Inconsistency in GIScience titles and job qualifications has made it difficult for employers and job seekers to compare positions across organizations in terms of duties, compensation, and status. This paper explores job titles used by public and private organizations that hire GIScience professionals. An analysis of 204 online job ads shows variation in qualifications associated with titles. Model job titles and career ladders are suggested as a means of attracting and retaining GIScience professionals.

INTRODUCTION
A recent forecast by the U.S. Bureau of Labor Statistics estimates that mapping science positions will grow 21% between 2006 and 2016 (U.S. Department of Labor, 2006a). The importance of building a workforce trained to utilize geographic information was featured in an article published in *Nature* (Gewin, 2004) and has been highlighted with the selection of geospatial technology as one of 14 employment sectors in the President’s High Growth Job Training Initiative. GIS vendors and academic institutions have responded to the growing demand for GIScience professionals by developing workshops, short courses and specialized academic programs including undergraduate and graduate degrees. In recent years educators and practitioners have worked to define skills and competencies important to GIScience professionals and to implement certification programs for recognizing individuals meeting education, work experience and knowledge standards. However,
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despite significant progress in defining the boundaries of GIScience and providing professional recognition, the GIScience profession remains poorly defined in the workplace. Although a few organizations have begun developing formal position classifications for GIScience workers, there is little consistency across organizations in terms of titles, qualifications, or responsibilities. Contributing to the problem is the proliferation of training and educational programs making it difficult for employers to assess the capabilities of job applicants.

The purpose of this paper is to explore variation in titles and qualifications used to define GIScience positions. In addition to helping employers implement career ladders for attracting and retaining GIScience professionals, a discussion of job titles and career development may serve as a catalyst for an ongoing dialog between educators and practitioners concerning workforce needs.

THE GISCIENCE PROFESSION

Debate over the professional identity of GIScience has taken place for many years (Wright, Goodchild & Proctor, 1997; Geospatial Information Technology Association, 2005; Obermeyer, 2007). Research on the emergence of professions shows a central element is an accepted collection of skills and competencies for which practitioners claim unrivaled expertise (Kennan et al., 2008). Abbott (1988) describes the boundaries of this expertise as a profession’s “jurisdiction” while MacDonald (1995) notes the importance of protecting “turf” that represents professional identity. In 1990 the Core Curriculum for Geographic Information Science established important geospatial subject areas for college and university courses (National Center for Geographic Information and Analysis, 1990). A decade later Gaudet, Annulis and Carr (2001) defined roles, competencies, and outputs needed by GIScience professionals through Workforce Development Models for Geospatial Technology. More recently the Geographic Information Science and Technology Body of Knowledge (BoK) outlined skills and competencies needed by GIScience professionals through ten knowledge areas presented in 73 units and containing more than 300 topics (University Consortium for Geographic Information Science, 2006).

Although significant progress has taken place in identifying what a GIScience professional should know there is less agreement on what a practitioner should be called or how GIScience professionals advance during their career. The lack of consensus on job titles for geospatial workers was discussed during a session at the 2004 American Society of Photogrammetry and Remote Sensing Annual Meeting in Denver and has been noted by Thurston (2001), De Bakker, Goldsborough, and Meyles (2002) and more recently by Letham (2008).

There are several advantages to maintaining consistent and meaningful job titles within and among organizations. Consistent job titles provide a basis for comparing persons by duties and responsibilities while a lack of consistency can be a barrier to employees as they compete for promotions, seek transfers to other positions within an organization, or apply for positions in other agencies or companies (Marsden, 1999). Meaningful job titles are important to persons involved in marketing and recruiting GIScience opportunities to prospective employees and human resource professionals responsible for the content of job descriptions. GIScience job titles also have important implications for higher education in terms of academic program design.

In larger organizations formal job classifications may be used to assign a relative value to each position through an assessment process. Occasionally a standard title can’t capture specialized duties and responsibilities. Idiosyncratic titles with unique responsibilities may be created to address these situations (Rousseu, 2005). However, large organizations may be prevented from using unique titles because of internal policies.
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