NACIS Map Design Survey—Looking at the Results

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International Mapping

Download the survey data at: www.nacis.org/map_design

The results of the NACIS Map Design Survey are a snapshot of the opinions held by the mapping community on map design—a subject that means many things to many people. Each of us has distinct ideas about what constitutes good design, where the state of map design currently stands, and how to go about designing maps. Design is an integral part of mapmaking; as an example of this, NACIS meetings devote considerable time to map design. Despite this attention, little concrete information exists on the opinions of our diverse community on this varied subject. The survey we conducted, sponsored by NACIS, is a step toward filling this gap.

The questions asked in the survey are intentionally general in nature. You will find that the responses do not divulge how to design better maps per se. Instead, they provide broad insights on how map designers think and the work processes they employ—good map design is very much a state of mind. In composing the survey, we sought to cover a wide variety of topics within the field of map design and to satisfy our own curiosity.

The initial questions (numbers one through five) in the survey establish the characteristics of the respondents. Where are they from? What background do they have in cartography, mapmaking, or geospatial science? How long have they been involved in the field? Questions 6 through 14 address general ideas about map design quality, the nature of map design, and its current and future status. These questions were answerable by anyone with an interest in maps.

Question 15, which asks, “Do you make maps?” was a pivotal question. Answering “no” to this question would exit the respondent from the survey. Answering “yes” would bring the respondent to a final set of questions (16 through 27) designed specifically for practicing mapmakers. These questions delve deeper into the creation process and the practice of map design in the working world.

We created the survey at SurveyMonkey.com, a firm that provides affordable and easy-to-use services for creating, conducting, and analyzing surveys online. The survey was open for two months from February 6 to April 6, 2007. Before launching it, we asked two survey specialists to review the questions for possible bias. A non-native English speaker reviewed the questions for clarity. NACIS board members then beta tested the survey online and gave additional suggestions for improvement. Once launched, we announced the availability of the survey on several online mapping and GIS forums. Open to all comers, the survey attracted 322 respondents from 24 countries, the large majority of whom lived in the United States.

While monitoring responses during the open survey period, we found that after approximately 100 respondents the percentages of answers to each of the questions began to stabilize. Additional respondents failed to move the results more than a few percentage points. Adam Engst (2007) in the online newsletter Tidbits (http://db.tidbits.com/article/8894) noted how a small survey could predict a pattern of results similar to that of a survey with a much larger response. His observations drew on his experience with online surveys and summarized the work of Jon Krosnick at Stanford University. According to Krosnick (2007), computer surveys tend to be more accurate than phone surveys—in part because people can take the time to think about the question and do not suffer from awkward silences in the interview. He goes on to say that computer surveys are better than written surveys because people will tend to fill responses very quickly on a paper survey, working to just get it done instead of thoughtfully responding. Krosnick points out an important limitation of Internet surveys: they suffer from lack of random response. In our case we felt the prerequisite of an interest in map design and an awareness of our survey were key to the collection of a useful set of responses.

Our report on the survey contains no analysis—the responses largely speak for themselves and we encourage readers to draw their own conclusions. Readers wishing to dig deeper into the data can download the survey results in html, pdf, and spreadsheet format at www.nacis.org/map_design. Here you will also find the results filtered by demographic category. You can learn, for example, whether respondents over the age of 50 from Canada share the same views on map design as those under the age of 30 from Croatia. Your NACIS membership dues paid for the survey. We invite you to use these data for research projects or simply peruse the graphs presented on the following pages for enjoyment.
SOURCES


1. Which country do you live in?

<table>
<thead>
<tr>
<th>Country</th>
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<th>Response Count</th>
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Answered question 322

Skipped question 1
2. Gender:

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Answered question 323

Skipped question 0

3. Age:

<table>
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<td>30 to 39</td>
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<td>40 to 49</td>
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<td>50 to 59</td>
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<td>Over 70</td>
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Answered question 319

Skipped question 4
4. What is your primary involvement with maps?

<table>
<thead>
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</tr>
<tr>
<td>GIS specialist</td>
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<td>90</td>
</tr>
<tr>
<td>Software developer</td>
<td>2.8%</td>
<td>9</td>
</tr>
<tr>
<td>Data developer</td>
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<td>4</td>
</tr>
<tr>
<td>Professor</td>
<td>4.7%</td>
<td>15</td>
</tr>
<tr>
<td>Educator</td>
<td>4.7%</td>
<td>15</td>
</tr>
<tr>
<td>Researcher</td>
<td>4.7%</td>
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</tr>
<tr>
<td>Student</td>
<td>10.3%</td>
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</tr>
<tr>
<td>Map librarian</td>
<td>1.6%</td>
<td>5</td>
</tr>
<tr>
<td>Map collector</td>
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<td>4</td>
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<tr>
<td>Map dealer</td>
<td>0.3%</td>
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</tr>
<tr>
<td>Map enthusiast</td>
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<td>Other</td>
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<td>13</td>
</tr>
<tr>
<td>Not applicable</td>
<td>0.0%</td>
<td>0</td>
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</table>

Answered question: 322

Skipped question: 1

5. For how many years have you been professionally involved with maps?

<table>
<thead>
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<th>Years</th>
<th>Response Percent</th>
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<tr>
<td>0 to 4</td>
<td>22.1%</td>
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<tr>
<td>5 to 9</td>
<td>25.2%</td>
<td>81</td>
</tr>
<tr>
<td>10 to 19</td>
<td>30.4%</td>
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</tr>
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<td>20 to 29</td>
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<td>More than 30</td>
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</tr>
<tr>
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Answered question: 322

Skipped question: 1
6. In general, how do you rate the design of maps made today?

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<thead>
<tr>
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<tbody>
<tr>
<td>Very bad</td>
<td>0.3%</td>
<td>1</td>
</tr>
<tr>
<td>Bad</td>
<td>14.0%</td>
<td>41</td>
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<tr>
<td>Adequate</td>
<td>46.1%</td>
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<tr>
<td>Good</td>
<td>36.5%</td>
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</tr>
<tr>
<td>Very Good</td>
<td>3.1%</td>
<td>9</td>
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</tbody>
</table>

Answered question 293

Skipped question 30

7. Compared to manual maps made twenty or thirty years ago, how do you rate the design of digital maps today?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
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</thead>
<tbody>
<tr>
<td>Much worse</td>
<td>3.8%</td>
<td>11</td>
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<tr>
<td>Worse</td>
<td>32.2%</td>
<td>94</td>
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<tr>
<td>About the same</td>
<td>19.2%</td>
<td>56</td>
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<tr>
<td>Better</td>
<td>33.2%</td>
<td>97</td>
</tr>
<tr>
<td>Much better</td>
<td>11.6%</td>
<td>34</td>
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Answered question 292

Skipped question 31

8. Do you think map design will generally get worse or better in the next 10 to 20 years?

<table>
<thead>
<tr>
<th></th>
<th>Response Percent</th>
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<tbody>
<tr>
<td>Get worse</td>
<td>13.7%</td>
<td>40</td>
</tr>
<tr>
<td>Stay the same</td>
<td>20.6%</td>
<td>60</td>
</tr>
<tr>
<td>Get better</td>
<td>65.8%</td>
<td>192</td>
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</table>

Answered question 292

Skipped question 31
9. For much of the twentieth century, maps designed in North America and Europe often looked different from each other. Is this still the case today?

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<thead>
<tr>
<th>Response</th>
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<td>Yes</td>
<td>28.0%</td>
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</tr>
<tr>
<td>Yes, but not so much</td>
<td>63.6%</td>
<td>175</td>
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<tr>
<td>No</td>
<td>8.4%</td>
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Answered question 275

Skipped question 48

10. According to a popular definition, cartography is a discipline that combines art and science. Looking broadly at the profession today, how would you rate this balance?

<table>
<thead>
<tr>
<th>Response</th>
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<tbody>
<tr>
<td>Entirely art</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>More art</td>
<td>14.4%</td>
<td>42</td>
</tr>
<tr>
<td>Equal art and science</td>
<td>29.1%</td>
<td>85</td>
</tr>
<tr>
<td>More science</td>
<td>55.5%</td>
<td>162</td>
</tr>
<tr>
<td>Entirely science</td>
<td>1.0%</td>
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</table>

Answered question 292

Skipped question 31

11. In your experience, how unusual is it for a cartographer to have both design and technical ability?

<table>
<thead>
<tr>
<th>Response</th>
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</thead>
<tbody>
<tr>
<td>Very rare</td>
<td>5.5%</td>
<td>16</td>
</tr>
<tr>
<td>Rare</td>
<td>24.7%</td>
<td>72</td>
</tr>
<tr>
<td>Sometimes</td>
<td>36.4%</td>
<td>106</td>
</tr>
<tr>
<td>Common</td>
<td>27.8%</td>
<td>81</td>
</tr>
<tr>
<td>Very common</td>
<td>5.5%</td>
<td>16</td>
</tr>
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Answered question 291

Skipped question 32
12. *Nature vs. nurture*: both natural aptitude and education are factors determining whether a person is good at map design. Which do you consider most important?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
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<td>Entirely aptitude</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>More aptitude</td>
<td>37.2%</td>
<td>109</td>
</tr>
<tr>
<td>Equal aptitude and education</td>
<td>35.2%</td>
<td>103</td>
</tr>
<tr>
<td>More education</td>
<td>26.6%</td>
<td>78</td>
</tr>
<tr>
<td>Entirely education</td>
<td>1.0%</td>
<td>3</td>
</tr>
</tbody>
</table>

Answered question: 293

| Question skipped | 30 |

13. If you *HAD* to hire someone to design custom maps for a magazine like *National Geographic* and the choice was between a GIS specialist with no graphical experience and a graphic designer with no GIS experience, whom would you choose?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
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</thead>
<tbody>
<tr>
<td>GIS specialist</td>
<td>27.8%</td>
<td>81</td>
</tr>
<tr>
<td>Graphic designer</td>
<td>72.2%</td>
<td>210</td>
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</table>

Answered question: 291

| Question skipped | 32 |

14. Is map design a mature field with little room for innovation or do new design techniques still await discovery? Rate the likelihood for future map design innovation:

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
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</thead>
<tbody>
<tr>
<td>Very unlikely</td>
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</tr>
<tr>
<td>Unlikely</td>
<td>6.8%</td>
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</tr>
<tr>
<td>Likely</td>
<td>57.3%</td>
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</tr>
<tr>
<td>Very likely</td>
<td>34.5%</td>
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Answered question: 293

| Question skipped | 30 |
15. Do you make maps?

<table>
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</tr>
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<td>No</td>
<td>6.1%</td>
<td>18</td>
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Answered question: 293
Skiped question: 30

16. How do you rate yourself as a map designer?

<table>
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<th>Response</th>
<th>Percent</th>
<th>Count</th>
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<tbody>
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<td>0.4%</td>
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<tr>
<td>Not so good</td>
<td>2.8%</td>
<td>7</td>
</tr>
<tr>
<td>Average</td>
<td>33.5%</td>
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<td>Pretty good</td>
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<td>Excellent</td>
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Answered question: 251
Skiped question: 72

17. What has influenced your development as a map designer?

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<th>Somewhat important</th>
<th>Important</th>
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<td>41.7% (110)</td>
<td>30.7% (81)</td>
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<td>Art/Design classes</td>
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<td>38.1% (99)</td>
<td>30.8% (80)</td>
<td>2.00</td>
<td>260</td>
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<td>Self taught</td>
<td>3.7% (10)</td>
<td>33.3% (89)</td>
<td>62.9% (168)</td>
<td>2.59</td>
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<td>Internship/apprenticeship</td>
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<td>36.2% (93)</td>
<td>35.0% (90)</td>
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<td>A mentor</td>
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<td>32.4% (85)</td>
<td>43.5% (114)</td>
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<td>262</td>
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<tr>
<td>Work experience</td>
<td>3.4% (9)</td>
<td>15.0% (40)</td>
<td>81.6% (218)</td>
<td>2.78</td>
<td>267</td>
</tr>
<tr>
<td>Professional outreach (conferences, online forums, etc.)</td>
<td>14.8% (39)</td>
<td>50.4% (133)</td>
<td>34.8% (92)</td>
<td>2.20</td>
<td>264</td>
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Answered question: 269
Skiped question: 54
18. Do you seek advice from others when designing maps?

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<th>Response Percent</th>
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</tr>
<tr>
<td>Not often</td>
<td>14.9%</td>
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</tr>
<tr>
<td>Sometimes</td>
<td>40.2%</td>
<td>108</td>
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<tr>
<td>Very often</td>
<td>34.2%</td>
<td>92</td>
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<tr>
<td>Always</td>
<td>10.0%</td>
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Answered question 269
Skipped question 54

19. Have you ever submitted a map to a design contest?

<table>
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<th>Response Percent</th>
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</thead>
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<tr>
<td>No</td>
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</tr>
<tr>
<td>Yes</td>
<td>13.9%</td>
<td>37</td>
</tr>
<tr>
<td>Yes, and won an award</td>
<td>22.5%</td>
<td>60</td>
</tr>
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Answered question 267
Skipped question 56

20. Looking beyond maps, how do you rate your ability in the broader field of graphic design?

<table>
<thead>
<tr>
<th>Response</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad</td>
<td>0.4%</td>
<td>1</td>
</tr>
<tr>
<td>Not so good</td>
<td>9.7%</td>
<td>26</td>
</tr>
<tr>
<td>Average</td>
<td>41.6%</td>
<td>112</td>
</tr>
<tr>
<td>Pretty good</td>
<td>44.2%</td>
<td>119</td>
</tr>
<tr>
<td>Excellent</td>
<td>4.1%</td>
<td>11</td>
</tr>
</tbody>
</table>

Answered question 269
Skipped question 54
21. When making a map, how closely does your initial concept (minds-eye view) match the final design?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>0.8%</td>
<td>2</td>
</tr>
<tr>
<td>Not often</td>
<td>8.3%</td>
<td>22</td>
</tr>
<tr>
<td>Sometimes</td>
<td>32.7%</td>
<td>87</td>
</tr>
<tr>
<td>Very often</td>
<td>55.3%</td>
<td>147</td>
</tr>
<tr>
<td>Always</td>
<td>3.0%</td>
<td>8</td>
</tr>
</tbody>
</table>

Answered question 266

22. On a typical map project, about what percentage of the total project time do you devote to map design?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or none</td>
<td>0.0%</td>
<td>0</td>
</tr>
<tr>
<td>5 percent</td>
<td>3.0%</td>
<td>8</td>
</tr>
<tr>
<td>10 percent</td>
<td>8.7%</td>
<td>23</td>
</tr>
<tr>
<td>20 percent</td>
<td>18.1%</td>
<td>48</td>
</tr>
<tr>
<td>30 percent</td>
<td>19.2%</td>
<td>51</td>
</tr>
<tr>
<td>40 percent</td>
<td>9.8%</td>
<td>26</td>
</tr>
<tr>
<td>50 percent</td>
<td>13.5%</td>
<td>36</td>
</tr>
<tr>
<td>60 percent</td>
<td>7.9%</td>
<td>21</td>
</tr>
<tr>
<td>70 percent</td>
<td>10.5%</td>
<td>28</td>
</tr>
<tr>
<td>80 percent</td>
<td>6.8%</td>
<td>18</td>
</tr>
<tr>
<td>90 percent</td>
<td>1.9%</td>
<td>5</td>
</tr>
<tr>
<td>100 percent</td>
<td>0.8%</td>
<td>2</td>
</tr>
</tbody>
</table>

Answered question 266

Skipped question 57
23. When making a map, to what extent do you integrate design with other mapping tasks such as research, compilation, and production?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely integrated</td>
<td>18.4%</td>
<td>49</td>
</tr>
<tr>
<td>Mostly integrated</td>
<td>39.7%</td>
<td>106</td>
</tr>
<tr>
<td>Sometimes integrated, sometimes separate</td>
<td>32.2%</td>
<td>86</td>
</tr>
<tr>
<td>Mostly separate</td>
<td>9.7%</td>
<td>26</td>
</tr>
<tr>
<td>Completely separate</td>
<td>0.0%</td>
<td>0</td>
</tr>
</tbody>
</table>

Answered question 267

Skipped question 56

24. Looking at one of your typical map projects from start to finish, when does most design effort occur?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning</td>
<td>11.3%</td>
<td>30</td>
</tr>
<tr>
<td>Middle</td>
<td>5.6%</td>
<td>15</td>
</tr>
<tr>
<td>End</td>
<td>15.4%</td>
<td>41</td>
</tr>
<tr>
<td>Beginning and end</td>
<td>19.9%</td>
<td>53</td>
</tr>
<tr>
<td>Throughout the project</td>
<td>47.7%</td>
<td>127</td>
</tr>
</tbody>
</table>

Answered question 266

Skipped question 57

25. Of the maps you make, how many are custom designed versus made to already existing design standards or from default software settings?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entirely custom</td>
<td>22.4%</td>
<td>60</td>
</tr>
<tr>
<td>Mostly custom</td>
<td>32.5%</td>
<td>87</td>
</tr>
<tr>
<td>Both custom and standardized</td>
<td>33.2%</td>
<td>89</td>
</tr>
<tr>
<td>Mostly standardized</td>
<td>11.2%</td>
<td>30</td>
</tr>
<tr>
<td>Entirely standardized</td>
<td>0.8%</td>
<td>2</td>
</tr>
</tbody>
</table>

Answered question 268

Skipped question 55
### 26. Does software influence map design?

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not often</td>
<td>9.3%</td>
<td>25</td>
</tr>
<tr>
<td>Sometimes</td>
<td>41.4%</td>
<td>111</td>
</tr>
<tr>
<td>Very much</td>
<td>49.3%</td>
<td>132</td>
</tr>
</tbody>
</table>

**Answered question** 268

**Skipped question** 55

### 27. Not every map can be a design masterpiece. What factors LIMIT the quality of maps you design?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Infrequent</th>
<th>Sometimes</th>
<th>Frequent</th>
<th>Rating Average</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not enough time</td>
<td>3.4% (9)</td>
<td>42.5% (114)</td>
<td>54.1% (145)</td>
<td>2.51</td>
<td>268</td>
</tr>
<tr>
<td>Not enough funding</td>
<td>25.0% (67)</td>
<td>38.4% (103)</td>
<td>36.6% (98)</td>
<td>2.12</td>
<td>268</td>
</tr>
<tr>
<td>Pre-existing map design standards</td>
<td>31.1% (83)</td>
<td>52.4% (140)</td>
<td>16.5% (44)</td>
<td>1.85</td>
<td>267</td>
</tr>
<tr>
<td>Strict supervisor or client control</td>
<td>45.7% (121)</td>
<td>37.7% (100)</td>
<td>16.6% (44)</td>
<td>1.71</td>
<td>265</td>
</tr>
<tr>
<td>Lack of manual/artistic skill</td>
<td>51.7% (138)</td>
<td>38.6% (103)</td>
<td>9.7% (26)</td>
<td>1.58</td>
<td>267</td>
</tr>
<tr>
<td>Inadequate software</td>
<td>43.7% (117)</td>
<td>39.6% (106)</td>
<td>16.8% (45)</td>
<td>1.73</td>
<td>268</td>
</tr>
<tr>
<td>Data problems</td>
<td>20.9% (56)</td>
<td>50.7% (136)</td>
<td>28.4% (76)</td>
<td>2.07</td>
<td>268</td>
</tr>
<tr>
<td>Just feeling lazy</td>
<td>62.3% (167)</td>
<td>32.8% (88)</td>
<td>4.9% (13)</td>
<td>1.43</td>
<td>268</td>
</tr>
</tbody>
</table>

**Answered question** 269

**Skipped question** 54