

Cartographer



Alternate title Land Information Officer; Mapping Scientist

Description Cartographers design, prepare and revise maps, charts, plans, three-dimensional models and spatial information databases, often using computer-based techniques, and applying principles from science, mathematics and graphic design. Cartographers apply these elements to represent, analyse and manage essential spatial information that service the mining, mineral exploration, mapping, marketing, web publishing, regional planning and environmental management industries.

Spatial information refers to information about the geographical relationship between places, people and other items within a particular area.

Cartographers may have to travel to collect information and are often required to liaise with clients, government officials and industry.

Typical duties

- produce paper maps and web-delivered electronic maps using desktop publishing, computer graphics and multimedia software;
- take part in the design and management of geographical information systems (GIS);
- design and produce interactive mapping products for use on computer systems and the web;
- supervise and coordinate the work of cartographic technicians and other team members;
- produce digital topographic and thematic data for use in geographical databases;
- analyse and interpret information from a range of sources (including surveyors' notes, aerial photographs, remote sensing satellite imagery and existing maps and records) and prepare reports;
- advise other professionals on the data requirements for map production and on the artistic, technical and economic aspects of map making.

Personal requirements

- interest in design and computer graphics;
- Interest in geography;
- ability to work neatly and accurately, paying attention to detail;
- good at mathematics and science;
- able to work as part of a team.

Entry pathway To become a cartographer you will need to complete a diploma or advanced diploma in mapping science or a relevant degree. Students who do not meet the tertiary entrance requirements for university can first undertake a TAFE diploma, then apply to university.



An Australian Government Initiative



- Qualification** The names of qualifications vary from institution to institution. Some examples are:
- Diploma and Advanced Diploma in Spatial Information Services
 - Bachelor of Science, majoring in spatial science
 - Bachelor of Applied Science
 - Bachelor of Science or Bachelor of Arts, majoring in geographical information science or geography
 - Bachelor of Geographic Information Technology

Job prospects Cartographers work in many fields. Employment opportunities exist with tourist guide and street directory publishers, demographic marketing consultants, mining exploration companies, road mapping bodies, conservation authorities, emergency services, state or territory and federal topographical and geological mapping authorities, local councils, hydrographic charting offices, planning authorities, university departments and scientific research organisations.

Some cartographers are self-employed, or employed by private companies, performing contract work for the above organisations.

The vacancy level for Cartographers is average. Vacancies arising from job changing (Cartographers changing employers) are expected to provide 20 per cent of vacancies, compared with 77 per cent from job openings (Cartographers leaving the occupation) and 3 per cent from new jobs.

Specialisation Cartographers may specialise in topographical maps (which show earth surface features and land use); or maps used for operational purposes in fields such as town planning, weather forecasting, tourism, hydrography, geological or mineral exploration and the military. Cartographers may also take part in the development of geographical information systems, including the processing, storage, presentation and analysis of data within those systems.

Related Jobs

Surveyor	Geomatic Engineer
Cartographic Technician	Map Maker
Geographer	Environment/Resource Manager

- Further information**
- Spatial Sciences Institute (Head Office) [www.spatialsciences.org.au/]
 - Geoscience Australia [ga.gov.au]
 - Australian Spatial Information Business Association [www.asiba.com.au/]
 - Mapping Sciences Institute, Australia [www.mappingsciences.org.au/]