

# Pathways to Geospatial Careers

A guide to careers in space, surveying, and spatial science





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A collaboration between Study Work Grow and She Maps.

The programs in this guide may be subject to change at any time. In our experience, programs may change at short notice, and you should always check directly with the provider before applying. We have verified the information in this guide, but in some cases the information may differ from that provided on third party websites or printed material.

## Technology, science, and geography

Geospatial science is a multidisciplinary field. Essentially it's all about the study of data collected about the Earth's surface.

Professionals in this industry use a variety of tools such as GIS (Geographical Information Systems), remote sensing, surveying, and cartography to gather, analyse, and interpret spatial data.

People working in the geospatial industry are usually gathering data to work out where resources and geographical features are, and identifying all kinds of detailed information about the Earth's surface.

### It's an important field

Without geospatial scientists and technicians we wouldn't be able to get around as easily, know how to protect our homes against natural disasters, or understand which habitats are becoming endangered and how to conserve them.

Cutting-edge technology, including AI, drones, and robotics, is used to gather and analyse data, then the results are used by all kinds of professionals, from urban planners and mining engineers to policymakers and software developers, to better protect our planet.

If you are a problem solver who loves challenging projects with a passion for maths, geography, STEM, visual art and design, and technology, then working in this industry could provide you with a rewarding career.

### Where could geospatial science take you?

The sky literally is the limit in this industry – you could be working in the most remote corners of the planet, mapping Antarctic ice or the depths of the ocean, or you could find yourself working in the space industry exploring the Earth from outside the atmosphere.

Most people working in this field are based in cities around the world, though they may need to travel to complete projects and undertake field research too.

We've broken the geospatial industry down into six key areas for the sake of this guide, but you could also explore specific or niche areas such as AI and remote sensing if you know where your interests align:

- Urban Planning and Development
- Emergency and Disaster Management
- Space
- Environmental Assessment
- Spatial Analysis
- Resource Management

## Common terms and abbreviations

The Geospatial field has some specific words and terms that are unique but worth learning:

**Geodesy** - the accurate measuring and representing of the Earth's shape, gravity field, and rotation

**Topography** - the description and measurements of physical characteristics of the Earth's surface

**Remote sensing** - monitoring and collection of information about the Earth's surface from a distance, eg. drones, aircraft, and satellites

**GIS** - geographic information systems (GIS) store, analyse, interpret and present data in visual formats

**Global Positioning System (GPS)** - a network of satellite-based navigation systems providing accurate positioning and timing information to pinpoint locations anywhere on Earth

**Internet mapping technologies** - e.g. Google Earth, GeoNadir, or MapQuest - programs that allow sharing and use of geospatial information

**Cartography** - the art and science of creating maps, including drafting, design, and visualisation techniques to accurately represent geographical features.

**Spatial Analysis** - any technique that uses spatial data to learn about, model, predict, or visually represent spatial data

## Key areas of Geospatial Science



### URBAN PLANNING AND DEVELOPMENT

Geospatial science helps urban planners to develop the towns and cities we live in, prepare for future developments, and make adjustments as the population in an area changes.



### EMERGENCY AND DISASTER MANAGEMENT

Geospatial data is crucial in helping officials to pinpoint hazards, evaluate the consequences of potential emergencies or disasters, and work out how to mitigate effects and best respond when events happen.



### SPACE

The space industry uses geospatial technology to study Earth from space, monitor our atmosphere, and manage our satellites. People working in this field will use geospatial science on Earth and in future space exploration and development.



### SPATIAL ANALYSIS

Spatial analysis is vital in urban planning, epidemiology, transportation, and more, as it allows us to explore geographic data to identify patterns, assess trends, and predict future impacts.



### ENVIRONMENTAL ASSESSMENT

Geospatial technology helps us monitor environmental changes, track biodiversity, determine the effects of urban, industrial, and agricultural development on the environment, and evaluate the impact of human activities on ecosystems.



### RESOURCE MANAGEMENT

Geospatial technology is pivotal for managing natural resources such as water, forests, minerals, and agricultural land. It helps in monitoring usage, predicting trends, and making informed decisions about resource allocation.

## Where geospatial professionals work

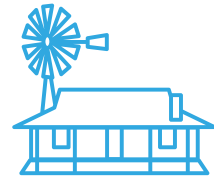
Before you delve any deeper into the world of geospatial science, let's start by looking at where geospatial professionals often work. This is important because if you become a geospatial professional, then you'll be working in these kinds of environments, and it needs to suit you and how you want to live your life.



Jobs available across Australia



Opportunities to work from home or online depending on the role



Opportunities in rural and remote areas

## GEOSPATIAL PROFESSIONALS ARE FOUND EVERYWHERE

You'll find them in the middle of the city through to remote communities at the far reaches of Australia. Geospatial professionals are needed all around the world, and your skills could make you a valuable employee wherever you go.

## TEAMWORK

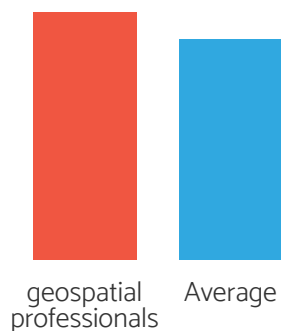
Most geospatial projects are large (even in a single discipline) and often too difficult for just one person to handle, so geospatial professionals usually work in teams with other geospatial scientists and technicians, as well as other industry professionals. Some geospatial professionals may work independently, which means they carry out smaller projects or collaborate with other people hired for specific projects.

## WORK ENVIRONMENT

The opportunity for working from home varies according to the field of geospatial science. For example, much of the work GIS Analysts do may be online, so they could work remotely; whereas Environmental Impact Assessors will have to do much of their work out on site.

## Work-life balance

Have you thought about what life will be like if/when you go into this field? Finding a balance between work and the rest of your life is important, so spend some time thinking about what your career as a geospatial professional could look like.



### Work Hours

Average - geospatial professionals work on average 45 hours per week



### Job Security

High - jobs in spatial science have strong growth and demand into the future



### Job Flexibility

Low - only around 13% of spatial scientists work in part-time or casual roles

Geospatial professionals work slightly above average hours a week at 45 hours. You probably won't often need to work on weekends or holidays, but if there's fieldwork or a project deadline looming you might be expected to work overtime.

A large majority of geospatial professionals work full-time, and part-time and casual positions are less common. You can expect to work typical business hours most of the time.

Many jobs in spatial science have predicted strong growth going forward into the future, so you can expect that there will always be jobs available.



## Key tasks

Because there are so many different geospatial science disciplines, the tasks you undertake will vary depending on the field you choose to work in.

Even within a specific area, the projects you work on may be incredibly varied, so the tasks you perform could often change.

Some common tasks you can expect include:

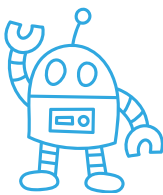
- conducting or coordinating research;
- creating, editing, or analysing geospatial data;
- systems design; or
- using software such as Geographic Information Systems (GIS) or Global Positioning Systems (GPS) mapping software.

Geospatial sciences roles are often project-based professions, meaning that you will probably be working on long, complex projects quite often.

Depending on the scope of a particular project, you might be working on it for a few days or weeks, or potentially years.

You might also be attending meetings and briefings, conducting field work, writing reports, or updating your knowledge about the latest tools and technology.

You will be dealing with people on a regular basis, including your clients, other workers and professionals, stakeholders, investors, and more.



### Automation Risk

Parts of these roles may become automated, freeing you up to do other tasks



### Project-based

You could be working on a single task or project for extended periods of time



### People Facing

You could be working alone, out in the field, or working in teams with other professionals



## Skills and attributes

Geospatial professionals require particular skill sets to help them solve complex problems, meet important deadlines, and work effectively in teams. You don't need to have all these attributes right now, but it would be good if you meet some of them and are willing to work towards the others.



### Communication

Liaising with colleagues and clients, as well as expressing ideas effectively, are things you'll need to do often



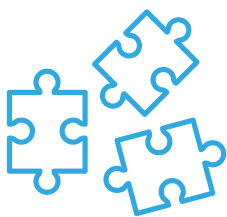
### Critical Thinking

You'll need to find ways to uncover, interpret, and explain information at different geographic scales



### Tech Skills

Use and understand a variety of technology essential to your daily tasks, and keep up to date with emerging trends



### Problem Solving

You'll need to be able to define problems and then explore solutions on a regular basis



### Data Collection

Data is critical for geospatial professionals, and you'll need to be able to collect, monitor, and analyse data



### Time Management

Expect to be responsible for managing your own schedule and completing tasks on time

## Which geospatial field is right for you?



## Explore some of the key areas

There are lots of jobs in the geospatial industry, and the knowledge and skills you'll learn by studying in this field can be used in many fields outside of what you may imagine.

In the future, as more new technologies emerge, it's likely that careers requiring professionals with the skills to use specialist equipment, design programs for them, then extract and analyse the data to create meaningful insights and data will increase.

### **AI, Remote Sensing, and Machine Learning**

The potential of emerging AI (Artificial Intelligence), remote sensing, and machine learning within the geospatial industries is immense and poised to revolutionise how we collect, analyse, and utilise spatial data.

These technologies are already driving significant advancements, and their impact on future careers in the geospatial sector is likely to be profound, so upskilling in these areas now could mean that you're at the forefront of new and innovative careers in the future.

You can expect to see new job roles and specialities within the geospatial industry relating to data analysis, algorithm development, and AI model training, for example.

There's likely to be growing demand for professionals who can harness these technologies to solve complex spatial challenges and provide innovative solutions to a wide range of problems across many industries, from urban planning to environmental conservation and beyond.

### **Explore the six key fields**

Having broken down the Geospatial Industry into six key areas, in the following pages we'll give you an overview of what each field is about and some examples of careers.

If any of the careers resonate with you, then take some time to find out about other jobs in the same or similar areas, have a look at the pathways that could get you there, and think about setting some career goals.

## Spatial Analysis

Imagine you have information about cities, roads, rivers, and other geographical features. Spatial analysis helps you understand how these pieces fit together and relate to one another.

For example, if you wanted to find the best location for a new park, spatial analysis could help you examine how close it is to existing neighbourhoods, what the traffic is like around it, and if there are beautiful natural features nearby.

It's a way of using technology to study maps and geography, discover patterns, and answer questions like "Where should we build something?" or "Why does a certain area have more traffic?". By examining different locations and the connections between them, spatial analysis helps planners, scientists, and even businesses make better decisions.

Spatial analysis could suit you if you love breaking codes, solving puzzles and finding patterns in data.



## Jobs in Spatial Analysis

### BLOCKCHAIN ARCHITECT

Geospatial Blockchain Architects merge blockchain technology with geospatial data to create secure and transparent systems for tracking assets, verifying transactions, or even managing land rights.

You could be innovating solutions to transform land registries, supply chain management, and disaster response by ensuring accurate, tamper-proof records and creating reliable and trusted geospatial data sources and reports.

### AUGMENTED REALITY (AR) DEVELOPER

As an AR Developer you'll use cutting edge technology to overlay digital information on real world graphics to create immersive and interactive experiences.

You'd be enhancing how we interact with and understand our surroundings and could be working on designing interactive maps, or virtual tours that revolutionise navigation, urban exploration, and education.

### GEOSPATIAL AI ENGINEER

In this career you could be responsible for joining geographic information systems (GIS) with intelligent technologies, such as AI, machine learning, or deep learning, to accurately predict the future for diverse applications contributing to advancements in autonomous vehicles, smart cities, or remote sensing technologies

You could be predicting human movement patterns, economic conditions, natural resource usage, pollution levels, or even natural disasters.

### GEOSPATIAL DATA ANALYST

Geospatial Data Analysts interpret and examine data related to geographical coordinates and map features. They use this data to produce insights into patterns, relationships, and spatial information. Their analyses provide valuable information that aids decision-making across multiple industries.

This means you could be working on projects ranging from environmental monitoring, urban planning, and disaster response to market research, transportation logistics, and public health assessments.

## Urban Planning and Development

Urban planners use tools and information to analyse how people live, work, and move around, then create plans to make sure everything fits together well.

They think about things like where to build new roads to reduce traffic, how to create pleasant spaces for people to relax, and where to put schools so they're convenient for families. For example, if a new neighbourhood is being built, planners will look at where the shops should be placed so they're easy to get to, or where to plant trees to make the area more appealing and provide shade.

Urban Planning and Development is all about creating spaces that work well for everyone. It ensures that cities are not just a random collection of buildings and roads, but are thoughtfully designed so that people can live, work, and play in a comfortable and efficient way. It combines creativity with practicality, like building a model city that comes to life.

Urban planning and development may suit you if you are a practical thinker who's great at problem solving, with an interest in geography, architecture, the built environment, and design.



## Jobs in Urban Planning and Development

### SURVEYOR

Surveyors measure and map the Earth and all its features, gathering information about land topography, boundaries, and structures. Their precise data forms the foundation for architects, engineers, and planners to decide how land can be used or developed.

This means you could be working on a diverse array of projects, from delineating property boundaries and advising on land rights, to aiding in infrastructure development, zoning, and transportation planning.

### URBAN DESIGNER

Urban Designers review urban spaces or plans then create and adapt the shape and form of infrastructure and developments that exist there or will be built in future.

You could be creating outlines for new buildings, parks, transport centres, neighbourhoods and waterways, or working on plans to improve the function and looks of already existing spaces.

### SMART CITY COORDINATOR

Smart City Coordinators work with geospatial technology to design and manage urban environments that utilise data and digital technology to enhance performance, well-being, and reduce costs and resource consumption across the city. Their insights help integrate multiple information and communication technology solutions in a secure fashion.

This means you could be working on projects ranging from traffic management, energy optimisation, and public safety to infrastructure monitoring, waste management, and environmental sustainability.

### GIS ANALYST

GIS Analysts create maps of areas then use modelling and predictive tools and data to create future land-use maps and reports.

You could be creating zoning maps, predicting growth patterns, providing reports about criminal activity, working on waste management projects, or helping to find solutions for utility and infrastructure challenges.



## Environmental Assessment

In Environmental Assessment, geospatial science helps us pinpoint exactly where different plants, animals, and ecosystems in places like forests, deserts or marine environments are located, and understand how any changes might impact them.

For example, if a new wind farm is planned, geospatial science can show us where the wind blows strongest, but also how the turbines might affect bird migration paths or nearby forests. By using maps and technology to study the geography of the area, we can plan the wind farm in a way that harnesses the wind but also takes care of nature.

Or if there's a plan to clean up a polluted river, geospatial science can help us understand where the pollution is coming from, how it's moving, and what areas need the most attention.

It's like having a detailed map that shows you not just where things are, but how they connect and interact.

This field might suit you if you are interested in environmental or social issues and policy making, but also love geography and science.



## Jobs in Environmental Assessment

### CLIMATE SCIENTIST

Climate Scientists study the Earth's climate system, examining historical weather patterns and predicting future climatic changes. They delve deep into the causes and effects of climate variations, using advanced tools and models.

You could analyse sea level rise, study glacial movements, and model future temperature scenarios, advise governments on climate policy, work with industries on sustainability practices, or collaborate with communities on resilience strategies.

### BIODIVERSITY ANALYST

Biodiversity Analysts study the variety of life forms within a particular region or ecosystem. Their insights play an important role in conservation efforts, policy-making, and enhancing our understanding of ecological interrelationships.

This means you could be working on projects ranging from mapping endangered species habitats, analysing the effects of urban development on local ecosystems, and tracking migration patterns, to advising on conservation strategies, collaborating with conservation organisations, or developing biodiversity management plans.

### ENVIRONMENTAL IMPACT ASSESSORS

Analyse the potential consequences of a project or decision on the natural environment. Their comprehensive reports provide a basis for decision-makers to ensure sustainable and environmentally responsible outcomes.

You could be working on diverse projects such as assessing the impact of new infrastructure being planned or evaluating the ecological footprint of an industry, and determining the best ways to prevent environmental harm in each scenario.

### CLIMATE CHANGE MODELLERS

Climate Change Modellers use advanced computational techniques and models to predict the future state of the Earth's climate.

Work like this offers invaluable insights for policy-makers, researchers, and industries to prepare and adapt to future climatic conditions. You might also collaborate with stakeholders to advise on mitigation and adaptation strategies, or work closely with research institutions to refine and enhance modelling accuracy.

## Emergency and Disaster Management

Emergency and Disaster Management is a complex field that centers on the preparation for, response to, and recovery from natural and human-made disasters. Geospatial science plays an integral role in this process, enhancing the efficiency and effectiveness of disaster management.

Let's say a big storm is coming. Geospatial science can help emergency teams know exactly where the storm is likely to hit hardest, and which roads and houses might be in danger. It can show them the best ways to get people to safety and where to send help like recovery teams, food, and medicine.

Post-disaster, geospatial science supports recovery and rebuilding efforts. By providing detailed insights into the extent of the damage, it can ensure support and resources get to where they are most needed.

You could also help us prepare to handle future disasters and build community resilience by using geospatial data to plan more effectively.

If you are adaptable, resilient, decisive, and great at problem solving with an interest in public service and helping people, as well as geography and technology, this could be an interesting field to pursue.





## Jobs in Emergency and Disaster Management

### EMERGENCY RESPONSE COORDINATORS

Emergency Response Coordinators oversee and manage the swift and effective deployment of resources and teams during crises or emergencies.

You'd utilise geospatial data to optimise response strategies, ensuring that help reaches affected areas promptly and safely.

### EMERGENCY GIS SPECIALIST

These specialists use GIS to collect, analyse, and model geospatial data during emergencies or disasters helping responders, government agencies, and relief organisations make informed decisions on how best to allocate resources, coordinate responses, and prioritise actions.

You could be creating real-time maps that show affected areas, infrastructure damage, evacuation routes, and resource distribution

### BUSHFIRE PREDICTION ANALYSTS

Bushfire Prediction Analysts employ advanced geospatial tools and models to anticipate and analyse the potential for bushfire outbreaks.

By studying environmental factors like vegetation dryness, wind patterns, and historical fire occurrences you'd help to predict fire behaviour and possible spread.

Your insights would be critical for early warning systems, emergency response planning, and community preparedness.

### SEARCH AND RESCUE DRONE OPERATORS

Locate and assist people in distress, often in challenging terrains or situations. You'll provide real-time aerial visuals, making the search process more efficient and reducing risks for ground teams.

This means you could be working on operations that range from mountain rescues, disaster-stricken areas, and flood monitoring, to collaborating with emergency services during evacuation efforts and providing essential data to aid the coordination of rescue missions.

## Natural Resource Management

Resource Management refers to how we take care of and use natural resources like water, forests, minerals, and agricultural lands. Geospatial science plays a vital role here.

Imagine having a huge garden with different types of plants, and you need to decide how much water, sunlight, or care each plant needs. Geospatial technology can act like a smart gardener, helping you see exactly what's going on. It lets us track how much of these resources we are using, where they are being used, and how we can use them better.

By using tools like satellite images and GIS, we can see trends, like if a forest is shrinking or if a river is drying up. This information helps governments and organisations make smart decisions about how to use these resources, so they last for future generations.

If you're passionate about conservation and the environment with an aptitude for science, and you're looking for a career that could be equal parts inside and outside work, this field could be great to explore further.



## Jobs in Natural Resource Management

### RENEWABLE ENERGY ANALYST

Renewable Energy Analysts use geospatial data to identify optimal locations for renewable energy installations, such as solar panels and wind turbines.

This means you could be capturing and analysing data and writing reports, mapping renewable energy sites, consulting with clients on projects, making recommendations or finding solutions to problems and contributing to the growth of clean energy technologies.

### BIODIVERSITY SPECIALIST

Biodiversity Specialists play a role in advanced identifying, protecting and restoring fragile ecosystems and endangered species.

In this role, you could be working in conservation agencies, research, or government agencies using mapping and spatial analysis techniques to identify biodiversity hotspots, designing databases to monitor species distributions, or analysing habitat connectivity.

### WATER RESOURCES PLANNER

These specialists are responsible for assessing water demand, based on population data, usage and storage, assessing water quality implications, and developing measures for drought management.

You could find yourself studying precipitation patterns, hydrological data, or land use, developing strategies for water distribution, conservation, and drought mitigation.

### MINERAL EXPLORATION ANALYST

Mineral Exploration Analysts identify and evaluate potential sites for mineral extraction. They interpret a mix of geophysical, geochemical, and geological information to predict the location of valuable mineral deposits beneath the Earth's surface.

This means you could be involved in projects ranging from surveying unexplored terrains, analysing subsurface data, and determining the viability of mining operations, to collaborating with geologists and engineers in the field.



## Space

With tools like satellite imagery, GPS, and remote sensing, scientists can study the Earth from space.

They can see things like weather patterns, the health of forests, or even how cities are growing. This information is vital for understanding our planet more and making better decisions that affect us all.

Managing satellite constellations is another important part of this work. Just like organising a team in a game, scientists use geospatial tools to make sure satellites are in the right place and working together.

This ensures that we have reliable communication, navigation, and observation systems.

The space sector also opens doors to exploration and discovery. Geospatial technology helps in mapping uncharted territories on other planets, guiding spacecraft, and even planning potential human settlements on Mars.

The Space sector is about more than just observing and organising, it's about pushing the boundaries of what we know and where we can go.





## Jobs in Space

### SATELLITE CONSTELLATION MANAGER

These specialist managers oversee and maintain groups of satellites, known as constellations, that work together in space. Using geospatial and aerospace tools, they ensure that each satellite remains in its designated orbit, operates effectively, and collaborates seamlessly with the rest of the constellation.

This means you could be monitoring satellite health and performance, coordinating orbital manoeuvres to avoid collisions, and troubleshooting issues from Earth.

### SPACE OPERATIONS ENGINEER

Space Operations Engineers plan and run operations for both satellites and ground systems in space missions.

Geospatial knowledge is used for all kinds of things like tracking satellite locations, maintaining precise orbits, ensuring accurate communication with ground crews, calculating orbital parameters, predict satellite passes, and preventing collisions with other satellites and debris.

### EARTH OBSERVATION SCIENTISTS

Earth Observation Scientists analyse data generated from technology up in space to provide detailed information about meteorological, ecological, and seismic conditions on Earth, our atmosphere and various lifecycles.

You'd combine data science skills with knowledge in earth sciences like geography, oceanography, and meteorology, with technologies like machine learning used to search for patterns and generate reports to help various other professionals and industries.

### REMOTE SENSING SPECIALIST

Remote Sensing Specialists use space and spatial technologies, to help develop infrastructure and GIS processing capabilities to meet demands for customers in many industries.

This means you could be developing and maintaining process software, researching satellite image processing techniques, preparing educational material, or writing reports.

## Your study options

If you've made it this far and are still interested in a geospatial career, then it's time to look at your study options.

There are a variety of careers and pathways available, and as technology like AI shakes up the industry new pathways are emerging all the time. This means you'll need to think about the type of pathway you'd like to follow.

### Just want to start work?

Look for roles such as **Survey Assistant**. You will most likely need your Driver's Licence and own transport, and you may need a Construction White Card as well. In these jobs you'll be preparing the site for the surveyor, erecting equipment, and assisting with surveying.

If you start out on this path you could choose to upskill later on and progress to more advanced roles.

### Understanding Traineeships

There are a range of geospatial traineeships on offer which allow you to earn an income and gain real-world experience as you complete a VET or university qualification. The term 'traineeship' is used interchangeably for both university and vocational study, so check what type of qualification is on offer before you apply.

VET pathways generally give you a Cert IV in Spatial Information Services or similar, and these traineeships are offered by construction firms, resources companies, and even the Defence Force with their [Geospatial Intelligence Trainee Program](#). You won't need an ATAR to apply for one of these pathways, but they may have other requirements like minimum age to apply, or want to see you've completed Year 12.

There are also some traineeships which allow you to complete your undergraduate degree part time while working, and you'll need an ATAR to apply for these pathways.

## WHERE TO NEXT?

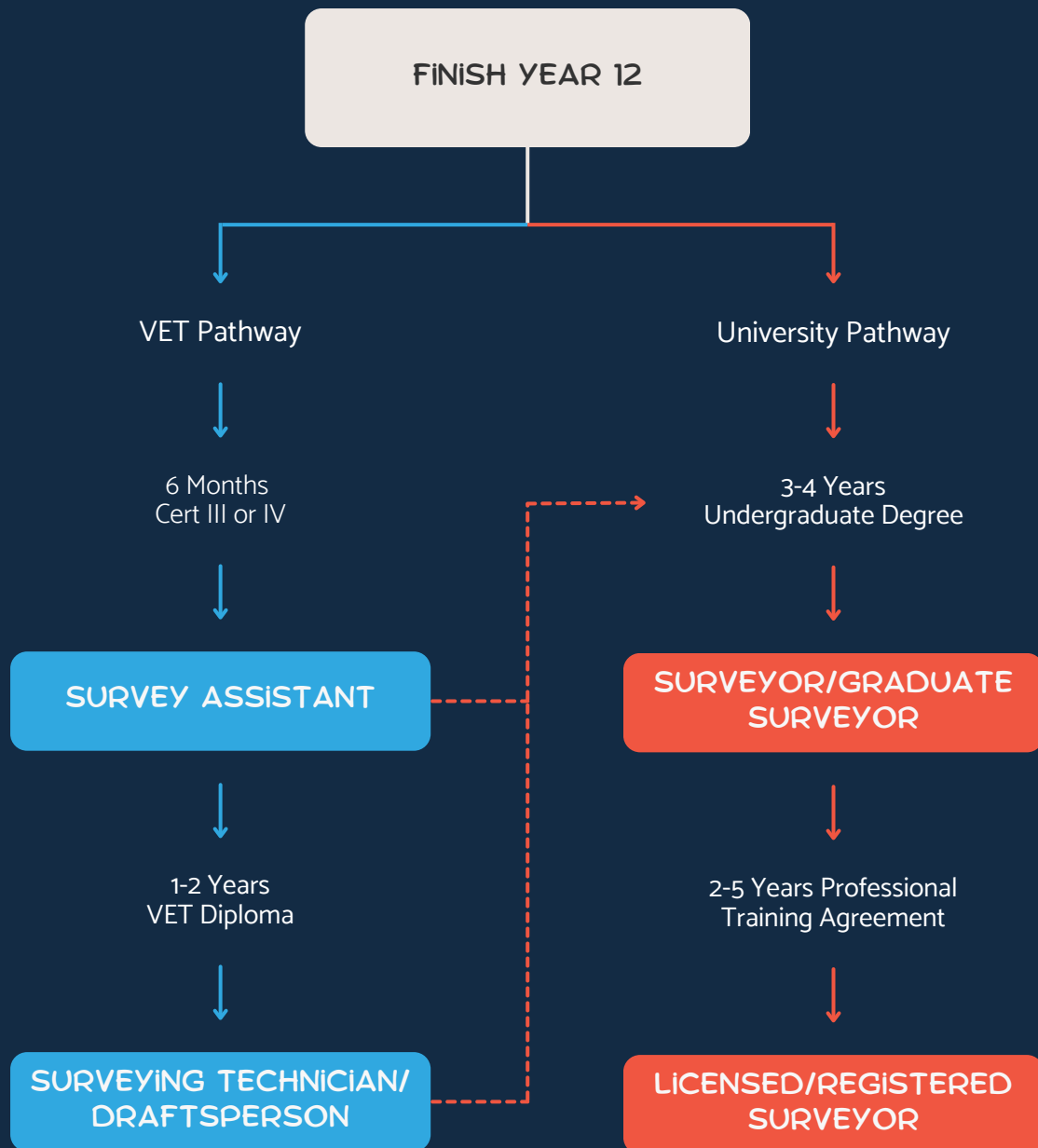
**1**

If you are thinking about an entry level role, then read about traineeships and other options in the next section.

**2**

If you're keen to start studying, skip the next bit and move onto the section about university and vocational degrees

## Study Pathways



## Become a Geospatial Operator, Cartographic Technician or GIS Officer

A vocational qualification could ignite your career in an entry level role, and if you'd prefer to move up to more professional roles you could complete a degree later on or upskill in other areas.

### STEP ONE

To begin an entry level career in the geospatial industry you could look for a vocational course at a Cert II to a Diploma level in Spatial Information Systems, then look for work once you've completed your course. Or you could look for a traineeship and complete your certification while you're also working in the field.

A Cert II could take as little as 6 months to complete, and you should be able to then work under supervision while you build your skills. A traineeship will take slightly longer, but you'll be earning and working in the field, which may be beneficial in the long term.

The entry requirements are lower than what you would need for university, and you could be work-ready in just 1-2 years. Your qualification could also count towards a Bachelor degree if you decide to upskill later on.

### STEP TWO

Once you've completed one of these pathways you could begin working as a geospatial operator, cartographic technician or GIS officer.

If you study for longer and gain a Diploma you could start working as a spatial information system technician, or in another specialised technical field.

### FIND A COURSE

You can find course providers on the [Your Career website](#).

## Become a Geospatial Professional

For students who want to go to uni straight out of school, starting a degree is a great choice. You'll get to choose the area of study that you're most passionate about, which can open up opportunities in those careers after you've graduated.

### STEP ONE

To start working in geospatial and related fields at a professional level, you'll need to complete a Bachelor's degree.

You will usually need an ATAR and there may be subject prerequisites (usually Maths or Science) to gain entry into a degree, depending on the discipline you choose. The requirements are different for each university, so make sure to check with the institution you want to go to.

A Bachelor of Geospatial Science usually takes 4 years to complete, depending on your major, whether or not you need to do an Honour's year, or if you'd like to do a dual degree.

If you find a geospatial traineeship, your degree may take longer to complete because you'll be working at the same time.

The degree you choose will affect your study options. While some courses and units can be done online, there may be times when you'll need learn on campus and require access to specific tools and equipment.

### STEP TWO

Once you finish your degree, you will be qualified to start working in your chosen field, both in Australia and overseas.

You could be working in surveying, environmental management and assessment, urban planning, space exploration, emergency and disaster management, spatial analysis, remote sensing, AI, or machine learning.

In many cases your skills could be useful in more than one industry, so there'll be opportunity to move and grow even if you don't love the first industry you're working in.

Further into your career, you could consider upskilling in other areas, or enhancing your qualifications with Masters or PhD studies in the field that interests you the most.

### FIND A COURSE

You can find course providers and more info about undergraduate courses on [Course Seeker](#).

# Geospatial degrees at Australian Universities

## NEW SOUTH WALES

### **Charles Sturt University**

Bachelor of Geospatial Science

3 years full time

### **University of New England**

Bachelor of GeoScience

3 years full time

### **University of New South Wales (UNSW)**

Bachelor of Engineering (Honours) (Surveying)

4 years full time

### **University of Newcastle**

Bachelor of Surveying (Honours)

4 years full time

### **TAFE NSW**

Certificate III in Surveying and Spatial Information Services

Certificate IV in Surveying

Diploma of Surveying

6-12 months full time

# Geospatial degrees at Australian Universities

## VICTORIA

### **RMIT University**

Bachelor of Surveying (Honours)

Bachelor of Geospatial Science (Honours)

4 years full time

Certificate IV in Surveying and Spatial Information Services

Diploma of Surveying

Advanced Diploma of Surveying

6-12 months full time

## QUEENSLAND

### **University of Queensland**

Bachelor of Science (Geographical Science)

3 years full time

### **University of Southern Queensland**

Associate Degree of Spatial Science (Surveying)

Bachelor of Spatial Science Technology (Surveying)

Bachelor of Spatial Science (Honours) (Surveying)

2-4 years full time

## SOUTH AUSTRALIA

### **Flinders University**

Bachelor of Geospatial Information Systems

Bachelor of Geospatial Information Systems/Bachelor of Surveying

3-4 years full time



# Geospatial degrees at Australian Universities

## WESTERN AUSTRALIA

### **Curtin University**

Bachelor of Mine and Engineering Surveying

Bachelor of Surveying (Honours)

3-4 years full time

### **TAFE WA**

Certificate III in Surveying and Spatial Information Services

Certificate IV in Surveying and Spatial Information Services

Diploma of Surveying

Advanced Diploma of Surveying

6-12 months full time

### **University of Western Australia**

Bachelor of Geographical and Spatial Science

3 years full time

## TASMANIA

### **University of Tasmania**

Bachelor of Geospatial Science

Bachelor of Surveying and Spatial Sciences

3 years full time

## How else can you use a geospatial degree?

Like any career, there are lots of reasons why you might change your mind about your current career goal by the time you've finished your degree, or even after a few years in the job.

It's unusual for people to stay in the same job for life, so that's OK. Your qualifications, skills, and experience could open the doors to work in lots of other areas.

With a degree in geospatial science and related disciplines you could pursue careers in STEM, agriculture, transport and logistics, education, public health, and so much more.

The skills and knowledge you gain from your degree or work experience will be valuable across other industries too.

You might like to consider jobs that let you flex your mathematical knowledge, including finance, big data analysis, or engineering.

You could share your knowledge with others as a teacher, lecturer, or even researcher.

For a completely fresh start, your skills could provide a great basis to work in a host of other industries, such as tech and software development, insurance and risk management, archaeology, tourism and hospitality, or media and communication.

Consider why you want to do a geospatial degree to start with - if another career path seems more appealing, then it may be better to study for that role directly.

## Looking for more information?

There are lots of places to find more information about careers linked with geospatial science.

Here are a few places to start your search in Australia:

**[A Life Without Limits](#)**

**[Surveying Careers](#)**

**[Geospatial Council of Australia](#)**

**[The Australian Institute of Building Surveyors](#)**

**[Australian Geospatial-Intelligence Organisation](#)**

**[National Intelligence Community agencies](#)**

**[Mapping Agencies](#)**

**[Australian Earth observation organisations](#)**

**[Space Association of Australia](#)**

**[Board of Surveying and Spatial Information of NSW](#)**

**[She Maps](#)**



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