GIS professionals use Geographic Information Systems to visualize, analyze, and model systems to help in the planning and decision-making processes of their organizations. They make geographic information accessible to scientists, planners, decision makers, and the public.

**Trends**

Employment of GIS professionals is projected to grow slowly through 2022, and there is a lot of competition for positions. However, employment opportunities for geographers as a whole are expected to grow much faster than average by 2022.

**Education & Training**

The most common training is through special certificate programs at colleges and universities. Many colleges and universities also offer degree programs, such as Bachelors degrees in Geography and GIS, or it is possible to gain knowledge of GIS as part of the curriculum in other specialties, such as Environmental Science, Chemistry or Geology.

**Tips for Breaking In**

- Develop a broad range of technical skills (C#, Java, Excel)
- Develop strong communications skills (both verbal and written) and teamwork skills
- Maintain good grades
- Develop proficiency in ESRI’s ArcGIS platform
- Gain experience with designing and maintaining geodatabases
- Complete an internship GIS or a related field
- Consider taking business, economics, or real estate courses to work in the private industry

**Licenses & Certifications**

The GISCI (GIS Certification Institute) offers a certification for GIS professionals who have at least 48 months of experience. A GISP is a certified geographic information systems (GIS) Professional who has met the minimum standards for ethical conduct and professional practice as established by the GIS Certification Institute (GISCI).

Additionally, certifications for some platforms and software systems exist, such as the Esri Technical Certification.

**Earnings**

The median salary (2014) for professionals in GIS and related fields was

- Geospatial Information Scientists and Technologists: $83,410
- Geographic Information Systems Technicians: $83,410
- Remote Sensing Scientists and Technologists: $94,030
- Cartographers and Photogrammetrists: $60,930

**Types of Employers**

- Undersea communications technology
- Government (all levels)
- Geospatial software development firms
- Universities
- GIS consulting firms

**Example Employers**

- Tyco Telecommunications
- URS Corporation
- Enterprise Information Solutions
- The Schneider Corporation
- MDA Federal Inc.
- Lima & Associates
- ESRI
- Marshall
- Tetra Tech, Inc.

**Desirable Qualities, Interests, and Skills**

- Detail oriented; can document technical information
- Ability to analyze data and draw conclusions
- Work well in a team environment
- Good verbal and written communication skills
- Good technical skills and good understanding of web-based development

**Websites**

- What is GIS? | [www.esri.com/what-is-gis](http://www.esri.com/what-is-gis)
- GIS Certification Institute | [www.gisci.org](http://www.gisci.org)
- Association of American Geographers | [aag.org](http://aag.org)
- Learn ArcGIS | [learn.arcgis.com](http://learn.arcgis.com)
- North American Cartographic Information Society | [nacis.org](http://nacis.org)
- GIS Jobs Clearinghouse | [www.gjc.org](http://www.gjc.org)
- Geography Jobs | [www.geographyjobs.com](http://www.geographyjobs.com)
- GIS Jobs | [www.gisjobs.com](http://www.gisjobs.com)

**Sample Job Titles**

<table>
<thead>
<tr>
<th>GIS Analyst</th>
<th>Data Collector</th>
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<tbody>
<tr>
<td>Geocoding Product Engineer</td>
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<tr>
<td>Systems Design Analyst</td>
<td>Geospatial Technician</td>
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<tr>
<td>Cartography Technician</td>
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<tr>
<td>Geospatial Analyst</td>
<td>GIS Applications Developer</td>
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<tr>
<td>Engineering Field Technician</td>
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<tr>
<td>GIS Technician</td>
<td>GIS Supervisor</td>
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<tr>
<td>Technical Advisor</td>
<td>Research Associate–GIS</td>
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<tr>
<td>Data Technician</td>
<td>Assistant/Associate Planner</td>
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</tbody>
</table>

Job market, salary, and other information on the How to Get a Job In... series is from O*Net Online and the Bureau of Labor Statistics’s Occupational Outlook Handbook.