Careers in Geography

School of Geosciences, Faculty of Science

THE UNIVERSITY OF SYDNEY

Careers in Geography

What career opportunities are available?

Students who have graduated with a geography major from the University of Sydney are found in many different private, community and public sector organisations. Employers view the integrative and applied nature of geography as a strength. Geography graduates have critical thinking capabilities and practical skills in the analysis of spatial data and human and environmental landscapes. Career pathways for geographers include environmental assessment, natural resource management, urban planning, sustainability evaluation, climate change adaptation, population forecasting, and international development. Because the skills and capabilities learned in a Geography major are highly transferable, our graduates are found in many different areas of the economy.

Specific skills with a Geography major

- The ability to approach problem-solving from scientific and social science perspectives.
- An understanding of how to employ multi-method tactics for addressing complex social-environmental issues.
- High standards of written and verbal communication.
- The ability to work to deadlines gained from projects and fieldwork.
- The insights gained from field-based learning.
- The teamwork skills gained from field- and project-based work.
- An analytical approach to people and their environments.

Bachelor of Science: Geography Major					
Year 1		**Year 2**		**Year 3**	
Earth Environment and Society	**Introductory Geography**	**Selective^**	**Environmental and Resource Management**	**Integrated Geographical Practices**	**Selective ***
OLE	Elective	Elective	Elective	Selective *	Selective *
Mathematics	Mathematics	OLE	Elective	Major2/ Elective	Major2/Elective
Major 2 / Minor	Major 2 / Minor	Major 2 / Minor	Major 2 / Minor	Major 2 / Minor	Major 2 / Minor

^ 2000 level Selective units: Earth Surface Processes, Natural Hazards: A GIS approach, Oceans Coasts and Climates Change, The Geography of Cities and Regions

* Selective Units: Coastal Environmental and processes, Urban Citizenship and sustainability, Global development and Livelihoods, GIS in Coastal management, Environmental and Sedimentary Geology, Asia and Pacific Field School

Why Geography is important

In 2018, the National Committee for Geographical Sciences of the Australian Academy of Science published its Decadal Plan for Geography. This plan identified the important role of Geography graduates in helping to resolve many of Australia's key challenges over the next decade. These include:

- Documenting past environmental change, so as to better understand present and future change
- Understanding economic change and its effects on the movement of people
- Appreciating perceptions of, and responses to, natural hazards
- Generating insights into the causes and consequences of spatial differences in human wellbeing, such as health or educational attainment
- Managing the environmental consequences of the growth of Australia's cities and regions
- Repairing the effects of human modifications of river environments
- Finding solutions to the interactions between environmental, economic and social change in Australia's Asia–Pacific neighbourhood
- Making the ways we use environmental resources more sustainable.

With the launch of Geography: Shaping Australia's Future by the Australian Academy of Science, which you can view here https://bit.ly/2TTYhxV, and the growing importance of geographical knowledge and ways of thinking to address the pressing issues of our time and to shape the future, now is a great time to be a geographer.

Fieldwork

Through a geography major, you have the opportunity to go on field trips to overseas locations and to rural and urban parts of Australia. This is in addition to participating in tutorial debates about such issues as global inequality and poverty, classes in computer and science labs, and lectures given by our internationally expert academic staff.

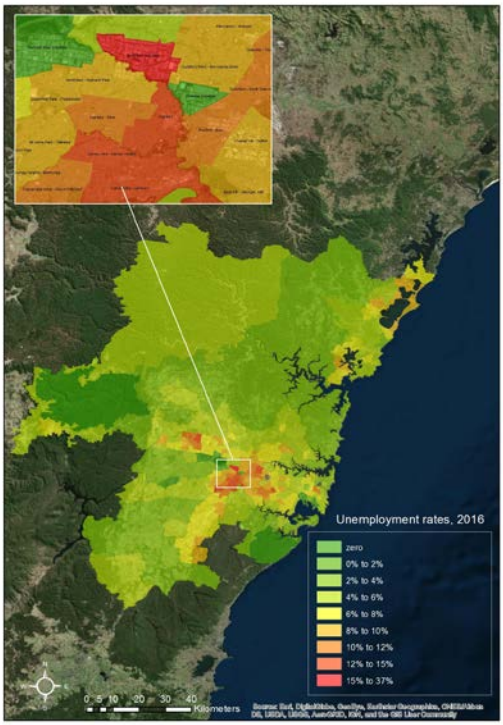
One example of fieldwork undertaken in the School of Geosciences as a Geography major is the GEOS3053 Asia Pacific Field School. This Unit of Study involves small-group travel to a country in the Asia-Pacific with one of our lecturers who will share their in-depth expertise and knowledge with you. Over the years, the Asia-Pacific Field School has involved travel to a wide-range of countries including Indonesia, Thailand, Vietnam, Laos and India. The 2019 Asia-Pacific Field School involved three weeks of intensively taught fieldwork in India, during which time students visited Mumbai and Kerala to study the interplay between environmental changes and economic development. The picture below shows students in a forest village, visited as part of this field school.

2019 GEOS3053 Asia Pacific Field School held in India

Making sense of spatial data

The twenty-first century is rich in data. Much of the data at our disposal has a spatial component. This allows us to identify where and when a social or environmental process is occurring, and how it relates to other processes. The analysis of spatial data using computer-based technologies is called Geographic Information Science (GIS) and this forms an important component of the Geography major at the University of Sydney.

Within the Geography major, you will learn GIS skills that are relevant to environmental processes, social and economic dynamics and the assessment of natural hazards. Graduates with GIS expertise are well-placed to find employment across many sectors of the economy and is a skillset that is internationally transferable. In 2019, the CEO of ESRI (a major GIS corporation) identified major societal shifts that will further enhance the importance of GIS as an asset for business, community organisations, and government (see box below). Because of the fusing of spatial information across different Internet platforms, as part of a wider process of 'big data', GIS is increasingly at the cutting edge of innovation. Some examples of GIS applications include remote analysis of deforestation, the discovery of ancient civilisations, better policing, post-disaster recovery, community planning, agricultural sustainability, and transport economics.



Map of unemployment in Sydney created by students in GEOS2123 'The Geography of Cities and Regions'

Read about the future of big data and GIS here: https://geoawesomeness.com/five-gis-trends-changing-world-according-jack-dangermond-president-esri/

Introducing Some of Our Graduates

Alex Iping, Bachelor of Science and Arts majors Geography and Government and International Relations, 2017: I am social sustainability consultant in Sydney based firm, Elton Consulting. Over the last 2 years I have worn many hats and had the opportunity to work on a range of projects, with exposure to topics ranging from social housing to recreation planning to social impact assessment (and many more!)

Overall our work focuses on people and the places they live. While that is broad, it tends to involve developing outcomes which support community development, positive social benefits and improvements to quality of life either through strategies or urban planning. During my time at Elton I have developed skills as a social planner, social researcher and demographer. I am often required to design, conduct and analyse quantitative and qualitative research, develop and run community engagement activities, assist with spatial analysis and mapping, undertake data visualization and brainstorm recommendations for urban/social planning projects, policies and strategies.

While at times the work is challenging and fast paced, it is highly rewarding. I am able to work with urban and rural communities, all levels of government, and the private sector to develop and shape the environments in which we live.

My geography major and the School of Geoscience Summer Scholarship Program gave me the skills and content knowledge to work across a range of human geography topics. These experiences have allowed me to be versatile, flexible and creative in the work I do, where thinking outside the box and seeing the bigger picture is often key.

Brittany Betteridge, Geography Honours, 2017: I am currently working as a Riverine Ecology policy officer at the Murray-Darling Basin Authority. My work focuses on the Environmental Watering Plan. This includes drafting strategic environmental water policy, interpreting ecological monitoring data and evaluating the effectiveness of environmental watering for waterbird and vegetation outcomes. My work brings me into contact with the Commonwealth Environmental Water Office, State Water partners and academic researchers undertaking ecology research and monitoring. Overall, my work feeds into setting policies to monitor the health of the river ecosystem, informs planning and co-ordination of environmental water flows, and draws on the best and latest ecological and environmental science.

My university degree with Honours in Geography paved an excellent pathway for my current job. I have found geographers are considered ideal in considering the 'wicked' problems of natural resource management, especially in the context of climate change adaptation. The analytical approach I learnt to understanding people's place in environment has helped me greatly when regularly engaging with a wide range of stakeholders, such as Federal/State government employees, First Nations' Traditional Owners, researchers and local community members. The research and analysis skills I learnt through studying geography have been useful in my work in understanding the water needs of waterbirds and vegetation in variable climatic conditions. These new learnings from evaluating environmental water policy feed into creating robust water management legislation. Day-to-day, my work varies from interpreting academic research and doing spatial data analysis, to drafting case studies for environmental water strategies, and to liaising with researchers on ecosystem science and ecological monitoring programs.

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