

GEOSPATIAL FACT SHEET:

Geospatial Careers FAQ



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December 2019

WHAT TO KNOW ABOUT GEOSPATIAL CAREERS. As a student or a young professional just starting out within Geospatial Science, you may be confused and overwhelmed by the sheer size of the field and have no idea what you should learn or what path you should take. This FAQ answers some of those questions.

Students

These are questions for those of you who are current students, prospective students, etc.

- **Should I get a master's degree or a certificate?**

Both a master's degree and a certificate have their benefits. A certificate can provide a foundation within geospatial science and, in some cases, can cost less. In addition, classes can often carry over from a certificate to a master's program. A master's degree, on the other hand, provides opportunities to develop a more comprehensive set of skills and knowledge within a specific field and offers more interactions with professors who may be good contacts within the wider field of Geospatial Science.

- **Should I do a thesis?**

In some cases, a department may require a thesis, while in others, only a comprehensive exam or some other form of capstone project may be required. The key advantage to completing a thesis is the opportunity to support academic and professional qualifications by formally presenting research findings. Knowing if you want to do a thesis should be a factor in deciding which school you attend.

- **Why should I attend a professional conference?**

Professional conferences, like professional networks, are beneficial networking and learning opportunities. Conferences often offer student scholarships and volunteer opportunities to attend the conference for free or at a reduced cost.



URISA Vanguard Cabinet
An advisory board of young GIS professionals

- URISA VC: <https://www.urisa.org/vanguardcabinet>
- Mentoring: <https://vanguard-mentor-program-urisa.hub.arcgis.com/>

- **Should I learn both open source and commercial GIS applications?**

FOSS4G, or Free Open Source for Geospatial, offers geospatial software in a variety of areas from databases, like Postgres/PostGIS, to Esri-equivalent software called QGIS. Learning Open Source and commercial products, such as those offered by Esri for conducting GIS analysis, is beneficial for job opportunities and ensuring that your skill set is wide-ranging and that you have a broad set of tools in order to do the job.

- **Why should I learn how to code?**

Learning to code is a useful skill within GIS and Geospatial Science. Being able to automate a process that is done repeatedly throughout a geospatial analytical workflow can be done with tools such as Python, while interactive web maps can be created with tools such as JavaScript, HTML, and CSS.

- **What careers exist within Geospatial Science?**

There are lots of career paths within GIS!

GIS Data Manager: A manager of data that may consist of both GIS and non-GIS data. Duties may include conducting quality assurance on GIS data of an organization.

GIS Analyst: Often thought of as a mid-tier level position, this position focuses on conducting spatial analysis and writing reports based on that analysis.

Geo Developer: A developer skilled in various programming languages with a focus on spatial science. Often creates interactive web maps and applications for the collection of geospatial data.

GIS Technician: Often thought of as an entry level position, a GIS technician makes maps and manipulates data for a variety of projects based on employer needs. In addition, they may be tasked with managing data entered into a GIS database.

Young Professionals

- **Should I obtain my GISP? What are the benefits? What about other certifications?**

The GISP certification is the premier certification for GIS Professionals. Offered by the GISCI (GIS Certification Institute), this certification helps employers know what skills a GIS professional has. Being a member of URISA will provide opportunities to take workshops on preparing for the GISP. Other vendor-specific certifications also exist, such as the Esri certification exams, which cover a variety of areas, such as Desktop, for their desktop software; Developer, for developing web maps and applications using ArcGIS software; and Enterprise, for working with Esri enterprise tools.



- **I am out of school, so how do I gain new skills?**

Gaining new skills can be difficult once you are out of school. However, there are lots of opportunities for learning new skills in a variety of different areas. Your employer may offer an assortment of trainings throughout the year or may be willing to pay for classes that you find of interest. In addition, there are local meetups, such as Maptime, that often host workshops about varied topics. Visit Meetup.com in your local area to find different groups that are hosting workshops related to Geospatial Science.

- **Should I present at a professional conference?**

Presenting at a professional conference is a great way to share your knowledge, as well as to establish recognition of your expertise in your area. Presenting on your current work is both beneficial to you and your employer and can help you network within your field.

- **Should I get a Mentor? How do I find one? Does URISA have a mentoring program?**

A mentor is a useful resource for gaining a broader understanding of your field. They can help steer you toward resources and provide insight into the skills you may need to acquire, should you choose to continue in this field. The URISA Mentor Program can be helpful in connecting you to a mentor. You can sign up for a mentor here: <https://vanguard-mentor-program-urisa.hub.arcgis.com/>.

Where can I find more information?

URISA Membership: <https://www.urisa.org/membership>

GIS Degree & Certificate Programs: <https://www.urisa.org/careers/colleges-and-universities/>

GISP Certification Institute: <https://www.gisci.org/>

Esri Technical Certification Program: <https://www.esri.com/training/certification/>

FOSS4G: <https://foss4g.org/>



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 more information, visit www.urisa.org.