This document is a preview of the 2017 URISA GIS Salary Survey, and includes valuable summary data from the survey results. The full publication with an abundance of detailed tabular data and extensive cross-tabulations will be included in the full publication release in January 2018. That publication will be available for purchase.

2017 URISA GIS Salary Survey

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2017 URISA GIS Salary Survey
Executive Summary of Results

Background

The Urban and Regional Information Systems Association (URISA) is a multi-disciplinary geospatial organization that provides professional education and training, a vibrant and connected community, advocacy for geospatial challenges and issues, and essential resources. URISA fosters excellence in GIS and engages geospatial professionals throughout their careers. For details about programs, services, and membership, visit www.urisa.org.

Survey Objectives

URISA conducted a comprehensive survey of GIS professionals to develop a better understanding of the community it serves. The *primary* objective of this survey was to determine specific data with regard to GIS positions and salaries.

Specific areas studied included:

- What geospatial and non-technical skills are required?
- What GIS software proficiencies are necessary?
- What benefits do organizations typically offer?
- How frequently do GIS professionals change jobs?
- How long is the average workweek?
- How has GIS certification impacted salaries?
- Are GIS professionals actively pursuing continuing education?

Methodology

When URISA's first salary survey was conducted in 1988, a printed questionnaire was distributed only to the members of URISA, and resulted in 444 usable responses. In subsequent surveys, an online survey tool was utilized.

In 2017, the survey benefitted from an aggressive social media campaign and increased URISA chapter promotion. Data was collected in July and August 2017. After data clean-up, there were more than 3,300 responses. For the best comparison purposes, we have eliminated those respondents who were not currently employed on a full-time basis, resulting in 3,060 usable surveys.

This document, made available in December 2017, includes an Executive Summary of the results. An extensive publication with overall tabular data and extensive cross-tabulations will be included in the full publication release.

Executive Summary of Results

The results of this survey provide an interesting and useful analysis of the current state of the GIS profession. This report summarizes the key results of the survey.

Where Do They Work?

As in the previous surveys, a majority of respondents (57.7%) are employed within some level of government, with most working in municipal (21.8%), county/parish (18.1%) or state/provincial (9.2%) government. Another 14.6% work in the private sector for a software, hardware or services provider and 11.5% are employed by an independent consulting firm. For those employed by local government, the median population of their jurisdictions is 150,000 and the average is 565,710.

What Are Their Positions?

A few years ago, URISA published a GIS Model Job Descriptions publication, which details essential job functions, education, experience, knowledge, skills and abilities required at each level. Brief descriptions of these job titles along with their basic responsibilities were included in the survey. Respondents were asked to read the descriptions and indicate which job titles most closely match their current positions.

These were their responses:

Director of Geographic Information Systems/Geographic Information Officer (GIO) -GIS Directors are often found in many large public sector governments. The position heads the GIS department or the individuals assigned to GIS projects. All GIS personnel including technicians, analysts, programmers, managers, etc. fall under the supervision and direction of the GIO. Directors most often need a Master's degree and extensive GIS and managerial training. Upon hiring, the average GIS Director will have 7 plus years of experience, including software applications and project management.	4.1%
GIS Manager - The GIS Manager balances technical skills and administrative knowledge to ensure that GIS technology is being used properly and efficiently. The GIS Manager must be informed as to what the current GIS demands are, and if the present department, personnel, and software can meet them. A working knowledge of the agency's database and software is required of the successful manager. As in most technical fields, a capable manager must know more than project oversight and staff supervision, and a technical background is a necessity. The manager must have the skills and abilities to ensure a project's completion from beginning to end. Successful managers need to set goals and objectives, project completion dates, and establish methods of completion, on a number of ongoing projects. Project management can often be a daunting task, requiring individuals who are detail oriented and have foresight. The GIS Manager must also be prepared to coordinate GIS activities between different groups, agencies, departments, or individuals.	21.5%
GIS Coordinator - The coordinator lies just below the manager on the hierarchy of GIS professionals. They provide technical support to other agencies, individuals, and governments. It is the responsibility of the coordinator to aid both GIS users and non-users in the development and application of geographical technology. The coordinator must have an extensive working knowledge of the department's software and capabilities. The coordinator handles all the data sharing, report and map generation, as well as meeting planning, between departments. Other departments and levels of government are relying on GIS technology in increasing amounts, and it is the responsibility of the coordinator to provide the correct information and assistance.	14.2%

GIS Specialist - In some cases, specialists are individuals with specific and intense training in one aspect of GIS technology. In other cases, the title may be applied to individuals who handle certain ongoing projects related to the department. Larger public and private agencies offer the position as a way to concentrate on specific and vital projects. The specialist, often in a team environment, provides customer and technical support under the direction of a GIS Manager. Where the position differs from that of the coordinator is that most of a specialist's duties are internal. The specialist shares in project development rather than collaboration with other agencies or governments. Some specialists have a less formal GIS background and are hired due to their knowledge of a specific subject or function. For example, if the department is working on a transportation project, the specialist might have a concentrated background in planning or highway development, rather than GIS. The specialist helps send projects through the pipeline, coordinating the activities of the department with the goals and directives of an individual project.	13.1%
GIS Programmer - The GIS Programmer is a heavily technical position that demands an extensive technical background and a constant need for reeducation. Almost every programmer designs, creates, updates, or manages GIS software applications. A programmer divides one's time between the maintenance of the current software and design of new applications. The programmer may also be called upon to do GIS mapping, provide internet and web based support, develop spatial and non-spatial databases, as well as provide technical support to other GIS professionals. The programmer is expected to know a large number of programming languages and applications. On average, familiarity with C, C++, Java, Python, .NET, Flex, Silverlight is required. The qualified and successful programmer will not only be familiar with these applications, but will be able to use them to run and improve the current GIS program.	5.4%
GIS Analyst - The GIS Analyst's responsibilities are often two-fold. The first aspect of the analyst position concentrates on data and programming knowledge. The position demands proficiency with mapping and database software. The analyst must be familiar with database derived information, for it will be from this that the second aspect of the position comes into play: data analysis. The analyst's duties include a high amount of data conversion, application, and implementation. It is the role of the analyst to transfer data from a database with certain parameters and to ultimately prepare reports or make decisions from this created information. The analyst makes practical sense out of processed data and then applies it to real world applications.	23.3%
GIS Technician - Most of the duties assigned to the GIS Technician are routine, involving heavy amounts of database entry and management and the eventual generation of maps and plats from this data. The technician does little or no interpretation after the data has been stored in the database software. Outside the main responsibilities of database management and mapping, the technician will also complete work relating to: digitizing, math, surveying, and technical writing. If any position in GIS were designed for the recent college graduate or novice in the field it would be the position of technician.	8.4%
User of GIS (heavy) - "Heavy" users of GIS technology are technically not in a GIS or related department, but use the system's software and applications frequently. The heavy GIS user could use the system as often as once a day and on a wide variety of projects. Most often, the heavy user works with GIS a few times a week. These individuals can come from backgrounds in planning, engineering, assessment, public works, etc. The heavy user will be able to get around the GIS and have a basic knowledge of shortcuts, commands, and specific applications. The heavy user often acquires his or her skills from extensive training and repeated use.	3.8%
Educator/Trainer – Affiliated with an academic institution, university, or college, or private company. Includes both instructor and researchers.	2.4%

Independent Consultant – Primary employment is independent of any other firm or corporation.	0.9%
GIS Business Development/Sales & Marketing – Primary employment is with a software or services provider.	1.7%
Other	1.2%

Salary and Benefits

On average, survey respondents will earn a salary of $70,857 in 2017 (the median salary is $67,275). This represents an increase of 15.1% over the 2010 average of $61,540.

Of course, salaries vary based on employer type, geography, gender, and certification status. Numerous cross-tabulations of the salary data will be included in the comprehensive publication.

Average Salary by Job Title	**Average Salary**
Director of Geographic Information Systems/ Geographic Information Officer (GIO)	$98,696
GIS Manager	$81,029
GIS Coordinator	$70,141
GIS Specialist	$63,418
GIS Programmer	$80,752
GIS Analyst	$62,336
GIS Technician	$47,225
User of GIS (Heavy)	$67,137
Educator/Trainer	$76,111
Independent Consultant	$114,097
GIS Business Development/Sales & Marketing	$103,883

Average Salary by GISP Certification	**Average Salary**
Yes, I am a GISP	$76,632
No, I'm not a GISP	$66,550

Nearly all respondents receive additional forms of compensation from their organizations, including health insurance (91.5%), paid conference attendance (72.3%), life insurance (68.2%), paid training (63.9%), pension/retirement plans (61.1%), 401(k) plans (56.6%), professional certification reimbursement or support (47.0%), membership dues in professional organizations (46.3%), college tuition reimbursement (37.9%), bonuses (27.0%), and stock (7.7%).

About Their Work

Overall, respondents spend an average of 70.8% of their time performing geospatial tasks.

These professionals are divided fairly evenly among those who work in a single department (30.5%), multiple departments (30.9%), or enterprise-wide, where all departments use a central IT/GIS department (37.3%). Most work within their organization's GIS (29.4%), IT (16.7%), Engineering (7.1%), Planning (5.9%), or Natural Resources/Environmental (5.4%) department. They work with an abundance of departments on a regular basis:

911 & Emergency Management	30.9%
Agriculture	6.6%
Assessor's Office	24.1%
Cemetery	5.8%
City/County Manager's Office	25.3%
Community Development	27.5%
Economic Development	25.1%
Engineering	50.9%
Finance/Administration	16.5%
Fire/Police/EMS	30.0%
Geology/Geography	16.6%
GIS	73.7%
Housing/Social Services	10.4%
IT	54.7%
Land Records	30.2%
Law Enforcement	19.6%
Natural Resources/Environmental	35.3%
Parks and Recreation	32.6%
Planning	53.7%
Public Health	12.9%
Public Relations	12.3%
Public Works	38.0%
Regulation	9.0%
Research	16.5%
Training/Education	15.9%
Transit/Transportation	28.0%
Utility Planning Operations	30.3%
Water/Wastewater Management	38.7%
Zoning	29.2%
Other	6.3%

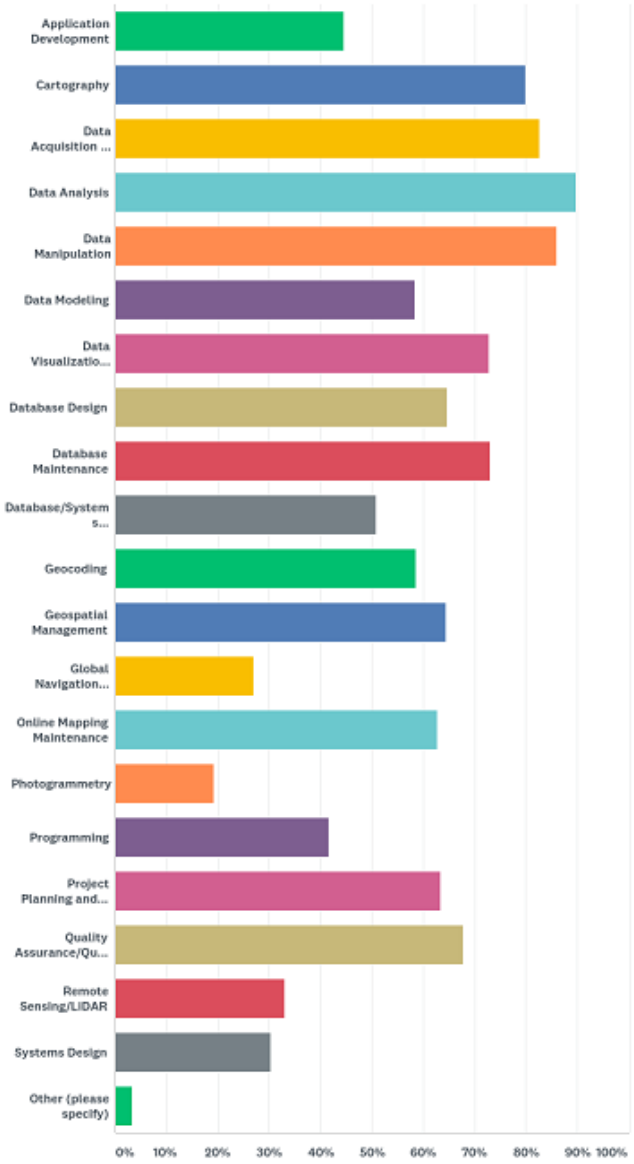
When specifically asked about GIS staff, the survey shows an average of 9.1 (median value of 3) GIS staff members in respondents' departments and an average of 77.5 (median value of 7) GIS employees organization-wide.

Just over half (50.1%) of respondents indicated that they had seen an increase in the number of GIS staff employed by their organizations over the past five years.

According to the results of this survey, respondents are required to be proficient with a variety of GIS software. Nearly all (98.1%) of the individuals who responded to the question noted they must be proficient with Esri software products. Many are also required to be proficient in Autodesk (17.9%) and open source platforms including QGIS (13.5%) and PostGIS (7.7%).

A number of GIS and geospatial technology skills are required for respondents' jobs. Topping the list were data analysis (89.7%), data manipulation (86.0%), data acquisition and creation (82.5%), cartography (79.9%), database maintenance (73.0%), and data visualization and reporting (72.9%).

Q14 What GIS and geospatial technology skills are required for your job? (Check all the apply)



Additional skills required for their jobs include technical support (78.9%), project management (77.1%), research (66.9%) and training (66.1%). Many respondents are also required to do public speaking (58.3%), report writing (56.4%), strategic planning (48.0%), personnel management (45.0%), budgeting (41.9%), and cost benefit analysis (30.3%).

Of course, these skills vary greatly by job title, with directors and managers more likely to be involved with project management, budgeting, personnel management, and strategic planning and analysts and technicians more involved with technical support and research.

Respondents possess an average of 13.5 years of professional experience and have been in their current position for an average of 6.8 years.

Respondents work, on average, 41.6 hours in a typical week and most (77.1%) work in an office environment, with 20% indicating they sometimes work in the office and sometimes work from home.

Nearly 2 out of 3 respondents (62.6%) indicated they have not changed jobs with the past three years.

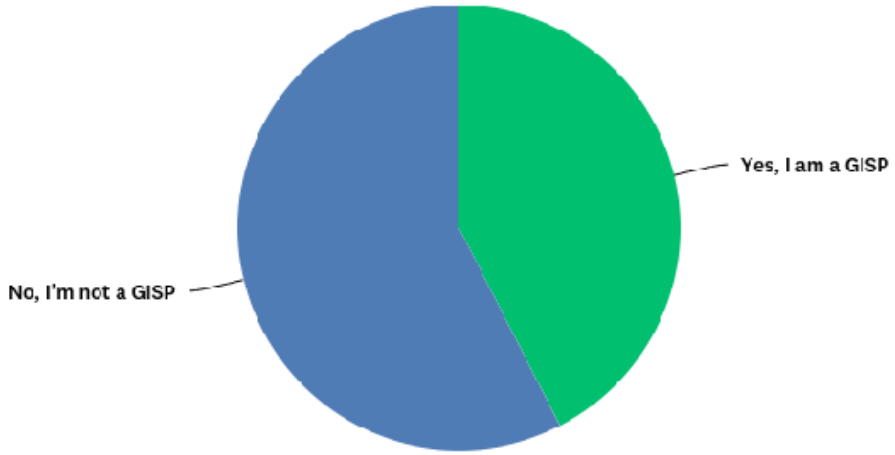
Most (90.9%) respondents hold a bachelor's degree or higher, with more than one-third of the respondents (38.7%) earning a postgraduate degree.

Their educational degrees were in GIS (49.4%) or Geography (48.9%), followed by Environmental Science (16.9%) and Planning (9.9%).

Most (68.8%) indicated that the minimum level of education required for their position is a Bachelor's degree.

More than 3 out of 4 respondents have attended association conferences or workshops (78.7%) or participated in on-the-job training (78.6%) during the last three years. More than half (52.5%) have participated in vendor specific training.

A bit less than one-half (42.5%) of respondents are Certified GIS Professionals (GISPs).



Of those who are not currently certified, more than one-third (38.8%) plan to apply for certification in the next three years. Most of those who do not plan to apply for certification indicated they have not yet seen the value (69.1%). Most (78.3%) do not hold any other professional designations, although 7.6% of respondents currently hold the Esri Technical Certification.

About two-thirds (65.9%) of the respondents were male.

The average age of those responding was 40.5 years.

Most of those responding (90.4%) work in the United States with the rest from Canada (7.0%), Caribbean (0.9%) and other (1.7%) countries.

The regional breakdown of U.S. respondents follows:

Northeast - New England – CT, ME, MA, NH, RI, VT	4.4%
Northeast – Mid-Atlantic – NJ, NY, PA	6.1%
South-South Atlantic – DE, FL, GA, MD, NC, SC, VA, DC, WV	25.2%
South-East South Central – AL, KY, MS, TN	4.4%
South-West South Central – AR, LA, OK, TX	10.6%
Midwest-East North Central – IL, IN, MI, OH, WI	8.7%
Midwest-West North Central – IA, KS, MN, MO, NE, ND, SD	7.2%
West - Mountain – AZ, CO, ID, MT, NE, NM, UT, WY	11.0%
West - Pacific – AK, CA, HI, OR, WA	22.4%