Minnesota GIS/LIS Consortium
2014 Salary Survey

August 2014
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Executive Summary

The Minnesota GIS/LIS Consortium is a forum for communicating information to, and improving cooperation among, those interested in geographic information systems (GIS) and land information systems (LIS) throughout the state of Minnesota. Members include GIS users in government agencies, business and industry; and educational institutions.

The Consortium’s mission is to develop and support the GIS professional in Minnesota for the benefit of our state and its citizens. With this mission in mind the Consortium has again sponsored a salary survey of its membership.

Kitty Hurley, GISP
2014 Conference Chair
Minnesota GIS/LIS Consortium

Background/History

The Minnesota GIS/LIS Consortium conducted its first GIS salary/skills survey in 1998 and published its results in early 1999. A subsequent survey, conducted in 2002 attempted to parallel the 1998 survey in order to draw comparisons and expose trends in the industry over the four year period between the two surveys. The 2009 survey simplified the questions and results which did not allow historic comparisons and trend analyses and instead focused on salary, job type and education background. Similar objectives were sought for the 2014 survey and comparisons are shown between the 2009 and 2014 results. Results of the previous Minnesota GIS/LIS salary surveys can be found on the Consortium’s website.

This survey does not attempt to draw comparisons to nor derive results to national, regional or the 1998 or 2002 Minnesota GIS/LIS salary surveys.

Procedures and Timeline

This twelve question survey was conducted online using Survey Monkey, as determined by the Minnesota GIS/LIS Board of Directors. The survey was distributed and open to the Minnesota GIS/LIS membership for thirty-one days between June 10th, 2014 and July 11th, 2014.

A total of 201 responses were collected, fewer than submitted in the 1998, 2002 and 2009 surveys. However, previous surveys were open for a longer period of time and made available in different mediums, including on-site at the annual fall conference.
Limitations

The results of the 2014 salary survey reflect the composition of the pool of survey respondents. The Minnesota GIS/LIS Consortium Board of Directors solicited responses through its membership by broadcasting via e-announcements and social media (Facebook, LinkedIn and Twitter). Although the Consortium’s membership include GIS users in local, state and federal government agencies; business and industry; and educational institutions, the active membership is weighted heavily toward public sector employees. Results of the survey also argue the assumption that GIS end-users who classify themselves as casual users or are new to the GIS field were less likely to participate in the survey. As result, the respondent pool could be smaller due to a lack of awareness or lower membership participation in the Minnesota GIS/LIS Consortium.
Results

1. Which of the following most closely describes your job position?
Respondents were presented with a list of eleven job types and asked to select one of the job positions that most closely matched their current position.

Over 65% of the respondent’s job positions fell into four categories: GIS Specialist (25.4%), GIS Coordinator (16.4%) GIS Manager (11.9%) and GIS Analyst (11.4%). The top three positions were similar to the 2009 survey results and the GIS Analyst position rounded off the top four.

The positions with the highest average annual salaries in 2014 are: GIS Manager ($80,900), GIS Developer ($74,200) and Consultant ($73,200).

FIGURE 1: JOB POSITION TABLE

<table>
<thead>
<tr>
<th>Job Position</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS Specialist</td>
<td>25.4%</td>
</tr>
<tr>
<td>GIS Coordinator</td>
<td>16.4%</td>
</tr>
<tr>
<td>GIS Manager</td>
<td>11.9%</td>
</tr>
<tr>
<td>GIS Analyst</td>
<td>11.4%</td>
</tr>
<tr>
<td>GIS Technician</td>
<td>9.0%</td>
</tr>
<tr>
<td>Occasional GIS User</td>
<td>5.0%</td>
</tr>
<tr>
<td>Other ‡</td>
<td>5.0%</td>
</tr>
<tr>
<td>Consultant</td>
<td>4.5%</td>
</tr>
<tr>
<td>GIS Developer</td>
<td>4.0%</td>
</tr>
<tr>
<td>Educator/Trainer</td>
<td>4.0%</td>
</tr>
<tr>
<td>GIS/IT Systems Support</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

‡ Other job positions include: Cartographer, Crime Analyst, GIS Database Administrator, Information Technology Manager, Planner, Project Manager, Remote Sensing, Transportation Planner and Wildlife Manager.
FIGURE 2: ANNUAL SALARY INTERVALS BY JOB POSITION GRAPH †

The median, or midpoint, salary values and their interpolated class intervals, low to high, are shown to showcase each job position’s median salary range.

† The graph should be interpreted with caution; what may appear to be a significant difference in a single position may be unrelated as the number of years of experience in an industry, as with any occupation, is a major determinant of salary (e.g.: GIS Managers hold the highest paid job position but most have been in the GIS industry for over ten years).

‡ Other job positions include: Cartographer, Crime Analyst, GIS Database Administrator, Information Technology Manager, Planner, Project Manager, Remote Sensing, Transportation Planner and Wildlife Manager.
2. Are you a certified GIS Professional (GISP)?
Respondents were asked if they hold the GISP certification from The GIS Certification Institute (GISCI) which certifies GIS professionals by examining an applicant’s portfolio of formal education, work experience and contributions to the profession and community.

In 2009, 14% of respondents were certified GISP’s and the 2014 results indicate 21% of respondents now hold the GISP Certification. As of June 2014, GISCI’s database lists 109 certified GISP’s in the state of Minnesota.

**FIGURE 3: GISP CERTIFICATION TABLE**

<table>
<thead>
<tr>
<th>GISP Certified</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>$67,600</td>
</tr>
<tr>
<td>No</td>
<td>$60,100</td>
</tr>
</tbody>
</table>

3. What is your annual salary range?
In the 2009 survey, annual salary ranges were tracked up to $81,000 but nearly 30 respondents listed their annual salaries above $81,000. Due to inflation and the growing numbers of GIS professionals with over fifteen years of experience the 2014 salary survey included salary ranges up to $100,000 to determine a more accurate average of its constituents.

The median salary based on respondents is $61,660 with over 88% earning at least $40,000 annually. The median is defined as the midpoint, where half of respondents earned above the salary and half below. As result, the median was computed by interpolating the class intervals.

**FIGURE 4: ANNUAL SALARY RANGES CHART**
The percent of survey respondents grouped by annual salary ranges.
4. Where is your primary business or office location?
Respondents were asked where their primary business or office is located; either in the 7-County Metropolitan Area or in Greater Minnesota. The 7-County Metropolitan Area includes: Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington counties.

Over half of respondents (54%) work in the 7-County Metropolitan Area. On average, GIS professionals based out of the 7-County Metropolitan Area collect $66,500 annually and professionals in Greater Minnesota receive $56,000 annually.

FIGURE 5: GEOGRAPHIC LOCATION TABLE

<table>
<thead>
<tr>
<th>Geographic Location</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-County Metropolitan Area</td>
<td>$66,500</td>
</tr>
<tr>
<td>Greater Minnesota</td>
<td>$56,000</td>
</tr>
</tbody>
</table>

5. What ZIP code does your primary business or office reside in? (e.g. 55111)
In total, 101 ZIP codes based on 192 total responses were collected from the survey. A respondent map can be viewed in Appendix B: Respondent Map located on page A4.

6. What is your company’s business sector?
Respondents were asked to select all of the sectors that apply to their current position. Most respondents work in Government and many work in the Natural Resources and Utilities sectors.

FIGURE 6: BUSINESS SECTOR TABLE

<table>
<thead>
<tr>
<th>Sector</th>
<th>Responses</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>117</td>
<td>$63,000</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>53</td>
<td>$62,800</td>
</tr>
<tr>
<td>Utilities</td>
<td>36</td>
<td>$66,000</td>
</tr>
<tr>
<td>Transportation</td>
<td>33</td>
<td>$60,000</td>
</tr>
<tr>
<td>Planning &amp; Land Use</td>
<td>30</td>
<td>$58,500</td>
</tr>
<tr>
<td>Other □</td>
<td>27</td>
<td>$68,800</td>
</tr>
<tr>
<td>Education</td>
<td>15</td>
<td>$48,400</td>
</tr>
<tr>
<td>Public Safety</td>
<td>14</td>
<td>$70,900</td>
</tr>
</tbody>
</table>

□ Other company business sectors include: Agribusiness, Civil Engineering, Defense & Intelligence, Energy (Oil & Natural Gas), Engineering, Environmental Consulting, Habitat & Wildlife Conservation, Health & Human Services, Housing, Humanitarian Aid & Relief, Information Technology, Insurance, Mining, Non-Profit, Retail, Water Resources and Water Quality.
7. **What is the highest level of education that you have completed?**
A few respondents indicated they had some graduate level course work or hold a Master’s certificate however to maintain confidentiality the results were coupled into the highest education level based on the groups shown below.

Of the respondents, 92% hold a Bachelor degree or above and 51% hold a Master degree or above; both percentages are much higher than responses collected in 2009.

**FIGURE 7: EDUCATION TABLE**

<table>
<thead>
<tr>
<th>Education</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than a Bachelor Degree</td>
<td>$59,900</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>$59,000</td>
</tr>
<tr>
<td>Master Degree or Above</td>
<td>$63,900</td>
</tr>
</tbody>
</table>

8. **Did you receive a degree in GIS?**
Many GIS professionals are beginning to obtain degrees with a GIS component as over 56% of respondents have a GIS-based degree.

**FIGURE 8: GIS DEGREE TABLE**

<table>
<thead>
<tr>
<th>GIS Degree</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>$58,300</td>
</tr>
<tr>
<td>No</td>
<td>$65,900</td>
</tr>
</tbody>
</table>

9. **How many years of professional GIS experience do you have?**
Over 77% of respondents have five or more years of professional GIS experience and 28% of respondents have over fifteen years of experience in the GIS field.

**FIGURE 9: PROFESSIONAL GIS EXPERIENCE TABLE**

<table>
<thead>
<tr>
<th>Professional GIS Experience</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 3 years</td>
<td>$36,300</td>
</tr>
<tr>
<td>3-5 years</td>
<td>$48,900</td>
</tr>
<tr>
<td>5-10 years</td>
<td>$59,000</td>
</tr>
<tr>
<td>10-15 years</td>
<td>$66,400</td>
</tr>
<tr>
<td>More than 15 years</td>
<td>$75,500</td>
</tr>
</tbody>
</table>
10. What is the percentage of GIS use in your job responsibilities?
More than half of respondents (57.7%) indicated that over 75% of their job responsibilities include GIS.

FIGURE 10: GIS USE TABLE

<table>
<thead>
<tr>
<th>GIS Percentage</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 10%</td>
<td>2.1%</td>
</tr>
<tr>
<td>10 – 25%</td>
<td>9.0%</td>
</tr>
<tr>
<td>25 – 50%</td>
<td>11.6%</td>
</tr>
<tr>
<td>50 – 75%</td>
<td>19.6%</td>
</tr>
<tr>
<td>More than 75%</td>
<td>57.7%</td>
</tr>
</tbody>
</table>

11. How much programming is included in your job responsibilities?
Over 84% of respondents indicated that they use programming as part of their job responsibilities. A little over 10% indicated they spend more than twenty percent of their time programming, with 4% of respondents spending over half of their time programming.

FIGURE 11: PROGRAMMING TABLE

<table>
<thead>
<tr>
<th>Programming Percentage</th>
<th>Average Annual Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>$55,600</td>
</tr>
<tr>
<td>Under 5%</td>
<td>$61,000</td>
</tr>
<tr>
<td>5 – 10%</td>
<td>$60,200</td>
</tr>
<tr>
<td>10 – 15%</td>
<td>$60,200</td>
</tr>
<tr>
<td>15 – 20%</td>
<td>$64,000</td>
</tr>
<tr>
<td>More than 20%</td>
<td>$75,400</td>
</tr>
</tbody>
</table>
12. Do you have any additional comments?

My salary is low because I am in Higher Education part time.

Defining what you mean by “GIS Use” and “Programming” in these last two questions might be useful for next time.

Question 10 is misleading. What is meant by GIS use? Is this “GIS Software use”?

I am old school and learned GIS on the job before there was such a thing as a GIS degree.

I do a lot of technical writing, analysis, and cartography.

Thanks for doing this again!

Thank you, look forward to the results!

What year was the last year you attended the EsriUC?

I am underpaid for what I do, my organization does not recognize the difficulty of the position.

I have 13 years of prior civil engineering experience. Currently my day is composed of 50% GIS use, 20% electronic document management, 20% general/high technology government duties and 10% Information Technology.

Question 10 is a bit unclear to me. Nearly everything I do relates in some way to the development and maintenance of core GIS data but GIS software and systems take up approximately 25 – 30% of my typical day. More time is spent in meetings, documentation and project management. I answered question 10 assuming it meant to ask how much time I spend using GIS software, systems, and tools.

I hold a minor in Geographic Information Systems and Spatial Analysis.

In Question 8, GIS degree is a minor.

I only work 32 hours a week.

I am titled as a GIS Specialist but do the work of a Coordinator. I have a Geography B.S. with an emphasis in GIS.
Conclusions

Many GIS professionals in Minnesota have an extensive education background; over 90% have earned a bachelor degree and over half have obtained a master degree. One in five respondents have received the GIS Professional (GISP) certification from the GIS Certificate Institute (GiSCI) and earn an average of $7,500 more annually than their colleagues.

The median salary for GIS professionals is $61,660. Almost 90% of respondents earn at least $40,000 annually and over 60% earn between $40,000 and $70,000 annually. The vast majority of all jobs fall into four categories of GIS positions: GIS Specialist, GIS Coordinator, GIS Manager and GIS Analyst. Just over half of the respondents work in the 7-County Metropolitan Area and earn an average of $10,500 more than their colleagues located in Greater Minnesota.

Over 75% of GIS professionals have over five years of professional experience in the GIS field, nearly 30% have over fifteen years of experience while 15% have been in the GIS profession for less than three years.

Additionally, over 80% of GIS professionals are programming or developing custom applications as part of their job. Most GIS professionals are spending more than half their workday using GIS products and procedures. In fact, over half of respondents spend over 75% of their time using GIS.

Acknowledgements

The Minnesota GIS/LIS Consortium Board of Directors would like to thank all of its members that helped contribute to the 2014 salary survey as it would not be possible to provide the membership results without the input obtained through the Minnesota GIS/LIS Consortium membership.

Key contributors to the 2014 Minnesota GIS/LIS Consortium Salary Survey include:

- Kyle Chester
- Mike Dolbow
- Kitty Hurley
- Geoff Maas
- Gerry Sjerven
- Adam Snegosky
- Ben Verbick
Appendices
Appendix A: **SURVEY QUESTIONS**

1. Which of the following most closely describes your job position?
   - Consultant
   - Educator/Trainer
   - GIS Analyst
   - GIS Coordinator
   - GIS Developer
   - GIS Manager
   - GIS/IT Systems Support
   - GIS Specialist
   - GIS Technician
   - Occasional GIS User
   - Other (Please specify):

2. Are you a certified GIS Professional (GISP)?
   - Yes
   - No

3. What is your annual salary range?
   - Under $30K
   - $31K to $40K
   - $41K to $50K
   - $51K to $60K
   - $61K to $70K
   - $71K to $80K
   - $81K to $90K
   - $91K to $100K
   - Over $100K

4. Where is your primary business or office location?
   - 7-County Metro Area (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, or Washington counties)
   - Greater Minnesota

5. What ZIP code does your primary business or office reside in? (e.g. 55111)
   - ____________

6. What is your company’s business sector? (Please select all that apply)
   - Defense & Intelligence
   - Education
   - Government
   - Health & Human Services
   - Humanitarian Aid & Development
   - Natural Resources
   - Planning & Land Use
   - Public Safety
   - Transportation
   - Utilities
   - Other:
   - ____________
7. What is the highest level of education that you have completed?

☐ High School/GED
☐ Some College
☐ Associate Degree
☐ Bachelor Degree
☐ Master Degree
☐ Ph.D.
☐ Other (Please specify):

8. Did you receive a degree in GIS?

☐ Yes
☐ No

9. How many years of professional GIS experience do you have?

☐ Less than one year
☐ 1-2 years
☐ 2-3 years
☐ 3-5 years
☐ 5-10 years
☐ 10-15 years
☐ Over 15 years

10. What is the percentage of GIS use in your job responsibilities?

☐ Less than 10%
☐ 10 – 25%
☐ 25 – 50%
☐ 50 – 75%
☐ Over 75%

11. How much programming is included in your job responsibilities?

☐ None
☐ Under 5%
☐ 5 – 10%
☐ 10 – 15%
☐ 15 – 20%
☐ Please specify if >20% (e.g. 35):

12. Do you have any additional comments?
Appendix B: **RESPONDENT MAP**

The aggregated number of survey respondents by ZIP code. The aggregation was calculated using spatial statistics interpolation for the state of Minnesota.