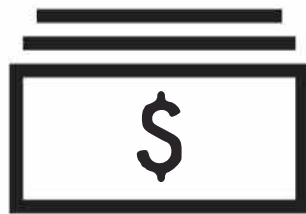




# MAGIP

Montana Association of Geographic Information Professionals



## 2018 Salary Survey Results

Survey Authors - Jeff Hedstrom, Jenny Connelley, and the  
MAGIP Professional Development Committee

Results Published April 18, 2019

# **2018 MAGIP Salary Survey**

## **Introduction**

This survey was a collaborative effort between the MAGIP Professional Development Committee, Operations & Business Committee and the Board of Directors. It was designed for GIS professionals, educators and trainers within Montana.

## **Survey Design**

The survey was created and analyzed using SurveyMonkey. It consisted 27 questions and was estimated to take between 5-8 minutes to complete. The survey was distributed through the MAGIP email list-serve, with the intent that individuals would distribute it more widely.

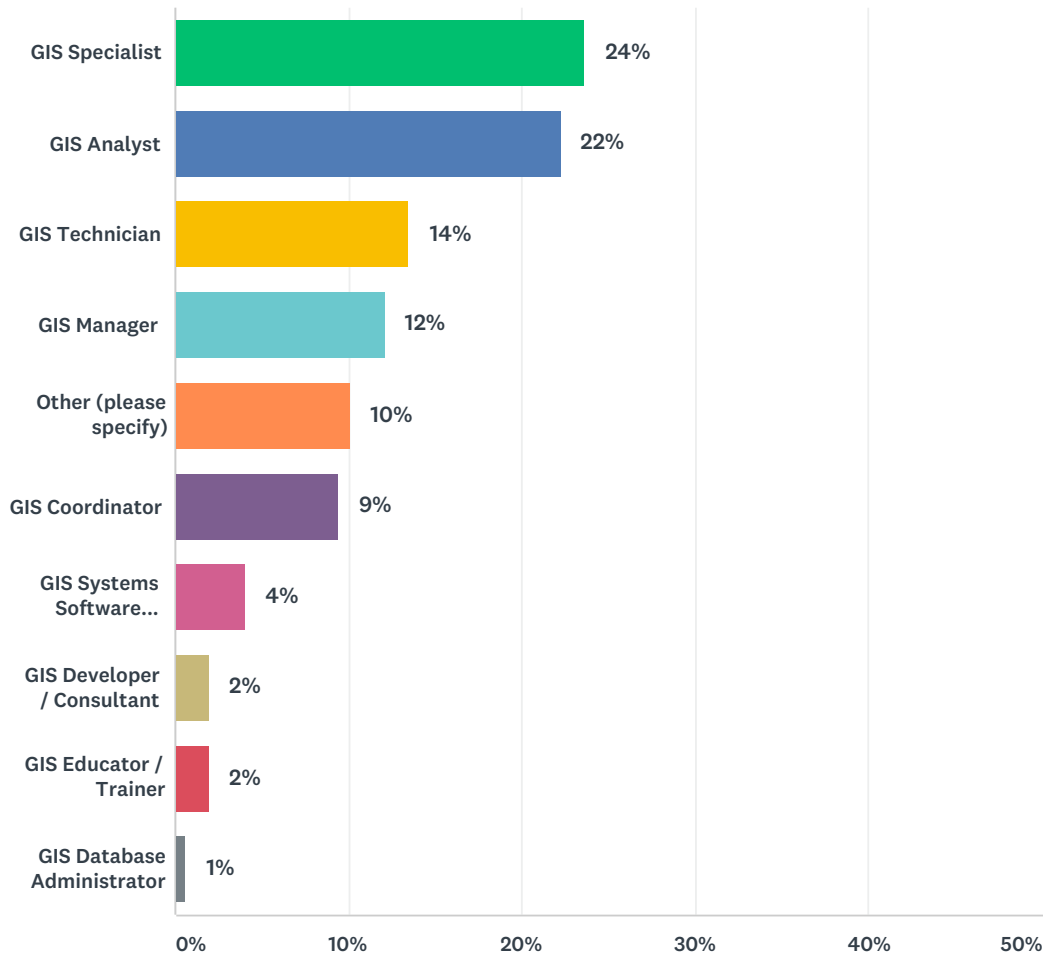
The survey email was sent out on Wednesday, January 17, 2018 and was closed on Friday, February 23, 2018. There were 148 participants.

The Survey Results are posted to the MAGIP website on the Professional Development Committee page: <https://www.magip.org/ProfDev>

For additional information please send an email to MAGIP at: [magip.mt@gmail.com](mailto:magip.mt@gmail.com)

# Q1 Which of the following job positions most closely describes your employment situation? (A brief explanation of job descriptions can be found with this document: [link](#))

Answered: 148 Skipped: 0



ANSWER CHOICES	RESPONSES	
GIS Specialist	24%	35
GIS Analyst	22%	33
GIS Technician	14%	20
GIS Manager	12%	18
Other (please specify)	10%	15
GIS Coordinator	9%	14
GIS Systems Software Analyst / Programmer	4%	6
GIS Developer / Consultant	2%	3
GIS Educator / Trainer	2%	3
GIS Database Administrator	1%	1
<b>TOTAL</b>		<b>148</b>

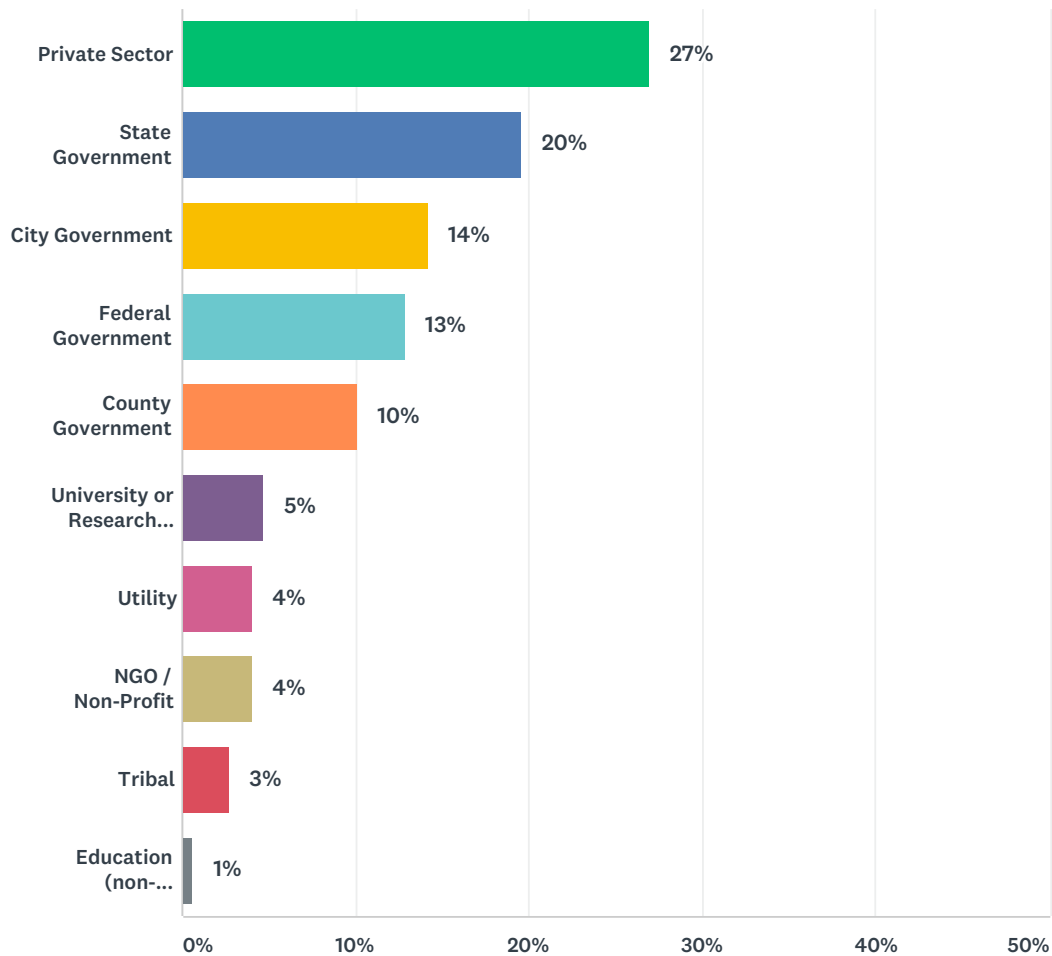
Q1 Which of the following job positions most closely describes your employment situation? (A brief explanation of job descriptions can be found with this document: [link](#))

Answered: 148 Skipped: 0

#	OTHER (PLEASE SPECIFY)
1	Remote Sensing Analyst
2	Water Rights Consultant
3	Remote Sensing Scientist
4	Computer Analyst
5	My "title" is GIS Manager, but I'm actually only a Specialist
6	Land Management Specialist
7	Performance Auditor - Use GIS for analysis purposes
8	unemployed
9	cartographic Technician
10	Cartographer
11	water rights consultant
12	Remote Sensing Analyst
13	Spatial Analyst
14	GIS Tech and CADD Drafter
15	Geospatial Analyst/Remote Sensing Specialist

## Q2 What category best describes the type of organization where you are employed?

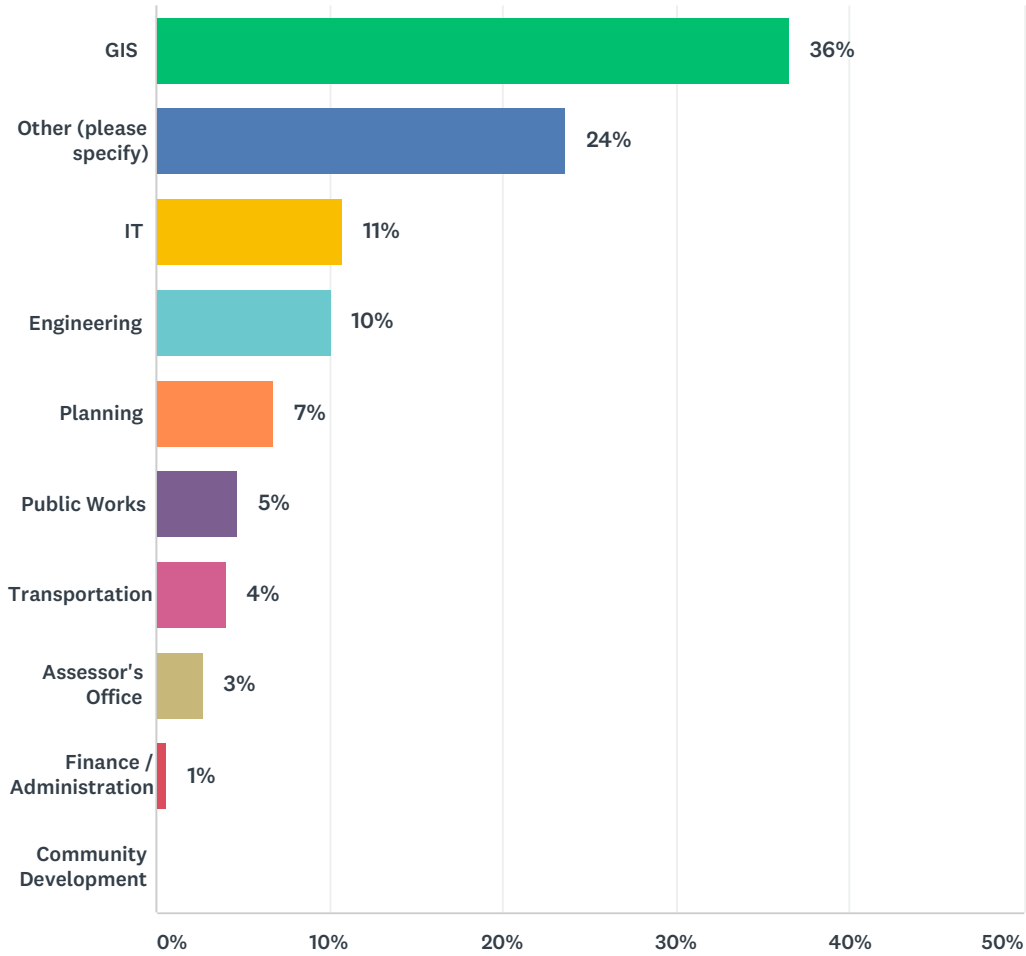
Answered: 148 Skipped: 0



ANSWER CHOICES	RESPONSES	
Private Sector	27%	40
State Government	20%	29
City Government	14%	21
Federal Government	13%	19
County Government	10%	15
University or Research Institution	5%	7
Utility	4%	6
NGO / Non-Profit	4%	6
Tribal	3%	4
Education (non- university)	1%	1
<b>TOTAL</b>		<b>148</b>

### Q3 What department do you work under?

Answered: 148 Skipped: 0



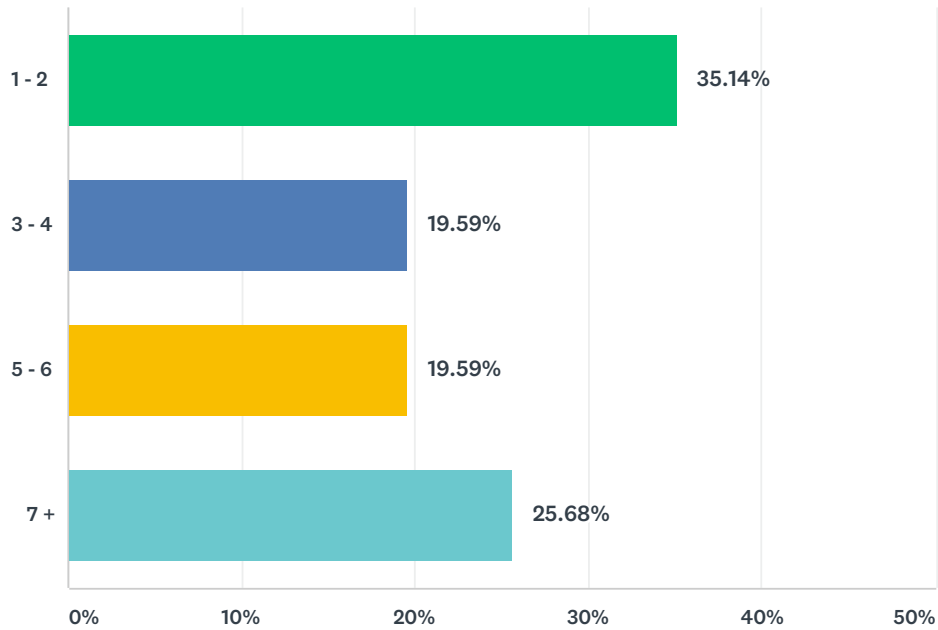
ANSWER CHOICES	RESPONSES	
GIS	36%	54
Other (please specify)	24%	35
IT	11%	16
Engineering	10%	15
Planning	7%	10
Public Works	5%	7
Transportation	4%	6
Assessor's Office	3%	4
Finance / Administration	1%	1
Community Development	0%	0
<b>TOTAL</b>		<b>148</b>

### Q3 What department do you work under?

#	OTHER (PLEASE SPECIFY)
1	Natural Resources
2	Fire and Aviation Management
3	Map Making -GIS & Cartography
4	Wildland Fire Research
5	Water Rights Consultant
6	Environmental Science
7	LANDFIRE Program
8	Citywide - Planning, Parks, Public Works, Law Enforcement ect.
9	Reserve Management
10	Audit
11	Mapping
12	Small organization - No departments
13	Forestry
14	Emergency Managment
15	land titles records
16	Land Title and Records-BIA
17	Environmental
18	Planning, Public works, and GIS
19	Small organization, no departments, I am the only GIS person
20	water rights
21	Management Consulting
22	Geology
23	Academics
24	Minerals Office
25	Conservation
26	Groundwater
27	Forestry
28	Stewardship
29	Digital Library
30	Water Resources
31	Natural Resources
32	US Department of Agriculture
33	private sector
34	Office of Public Defeneder
35	marketing

### Q4 How many GIS staff members are in your organization?

Answered: 148 Skipped: 0

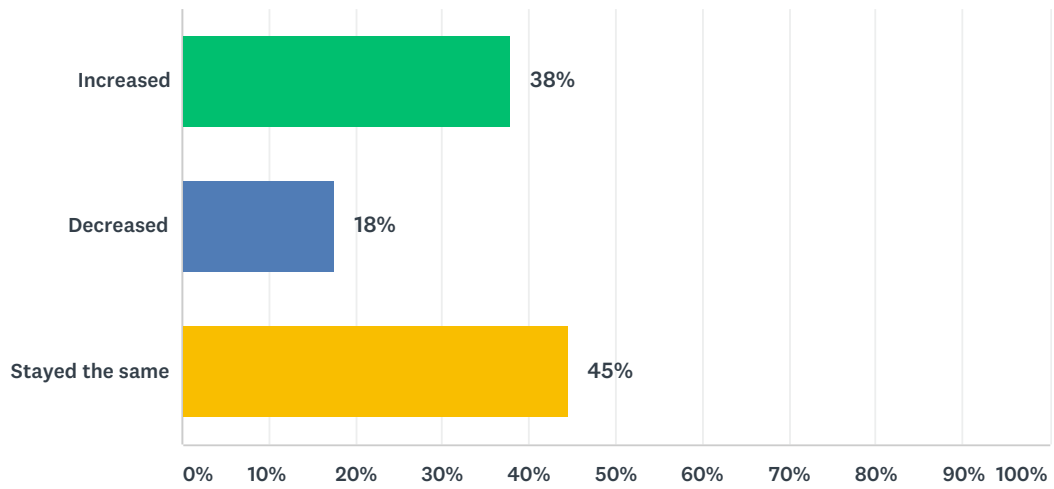


ANSWER CHOICES	RESPONSES	
1 - 2	35.14%	52
3 - 4	19.59%	29
5 - 6	19.59%	29
7 +	25.68%	38
TOTAL		148



### Q5 In the past five years, has your organization increased or decreased the total number of GIS staff members?

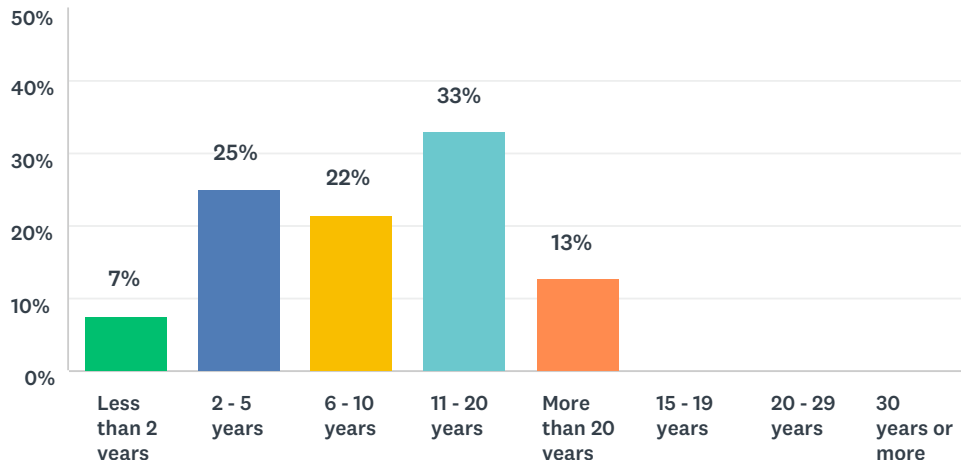
Answered: 148 Skipped: 0



ANSWER CHOICES	RESPONSES	
Increased	38%	56
Decreased	18%	26
Stayed the same	45%	66
<b>TOTAL</b>		<b>148</b>

## Q6 How many years of professional GIS experience do you have?

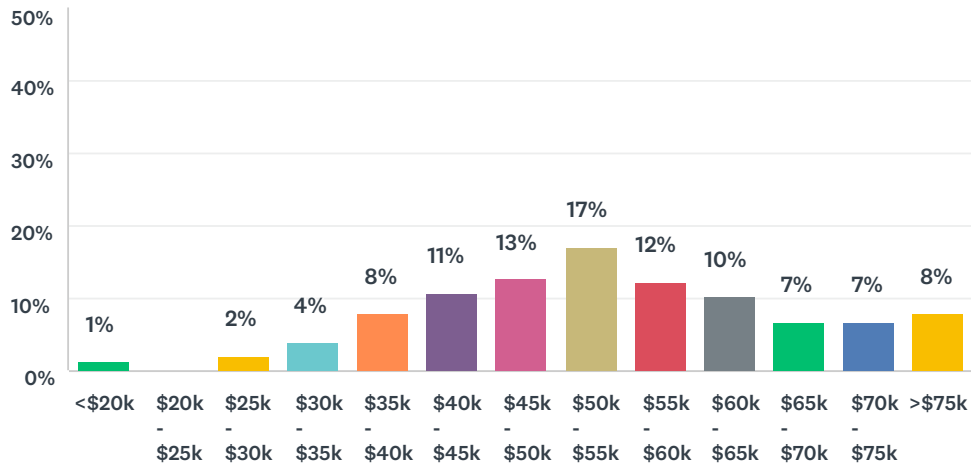
Answered: 148 Skipped: 0



ANSWER CHOICES	RESPONSES	
Less than 2 years	7%	11
2 - 5 years	25%	37
6 - 10 years	22%	32
11 - 20 years	33%	49
More than 20 years	13%	19
15 - 19 years	0%	0
20 - 29 years	0%	0
30 years or more	0%	0
<b>TOTAL</b>		<b>148</b>

## Q7 In which range does your current annual salary fall within?

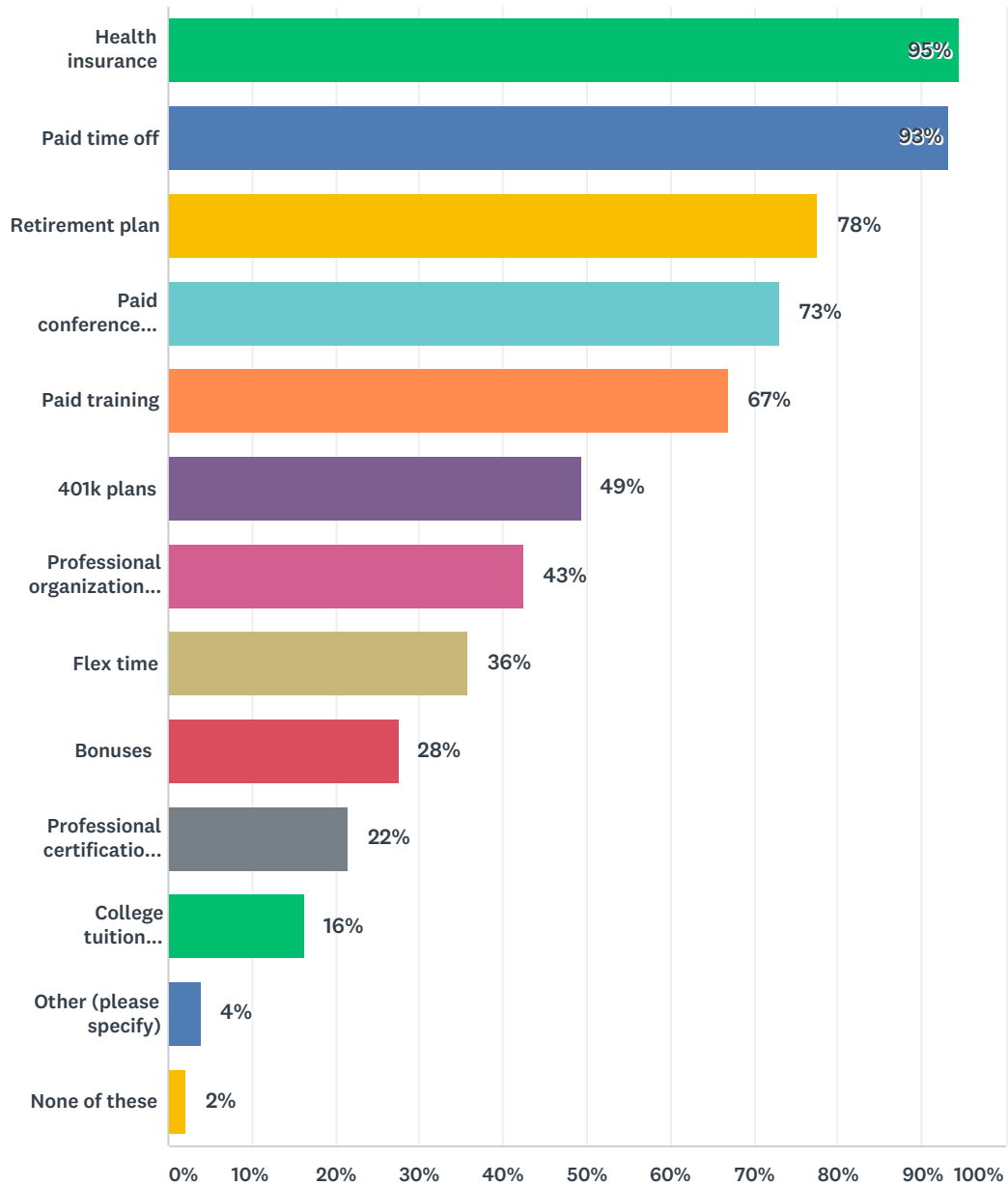
Answered: 148 Skipped: 0



ANSWER CHOICES	RESPONSES
<\$20k	1% 2
\$20k - \$25k	0% 0
\$25k - \$30k	2% 3
\$30k - \$35k	4% 6
\$35k - \$40k	8% 12
\$40k - \$45k	11% 16
\$45k - \$50k	13% 19
\$50k - \$55k	17% 25
\$55k - \$60k	12% 18
\$60k - \$65k	10% 15
\$65k - \$70k	7% 10
\$70k - \$75k	7% 10
>\$75k	8% 12
<b>TOTAL</b>	<b>148</b>

### Q8 What types of benefits does your employer provide? (check all that apply)

Answered: 148 Skipped: 0



## Q8 What types of benefits does your employer provide? (check all that apply)

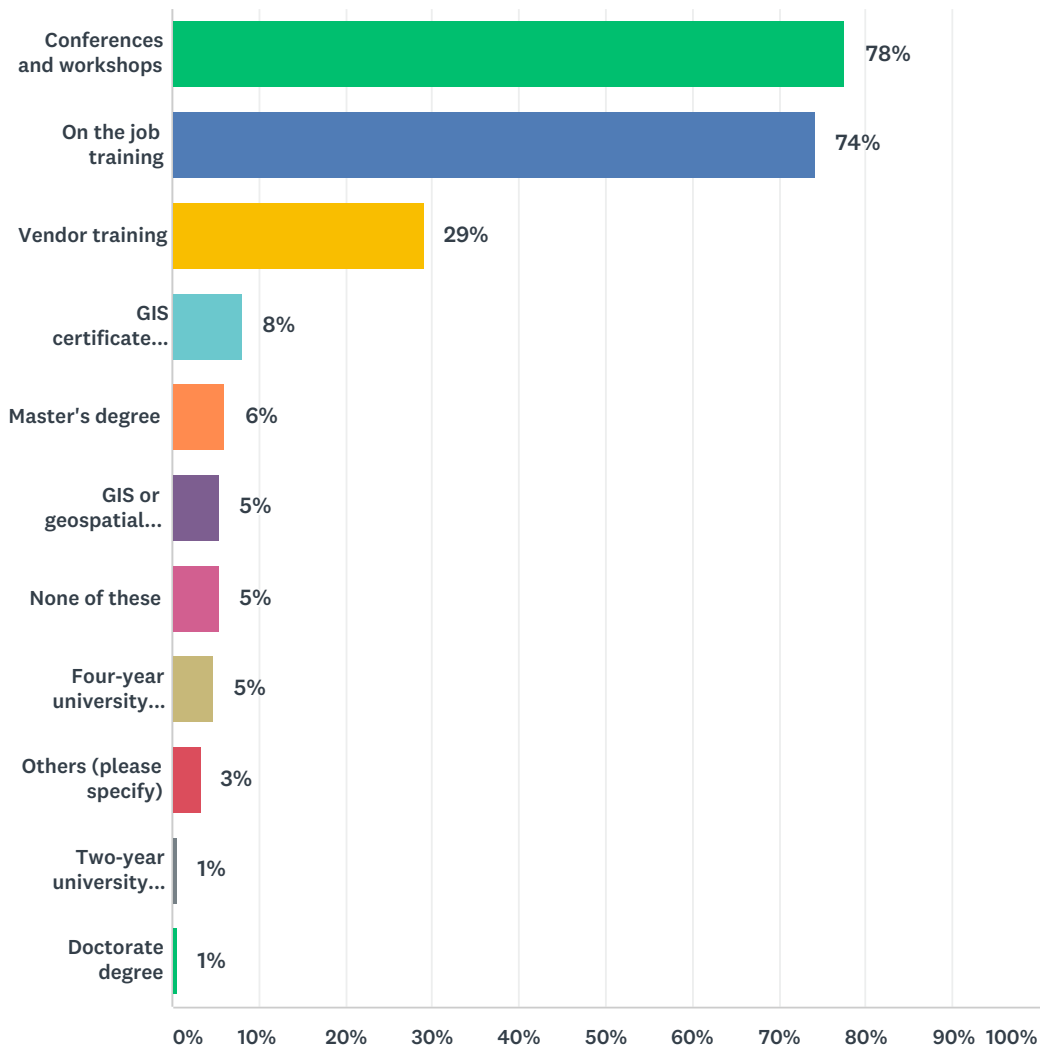
Answered: 148 Skipped: 0

ANSWER CHOICES	RESPONSES	
Health insurance	95%	140
Paid time off	93%	138
Retirement plan	78%	115
Paid conference attendance	73%	108
Paid training	67%	99
401k plans	49%	73
Professional organization membership dues	43%	63
Flex time	36%	53
Bonuses	28%	41
Professional certification reimbursement	22%	32
College tuition reimbursement	16%	24
Other (please specify)	4%	6
None of these	2%	3
Total Respondents: 148		

#	OTHER (PLEASE SPECIFY)
1	Consultant - Private health & Retirement plan
2	454 Plan
3	Position will pay up to 58k
4	Not sure about college tuition.
5	Longevity pay after 5 years
6	Company stock ownership

### Q9 In the past 3 years, what types of continuing education and professional development have you acquired? (check all that apply)

Answered: 148 Skipped: 0



## Q9 In the past 3 years, what types of continuing education and professional development have you acquired? (check all that apply)

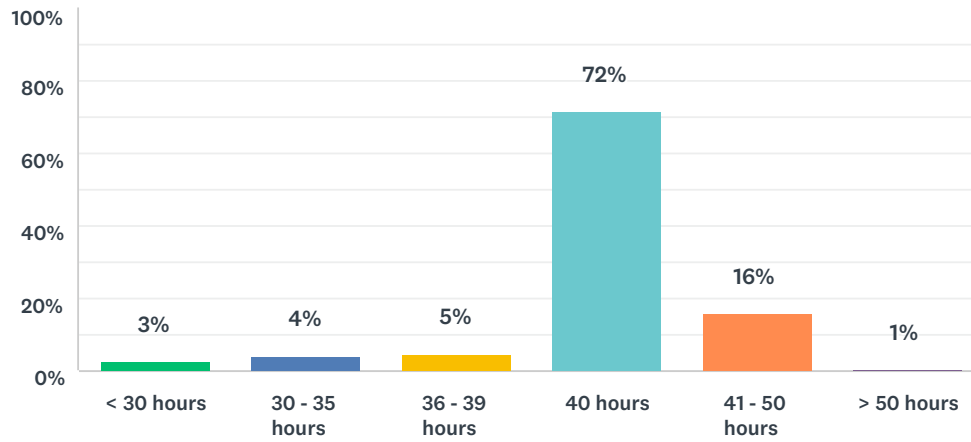
Answered: 148 Skipped: 0

ANSWER CHOICES	RESPONSES	
Conferences and workshops	78%	115
On the job training	74%	110
Vendor training	29%	43
GIS certificate (from an accredited education institution)	8%	12
Master's degree	6%	9
GIS or geospatial technology certificate (i.e. ESRI Technical Certification)	5%	8
None of these	5%	8
Four-year university (baccalaureate degree)	5%	7
Others (please specify)	3%	5
Two-year university (associate's degree)	1%	1
Doctorate degree	1%	1
Total Respondents: 148		

#	OTHERS (PLEASE SPECIFY)
1	Work shop when possible
2	University Of YouTube and Google (AKA: Encyclopedia de Google) ;)
3	28 qtr credits towards MSGISc
4	college continuing education course
5	online training

### Q10 On average, how many hours do you work in a typical week?

Answered: 148 Skipped: 0

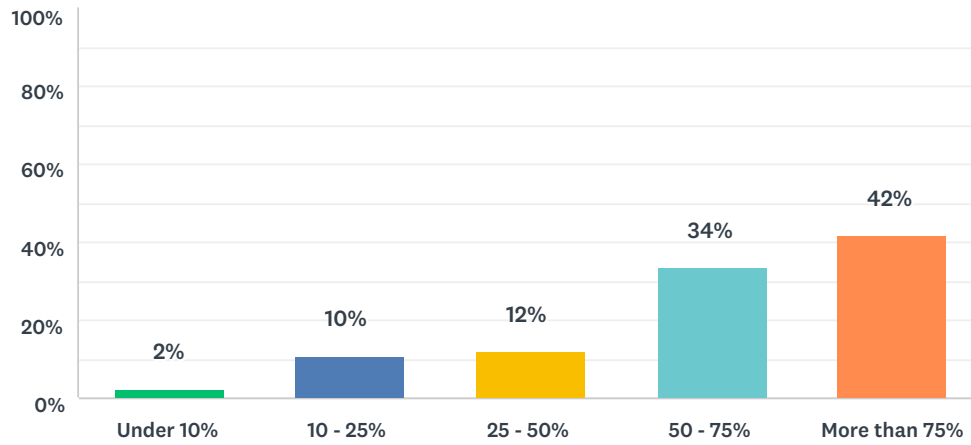


ANSWER CHOICES	RESPONSES	
< 30 hours	3%	4
30 - 35 hours	4%	6
36 - 39 hours	5%	7
40 hours	72%	106
41 - 50 hours	16%	24
> 50 hours	1%	1
<b>TOTAL</b>		<b>148</b>



### Q11 On average, what percentage of your time involves the use of GIS?

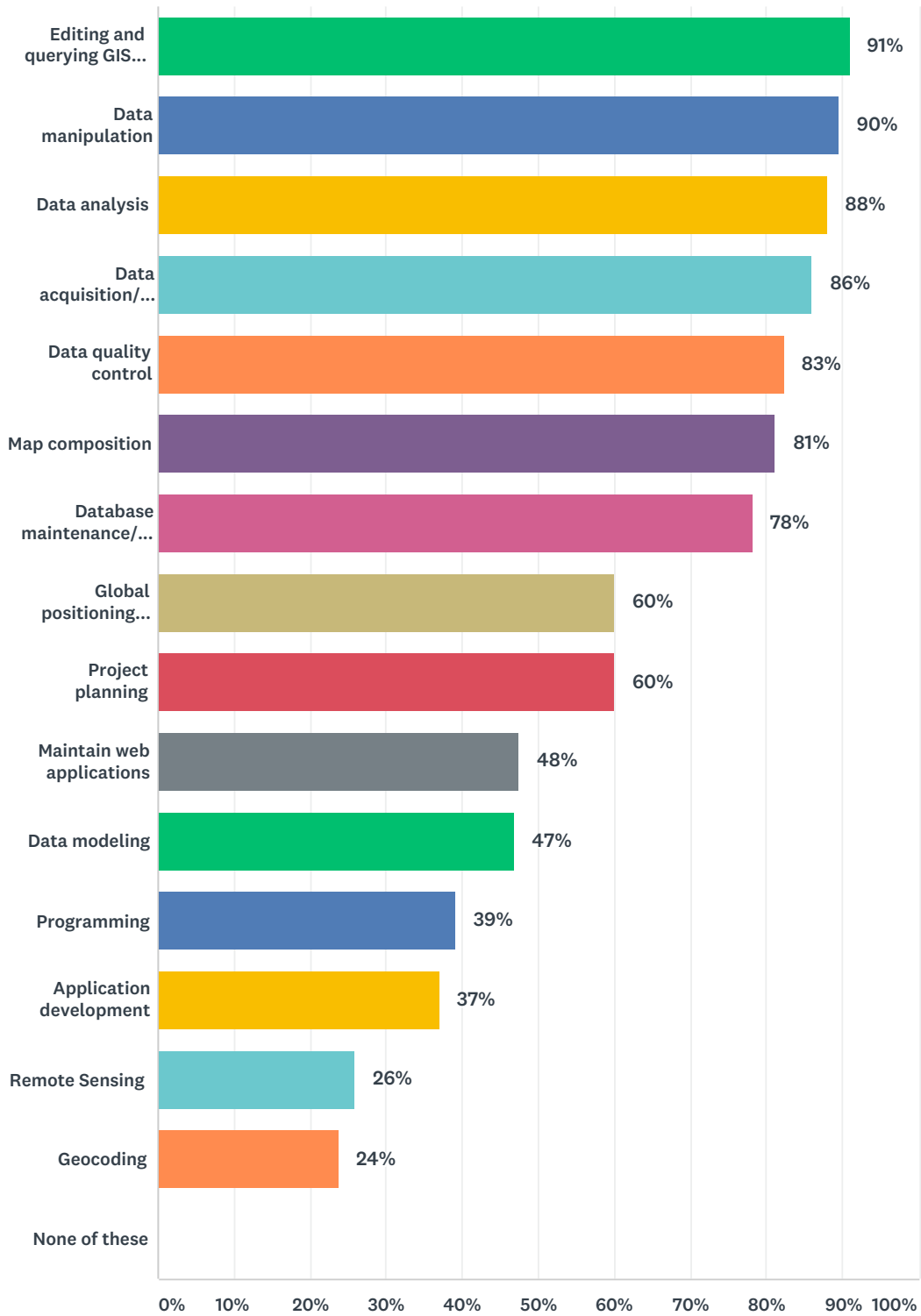
Answered: 143 Skipped: 5



ANSWER CHOICES	RESPONSES	
Under 10%	2%	3
10 - 25%	10%	15
25 - 50%	12%	17
50 - 75%	34%	48
More than 75%	42%	60
<b>TOTAL</b>		<b>143</b>

### Q12 What GIS skills are required for your job? (check all that apply)

Answered: 143 Skipped: 5



## Q12 What GIS skills are required for your job? (check all that apply)

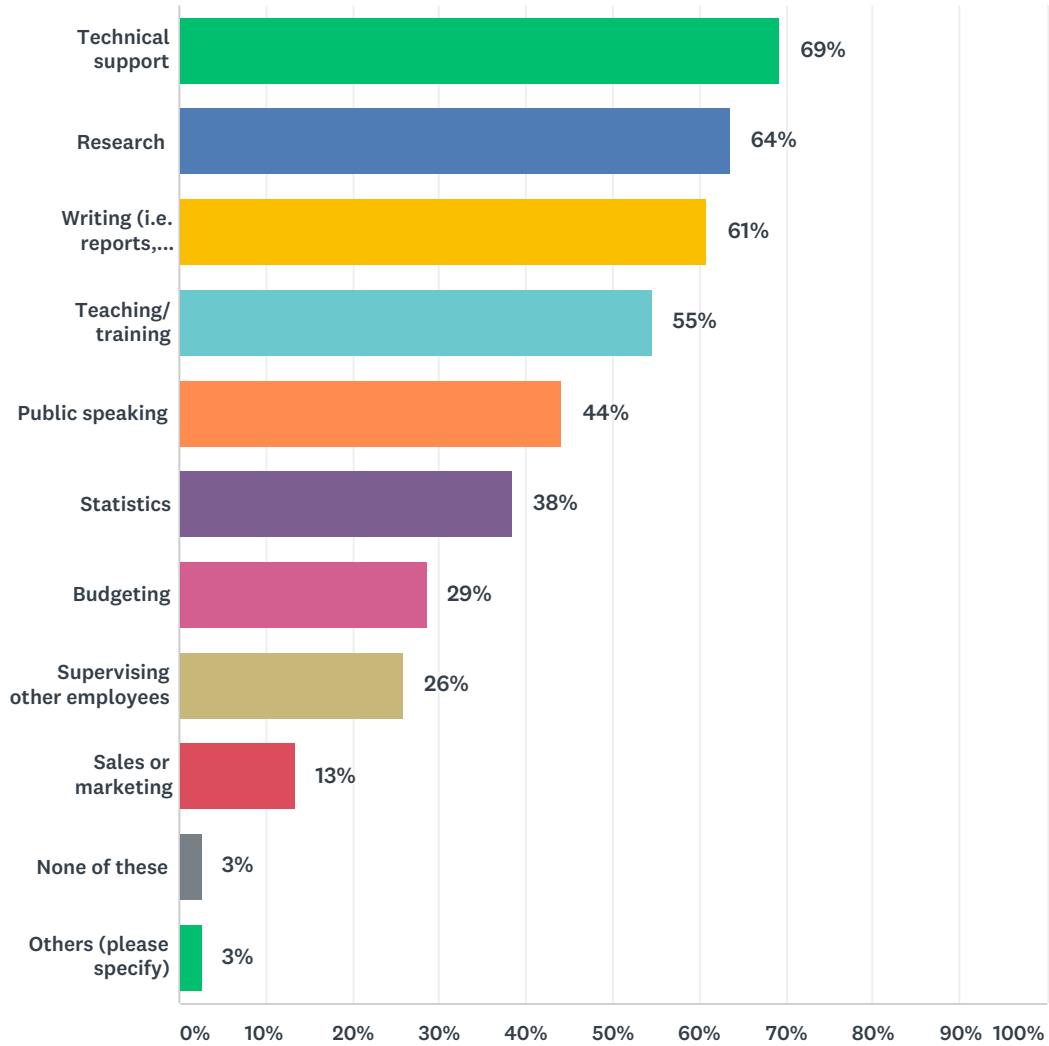
Answered: 143 Skipped: 5

ANSWER CHOICES	RESPONSES	
Editing and querying GIS data	91%	130
Data manipulation	90%	128
Data analysis	88%	126
Data acquisition/creation	86%	123
Data quality control	83%	118
Map composition	81%	116
Database maintenance/administration	78%	112
Global positioning systems (GPS)	60%	86
Project planning	60%	86
Maintain web applications	48%	68
Data modeling	47%	67
Programming	39%	56
Application development	37%	53
Remote Sensing	26%	37
Geocoding	24%	34
None of these	0%	0
Total Respondents: 143		

#	OTHERS (PLEASE LIST)
1	historical aerial photo interpretation
2	Mobile/Collector App UAV Technology
3	an understanding of most of these
4	ArcGIS Server, MySQL db, Postgres db
5	Introductory teaching in most of these areas
6	Mobile GIS Workflows

### Q13 What additional skills are required for your job? (check all that apply)

Answered: 143 Skipped: 5



### Q13 What additional skills are required for your job? (check all that apply)

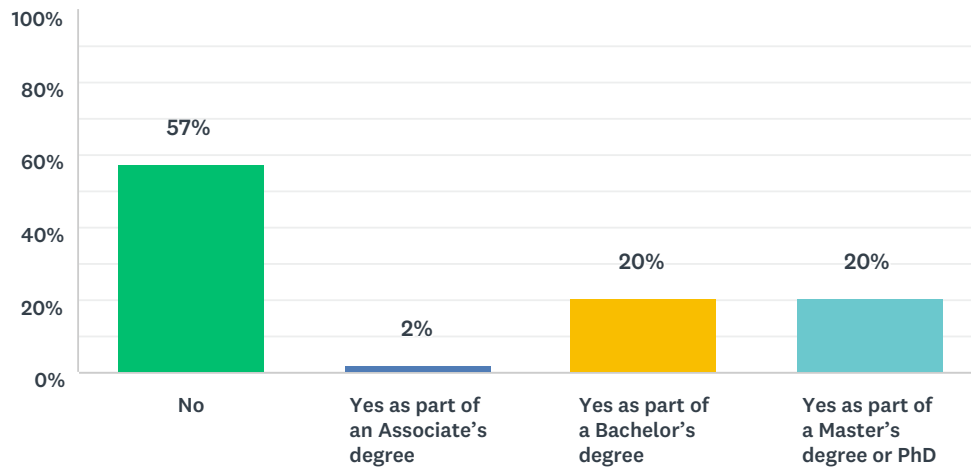
Answered: 143 Skipped: 5

ANSWER CHOICES	RESPONSES	
Technical support	69%	99
Research	64%	91
Writing (i.e. reports, publications, etc)	61%	87
Teaching/ training	55%	78
Public speaking	44%	63
Statistics	38%	55
Budgeting	29%	41
Supervising other employees	26%	37
Sales or marketing	13%	19
None of these	3%	4
Others (please specify)	3%	4
Total Respondents: 143		

#	OTHERS (PLEASE SPECIFY)
1	Testifying in Water Court
2	I have a ton of different roles in my position so at some point I've had to work on and develop most of the above skills.
3	clerical work
4	field work.

## Q14 Have you completed a GIS certificate program via a defined series of GIS courses?

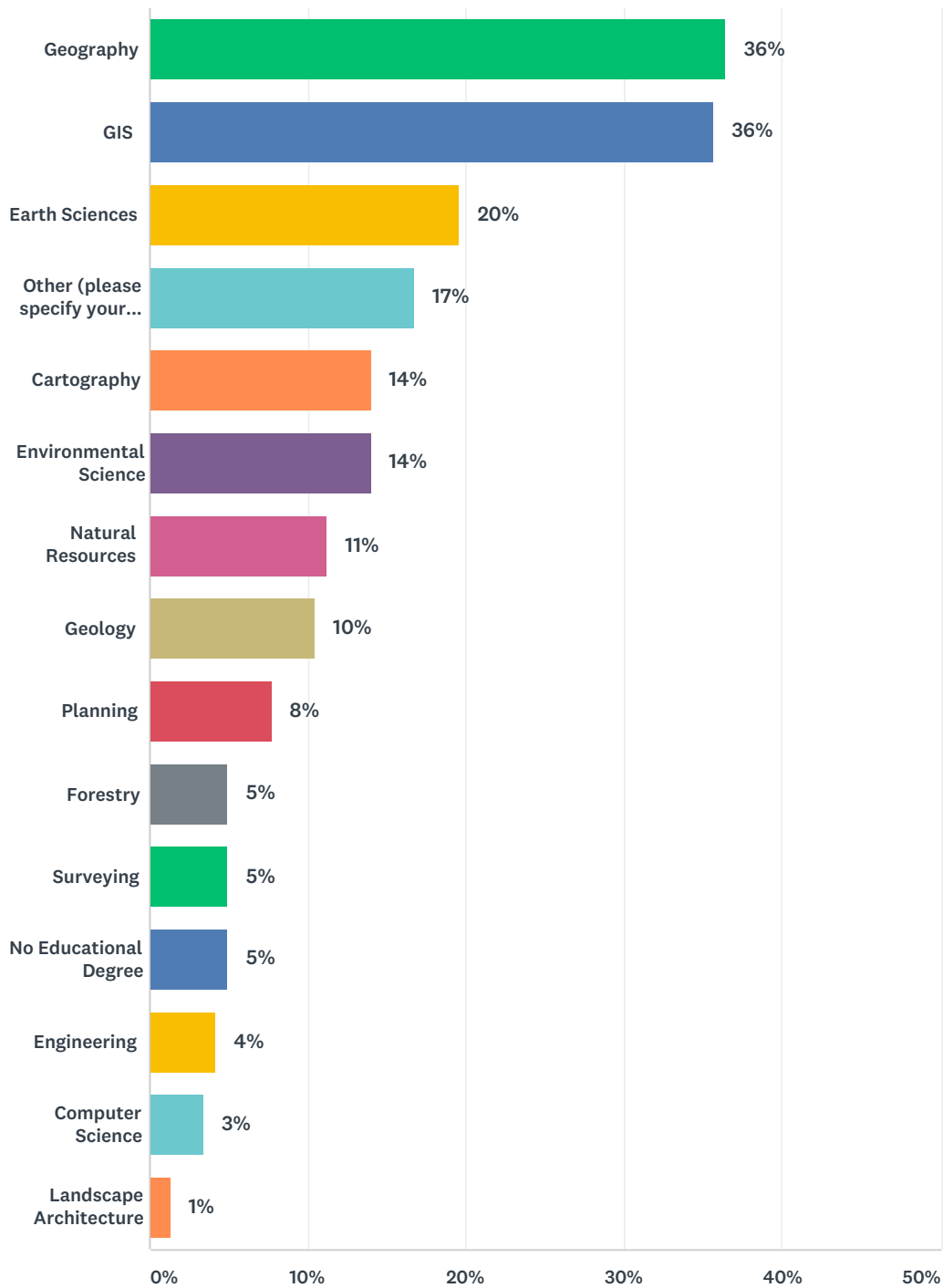
Answered: 143 Skipped: 5



ANSWER CHOICES	RESPONSES	
No	57%	82
Yes as part of an Associate's degree	2%	3
Yes as part of a Bachelor's degree	20%	29
Yes as part of a Master's degree or PhD	20%	29
<b>TOTAL</b>		<b>143</b>

### Q15 In what discipline did you receive your educational degree? (check all that apply)

Answered: 143 Skipped: 5



## Q15 In what discipline did you receive your educational degree? (check all that apply)

Answered: 143 Skipped: 5

ANSWER CHOICES	RESPONSES	
Geography	36%	52
GIS	36%	51
Earth Sciences	20%	28
Other (please specify your degree field)	17%	24
Cartography	14%	20
Environmental Science	14%	20
Natural Resources	11%	16
Geology	10%	15
Planning	8%	11
Forestry	5%	7
Surveying	5%	7
No Educational Degree	5%	7
Engineering	4%	6
Computer Science	3%	5
Landscape Architecture	1%	2
Total Respondents: 143		



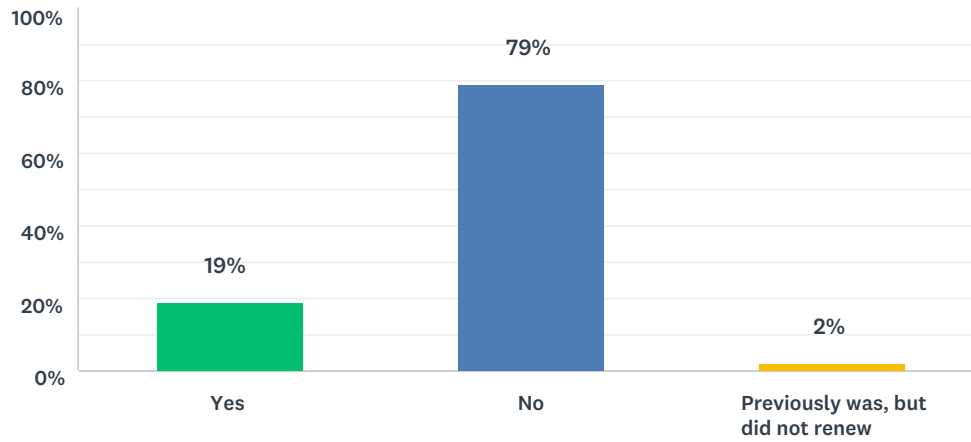
## Q15 In what discipline did you receive your educational degree? (check all that apply)

Answered: 143 Skipped: 5

#	OTHER (PLEASE SPECIFY YOUR DEGREE FIELD)	DATE
1	BS Decree Agronomist; Hydrology	2/24/2018 8:22 AM
2	Mining	2/23/2018 4:11 PM
3	zoology	2/23/2018 3:53 PM
4	Archaeology	2/13/2018 2:52 PM
5	Graduated 2001	2/9/2018 9:08 AM
6	Mass Communication	2/1/2018 10:27 AM
7	Integrated Science and Technology	1/31/2018 12:50 PM
8	Business with Information Systems Option	1/24/2018 9:44 AM
9	Biology	1/23/2018 4:35 PM
10	animal science	1/23/2018 10:35 AM
11	Public Administration/Policy	1/22/2018 11:50 AM
12	Secondary Education	1/18/2018 8:48 AM
13	Anthropology	1/18/2018 8:00 AM
14	Anthropology	1/18/2018 6:03 AM
15	Christian Ministry Degree	1/17/2018 3:58 PM
16	Anthropology	1/17/2018 3:02 PM
17	Technology Education	1/17/2018 1:40 PM
18	BS Mathematics	1/17/2018 11:47 AM
19	Education	1/17/2018 11:12 AM
20	Cadd	1/17/2018 10:14 AM
21	Accounting - AAS	1/17/2018 10:13 AM
22	Emergency Management	1/17/2018 9:49 AM
23	Biology	1/17/2018 9:45 AM
24	Biological Science	1/17/2018 9:44 AM

### Q16 Are you currently a certified GIS Professional (GISP)?

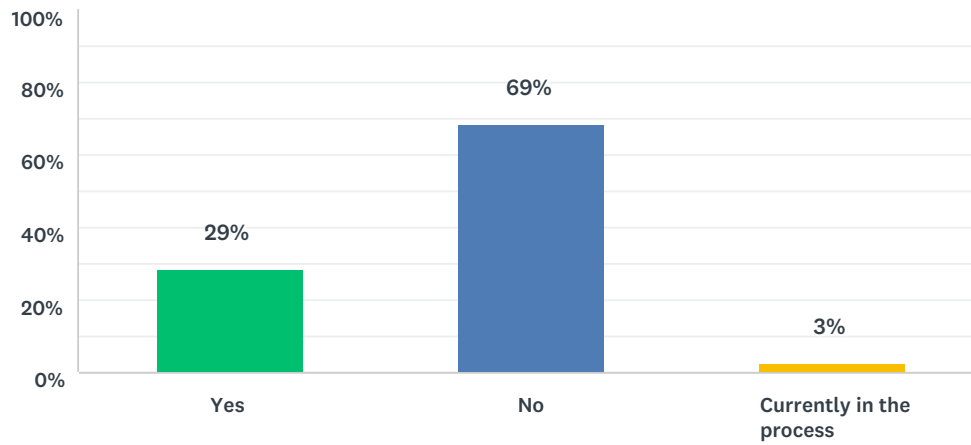
Answered: 143 Skipped: 5



ANSWER CHOICES	RESPONSES	
Yes	19%	27
No	79%	113
Previously was, but did not renew	2%	3
<b>TOTAL</b>		<b>143</b>

### Q17 If you selected "no" for question #16, do you plan on applying in the next three years?

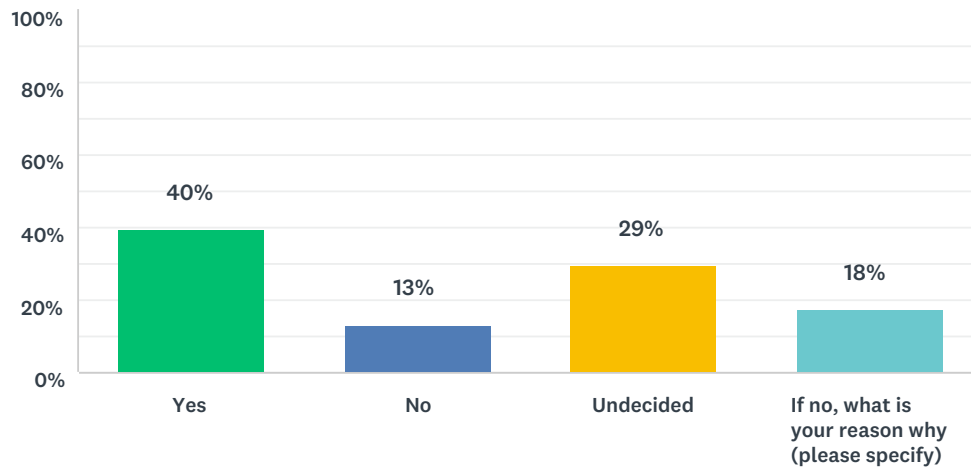
Answered: 112 Skipped: 36



ANSWER CHOICES	RESPONSES	
Yes	29%	32
No	69%	77
Currently in the process	3%	3
<b>TOTAL</b>		<b>112</b>

### Q18 If you selected "yes" for question #16, do you plan to renew your GISP when it expires?

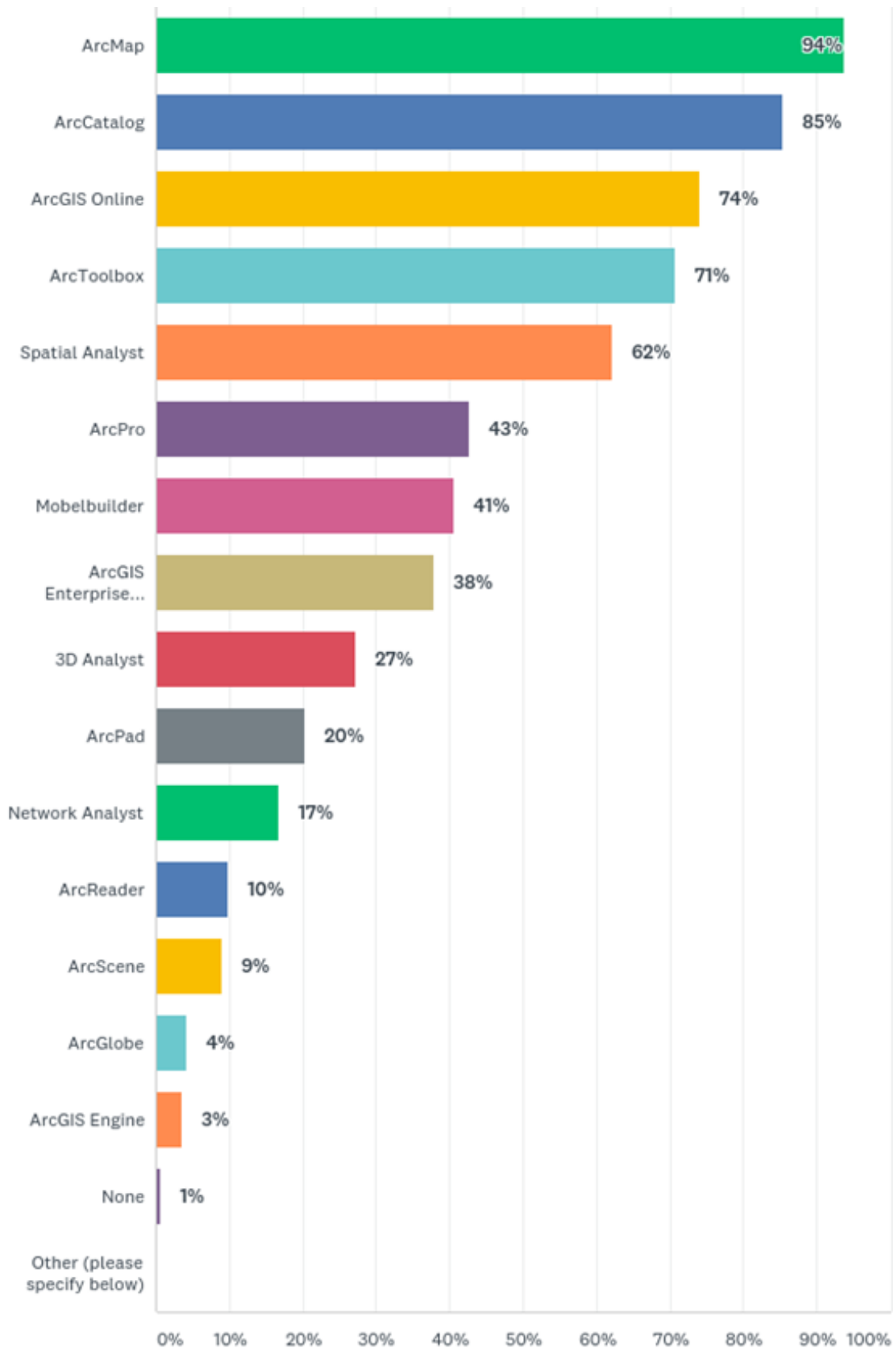
Answered: 68 Skipped: 80



ANSWER CHOICES	RESPONSES	
Yes	40%	27
No	13%	9
Undecided	29%	20
If no, what is your reason why (please specify)	18%	12
<b>TOTAL</b>		<b>68</b>

### Q19 What areas of interest does your job relate to? (check all that apply)

Answered: 143 Skipped: 5



# Q19 What areas of interest does your job relate to? (check all that apply)

Answered: 143 Skipped: 5

ANSWER CHOICES	RESPONSES	
Land Records	52%	74
Natural Resources	50%	72
Utilities	36%	52
Transportation	36%	51
Geography	34%	49
Conservation	31%	45
Engineering	29%	41
Public Safety	28%	40
Surveying	25%	36
Real Estate	23%	33
Addressing	21%	30
Agriculture	20%	28
Economic Development	18%	26
Biology	16%	23
Oil and Gas	16%	23
Geology	12%	17
Academic Research	10%	15
Education	10%	15
Climatology	9%	13
Health and Human Services	9%	13
Other (please specify below)	3%	4
None	0%	0
Total Respondents: 143		

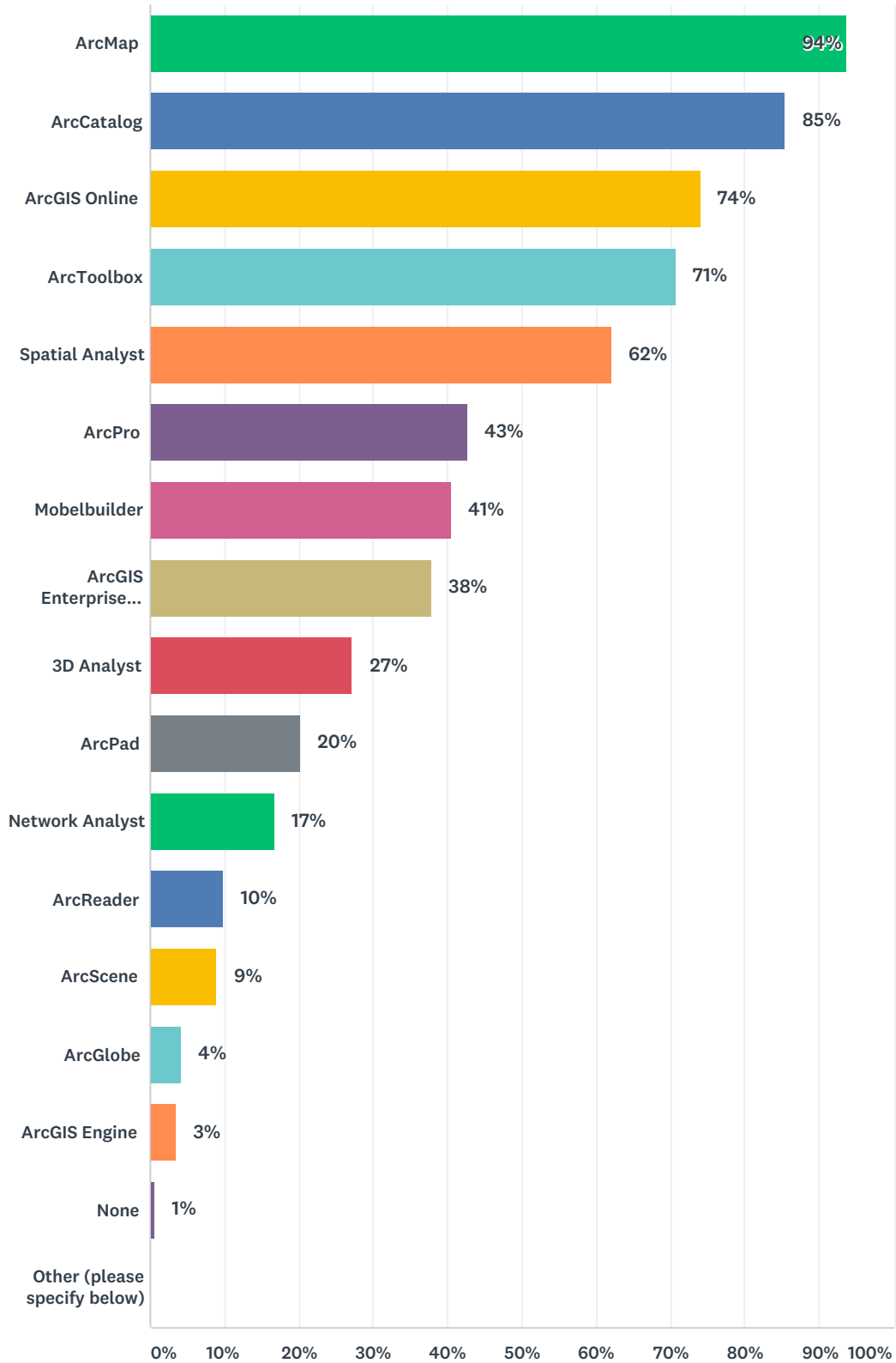
## Q19 What areas of interest does your job relate to? (check all that apply)

Answered: 143 Skipped: 5

#	OTHERS (PLEASE LIST)
1	Wildlife Habitat, Fisheries, Watershed function, timber/silviculture, other environment stuff
2	1937 to present aerial photo interpretation
3	Law
4	weed management
5	Cartography
6	Governance
7	Facilities Management
8	Public Policy
9	government
10	Indigenous Traditional Knowledge
11	Hunting
12	Recreation
13	Outdoor recreation
14	History and Culture
15	Water
16	Land Use Planning
17	Recreation

## Q20 What ESRI software does your job use?

Answered: 143 Skipped: 5





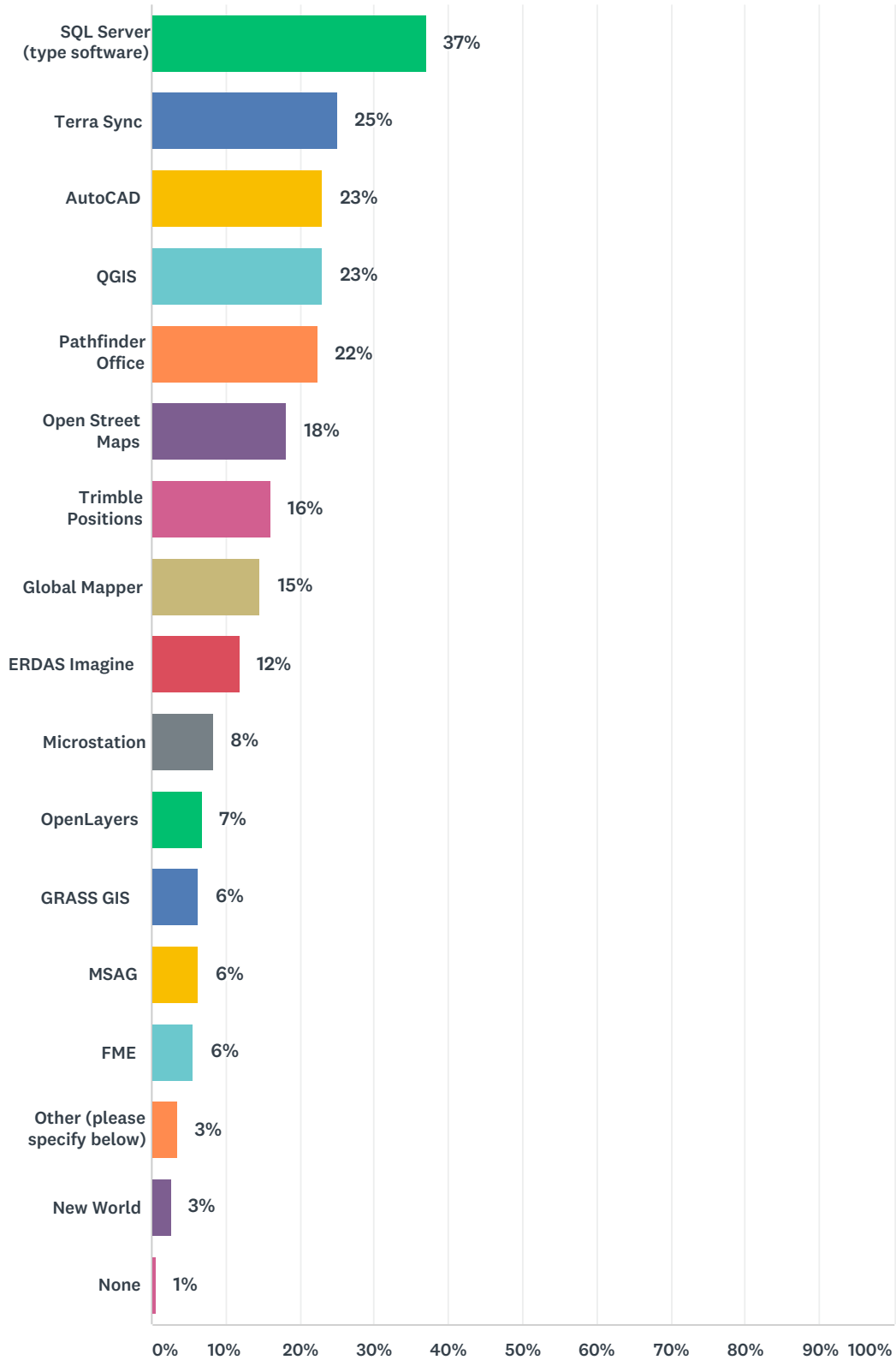
## Q20 What ESRI software does your job use?

ANSWER CHOICES	RESPONSES	
ArcMap	94%	134
ArcCatalog	85%	122
ArcGIS Online	74%	106
ArcToolbox	71%	101
Spatial Analyst	62%	89
ArcPro	43%	61
Mobelbuilder	41%	58
ArcGIS Enterprise (formerly known as ArcServer)	38%	54
3D Analyst	27%	39
ArcPad	20%	29
Network Analyst	17%	24
ArcReader	10%	14
ArcScene	9%	13
ArcGlobe	4%	6
ArcGIS Engine	3%	5
None	1%	1
Other (please specify below)	0%	0
Total Respondents: 143		

#	OTHERS (PLEASE LIST)
1	Collector
2	None- My job does not use ArcGIS. I had to choose one to continue the survey.
3	ArcGIS Desktop/ArcGIS Pro
4	Collector for ArcGIS
5	none currently, s little expensive for the unemployed
6	python
7	Collector
8	ArcGIS Collector
9	I avoid ESRI at all costs
10	ESRI Collector
11	Drone2Map
12	Portal for ArcGIS

## Q21 What other software does your job use?

Answered: 143 Skipped: 5



## Q21 What other software does your job use?

ANSWER CHOICES	RESPONSES	
SQL Server (type software)	37%	53
Terra Sync	25%	36
AutoCAD	23%	33
QGIS	23%	33
Pathfinder Office	22%	32
Open Street Maps	18%	26
Trimble Positions	16%	23
Global Mapper	15%	21
ERDAS Imagine	12%	17
Microstation	8%	12
OpenLayers	7%	10
GRASS GIS	6%	9
MSAG	6%	9
FME	6%	8
Other (please specify below)	3%	5
New World	3%	4
None	1%	1
Total Respondents: 143		

## Q21 What other software does your job use?

### OTHERS (PLEASE LIST)

Google Earth Pro, Avenza Pro, DNRGPS, several agency- or user- developed ArcGIS addons Trimble eCognition, R, Google Earth Engine, ESRI Collector, ESRI Survey 123, Python Collector, GNet

QGIS, SAGA, OpenJump, PostGIS/Postgres, python

eCognition, ENVI

General CAD

Drone Deploy

WindMil

Intergraph G-Technology, Intergraph GTViewer

We are looking to do more data collection since new staff has been hired on so additional software will be in use soon. I use Open Street Maps occasionally.

I don't really use Open Street Maps. The form wouldn't let me leave all options unchecked. Others I do use: Google Earth Pro, DNR GPS, Microsoft Excel

excel, Microsoft Office

None, wouldn't let me proceed without selecting something.

Adobe Illustrator

Question 21 wouldn't let me select "none" so I selected "trimble positions" (but I do not use that software)

Pix4D, Agisoft PhotoScan

n/a

NISC IVUE, MilSoft Windmil

Cityworks

none of these

EQUS

Python

ENVI

R, Google Earth Engine

eCognition, soft tree, civil 3d, Pix4D, Agisoft

Cloud Compare

Oracle, MS Access, SQL Developer

Google Earth

Various Garmin Software

Leica LGO 8.4

Adobe Illustrator and Photoshop

none

GDAL, geopandas, pysal, Matplotlib Basemap, python

Microsoft Office Suite, SQLite/SpatialLite, Python

DNR GPS

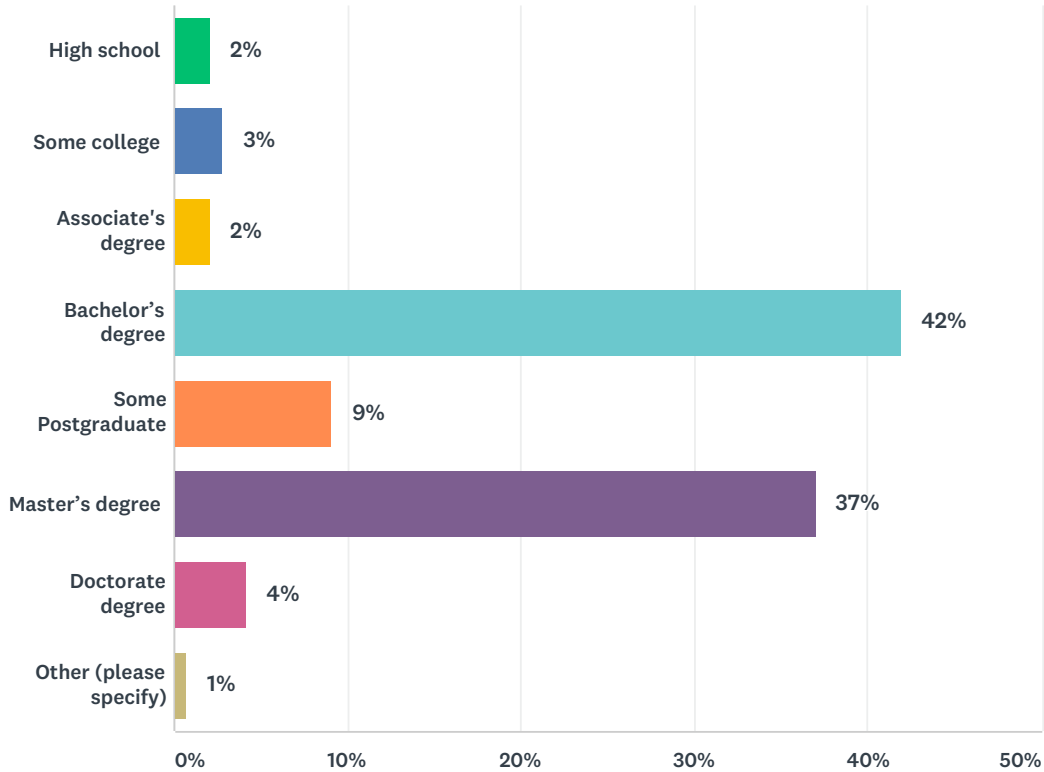
Python for scripting

Work Order Management

Google Maps/Earth

## Q22 What is the highest level of education you earned?

Answered: 143 Skipped: 5

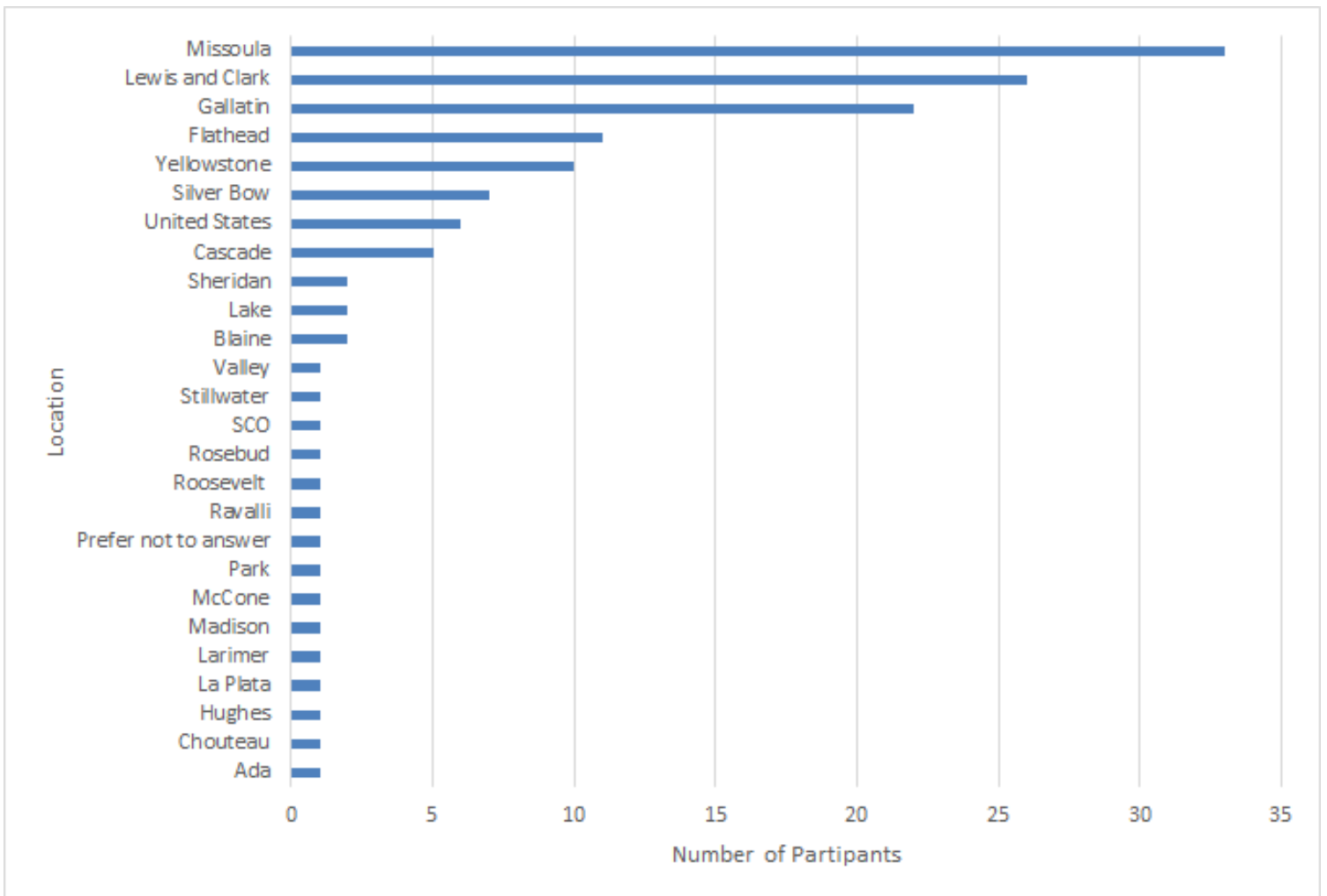


ANSWER CHOICES	RESPONSES
High school	2% 3
Some college	3% 4
Associate's degree	2% 3
Bachelor's degree	42% 60
Some Postgraduate	9% 13
Master's degree	37% 53
Doctorate degree	4% 6
Other (please specify)	1% 1
<b>TOTAL</b>	<b>143</b>

#	OTHER (PLEASE SPECIFY)	DATE
1	Agronomist/hydrology	2/24/2018 8:22 AM

### Q23 What county is your office located in?

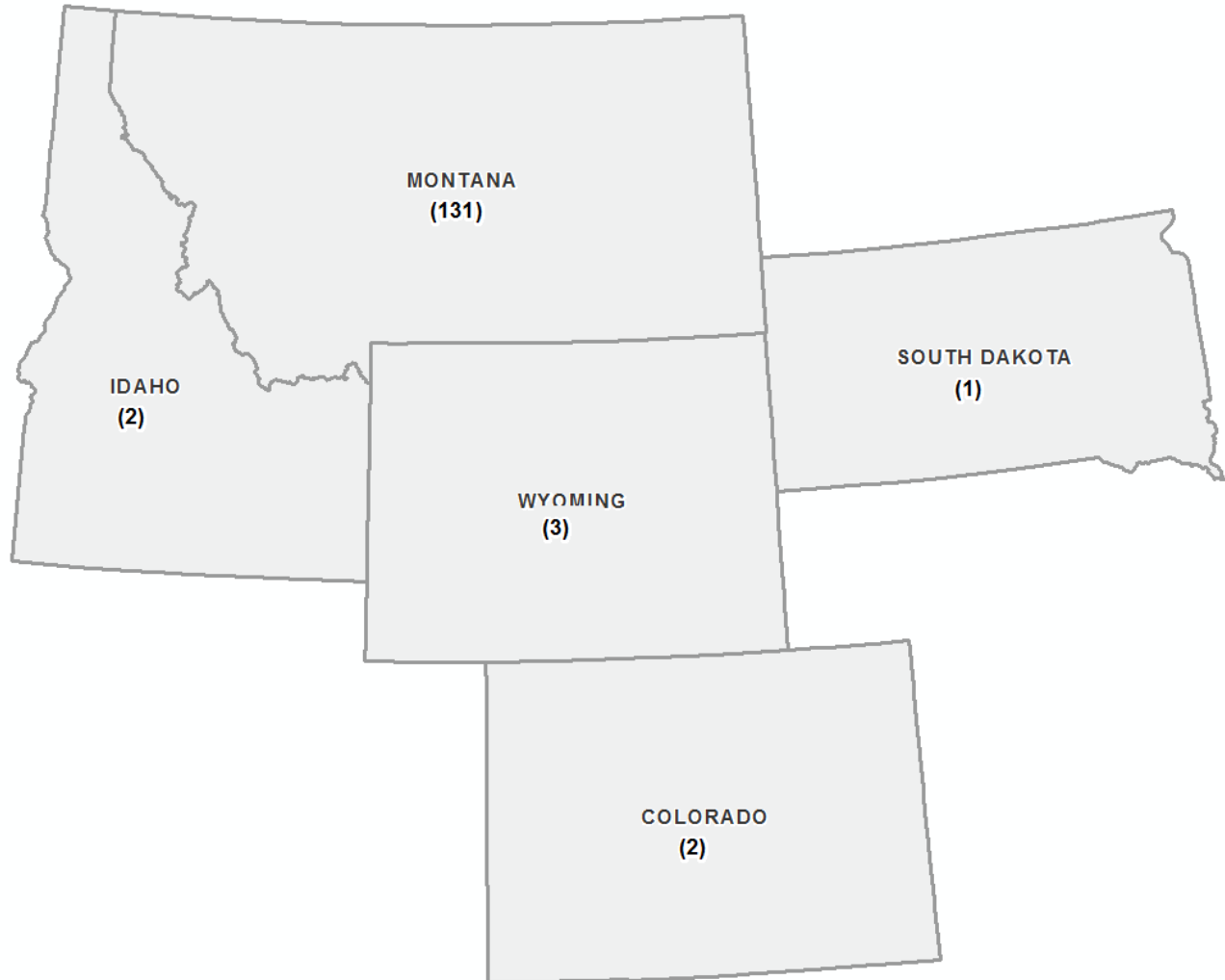
Answered: 140 Skipped: 8



What county is your office located in?	Number of Participants	What county is your office located in?	Number of Participants
Ada	1	Stillwater	1
Chouteau	1	Valley	1
Hughes	1	Blaine	2
La Plata	1	Lake	2
Larimer	1	Sheridan	2
Madison	1	Cascade	5
McCone	1	United States	6
Park	1	Silver Bow	7
Prefer not to answer	1	Yellowstone	10
Ravalli	1	Flathead	11
Roosevelt	1	Gallatin	22
Rosebud	1	Lewis and Clark	26
SCO	1	Missoula	33

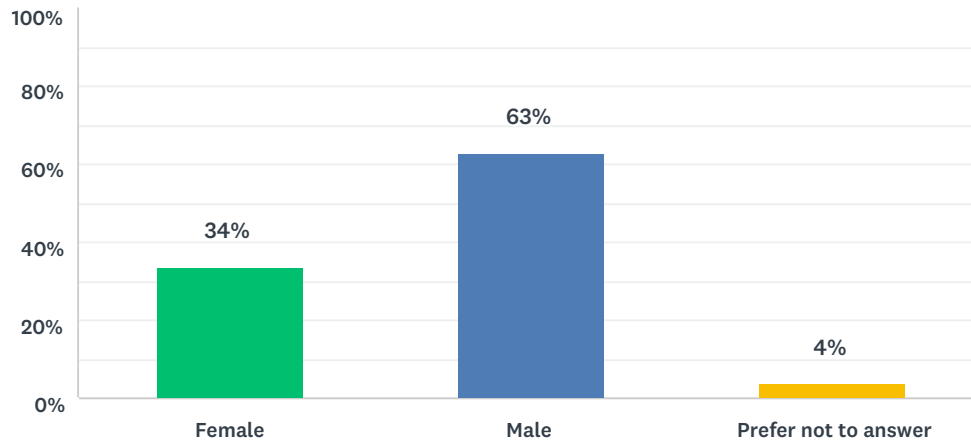
## Q24 What state is your office located in?

Answered: 139 Skipped: 9



## Q25 What is your gender?

Answered: 140 Skipped: 8

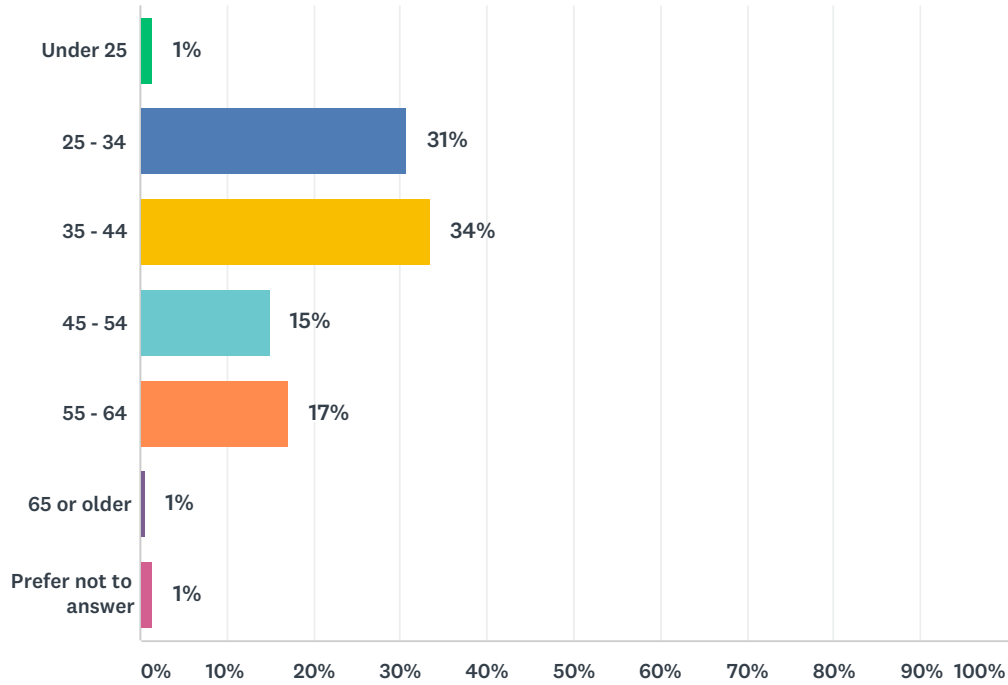


ANSWER CHOICES	RESPONSES	
Female	34%	47
Male	63%	88
Prefer not to answer	4%	5
<b>TOTAL</b>		<b>140</b>



## Q26 What is your age?

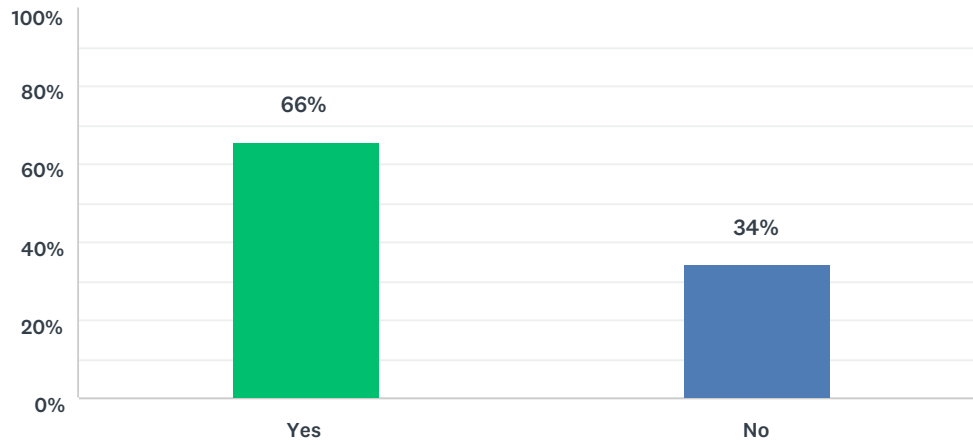
Answered: 140 Skipped: 8



ANSWER CHOICES	RESPONSES
Under 25	1% 2
25 - 34	31% 43
35 - 44	34% 47
45 - 54	15% 21
55 - 64	17% 24
65 or older	1% 1
Prefer not to answer	1% 2
<b>TOTAL</b>	<b>140</b>

## Q27 Are you a current member of MAGIP?

Answered: 140 Skipped: 8



ANSWER CHOICES	RESPONSES	
Yes	66%	92
No	34%	48
<b>TOTAL</b>		<b>140</b>

(If yes, please specify how many years)

