

TOPIC 9

The world of Geography

9.1 Overview

Numerous **videos** and **interactivities** are embedded just where you need them, at the point of learning, in your learnON title at www.jacplus.com.au. They will help you to learn the content and concepts covered in this topic.

9.1.1 Work and careers in Geography

Geographical skills will be useful for your future employment. An understanding of Geography and its application for managing sustainable futures is pivotal knowledge that will be desirable to future employers. In Geography, students are developing an understanding of the world. The skills you develop in Geography are transferrable to the workplace and can be used as a basis for evaluating strategies for the sustainable use and management of the world's resources.

Skills for work

Geography is a foundational skill for many occupations. Learning to navigate further education and training paths will help you to understand the variety of occupations that the study of Geography can lead to. The study of Geography includes important geospatial and spatial technology skills. These skills underpin the knowledge base of a range of courses and careers. Start your pathways exploration by considering who might use the key geospatial and spatial technologies.

- *Geospatial skills*: the ability to collect and collate information gathered from fieldwork and observations. Geospatial skills are used in careers such as surveying, meteorology, agricultural science and urban planning.
- *Spatial technologies*: technologies that demonstrate the connections between location, people and activities in digital formats. Jobs in the spatial industry are varied and include working in business and government. Spatial technologies apply many techniques, such as photogrammetry, remote sensing and global positioning systems (GPS). Spatial technologies manage information about the environment, transportation and other utility systems.

FIGURE 1 GIS (geographical information systems) being used to manage spaces and plan escape routes during a fire

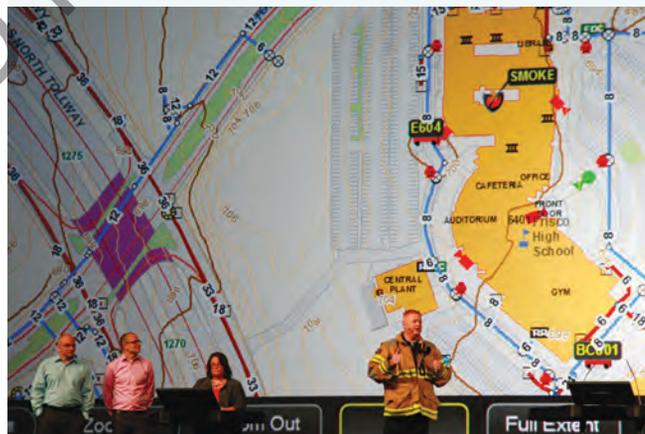


FIGURE 2 Using GPS to survey and record road traffic movements for a local council



9.1.2 Where can Geography lead?

There is a range of careers that utilise Geography as a foundation skill. As you consider your pathway options for senior studies you may like to research some of the careers that are provided in **figure 3**.

FIGURE 3 Geography pathways

Meteorologist	Surveyor	Landscape architect
<p>Meteorologists use geographical skills to forecast the weather, study the atmosphere and understand climate change.</p> 	<p>Surveyors use geographical skills to measure, analyse and report on land-related information for planning and development.</p> 	<p>Landscape architects use geographical skills to plan and design land areas for large-scale projects such as housing estates, schools, hospitals, parks and gardens.</p> 
Agricultural technician	Park ranger	Environmental manager
<p>Agricultural technicians use geographical skills to support and advise farmers on aspects of agriculture such as crop yield, farming methods, production and marketing.</p> 	<p>Park rangers use geographical skills to support and maintain ecosystems in national parks, scenic areas, historic sites, nature reserves and other recreational areas.</p> 	<p>Environmental managers use geographical skills for project management and the development of environmental reports.</p> 

9.1 Activities

To answer questions online and to receive **immediate feedback** and **sample responses** for every question, go to your learnON title at www.jacplus.com.au. *Note:* Question numbers may vary slightly.

1. Select an occupational profile that is presented in **figure 3**. Use the **Job Outlook** weblink in the Resources tab to locate the Job Outlook website. At this site you will be able to explore a career that interests you. Job Outlook is a federal government website that provides information on employment in a range of occupations. It also includes information on the training, skills and tools needed for the career that you are researching.
2. Develop a career profile for your occupation of choice. In your profile include:
 - the geographical skills needed for this job
 - the geographical tools that may be used in this occupation
 - the study and training requirements that lead to this occupation
 - the job prospects for your chosen occupation over the next five years.
3. In Australia, there is a range of industries that employs *conservationists*, *oceanographers* or *agricultural scientists*. Use the **Job Outlook** weblink in the Resources tab to locate the Job Outlook website to research industries that may deal with land degradation, marine pollution or world food needs. For example, the Agricultural, Forestry and Fishing industries offer all three occupations and list a range of technical and professional tasks in their job descriptions.

Develop a job description for one of the occupations. Highlight the geographical skills required, the tools needed to work with in this field and the core skills that are essential for the position.

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Explore more with this weblink: Job Outlook

9.2 Geographical concepts

9.2.1 Introduction

Geographic concepts help you make sense of your world. By using these concepts you can investigate and understand the world you live in, and try to imagine a different world. The concepts help you to think geographically. There are seven major concepts: *scale, place, interconnection, change, environment, sustainability* and *space*.

In this book you will use the seven concepts to investigate two units: *Biomes and food security* and *Geographies of interconnections*.

FIGURE 1 A way to remember these seven concepts is to think of the term SPICESS.

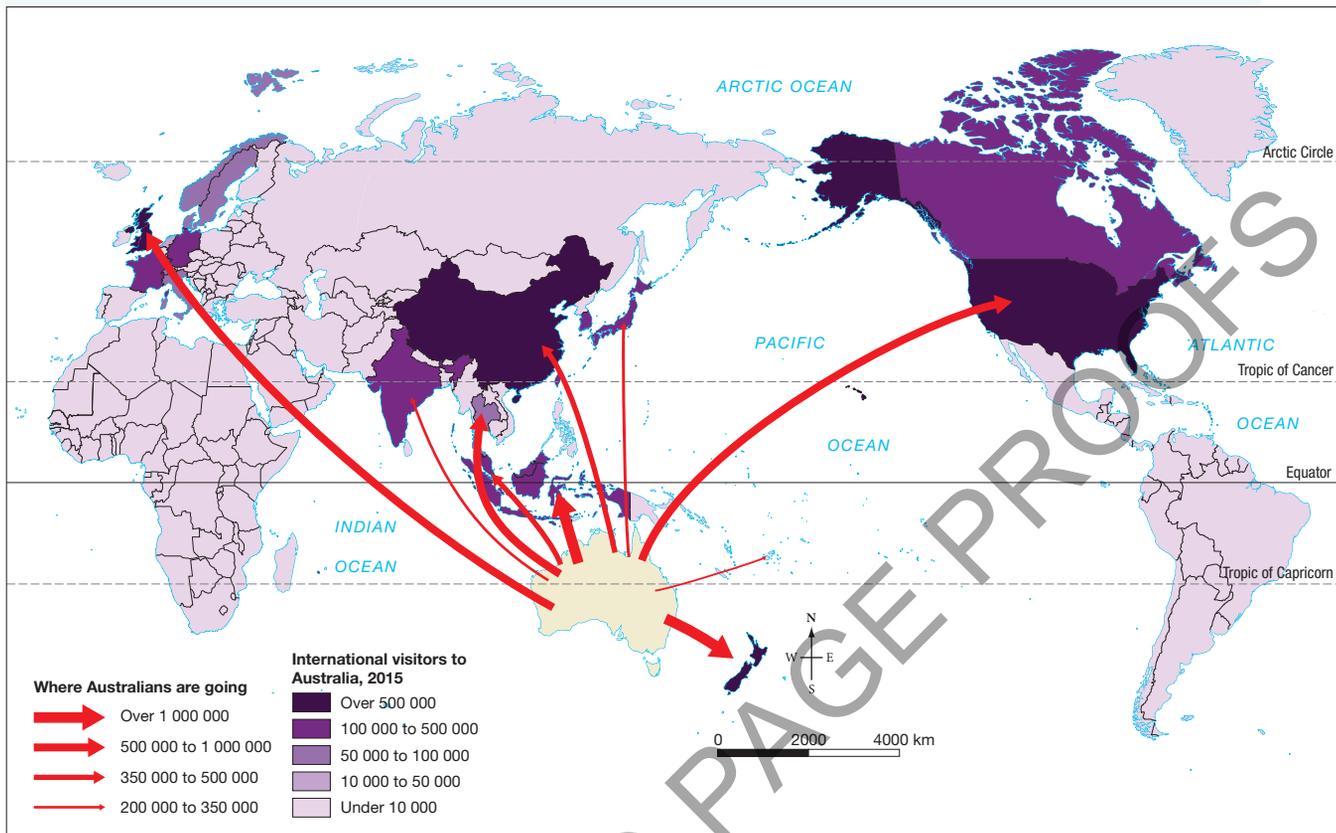


9.2.2 What is scale?

When we examine geographical questions at different spatial levels we are using the concept of scale to find more complete answers.

A little like using a zoom lens on a camera, scale enables us to examine issues from different perspectives, from personal to local, regional, national or global. Using scale helps in the analysis and explanation of phenomena. For example, climate is the most important factor in determining vegetation type on a global scale; whereas, at a local scale, soil and drainage might be more important. Different activities can also have an impact at a range of scales. The construction of an international airport in Cairns saw the development of tourism evolve from a local to an international scale with direct flights between Australia and South-East Asia.

FIGURE 2 Country of origin for tourists visiting Australia, and destinations for Australian tourists, 2015



Source: ABS, Austrade

9.2.2 Activities

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- (a) Compare the **scale** of movement of tourists from Australia to New Zealand and to China.
(b) What reasons can you give for the differences?
- Suggest one national-**scale** and one international-**scale** event that might influence the number of Australians visiting the United States.
- Predict future trends in the number of tourists leaving Australia.
- (a) Brainstorm with your class an example of an environmental issue at a local, national and global **scale**.
(b) How would solutions differ at each **scale**?

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Deepen your understanding of this topic with related case studies and questions.

Scale

9.2.3 What is place?

The world is made up of places, so to understand our world we need to understand its places by studying their variety, how they influence our lives and how we create and change them.

Everywhere is a place. Each of the world's biomes — for example, a desert environment — can be considered a place, and within each biome there are different places, such as the Sahara Desert. There can be natural places — an oasis is a good example — or man-made places such as Las Vegas. Places can have different functions and activities — for example, Canberra has a focus as an administration centre, while the MCG is a place for major sporting events and the Great Barrier Reef is a place of great natural beauty

with a coral reef biome. People are interconnected to places and people in a wide variety of ways — for example, when we move between places or connect electronically via computers. We are connected to the places that we live in or know well, such as our neighbourhood or favourite holiday destination.

FIGURE 3 Large-scale farming of green peppers in a greenhouse where soils, moisture, nutrients and the weather are all controlled



9.2.3 Activities

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Refer to **figure 3**.

1. Why do you think people have **changed** this place by building greenhouses there?
2. What characteristics of a desert biome are being altered in this **place**?
3. What features might this location have for the production of food?
4. What would be the advantages and disadvantages of greenhouse farming?
5. Suggest the types of crops that would be suitable for greenhouse farming.
6. List ways in which people living in other **places** in Europe may be **interconnected** to the greenhouses in Almeria.

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Place

9.2.4 What is interconnection?

People and things are connected to other people and things in their own and other places, and understanding these connections helps us to understand how and why places are changing.

Individual geographical features can be interconnected — for example, the climate within a place or biome, such as a tropical rainforest, can influence natural vegetation, while removal of this vegetation can affect climate. People can be interconnected to other people and other places via employment, communications, sporting events or culturally. The manufacturing of a product may create interconnections between suppliers, manufacturers, retailers and consumers.

FIGURE 4 Many countries have strict laws dealing with e-waste disposal. It is often easier to export the material to countries in South-East Asia, where there are fewer laws and the wastes can be broken down, recycled or sold. It is extremely hazardous.



Source: Spatial Vision

9.2.4 Activities

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Refer to **figure 4**.

1. Describe the distribution of the main ports dealing with e-waste trade.
2. What is the **interconnection** between the main recycling countries and the main ports that receive and dispatch e-waste?
3. Where are the destinations of e-wastes from Europe?
4. Describe the **interconnection** between North America and Asia in relation to e-waste trade.
5. Create a diagram to show the **interconnections** that could occur for the growing, manufacturing, sales and consumption of a can of pineapple slices.



Deepen your understanding of this topic with related case studies and questions.

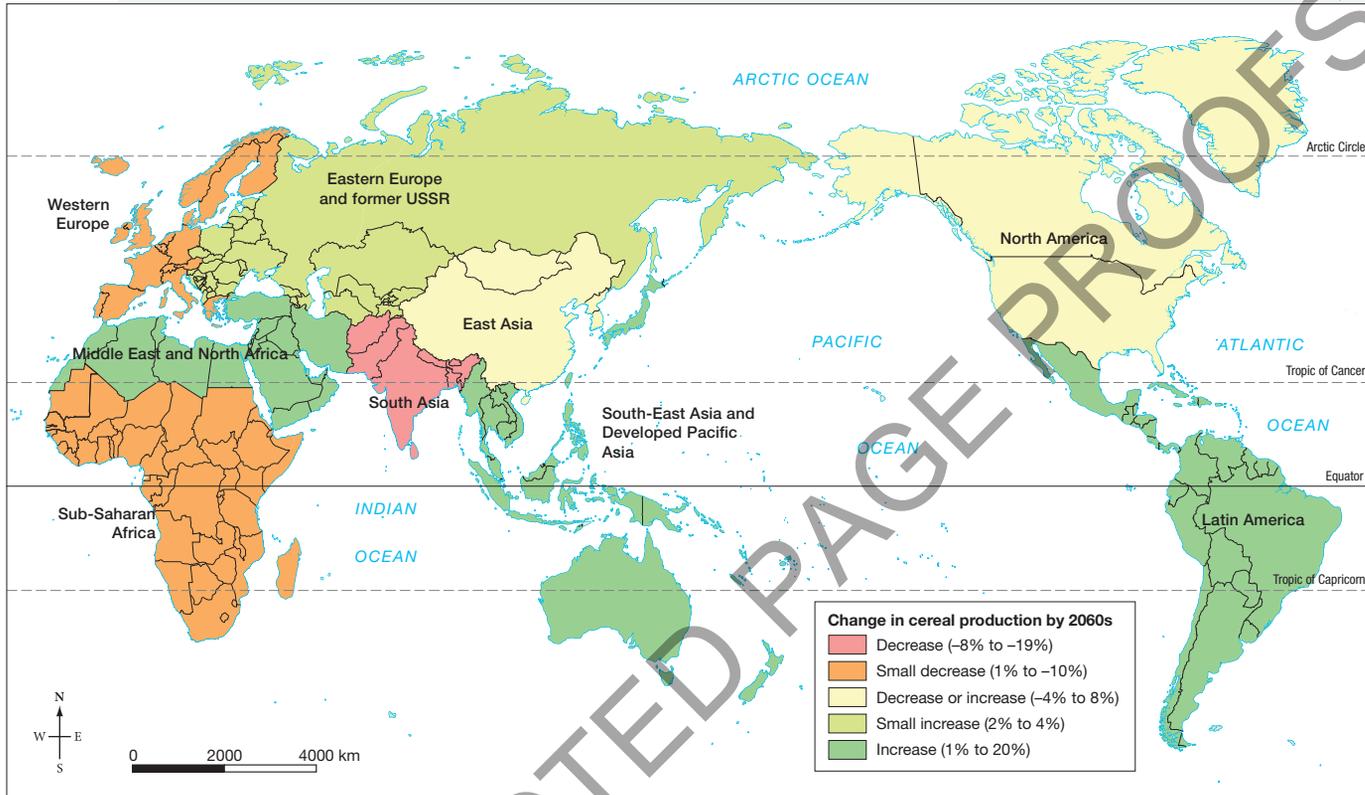
Interconnection

9.2.5 What is change?

The concept of change is about using time to better understand a place, an environment, a spatial pattern or a geographical problem.

From a geographical time perspective, change can be very slow — think of processes such as the formation of mountains or soil. On the other hand, a volcanic eruption or landslide can change landforms rapidly. It may take some years for the boundary of a city to expand outwards, but in the space of a few weeks whole suburbs can be demolished to make way for a freeway. Change can also have physical, economic and social implications. Consider the effect of the internet over the past few years.

FIGURE 5 Predictions of the effects of climate change on cereal crops



9.2.5 Activities

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Refer to **figure 5**.

- Which regions of the world are predicted to experience decreases in cereal production as a result of climate **change**?
- Which regions are predicted to show an increase in cereal production?
- Some countries, particularly those with a shortage of arable land, are buying land in other countries specifically for food production. What do you see as the advantages and disadvantages of such land purchases?
- Explain how each of the factors listed below may influence whether a country experiences a **change** in cereal production in the future as a result of climate **change**.
 - Level of development
 - Level of technological advancement
- How would predictions help governments plan for future food security?



Deepen your understanding of this topic with related case studies and questions.

Change

9.2.6 What is environment?

People live in and depend on the environment, so it has an important influence on our lives.

The biological and physical world that makes up the environment is important to us as a source of food and raw materials, a means of absorbing and recycling wastes, and a source of enjoyment and inspiration.

People perceive, adapt and use environments in many ways. For example, different people could look at a well-vegetated hillside and one might see it as a source of timber for construction, another might see a slope that could be cleared and terraced to produce food, while another might view it as a scenic environment for ecotourism.

FIGURE 6 The East Kolkata wetlands act as a sewage filtration system and recycle nutrients through the soil to allow a wide range of food crops to be grown. The ponds provide one-third of the city's fish supply and are a protected Ramsar site for migratory birds.



9.2.6 Activities

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Refer to **figure 6**.

1. Look closely at the image and decide whether this is a natural or human **environment**. Justify your decision.
2. In what ways might people have **changed** or modified the natural **environment** to allow farming to take place?
3. How would the people and economy of Kolkata benefit from these wetlands?
4. What would you consider to be the advantages and disadvantages of using a wetland **environment** as a natural sewage treatment system?
5. A major threat to the future of the wetlands is the growing population and urban spread into this farming area. How might this affect Kolkata's:
 - food security
 - ability to deal with sewage and waste
 - internationally recognised wetland **environment**?



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📍 **Environment**

9.2.7 What is sustainability?

Sustainability is about maintaining the capacity of the environment to support our lives and those of other living creatures.

Sustainability involves maintaining and managing our resources and environments for future generations. It is important to understand the causes of unsustainable situations to be able to make informed decisions on the best way to manage our natural world.

FIGURE 7 The unsustainable nature of fishing



9.2.7 Activities

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Refer to **figure 7**.

1. What does this cartoon tell us about the **sustainable** nature of fishing?
2. How has modern technology contributed to a decline in world fish populations?
3. Suggests reasons why fishing can be considered an **unsustainable** practice.
4. Give reasons why some fish species are over-exploited while others are not.
5. What difficulties would arise with managing an ocean-based resource compared to a land-based resource?



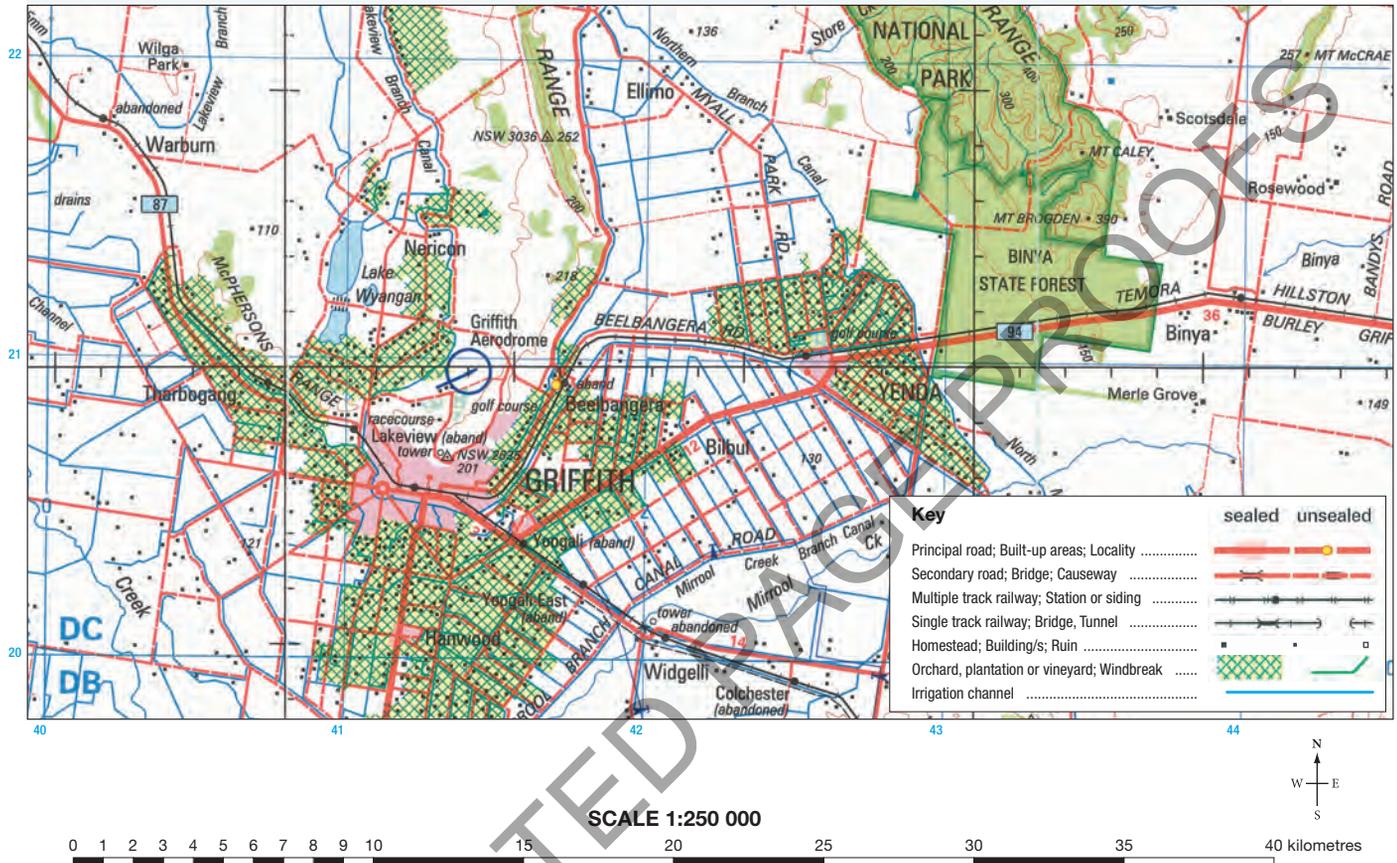
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Sustainability

9.2.8 What is space?

Everything has a location on the space that is the surface of the Earth. Studying the effects of location, the distribution of things across this space, and how the space is organised and managed by people, helps us to understand why the world is like it is.

A place can be described by its absolute location; for example: latitude and longitude, a grid reference, street directory reference or an address. Or, a place can be described using a relative location — where it is in relation to another place in terms of distance and direction.

FIGURE 8 Topographic map extract, Griffith, New South Wales



Source: Commonwealth of Australia (Geoscience Australia).

9.2.8 Activities

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Refer to **figure 8**.

- Use your atlas to locate Griffith. Provide its absolute location using longitude and latitude.
- What is the location of Griffith Aerodrome relative to Lake Wyangan? Use distance and direction in your answer.
- Identify the features located at the following grid references.
 - 413208
 - 435215
- Give grid reference locations for the following.
 - Griffith Aerodrome
 - Lake Wyangan
- Complete the following sentences by inserting the correct term to describe the distribution pattern. Choose from the following list of terms: rectangular; linear; scattered; clustered.
 - Buildings are distributed in a pattern.
 - Irrigated fields in the orchards and vineyards create a distribution pattern.
 - Railway lines form a pattern.
 - The distribution pattern for buildings around Yenda tends to be more than those to the west of Griffith.

6. How does the distribution of irrigated vineyards and orchards influence the distribution of buildings? Suggest a reason for your observation.
7. Describe how people have generally used the **space** shown in the map.

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Space

9.3 Review

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