

GEOGRAPHY BULLETIN

Special HSC Edition



The
Geography Teachers' Association
of New South Wales Inc.

HSC Edition No 1 2018

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PROJECTS • REPORTS • RESOURCES • ARTICLES • REVIEWS

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of New South Wales Inc.

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Covers: Tourists at the Trevi Fountain, Rome & Selfie stick user. Image Source: Wikimedia Commons

GEOGRAPHY BULLETIN

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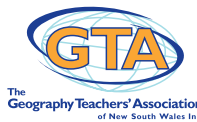
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The Geography Bulletin is a quarterly journal of The Geography Teachers' Association of New South Wales. The 'Bulletin' embraces those natural and human phenomena which fashion the character of the Earth's surface. In addition to this it sees Geography as incorporating 'issues' which confront the discipline and its students. The Geography Bulletin is designed to serve teachers and students of Geography. The journal has a specific role in providing material to help meet the requirements of the Geography syllabuses. As an evolving journal the Geography Bulletin attempts to satisfy the requirements of a broad readership and in so doing improve its service to teachers. Those individuals wishing to contribute to the publication are directed to the 'Advice to contributors' inside the back cover. Articles are submitted to two referees. Any decisions as to the applicability to secondary and/or tertiary education are made by the referees. Authors, it is suggested, should direct articles according to editorial policy.

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GEOGRAPHY BULLETIN



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EDITOR: Lorraine Chaffer

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Lorraine Chaffer, Editor

EDITORIAL

This is the third special HSC Edition of the Geography Bulletin, and the first for 2018.

Many thanks to those people who have contributed to the current edition and supporting their colleagues by sharing ideas and resources.

Articles have been organised by content area or topic.

Geographical Skills and Tools

- How to interpret Satellite Images from NASA Earth Observatory
- HSC Skill Development by Lorraine Chaffer

Year 11 Biophysical Interactions

- Estuarine Processes by Marco Cimino

Year 11 Global Challenges

- Population and Development by Dr Paul Batten and Dr Bronwyn Batten

Resources

- Using podcasts and journal articles as a tool of professional learning and a tool of instruction in the Stage 6 Geography classroom by Susan Caldis

Year 12 People and Economic Activity

- Global Tourism Update by Dr Grant Kleeman
- Tourism: Future Directions Internet Research by Louise Swanson
- Wine Industry Update by Dr Grant Kleeman
- Exam Preparation for People and Economic Activity by Lorraine Chaffer

Fieldwork Essentials

Fieldwork Advice by Louise Swanson

- Preparing for fieldwork
- Conducting surveys and interviews
- Know basic fieldwork tools and techniques

Year 12 Urban Places

- Urban Places: Urban Dynamics by Grace Larobina (Case Study 1: Barrangaroo; Case Study 2: Sydney)
- Melbourne by Catherine Donnelly

HSC EXAM PREPARATION LECTURES

Over 200 hundred students attended the HSC Exam Preparation Lectures at three venues – Surry Hills, Newcastle and Goulburn.



Grace Tyerman presenting the HSC Skills Workshop at Surry Hills

Many thanks to organiser Catherine Donnelly and presenters Dr Grant Kleeman, Susan Caldis, Alexandria Lucas, Matt Carroll, Sharon McLean, Steven Newman, Grace Tyerman and Lorraine Chaffer

GTANSW is currently investigating avenues for providing students outside the major metropolitan centres with HSC presentations, possibly by Webinar. TBC

SEMESTER 2 PROFESSIONAL LEARNING EVENTS, 2018

Stage 6 Geography Conference

- UTS School of Business Sydney, Friday 9 November

Skills Workshops for new or inexperienced teachers of Geography

- Holiday Inn Potts Point, Tuesday 21 August
- Holiday Inn Warrick Farm, Wednesday 22 August

Regional Conferences for K–12

- Twin Services Club Tweed Heads, Friday 10 August
- Vibe Hotel Canberra, Friday 14 September

ESRI Australia: GIS in Schools

- All Saints College, Maitland, 26 September
- Federation Conference Centre Surry Hills, Wednesday 17 October
- Riverina Environmental Education Centre, Wagga Wagga, Friday 19 October

GTA WEBSITE

Instant access to the Geography Bulletin articles online. Login and locate the Index document. Find the resource you want. Each item is hyperlinked to the online PDF of that article.

ARTHUR PHILLIP FIELDWORK AWARDS

Enter your student SGP's into the Brock Rowe Senior Geography Fieldwork Competition. Follow this link to the flyer http://gtansw.org.au/files/news/2018/Arthur%20Phillip_competition%20brochure_2018_May.pdf

NESA NEWS

Stage 6 Geography Syllabus Draft Directions, Consultation and Online Survey.

Use this link to download the Draft Directions, register for a consultation meeting or complete the online survey. http://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/hsie/syllabus-development?utm_source=TractionNext&utm_medium=Email&utm_campaign=NESA+News+23+July+2018

Register for a consultation meeting

Meetings will be held from 4.00 to 6.00 pm with tea and coffee from 3.30 pm.

Date	Registration
Wednesday 8 August	Castle Hill RSL Club, Castle Hill
Wednesday 15 August	The Rules Club, Wagga Wagga
Monday 20 August	Sydney Masonic Centre, Sydney
Thursday 23 August	Nowra Golf Club, Nowra
Tuesday 28 August	South Newcastle Rugby League Club, Newcastle
Thursday 30 August	Liverpool Catholic Club, Prestons

PROFESSIONAL LEARNING



Geography Teachers Association of NSW presents

REGIONAL CONFERENCE

WRITE ON AND LOG ON

Friday 14 September 2018

Vibe Hotel, Canberra Airport

The GTANSW 2018 professional learning focus is on literacy, Geographical Inquiry Skills, pedagogy and spatial technologies in the Geography classroom.

Program

TIME	ACTIVITY	WORKSHOP PRESENTER
8:15am – 8:45am	Registration	
8:45am – 9:45am	KEYNOTE: Geography Write On	Dr Misty Adoniou
9:45am – 10:30am	WORKSHOP 1 1(a) How sentences and words work – focus on Geography OR 1(b) Taking Geography Outdoors: Fieldwork for Primary Teachers, Stages 1 to 3	Dr Misty Adoniou Darren Watt
10:30am – 11:00am	Morning Tea	
11:00am – 11:30am	WORKSHOP 1 (continued) 1(a) Secondary Teachers Literacy based workshop OR 1(b) Taking Geography Outdoors: Fieldwork for Primary Teachers, Stages 1 to 3	Dr Misty Adoniou Darren Watt
11:30pm – 1:00pm	WORKSHOP 2 2 (a) ICT and Geography OR 2 (b) Taking Geography Outdoors: Fieldwork for Secondary Teachers, Stages 4 to 6	Lorraine Chaffer Darren Watt
1:00pm – 1:45pm	Lunch	
1:45pm – 3:00pm	WORKSHOP 3 3(a) Using ABS data in the Australian Curriculum OR 3(b) Using PBL to teach Geography OR 3(c) Pens and maps. Literacy and mapping skills for Stages 2 and 3	Patrick Curtin Ben Archer Sharon McLean



**NSW
EDUCATION
STANDARDS
AUTHORITY**

Geography Teachers' Association of NSW through the Professional Teachers' Council NSW – NSW Education Standards Authority (NESA) as the endorsed provider of QTC Registered professional development for the maintenance of accreditation at Proficient, Highly Accomplished, and Lead levels.

Completing the **GTA NSW Regional Conference: Write On and Log On**, 14 September 2018 will contribute **5 Hours & 30 Minutes** of NESA Registered PD addressing 2.5.2; 3.3.2; 3.4.2; 7.4.2 from the Australian Professional Standards for Teachers towards maintaining Proficient Teacher Accreditation in NSW.

Participant fee: \$250 member or \$260 non-member

Regional Conference registration [CLICK HERE](#)

How to Interpret a Satellite Image: Five Tips and Strategies

Holli Riebeek

REPUBLICED with permission from
<https://earthobservatory.nasa.gov/Features/ColorImage/?src=share>

Satellite images are like maps: they are full of useful and interesting information, provided you have a key. They can show us how much a city has changed, how well our crops are growing, where a fire is burning, or when a storm is coming.

To unlock the rich information in a satellite image, you need to:

1. Look for a scale
2. Look for patterns, shapes, and textures
3. Define the colors (including shadows)
4. Find north
5. Consider your prior knowledge

These tips come from the Earth Observatory's writers and visualisers, who use them to interpret images daily. They will help you get oriented enough to pull valuable information out of satellite images.

Look for a Scale

One of the first things people want to do when they look at a satellite image is identify the places that are familiar to them: their home, school, or place of business; a favorite park or tourist attraction; or a natural feature like a lake, river, or mountain ridge. Some images from military or commercial satellites are detailed enough to show many of these things. Such satellites

zoom in on small areas to collect fine details down to the scale of individual houses or cars. In the process, they usually sacrifice the big picture.

NASA satellites take the opposite approach. Earth science researchers typically want a wide-angle lens to see whole ecosystems or atmospheric fronts. As a result, **NASA images are less detailed but cover a wider area, ranging from the landscape scale (185 kilometers across) to an entire hemisphere.** The level of detail depends on the satellite's spatial resolution. Like digital photographs, satellite images are made up of little dots called pixels. The width of each pixel is the satellite's spatial resolution.

Commercial satellites have a spatial resolution down to 50 centimeters per pixel. The most detailed NASA images show 10 meters in each pixel. Geostationary weather satellites, which observe a whole hemisphere at a time, are much less detailed, seeing one to four kilometers in a pixel.

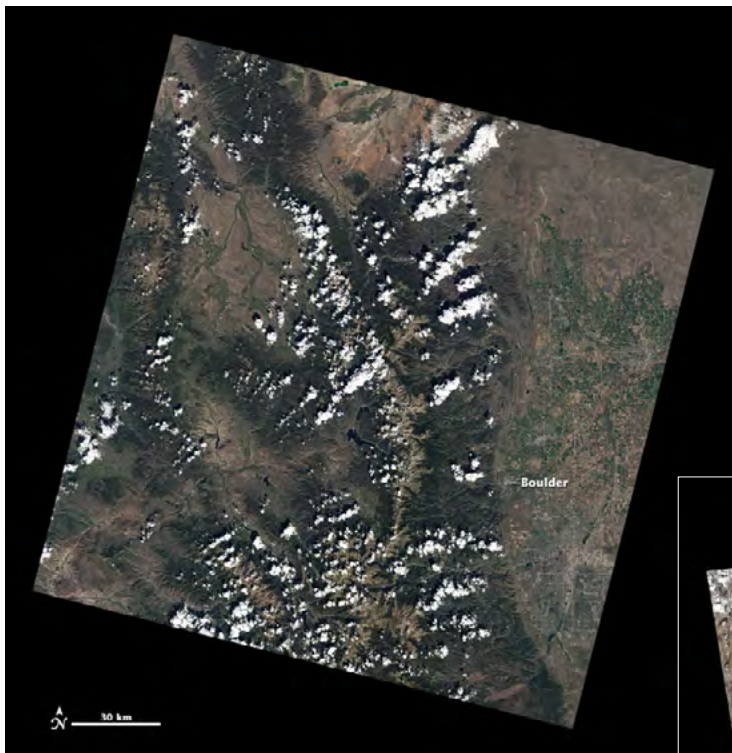


LEFT: Image from the commercial WorldView-2 satellite can show street by street details of the September 2013 flood in Boulder, Colorado. (Worldview-2 image based on data ©2013 DigitalGlobe.)

GEOGRAPHICAL SKILLS AND TOOLS



RIGHT: The scientific Landsat 8 satellite can be zoomed in to give a city size scale. (Landsat image by Jesse Allen and Robert Simmon, using data from the USGS Earth Explorer.)



Raw Landsat scenes (left) provide a landscape view, while MODIS (below) provides a wider view. The images are from September 17 (Landsat) and September 14 (MODIS), 2013. (Landsat image by Jesse Allen and Robert Simmon, using data from the USGS Earth Explorer. MODIS image by Jeff Schmaltz LANCE/EOSDIS MODIS Rapid Response Team, GSFC.)

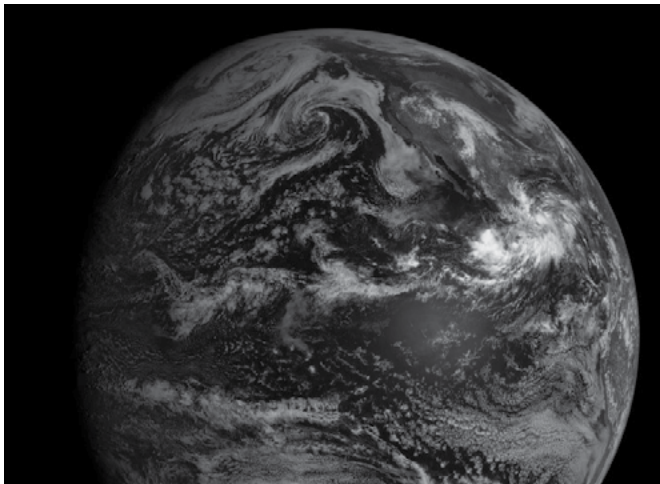


GEOGRAPHICAL SKILLS AND TOOLS

Depending on the image resolution, a city may fill an entire satellite image with grids of streets or it may be a mere dot on a landscape. Before you begin to interpret an image, it helps to know what the scale is. Does the image cover 1 kilometer or 100? What level of detail is shown? Images published on the Earth Observatory include a scale.

You can learn different things at each scale

For example, when tracking a flood, a detailed, high-resolution view will show which homes and businesses are surrounded by water. The wider landscape view shows which parts of the county or metropolitan area are flooded and perhaps where the water is coming from. A broader view would show the entire region—the flooded river system or the mountain ranges and valleys that control the flow. A hemispheric view would show the movement of weather systems connected to the floods.



GOES satellites offer a nearly full view of the Earth's disk. This image shows North and South America on September 14, 2013. (Image by the NASA/NOAA GOES Project Science Office.)

Look for patterns, shapes, and textures

If you have ever spent an afternoon identifying animals and other shapes in the clouds, you'll know that humans are very good at finding patterns. This skill is useful in interpreting satellite imagery because distinctive patterns can be matched to external maps to identify key features.

Bodies of water—rivers, lakes, and oceans—are often the simplest features to identify because they tend to have **unique shapes** and they show up on maps.

Other obvious patterns come from the way people use the land. Farms usually have geometric shapes—circles or rectangles—that stand out against the more random patterns seen in nature. When people cut down a forest, the clearing is often square or has a series of **herring-**

bone lines that form along roads. A straight line anywhere in an image is almost certainly human-made, and may be a road, a canal, or some kind of boundary made visible by land use.

Geology shapes the landscape in ways that are often easier to see in a satellite image. Volcanoes and craters are circular, and mountain ranges tend to run in long, sometimes wavy lines. Geologic features create visible textures. Canyons are squiggly lines framed by shadows. Mountains look like wrinkles or bumps.

These features can also affect clouds by influencing the flow of air in the atmosphere. Mountains force air up, where it cools and forms clouds. Islands create turbulence that results in swirling vortices or wakes in the clouds. When you see a line of clouds or vortices, they provide a clue about the topography of the land below.



Straight lines and geometric shapes in this image of Reese, Michigan, are a result of human land use. Roads cut diagonally across the squares that define farm fields. (NASA Earth Observatory image by Jesse Allen and Robert Simmon, using ALI data from the NASA EO-1 team.)



Central Chile and Argentina offer a wide range of geographic features, including snow-covered mountains, canyons, and volcanoes. (NASA image courtesy Jeff Schmaltz LANCE/EOSDIS MODIS Rapid Response Team, GSFC.)

GEOGRAPHICAL SKILLS AND TOOLS

Occasionally, shadows can make it hard to tell the difference between mountains and canyons. This optical illusion is called **relief inversion**. It happens because most of us expect an image to be lit from the top left corner. When the sunlight comes from another angle (especially from the lower edge), the shadows fall in ways we don't expect and our brains turn valleys into mountains to compensate. The problem is usually resolved by rotating the image so the light appears to come from the top of the image.

Define colors

The colors in an image will depend on what kind of light the satellite instrument measured. True-color images use visible light—red, green and blue wavelengths—so the colors are similar to what a person would see from space. False-color images incorporate infrared light and may take on unexpected colors. In a true color image, common features appear as follows:



Sediment colors the sea near the mouth of the Zambezi River. The water grows darker offshore as the sediment disperses. (NASA Earth Observatory images by Robert Simmon, using Landsat 8 data from the USGS Earth Explorer.)



Sunlight makes it possible to see current patterns on the ocean's surface around the Canary Islands. (NASA image courtesy Jeff Schmaltz LANCE/EOSDIS MODIS Rapid Response Team, GSFC.)

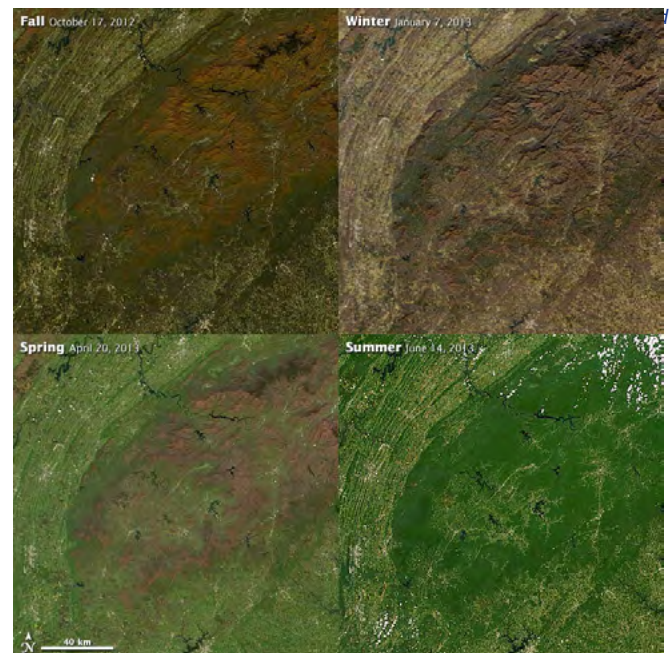
Frozen water

Snow and ice—is white, gray, and sometimes slightly blue. **Dirt or glacial debris** can give snow and ice a tan color.

Plants

Plants come in different shades of green, and those differences show up in the true-color view from space. Grasslands tend to be pale green, while forests are very dark green. Land used for agriculture is often much brighter in tone than natural vegetation.

In some locations (high and mid latitudes), plant color depends on the season. Spring vegetation tends to be paler than dense summer vegetation. Fall vegetation can be red, orange, yellow, and tan; leafless and withered winter vegetation is brown. For these reasons, it is helpful to know when the image was collected.



States change colors from brown to green to orange to brown as the seasons progress. (NASA images courtesy Jeff Schmaltz LANCE/EOSDIS MODIS Rapid Response Team, GSFC.)

In the oceans, floating plants—**phytoplankton**—can color the water in a wide variety of blues and greens. Submerged vegetation like **kelp** forests can provide a shadowy black or brown hue to coastal water.

Bare ground

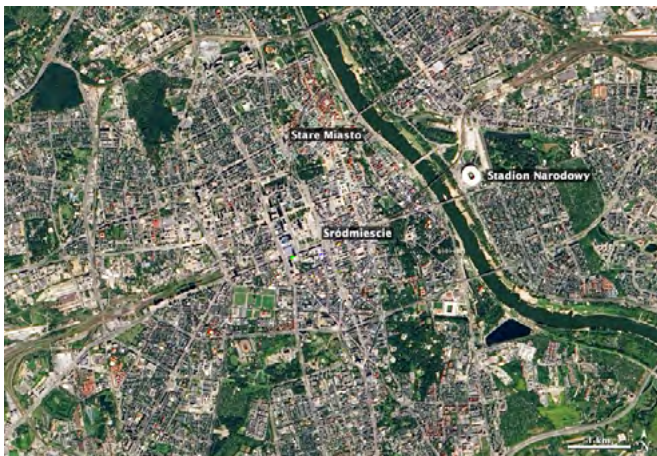
Bare or very lightly vegetated ground is usually some shade of brown or tan. The color depends on the **mineral content of the soil**. In some deserts such as the **Australian Outback** and the **southwestern United States**, exposed earth is red or pink because it contains iron oxides like hematite (Greek for blood-like). When the ground is white or very pale tan, especially in **dried lakebeds**, it is because of salt-, silicon-, or calcium-based

GEOGRAPHICAL SKILLS AND TOOLS

minerals. Volcanic debris is brown, gray, or black. Newly burned land is also dark brown or black, but the burn scar fades to brown before disappearing over time.

Cities

Densely built areas are typically silver or gray from the concentration of concrete and other building materials. Some cities have a more brown or red tone depending on the materials used for rooftops.



The contrast between Warsaw's modern and historic neighborhoods is easily visible by satellite. The new Stadion Narodowy is brilliant white. Śródmieście (Inner City) was rebuilt after World War II and most areas appear beige or gray. But some neighborhoods rebuilt with older-style buildings, such as the red tile and green copper roofs of Stare Miasto (Old Town). (Image courtesy NASA/USGS Landsat.)

Atmosphere

Clouds are white and gray, and they tend to have texture just as they do when viewed from the ground. They also cast dark shadows on the ground that mirror the shape of the cloud. Some high, thin clouds are detectable only by the shadow they cast.

Smoke is often smoother than clouds and ranges in color from brown to gray. Smoke from oil fires is black. Haze is usually featureless and pale gray or a dingy white. Dense haze is opaque, but you can see through thinner haze.

The color of smoke or haze usually reflects the amount of moisture and chemical pollutants, but it's not always possible to tell the difference between haze and fog in a visual interpretation of a satellite image. White haze may be natural fog, but it may also be pollution.

Dust ranges in color, depending on its source. It is most often slightly tan, but like soil, can be white, red, dark brown, and even black due to different mineral content.

Volcanic plumes also vary in appearance, depending on the type of eruption. Plumes of steam and gas are white. Ash plumes are brown. Resuspended volcanic ash is also brown.

Colors in Context

Looking at a satellite image, you see everything between the satellite and the ground (clouds, dust, haze, land) in a single, flat plane. This means that a white patch might be a cloud, but it could also be snow or a salt flat or sunglint. The combination of context, shape, and texture will help you tell the difference.

For example, shadows cast by clouds or mountains can be easy to mistake for other dark surface features like water, forest, or burned land. Looking at other images of the same area taken at another time can help eliminate confusion. Most of the time, context will help you see the source of the shadow—a cloud or mountain—by comparing the shape of the shadow to other features in the image.

Find North

When you get lost, the simplest way to figure out where you are is to find a familiar landmark and orient yourself with respect to it. The same technique applies to satellite images. If you know where north is, you can figure out if that mountain range is running north to south or east to west, or if a city is on the east side of the river or the west. These details can help you match

Clouds, fog, haze and snow are sometimes difficult to distinguish in satellite imagery, as in this MODIS image of the Himalaya from November 1, 2013. (Image adapted from MODIS Worldview.)



GEOGRAPHICAL SKILLS AND TOOLS

the features to a map. On the Earth Observatory, most images are oriented so that north is up. All images include a north arrow.

Consider your prior knowledge

Perhaps the most powerful tool for interpreting a satellite image is knowledge of the place. If you know that a wildfire burned through a forest last year, it's easy to figure out that the dark brown patch of forest is probably a burn scar, not a volcanic flow or shadow.



Land burned by Yosemite's Rim Fire is gray brown in comparison to the unburned brown and green landscape around it. See this linked map that helps differentiate between burned land and non-burned land. (NASA Earth Observatory images by Robert Simmon, using Landsat 8 data from the USGS Earth Explorer.)

Having local knowledge also allows you to connect satellite mapping to what's happening in everyday life, from social studies, economics, and history (for example, population growth, transport, food production); to geology (volcanic activity, tectonics); to biology and ecology (plant growth and ecosystems); to politics and culture (land and water use); to chemistry (atmospheric pollution); and to health (pollution, habitat for disease carriers).

For example, land ownership and land use policy is contrasted in the pair of images below. In Poland, small parcels of privately owned land surround the Niepolomice Forest. The government has managed the forest as a unit since the thirteenth century. While the canopy isn't a solid, unbroken green, the forest is largely intact. The lower image shows a checkerboard combination of private and public land near Washington's [Okanogan-Wenatchee National Forest](#). The U.S. Forest Service manages the forest under a mixed use policy that preserves some forest, while opening other sections to logging. Lighter green areas indicate that logging has occurred on federal, state, or private land. Parcels of private land are much larger in this part of the western United States than in Poland.



Land use and conservation policies define the forest area in both Poland (top) and the U.S. state of Washington (lower). (NASA Earth Observatory images by Robert Simmon, using Landsat 8 data from the USGS Earth Explorer.)

If you lack knowledge of the area shown, a reference map or atlas can be extremely valuable. A map gives names to the features you can see in the image, and that gives you the ability to look for additional information. Several online mapping services even provide a satellite view with features labeled. Historic maps, such as those found at the [Library of Congress](#) or in the [David Rumsey Map Collection](#), can help you identify changes and may even help you understand why those changes occurred.

Whether you are looking at Earth for science, history, or something else, also consider the Earth Observatory as a key resource. The site hosts a rich, deep [archive](#) of more than 12,000 interpreted satellite images covering a wide range of topics and locations. The archive includes images of [natural events](#) as well as more diverse [featured images](#). If the Earth Observatory does not have an image of an area or topic that interests you, please [let us know](#).

We're always looking for new ways to explore our world from space.

Additional articles and educational activities about interpreting satellite images are available on the NASA Earth Science Week web site, [Mapping Our World](#).

HSC Skills Development: Graphs & Statistics

Lorraine Chaffer, President GTANSW

1. CALCULATING RATE of CHANGE (INCREASE OR DECREASE)

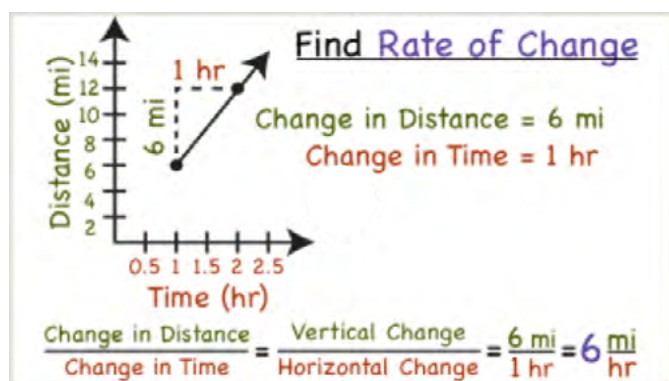
You are calculating the speed at which change has occurred (From statistics or a graph)

Rate of change = $\frac{\text{Change in one variable}}{\text{Change in time (Hours, days, years)}}$

Example: The population increased from 2 million to 3 million people from 2010 to 2015

Rate of change = $\frac{1,000,000 \text{ people}}{5 \text{ years}}$
 $= \frac{200,000}{1 \text{ year}}$
 $= \text{rate of } 200,000 \text{ per year}$
(over 5 years).

In the following example the rate of change is for distance over time*. (speed)



*Source: <http://virtualnerd.com/algebra-1/linear-equation-analysis/slope-rate-of-change/understanding-slope/rate-of-change-two-points-graph>

The faster the rate of change, the steeper the line on a graph.

This is particularly relevant to **Semi Logarithmic graphs**.

TRY THIS

A population increases from 500,000 to 1.5 million between 2012 and 2016.

What was the rate of the population increase?

Change 1 = _____

Change 2

=

A person travels 800 km. It takes them 4 hours.

What was the rate of change?

Change 1 = _____

Change 2

=

A population changes from 1 million to 600,000 between 1980 and 2010

What was the rate of decrease in the population over that time?

Change 1 = _____

Change 2

=

A winery increases its output from 10,000 bottles in 2015 to 15,000 bottles in 2018. Calculate the rate of increase.

Change 1 = _____

Change 2

=

A farmer facing drought reduces his sheep stock from 4,000 to 1,500 over the three months of winter.

Calculate the rate of decrease in sheep stock over that time.

GEOGRAPHICAL SKILLS AND TOOLS

2. CALCULATING PROPORTIONAL or PERCENTAGE CHANGE

You are calculating the amount of change that has occurred ... as a proportion of a starting figure.

Answers could be a %; statement; fraction

1. First: Calculate the difference (change) between the two numbers you are comparing
Increase = New Number – Original Number.
2. Then: divide the increase by the original number and multiply the answer by 100.
Proportional or % change = $\frac{\text{Change}}{\text{Starting figure}} \times \frac{100}{1}$

Example: The population increased from 2 million to 3 million people from 2010 to 2015.

$$\begin{aligned} \text{Proportional or \% change} &= \frac{\text{Change } 1 \text{ million}}{\text{Start } 2 \text{ million}} \times \frac{100}{1} \\ &= 100 / 2 \\ &= 50\% \text{ increase} \\ &\text{(It increased by half or 50\% of the starting figure)} \end{aligned}$$

Example: Output from a dairy farm increased from 200,000 litre to 400,000 litres

$$\begin{aligned} \text{Proportional or \% change} &= \frac{200,000}{200,000} \times \frac{100}{1} \\ &= 100\% \\ &\text{(This means it doubled the starting amount of 200,000)} \end{aligned}$$

Develop skills questions on proportional increase or decrease when teaching the following topics.

Global challenges eg population and natural resources

Urban places: mega cities and urban dynamics of change

Ecosystems eg. decline in area or biodiversity

Economic activity eg. production and consumption

TRY THIS

A population increases from 500,000 to 1.5 million between 2012 and 2016.

Calculate the percentage change in population.

What does this mean?

$$\frac{\text{Change}}{\text{Starting figure}} = \frac{\quad}{1} \times \frac{100}{1}$$

This means

.....

A population changes from 10.2 million to 50.5 million between 1990 and 2015.

Calculate the proportional change in population.
What does this mean?

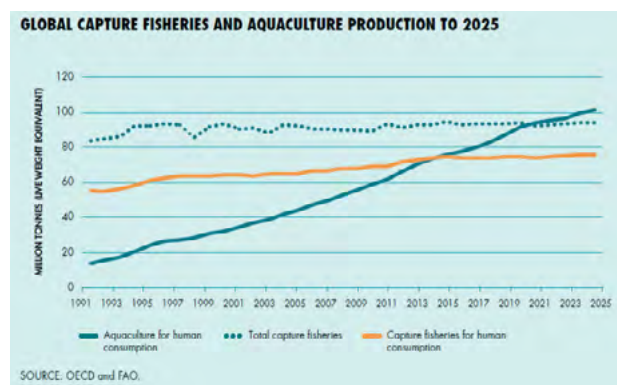
This means

.....

Who might use this information and for what purpose?

.....

Use the graph to answer the following question.



Source: <http://www.iffonet/global-food-security>

By what proportion did aquaculture production for humans increase between 1997 and 2017.

GEOGRAPHICAL SKILLS AND TOOLS

3. INTERPRETING LOG and SEMI-LOGARITHMIC GRAPHS

These graphs are used to graph data which has a large range of values.

- Useful for studying data that changes exponentially eg urban populations
- Can display a larger range of data than an arithmetic scale. Small values occupy a larger proportion of the scale to show change more clearly.
- Useful for showing **rate of change**. A **steep gradient shows a fast rate of change** while a shallow gradient represents a slower rate of change.

The spacing between numbers on logarithmic scales is not the same as it would be on an arithmetic scale so care is needed when reading values. **A logarithmic scale increases by multiplications in value rather than additions** (e.g. 1, 10, 100, 1000 rather than 1, 2, 3, 4).

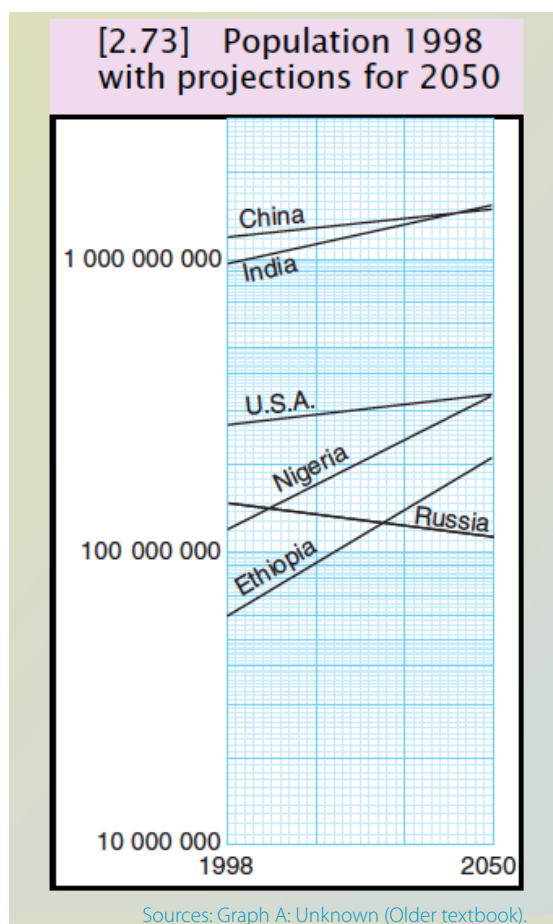
In the HSC exam, the value by which the scale is multiplied by is usually 10.

Both scales may be logarithmic (2009 HSC) or just one (semi-logarithmic graph).

In these examples, each cycle is 10 times the first

These graphs do not start at 0

Graph A*



1. In **Graph A** the fastest rate of change between 1998 and 2050 will be experienced by..... and the slowest rate of population growth by
2. India's population is projected to overtake that of China. What does that tell us about the comparative rate of population change between the two countries?

.....
.....

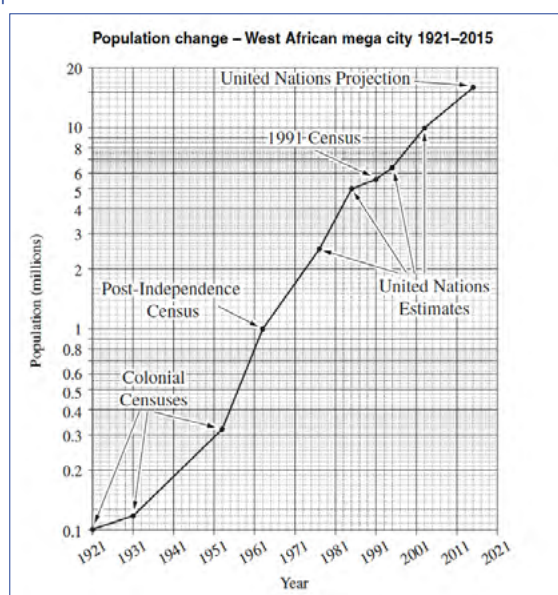
In **Graph B**

3. What was the population of the west African city in:
1963
2003
4. State the 10-year period that experienced the greatest rate of change in population
.....
.....
5. Calculate the proportional change in population from 2003 to 2015

* Watch this explanation <https://www.youtube.com/watch?v=LQc5DaL0WMI>

* PAST HSC PAPERS – 2003 Q19; 2006 Q17; 2014 Q16-18; 2017 Q20

Graph B*

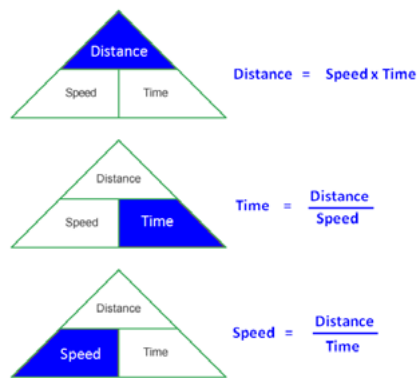


GEOGRAPHICAL SKILLS AND TOOLS

4. CALCULATING DISTANCE, TIME and SPEED

This skill is often linked to other questions eg calculating distance on a topographic map.

The following formulae are used to calculate time and speed of travel as well as distance travelled



Often the distance needs to be calculated by measuring a map distance and then converting this into real-life distances by using the map's scale.

Image: <https://www.onlinemath4all.com/time-speed-and-distance-shortcuts-pdf.html>

Example: You are going to travel between two towns. How long will the trip take?

- The map distance between the towns is 5cm
 - The scale of the map is 1:100 000
 - You drive at 50km/hour
- Time = $\frac{\text{Distance}}{\text{Speed}} = \frac{5 \text{ km}}{50 \text{ km / hour}} = 1/10 \text{ of } 1 \text{ hour} = 6 \text{ minutes}$

TRY THIS

- Time: You travelled 260 kilometres at a speed of 100 kph.
How long did your journey take?
- Speed: It took you 4 hours to travel 320 km between two towns.
How fast were you travelling?
- Distance: You travelled at 80 kph for 6 hours.
How far did you travel?

Past HSC questions have been multiple choice style and linked to locations on topographic maps. Be prepared to show your calculations.

TIME: 2008 Question 12; 2103 Question 10; 2015 Question 13

SPEED: 2010 Question 5

Distance, Time Speed practice problems – https://cpb-us-e1.wpmucdn.com/share.nanjing-school.com/dist/3/28/files/2013/02/8Sci_FM_SpeedProbs-1358kwo.pdf

5. PIE GRAPHS

Each segment is a proportion (%) of the value of the circle which represents 100%.

Draw in a clockwise direction, correctly drawn largest to smallest amount.

Use a bearing sheet OR protractor to draw segments or calculate the degrees a sector represents.

Remember

100% represents 360 degrees

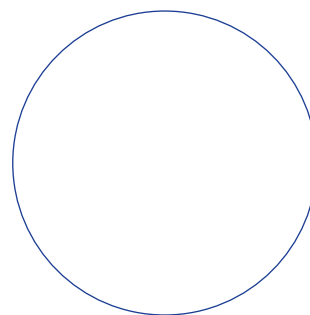
1% represents 3.6 degrees

1 degree represents 3.6 %

Country of Birth	Absolute frequency	Relative frequency
Australia	16	32%
Fiji	3	6%
India	8	16%
Italy	10	20%
New Zealand	9	18%
USA	4	8%
Total	50	100%

TRY THIS

Construct a pie graph using the relative frequency information in the table at left.



Country of Birth	% x.6	Degrees
Australia	32%	115.2
	100%	360

HSC EXAM PREPARATION

GEOGRAPHICAL TOOLS and SKILLS CHECKLIST

SKILLS FROM HSC SYLLABUS DOCUMENT	Attempt 1	Attempt 2	Confident
Students learn to interpret maps by:			
• calculating the gradient of a slope as a ratio			
• calculating the vertical exaggeration of a cross-section			
• determining sight lines between two points			
• constructing a transect between two points and describing the changes along it			
• identifying spatial interaction and change using a variety of sources			
• describing patterns, relationships, networks, linkages and evidence of change within and between regions or areas			
• determining the density of a specific feature on a map			
• reading, constructing and interpreting choropleth maps			
• recognising the key features of changing pressure patterns on weather maps			
• designing and interpreting flowcharts.			
Students learn to analyse graphs and statistics by:			
• calculating the rate of increase or decrease between two points			
• estimating the value of proportional circles of different size using a key			
• estimating the value of particular segments in pie graphs of different size			
• identifying the three elements depicted in a ternary graph and the line scale of each			
• stating the 'mix' of elements at any point on a ternary graph			
• identifying clusters and patterns on a ternary graph			
• constructing and interpreting proportional divided circles			
• interpreting frequency distributions and diagrams			
• reading and interpreting logarithmic and semilogarithmic graphs			
• interpreting and analysing population pyramid data.			
Students learn to interpret photographs by:			
• orientating a photo to a map			
• estimating the scale of aerial photographs and satellite images			
• estimating the time of day at which a photograph was taken			
• calculating areas of land use as a ratio			
• identifying spatial associations, interactions and change			
• constructing a precis map from an aerial photograph or satellite image			
• using Geographic Information Systems (GIS) to examine spatial and ecological issues.			
Students learn to conduct fieldwork by:			
• formulating a geographical question or issue for study			
• identifying, collecting and recording geographical data from a variety of primary sources			
• constructing a log of events and activities, which records the development of a fieldwork activity			
• synthesising data and evaluating the fieldwork activity.			
*** Attempt Fieldwork related skills questions			



gtav

Geography
space
place
skills
Fieldwork
Concepts
Spatial Technologies
interconnection
sustainability
scale
change

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Certificate Structure

4

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Registration available now

2 Conducting Geography fieldwork –
Registration available now

3 Understanding and applying Geography concepts –
available July 2018

4 Understanding and applying spatial technologies in Geography –
available November 2018

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Completing this **Skills Module** will contribute 20 hours of NESA Registered PD Addressing 2.1.2, 2.2.2, 2.3.2, 3.4.2 and 6.2.2 from the Australian Professional Standards for Teachers towards maintaining Proficient Teacher Accreditation in NSW.

Completing this **Fieldwork Module** will contribute 18 hours of NESA Registered PD Addressing 2.1.2, 2.2.2, 2.3.2, 3.2.2, 3.4.2 and 6.2.2 from the Australian Professional Standards for Teachers towards maintaining Proficient Teacher Accreditation in NSW.



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per module



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ASSESSMENT
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members

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members

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ESTUARINE PROCESSES

Marco Cimino, HSIE Teacher
Magdalene Catholic High School, Narellan

A case study investigating ONE issue in ONE of the biophysical components, to illustrate how an understanding of biophysical processes contributes to sustainable management in the environment.

The investigation will include:

- identification and explanation of the key biophysical processes which relate to the issue
- scale of operation
- interactions with other components of the biophysical environment
- the sensitivity of the biophysical environment to change
- the importance of understanding key biophysical processes for effective management

Syllabus Link

This article provides a background for teachers to approach the Preliminary Stage 6 Geography unit of 'Biophysical Interactions.' This unit requires students to look at the four spheres we live and operate in, and their interactions with each other and ourselves. What this paper aims to achieve is to provide a case study that satisfies the syllabus dot-point of investigating an issue and showing how it can be sustainably managed. This paper will look at what estuaries are, the processes involved in shaping them, what activities are taking place in them, and finally, what this means for their sustainability.

Introduction

An estuary is a place where the land and the sea meet: it is a transition zone where water flowing off the surface of the land meets the regular ebb and flood of the tides. Surrounding mainland features or barrier islands help block freshwater flows and create a fertile mixing zone where organic and mineral nutrients from the land and sea accumulate. Freshwater flows are often ephemeral or non-existent and estuaries can be saltier than the sea, however, when floods arrive they can flow fresh to the mouth and beyond (Turner, 2004). An estuary can also be described as 'a semi-enclosed coastal body of water having a free connection with the open sea and within which sea water is measurably diluted with freshwater

derived from *land drainage*' (Woodroffe, 2002, p. 325, my emphasis), meaning that land based activities have major implications on the ecosystem processes which take place in estuaries.

Why Are Estuaries Important?

Estuaries are unique environments that include some of the most biologically productive ecosystems on Earth. Turner (2004) states that estuaries provide sheltered habitats, nurseries and spawning areas for fish, crabs, prawns and shellfish. They help to filter pollutants, act as buffers to protect the shorelines from erosion and flooding and provide essential food and habitats for birds, fish and other wildlife. Any changes in the make-up of these processes can severely alter the way in which the estuaries operate, meaning a loss of biodiversity, and, more extremely, the erosion and degradation of the coastline itself.

What Are Estuaries?

According to Turner (2004), estuaries are classified into three types according to which of the three forces (wave, tide, or river) dominated during the evolution of the estuary. Over time, wave and tide dominated estuaries fill with sediment to become wave and tide dominated deltas. Because of three different forces acting upon the estuary, there are different degrees of effects which can severely alter the processes in the estuary. When wave energy is dominant, marine sand

YEAR 11 BIOPHYSICAL INTERACTIONS

can build up to form a barrier across the mouth of a river channel or shallow embayment. Turner (2004) further argues that they typically have a relatively calm central basin or lagoon. Coarser sediments are deposited at the head of the estuary, whilst the finer particles settle in the central basin. Woodroffe (2002) also makes note of the fact that sediments are likely to accumulate at the mouth of the river unless nearshore processes are sufficient to redistribute them. Estuaries can be a sink for fluvial sediments and for nearshore sediments.

Turner (2004) states that tide-dominated estuaries are funnel-shaped estuaries with strong tidal currents and often high tidal ranges. Sediment is both deposited and eroded in these flanking areas of inter-tidal flats. Due to the growth of mangroves along the flats, sediment is trapped along the sides, meaning tidal amplification occurs. Tide-dominated estuaries accumulate sediment from upstream catchments and from the sea, but much of this sediment load can be flushed offshore during floods. There are also residual currents that result from density differences. According to Woodroffe (2002), velocities of flow vary as the tide propagates up a channel, with both progressive and standing wave components. Most estuaries contain a barrier, which allows the fertile soils and sediments to remain inside the bay area. However, the barrier may also pose a risk to the health of the estuary, as pollutants from land based activities are prevented from leaving the bay area. Woodroffe (2002) continues to say that estuarine sediments can be derived from the catchment or from off the continental shelf. They can come from the atmosphere; they may be eroded from the shoreline or they may be biogenic material.

Land-Based Activities and Implications for Sustainability

Studies by Turner (2004) show that some 60% of NSW estuaries are intermittently closed or open lakes and lagoons, and their systems are sensitive to nutrient enrichment from cities and farms. In recent years, there has been a pattern of landward moving mangroves into saltmarsh areas in temperate eastern Australia. When streamside and floodplain vegetation is replaced with impermeable surfaces such as roads, rainfall can no longer filter into the ground. Instead, when it rains, water runs off into drains and eventually into rivers and estuaries. The study by Turner (2004) also showed that the run-off carries litter and pollutants, such as nutrients, sediment, hydrocarbons, heavy metals, and toxic organic compounds, directly to the estuary through storm water drains.

Many industries are located near estuaries, including smelters, pulp mills and sewage plants. Organic matter

(from sewage plants) discharged into estuaries contains pathogens and heavy metals (from various other industries) which can accumulate in the tissues of shellfish, and make them unfit for consumption. Mining activities can contribute sediments, heavy metals and acid run-off, all of which degrade or destroy estuarine ecosystems. This is illustrated by studies undertaken by Turner (2004). Wetland vegetation slows water flowing towards the sea causing river sediments to deposit. It also physically traps sediment with roots and other structures. The suggestion by Turner (2004) is that intact wetlands retain nutrient rich sediment and stop it moving further down the estuary where negative impacts such as smothering sea grass can occur and altering or destroying wetlands interferes with this beneficial sediment trapping.

Aquaculture ponds and open cages may discharge nutrient-rich wastes, including uneaten feed, faecal waste and chemicals. Turner (2004) stresses the point that aquaculture can lead to an increased incidence of disease in wild population and to the introduction of exotic species through escape. Trawling operations can result in the death or injury of bycatch species. The use of fine mesh nets can result in the capture of juvenile and non-target species. This point is stressed clearly by Turner (2004), and claims that the impact of this activity should be reduced to stop the unnecessary catchment of marine life. As most estuaries are located at the exit of catchments, most sediments are naturally occurring, however, the addition of chemicals and pollutants to the sediments poses a major risk to the estuarine process system. Due to their location near exits of catchments, it is easier for species of small fish (prawns, crabs, etc.) to be washed out of the estuary during periods of heavy rain fall. This also leads to the increased risk of larger predator animals (sharks, etc.) approaching the coast line in order to feed.

An example of an estuary at risk is the Hawkesbury estuary, which is within the Hornsby Shire Council. The Council is working hard to ensure that the estuary and surrounding ecosystem is not damaged, however, they have identified several issues that may cause problems for the area. These include, but are not limited to: developments being allowed in the area, discharge from boats using the area, tourism, and aquaculture and fishing (Hornsby Shire Council, year unknown). More about issues facing the Hawkesbury estuary and what the Council is doing to mitigate them can be found by visiting <http://www.hornsby.nsw.gov.au/environment/water-catchments/hawkesbury-estuary>. Figure 1 below illustrates the different activities that could impact negatively on estuaries.

YEAR 11 BIOPHYSICAL INTERACTIONS



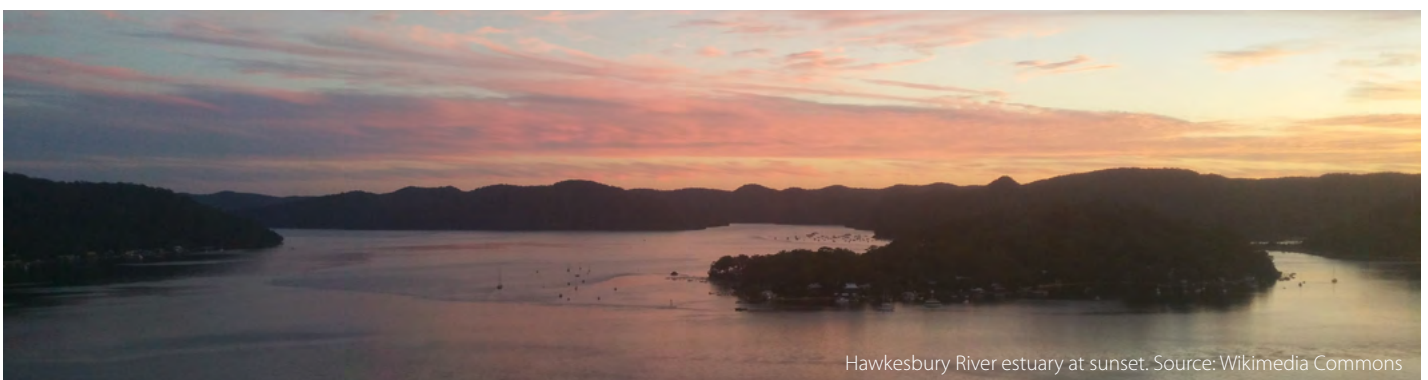
Figure 1: Land-Based Activities as Threats to Estuaries. (Threats to Estuaries. (Year Unknown). Retrieved from <http://biome-estuaries.weebly.com/threats-to-estuaries.html>)

Conclusion

The sustainability of estuarine ecosystems (mangroves, salt marshes, and various local fauna) and aquaculture is vital to the long-term health of coastal areas, as estuaries act as the buffer between land and sea. Anything that is trapped in an estuary will very rarely enter the ocean (determined by the type of estuary it is). This does not mean, however, that we can degrade estuaries with the knowledge that it is not doing to harm to the wider ocean. Estuaries house some exotic and rare flora and fauna, all of which are very fragile and susceptible to changes in the systems in which they operate.

References

- Hornsby Shire Council. (Year Unknown). Hawkesbury Estuary. Retrieved from <http://www.hornsby.nsw.gov.au/environment/water-catchments/hawkesbury-estuary>
- Threats to Estuaries. (Year Unknown). Retrieved from <http://biome-estuaries.weebly.com/threats-to-estuaries.html>
- Turner, L. (et al) (2004). *Where River Meets Sea: Exploring Australian Estuaries*. Australia: Coastal CRC.
- Woodroffe, C. D. (2002). *Coasts: Form, Process and Evolution*. UK: Cambridge University Press.



Hawkesbury River estuary at sunset. Source: Wikimedia Commons

PROFESSIONAL LEARNING

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Wednesday 17 October, 8.30am – 3.00pm
Teachers Federation Conference Centre,
Reservoir Street, Surry Hills

WAGGA WAGGA

Friday 19 October, 8.30am – 3.00pm
Riverina Environmental Education Centre
Sturt & Olympic Highway, Wagga Wagga

MAITLAND

Wednesday 26 September, 8.30am – 3.00pm
All Saints College, St Mary's Campus
9 Free Church Street, Maitland

Benefits of teaching with GIS



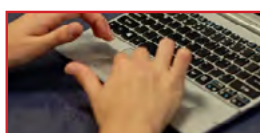
Engage students in challenging problem solving tasks on real-world issues. Create informed global citizens, with critical and creative thinking skills.



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Take excursions to the next level by collecting GIS data in the field using a range of free mobile apps. Then, interpret the results back in the classroom.



Event registration [CLICK HERE](#)



Population Geography and Development Geography: Connected Learning

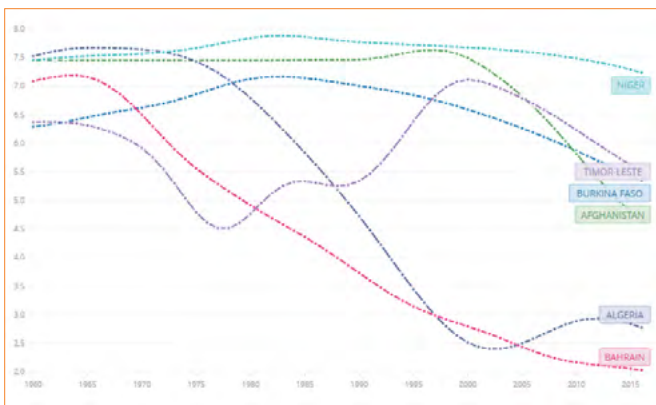
Dr Paul Batten and Dr Bronwyn Batten

Population Geography and Development Geography are strongly intertwined. In the current NSW syllabus teachers and students can engage with these two units in the Preliminary Stage 6 course. Population Geography is a mandatory component of the Global Challenges topic, and Development Geography is a study option amongst other Global Challenges units. Whilst the conventional approach to teaching the syllabus is to prepare and deliver learning activities first for the whole of Population Geography, then - if chosen - for the whole of Development Geography, there is a very good argument for enmeshing the two units into a combined unit: Population and Development Geography. Reasons to enmesh the units include the real-world feedback loops from each of the fields to the other, the overlap in the subject matter in the two fields, and the capacity for a teacher to diversify the learning progress for students, to enhance learning engagement.

REAL-WORLD FEEDBACK LOOPS

There are real-world feedback loops between Population Geography and Development Geography. Learning activities can highlight both major and non-major influences from each of the fields to the other. A fundamental relationship where demography shapes development is larger families suppressing general development, as the resources of the parents need to be divided multiple times, for example in some countries in the last 50 years up to 7 or 8 ways (refer to Total Fertility Rate graph).

Total Fertility Rate over last 50 years for various countries with high starting values



Source: World Bank

Another fundamental relationship is birth rates being suppressed by increased development – specifically, women being more educated and busier with employment, amongst other factors (see, for example, some discussion by Garbund, 2009). A narrower but still fascinating connection between population and development is low fertility in a region challenging its economic growth. The Japanese are concerned that there are a reducing number of workers in their economy and that productivity losses there might not be offset by other gains, such as from technology (e.g. robots). Added to this is the challenge of the Japanese needing to care for a demographic bulge of economically-dependent older people. Some websites on the Japanese population/development challenge include:

- Japan is running out of its most important asset: Healthy people
- Population of 100 million in 50 years a fantasy requiring a shift in thinking
- Graying Japan increasingly reliant on foreign labor
- Japanese couple apologise for ignoring work pregnancy timetable by conceiving 'before their turn'
- Not having children is 'selfish': Japanese politician'

On a different point, the push and pull of population movement is often connected to development - job opportunities, health, education, security, etc. (a good source amongst many here is the UN Department of

Economic and Social Affairs). It is clear that factors studied in Population Geography influence and are influenced by factors studied in Development Geography. Therefore, it is helpful for students to learn about the two units in an integrated way.

OVERLAP IN ISSUES

“Lagos, set to become the largest metropolis the world has ever known.”



Photograph: Pius Utomi Ekpei/AFP/Getty Images Source The Guardian, 2018.

There is an overlap in the issues between Population Geography and Development Geography. For example, there have been historical challenges to the provision of education in poorer regions with a wide-based population pyramid. There are challenges to providing education resources even to upper middle class demographic groups with a wide-based population pyramid, for example in the growth corridors of north-western and south-western Sydney such as in the “Nappy Valley” of the Camden Valley Way area. The challenges are significantly greater in lower socio-economic areas, for example in the 1970s especially in the Green Valley area of south-western Sydney and Blacktown region of north-western Sydney. Some reasons for this are lower financial contributions – in absolute terms - from parents to childrens’ educational efforts, and a reduced set of role modelling / expectation setting by parents who were less likely to have done tertiary study, say, and even to be regularly employed in some socio-economic segments. As described above, the social issue of education is common to the topic of population and to development. The *issues arising from the changing size and distribution of population* overlap with the *equity issues of development* opportunities for lower versus higher socio-economic areas. Here are some sources for this broader topic, not just in education:

- The public housing dilemma dividing our suburbs
- Community profiles at profile.id e.g. – Qualifications in Oran Park

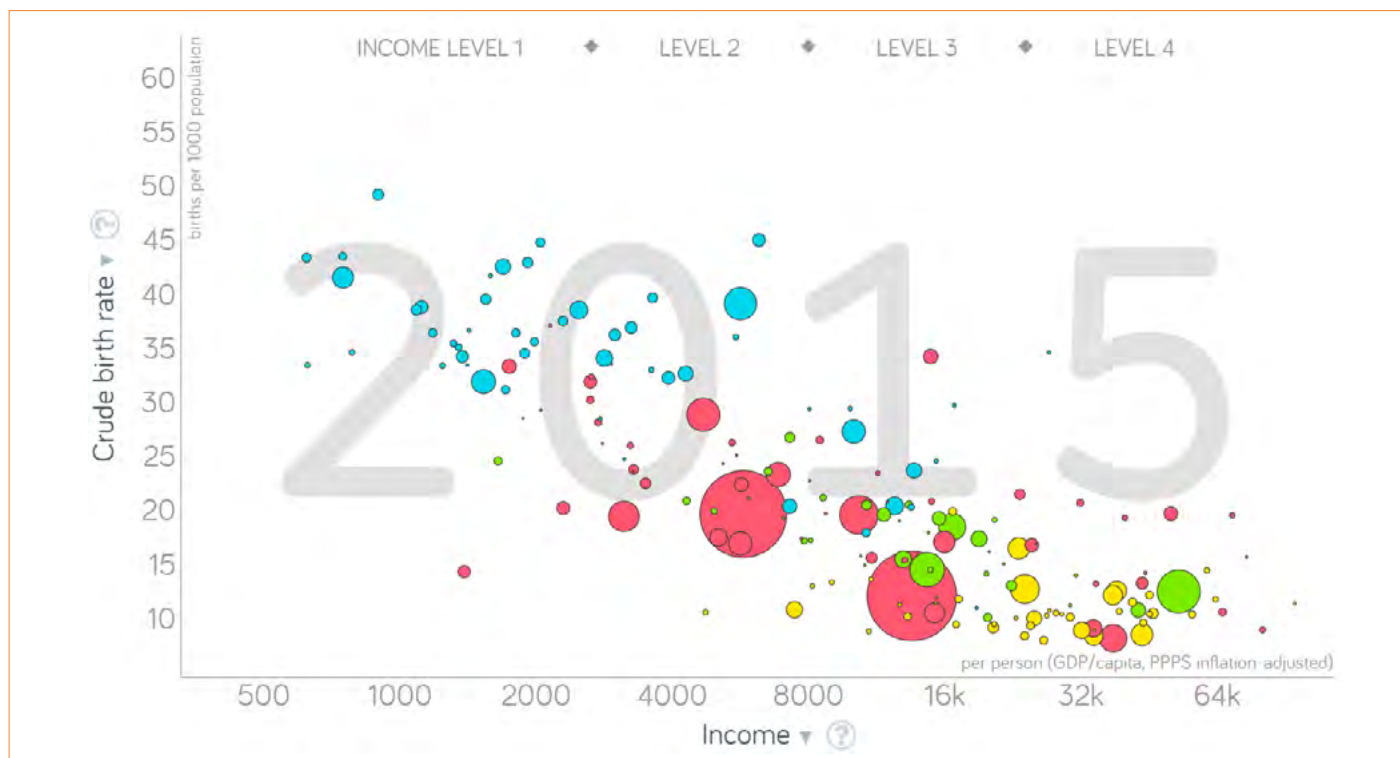
- 4Corners *Growing Up Poor*
- Beating the Odds
- Aged over 60 and female? Here’s why you might be at risk of poverty
- Video accounts of the 2005 Cronulla riots
- Slumscape: how residents of the world’s five biggest slums are shaping their futures
- Manila: 20 million and rising
- The dysfunctional megacity: why Dhaka is bursting at the sewers
- The 100 million city: is 21st century urbanisation out of control?

MIXED LEARNING FOR ENGAGEMENT

With an integrated Population and Development Geography unit a teacher can mix the learning progress for students so as to enhance learning engagement. There is a diversity of learning opportunities across these two interesting study areas – as the aphorism goes: variety is the spice of life. Population Geography involves, for example, the analysis of the changing population pyramids of different places around the world. Development Geography offers the opportunity, for example, of watching classic videos such as *Kevin McCloud: Slumming It* and Robert Neuwirth’s excellent Ted Talks. In these examples, one of the units provides opportunity for students to learn to use a key Geography tool – population pyramids, while the other unit provides the opportunity for virtual immersion in some of the most interesting human landscapes on Earth. There is a myriad of other mixtures available across the two units, and sometimes where Development Geography offers the technical learning (e.g. HDI analysis) and Population Geography offers the immersive experience (e.g. any and all of Hans Rosling’s outstandingly student friendly statistical demography videos, which – not coincidentally – include many references to development). An additional benefit of mixing the units is that students can make connections between ideas from different syllabus dot point areas. For example, *spatial patterns of fertility and mortality* (a Population Geography dot point) are an indicator used to illustrate *variations in the level and rate of development at a global scale* (a Development Geography dot point). Conversely, the *nature of development* (e.g. developed versus developing world) is a window through which to look at *the changing nature, rate and distribution of the world’s population* (developing world, especially Africa, set to increase markedly, whilst the developed world’s demographic changes are not a function of future growth). Integrating the two units into a broader unit allows meaningful juxtapositions of learning activities.

YEAR 11 GLOBAL CHALLENGES

Birth rates graphed against income, colour coded by global region (e.g. Africa in blue, Asia in pink).



Source: Gapminder

In conclusion, there are strong reasons to enmesh the teaching of Population Geography and Development Geography in the current NSW Preliminary Stage 6 course. There are real-world connections and drivers between the two fields, ranging from fundamental drivers, such as large families generally suppressing development to development suppressing birth rates, to additional interesting linkages such as low fertility in a region (e.g. Japan) challenging its economic growth. There is an overlap in issues between Population Geography and Development Geography, such as the historical challenges to the provision of education in poorer regions that have a wide-based population pyramid. Finally, the approach to the syllabus argued for here allows the mixing of learning activities from two interesting study areas, leading to enhanced learning

engagement from diversification and juxtaposition, such as analysing the changing population pyramids of different places around the world and watching classic videos such as *Kevin McCloud: Slumming It*, and from students making connections between ideas from different syllabus dot point areas. For the remainder of the time that the current NSW Stage syllabus is taught, this enmeshed approach is a strong option for teachers, and the philosophy and reasoning underpinning it could well be similarly applied to whatever the replacement syllabus contains. As Hans Rosling says, “don’t panic”; we can be “serious possibilists” about global population and development. Using another of Hans’ lines, we can “take emotion apart and ... just work analytically with the world” and see that these two units work together to make a meaningful and fascinating larger unit.



Lokmanya Tilak Terminus Flyover slum, Mumbai

YEAR 11 GLOBAL CHALLENGES

A possible teaching programme within the current NSW preliminary syllabus.

<p>Week 1 + the following development dot points:</p> <ul style="list-style-type: none"> • The nature of development • The use of indicators to illustrate spatial variations in the level and rate of development at a global scale
<p>with foundational learning, including links to global population, about:</p> <ul style="list-style-type: none"> – definitions of developing and developed (using OECD and other) and MDC / LDC – HDI as a core focus – the UN's 2030 Agenda for Sustainable Development – the triple bottom line of sustainability: economic, social, and environmental – Hans Rosling's excellent TedTalk (10 min) on how much of the world's population is in various categories of development – conceptual discussions of development, e.g. why the world bank is eliminating terms – historical terms such as Global North/South, First/Second/Third World – the 'world as 100 people', such as the excellent These 6 Charts Show How the World is Improving
<p>Week 2–3 + the following population dot points:</p> <ul style="list-style-type: none"> • The changing nature, rate and distribution of the world's population • Spatial patterns of fertility and mortality • Types, volumes and directions of population movements such as rural-urban migration, labour migration and refugee migration
<p>with activities, involving key connections to development, such as:</p> <ul style="list-style-type: none"> – this short but superb Hans Rosling video predicting world population – a look at more and less developed regions and case study places – an analysis of population pyramid shapes: e.g. wide base triangle, beehive, tombstone – a full watch (60 minutes) of Hans Rosling's "Don't Panic" – student-centred exploration and reporting back to class using the Gapminder tools website – highlighting the links between migration and development
<p>Week 5–6 + the following development dot point:</p> <ul style="list-style-type: none"> • Issues arising from these spatial patterns of development such as access to shelter, social support, health, and educational opportunities
<p>with activities linked to population such as investigating:</p> <ul style="list-style-type: none"> – Robert Neuwirth's cities of tomorrow (14 mins), with a supporting discussion of squatter settlements, slums, favelas and shanty towns – followed by Neuwirth's power of the informal economy (12 mins) – then 'Kevin McCloud: Slumming It' (48 mins) – search for it on YouTube – and development issues in more developed places – see resources in paragraphs above
<p>Week 7–8 + the issues dot points from each section:</p> <ul style="list-style-type: none"> • Development – equity issues related to ethnicity, class and gender, and ecologically sustainable development (ESD) • Population – issues arising from the changing size and distribution of population including environmental, economic and social impacts
<p>using various LDC and MDC case studies that combine each of the following:</p> <ul style="list-style-type: none"> – economic impacts of population change with equity issues related to class (e.g. Sydney's latte line) – social impacts of population change with equity issues related to ethnicity and gender – environmental impacts of population change with equity issues related to ESD



Geography Teachers Association of NSW

GTANSW TEACHER PHOTOGRAPHY COMPETITION



Entries to be submitted
via this **GOOGLE FORM**

Each month a winner will be
chosen from the entries.

These will be published in the
GTA bulletin and posted in the
GTA Facebook Page for voting.

The monthly winners will
go into the draw to be the
yearly winner, drawn at the
GTA Council Planning Day in
October.

This winner will receive a free
one-day registration to a GTA
event PLUS make the front
cover of a Geography Bulletin.

RULES

- Open to GTA members and teachers from member organisations only
- Photos must be the contributors work. Preferably use a watermark.
- For any students in the images permission to publish must be given
- Each image needs a descriptive caption linked to Geography K-12 in NSW
- Ensure images are high quality ... minimum 10 megapixels.
- GTA will retain the right to use the image in the journal or on publicity flyers with credit given to the owner.

STAGE 6 RESOURCES

Using podcasts and journal articles as a tool of professional learning and a tool of instruction in the Stage 6 Geography classroom

Susan Caldis, Vice President GTANSW

The intent of this article is to twofold: firstly, to review a selection of recently published podcasts and journal articles that may be of interest to Geography teachers; and secondly, to suggest ideas about how the research could best be utilised by Geography teachers, for example as part of their own identified hours of professional learning, or for use with students in the context of chosen areas within the Stage 6 Geography course.

Coverage of the podcasts and journal articles are identified below:

- City Road Podcasts, developed by Dr Dallas Rogers;
- Kerr, S-M., Gibson, C., & Klocker, N. (2018). Parenting and neighbouring in the consolidating city: The emotional geographies of sound in apartments. *Emotion, Space and Society*, 26, 1–8. DOI: [10.1016/j.emospa.2017.11.002](https://doi.org/10.1016/j.emospa.2017.11.002)
- McLean, J., Lonsdale, A., Hammersley, L., O’Gorman, E., & Miller, F. (2018). Shadow waters: Making Australian water cultures visible. *Transactions of the Institute of British Geographers*, 1–15 <https://doi.org/10.1111/tran.12248>

Whilst the original intention of the podcasts and articles may not have been to specifically connect with key content from the current Preliminary and HSC Geography syllabus it becomes apparent that possibilities to do so exist, thus enhancing the intersectionality between ‘academic’ and ‘school’ Geography.

Podcasts

City Road Podcasts – <https://cityroadpod.org/>

City Road Podcast is an initiative of Dallas Rogers, Program Director of the Master of Urbanism, School of Architecture, Design and Planning at the University of Sydney. The podcasts enable current research to be shared with a wide audience in an accessible, digestible form.

The podcasts are free and are available either through the above web-link, or Apple Podcasts, or through the Twitter handle @CityRoadPod. City Road Podcast also broadcasts on 2SER 107.3 community radio in Sydney and around Australia on the Community Radio Network,

identified as “Informed stories about cities and urban life”. There are 12 episodes per year and each podcast comes with an introductory context statement about the research upon which the podcast is based as well as information about the academic or expert in the field being interviewed in the podcast. Links to further reading opportunities are provided on the website. A range of cities are covered including New York City, Sydney and Washington D.C. framed under themes such as ‘Parks and Cities’, ‘City Boom, City Bust’ and ‘History and Cities’ respectively.

There is scope for these podcasts to be a source of learning for the in-service teacher and pre-service teacher. When combined with scaffolding and careful planning, many of the podcasts would be suitable for use in the classroom with students, particularly those completing the Stage 6 course in Urban Places, or within Population Geography, Global Challenges.

Two personal favourite podcasts from City Road Podcast include:

- Population and Cities; and
- Homeless Cities.

Population and Cities (27 minutes, 45 seconds)

This podcast uses the lens of ‘wicked problems’ to discuss the dilemmas facing urban areas as a result of population growth. The points of reference are most often contextualised at the local scale of Sydney although cities across Australia and the world are mentioned.

The podcast is well-paced, informative, and clear. It is suitable for use with students when exploring Urban Places, particularly within the case study of a large city of the developed world: growth, development, future

STAGE 6 RESOURCES

trends and ecological sustainability. Alternatively, the podcast could be used within the urban dynamics section broadly when working towards achievement of the following outcomes:

- H1 Explains the changing nature, spatial patterns and interactions of ecosystems, urban places and economic activity; or
- H6 Evaluates impacts of, and responses of people to, environmental change; or
- H12 Explains geographical patterns, processes and future trends through appropriate case studies and illustrative examples.

Furthermore, this podcast could be used as a springboard for discussion in Population Geography, Global Challenges about issues arising from the changing size and distribution of population including

environmental, economic and social impacts. If a broader approach is desired towards meeting course outcomes, the podcast could be used as an illustrative example by students as part of working towards achievement of:

- P4 Analyses changing demographic patterns and processes
- P6 Identifies the vocational relevance of a geographical perspective
- P8 Selects, organises and analyses relevant geographical information from a variety of sources

For Urban Places, student notes could be developed in to a table to reflect alignment between the syllabus content and information from the podcast. Table 1, shown below, provides an example about how this could be completed.

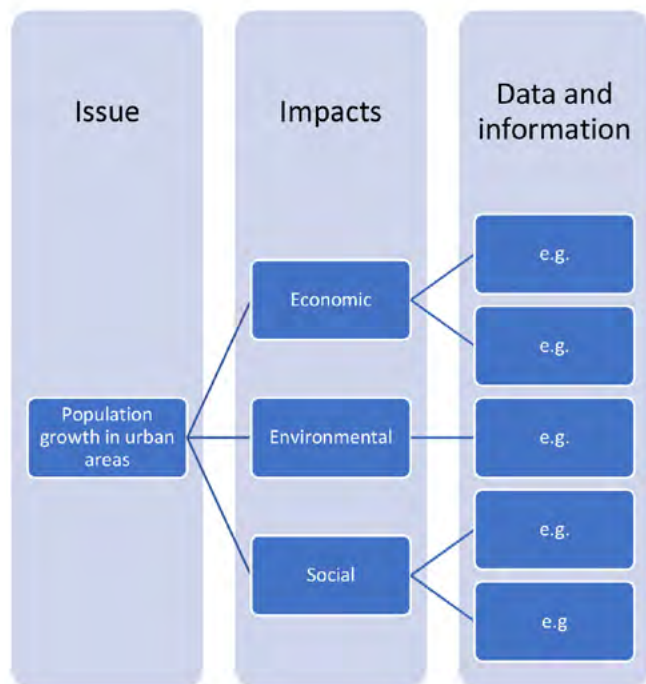
Table 1: Syllabus dash point: Growth, development, future trends and ecological sustainability

Section of podcast	Key points to consider	City(ies) referenced	Syllabus area
Growth rates of Australian cities			Growth
Different needs and funding decisions for housing, infrastructure, transport and employment.			Future trends
Which is more valuable – People or Economy? (aesthetics, heritage community etc.,)			Development Future trends
What are good and bad examples of urban planning for population growth?			Growth Development
Power struggles related to resources and accountability.			Development Future trends
Population density – Is it always related to population growth? Is it always sustainable?			Growth Ecological sustainability
Environmental sustainability of cities.			Ecological sustainability

For the core Population unit in Global Challenges, student notes could be developed in to a mind-map around the three impacts (economic, environmental, social). A possible example is shown in Figure 1 on the following page.

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Figure 1: Syllabus dash point: Issues arising from population growth such as economic, environmental and social impacts



Homeless Cities (26 minutes, 30 seconds)

This podcast discusses the origins of and understandings about homelessness, and the complexities associated with being part of a formal and informal homeless population. There is reference made to the homeless population of Sydney but most of the discussion is contextualised around homelessness broadly.

This is another well-paced, informative and clear podcast that would be suitable for use with students when exploring Population Geography, Global Challenges. An idea that springs to mind is to develop an overarching inquiry question to frame a teaching, learning and assessment program for Population

Geography using the context of homelessness. The podcast could be used as an introductory activity because it addresses homelessness through identifying the following syllabus content

1. changing nature, rate and distribution of the world population (contextualised according to the homeless population particularly in Australia);
2. types, volumes and directions of population movements (contextualised through reasons why people moved the city and how homelessness occurred); and
3. issues arising from the changing size and distribution of population including environmental, economic and social impacts (contextualised through the economic and social impacts related to the issue of homelessness).

If using Homelessness as an overarching frame for Population Geography, it could be problematized to encourage critical and creative thinking, and empathy, as well as the opportunity to lead in to a project-based learning approach to the unit if desired. Suggestions for an inquiry question are provided below:

- Homelessness or Houselessness?; or
- Homelessness: Fringe or Forefront?; or
- Homelessness: What is it? Who is involved? How does it occur?; or
- Homelessness: Is it perpetuated by those who intend to assist?.

Within the podcast, the following questions are covered which connect to the suggested overarching questions above and also the previously identified content from the syllabus shown in points 1 – 3. If preferred, these questions could be used as a scaffold for student note-taking from which they could further investigate the economic and social impacts arising from the issue of homelessness.



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Table 2: Population Geography: Homelessness (economic and social impact)

Questions	Responses
<p>How is homelessness defined?</p> <ul style="list-style-type: none"> – What are the implications of homelessness? – Is homelessness only about the physical object of a 'home'? – Are conceptions and understandings about home, house, land the same across populations? 	
<p>How is homelessness demonstrated or manifested in society?</p> <ul style="list-style-type: none"> – Who is understood to be homeless? (e.g. age, gender etc.,) – How does this compare to the data? – How does this compare to history, has it changed over time? – What are the implications of invisible or hidden homelessness? 	
<p>What are the nature and outcomes of structures and actions in response to homelessness?</p> <ul style="list-style-type: none"> – How can the following groups play a role in developing understanding and promoting awareness about the complexity of homelessness: <ul style="list-style-type: none"> • Academics (research) • Politicians (policy) • Media • Non-government organisations 	

Whilst classroom use of selected podcasts from City Road Podcast are encouraged, there are other podcasts in the series which lend themselves more readily to teacher professional learning as part of identified hours.

Journal articles based on contemporary empirical studies

Two peer-reviewed journal articles based on current empirical research are well placed as professional readings but could also be carefully used with students in the classroom. The first article (Kerr, Gibson, & Klocker, 2018) provides opportunities to connect the research to Urban Places if exploring Sydney as a case study of a large city in the developed world. Additionally, the research focus became inspiration for a potential topic to be investigated for a Senior Geography Project (SGP). The second article (McLean, Lonsdale, Hammersley, O'Gorman, & Miller, 2018) links well to syllabus content from Ecosystems At Risk around heritage values, nature and rate of change, and traditional and contemporary management strategies.

Article 1

Kerr, S-M., Gibson, C., & Klocker, N. (2018). Parenting and neighbouring in the consolidating city: The emotional geographies of sound in apartments. *Emotion, Space and Society*, 26, 1–8. DOI: [10.1016/j.emospa.2017.11.002](https://doi.org/10.1016/j.emospa.2017.11.002)

The authors of Article 1 are based in the School of Geography and Sustainable Communities at the Australian Centre for Culture, Environment, Society and Space (ACCESS), University of Wollongong. Please note, ACCESS was formerly known as the Australian Centre for Cultural, Environmental Research (AUSCCER).

The lead author, Sophie-May Kerr, is conducting research about the everyday experiences of families living with children in apartments across Sydney as part of her PhD Candidature. Although the article is available through university databases, its key messages are supported by and can be readily accessed through the following means:

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- (i) a 'free to air' interview on Kinderling Kids Radio with Sophie-May Kerr <https://omny.fm/shows/kinderling-conversation/the-new-noisy-normal-raising-a-family-in-an-apartm> ;
- (ii) a 'free to air' interview on ABC Radio National with Sophie-May Kerr <http://www.abc.net.au/radionational/programs/lifematters/high-rise-tension-for-families-and-neighbours-in-apartments/9351538> ;
- (iii) an article based on the research published in The Conversation <http://theconversation.com/with-apartment-living-on-the-rise-how-do-families-and-their-noisy-children-fit-in-88244> , and
- (iv) an article about the research available online via The Stand: Stories from UOW <https://stand.uow.edu.au/future-housing-families-apartments/>.

The following review focuses on the journal article as cited above.

Teachers may like to use Article 1 as an item of professional reading to support understanding about Urban Places, particularly if investigating Sydney as a case study of a large city in the developed world. The web-links provided above would enable the research contained in Article 1 to be more accessible to students.

Article 1 commences with an articulation of research context around urban consolidation leading to a transition from the traditional detached suburban house to dense apartment dwellings, and in so doing raises the question about whether the presence of children in apartment-living is expected and appropriate - particularly when urban planning decisions seem not to cater for families in high-density living contexts. As the article progresses, a connection between families, sounds, and emotions emerge. Families living in apartments across a range of Sydney suburbs share their lived experiences about constraints, opportunities and feelings, and their stories are communicated through a series of vignettes which makes for digestible, interesting reading.

A narrative around 'sounds that belong or don't belong' in the context of apartment-living, as well as cultural norms or expectations about the type of people and activities that are acceptable in a public space and apartment-living scenarios provide curiosity hooks from which evaluation and rigorous debate could be encouraged amongst students. Even if key messages of the research are communicated to students as illustrative examples to support known information about Sydney gained from other sources, Article 1 contains valuable, contemporary and thought-provoking instances about the changing nature of

Sydney's demographic, social, economic, and residential character that would be worthy of inclusion where appropriate to short answer or extended response questions.

The following content areas of the Urban Places syllabus are covered to varying depths in the research findings from Article 1:

A case study of the results of urban dynamics in a large city selected from the developed world:

- social structure and spatial patterns of advantage and disadvantage;
- nature and location of residential land; and
- growth, development, future trends and ecological sustainability.

Another point of inspiration from Article 1 occurs in response to the SGP. There is a clear connection to Population Geography, Global Challenges: Issues arising from the changing size and distribution of population including the environmental, economic and social outcomes.

Depending on the focus and nature of topic chosen for the SGP in response to Article 1, students could focus on their local area or do a comparative study between two known local areas. In so doing, students would be working towards achievement of any one or combination of the following outcomes:

- P1 Differentiates between spatial and ecological dimensions in the study of Geography
- P4 Analyses changing demographic patterns and processes
- P5 Examines the geographical nature of challenges confronting humanity

Students could listen to the interview on ABC Radio National and Kinderling Kids Radio and also read through related articles from The Conversation and The Stand to come up with an overarching question to frame their SGP. Examples could include:

- How are residential choices changing in (name the suburb) and who is affected?
- Apartment-living in (name the suburb): What are the economic and social changes?
- Media vs reality: What is represented about apartment living in (name the suburb)?

Such an activity would support students in working towards two of the outcomes associated with the SGP:

1. P8 Selects, organises and analyses relevant geographical information from a variety of sources; and

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2. P11 Applies geographical understanding and methods to ethically and effectively research a project

With scaffolding and focused activities developed by the teacher, the methodology section of Article 1 will provide ideas to students about the type of primary research activities that could be conducted as part of their investigation. When combined with the aforementioned activity, students are then able to work towards achieving a third outcome:

3. P7 Formulates a plan for geographical inquiry

Implementation of the plan will include fieldwork (primary research) and the use of secondary research, both of which would ideally include both qualitative and quantitative research. Again, with guidance from the teacher, the vignettes in Article 1 provides a form of secondary research for students to compare their results/research findings against which could be used in addition to other found media articles and local statistics from the Census and Australian Bureau of Statistics. In so doing, students are then working towards achievement of another two outcomes:

4. P9 Uses maps, graphs and statistics, photographs and fieldwork to conduct geographical inquiries
5. P10 Applies mathematical ideas and techniques to analyse geographical data

Of course, teachers might prefer to use Article 1 only as an identified professional development reading to support understanding about emerging demographic changes the way in which this affects community and urban planning considerations across different areas of Sydney.

Article 2 (Ecosystems At Risk)

McLean, J., Lonsdale, A., Hammersley, L., O’Gorman, E., & Miller, F. (2018). Shadow waters: Making Australian water cultures visible. *Transactions of the Institute of British Geographers*, 1–15
<https://doi.org/10.1111/tran.12248>

Teachers may like to use Article 2 as an item of professional reading to support understanding about Ecosystems At Risk, particularly in response to heritage values and traditional and contemporary management strategies, and also if investigating a riverine environment for one of the chosen case-studies.

The authoring and research team for Article 2 emerge from a collaborative research relationship between peoples of Indigenous and non-Indigenous heritage from Macquarie University and Mudgee Local Aboriginal Land Council (MLALC). The research was conducted

on Wiradjuri Country and focuses on building understanding about and recognition of Indigenous water values of the neighbouring rivers: Goulburn and Cudgong. Within this research, information about the nature and impact of change, the significance of, and management strategies related to, the aforementioned rivers are illuminated, thereby capturing a connection to Ecosystems At Risk via the following outcomes:

- H2 Explains the factors which place ecosystems at risk and reasons for their protection; and
- H6 Evaluates the impact of, and responses of people to, environmental change.

There are also pertinent reminders woven throughout the article about the importance of collaboration and consultation occurring between non-Indigenous peoples and Indigenous Elders and communities, as well as ensuring the Indigenous values and stories are communicated to others through their own presence and voices. Such a point is useful for teachers to consider when covering heritage values, and traditional and contemporary management strategies for the Ecosystems At Risk case-studies. The above citation is a free access article <https://onlinelibrary.wiley.com/doi/abs/10.1111/tran.12248?af=R>

Article 2 is framed by the theoretical lens of ‘shadow waters’, a metaphorical term used to identify which area of water, in this instance, flowing within a river, gains ‘visibility’ or priority for protection in planning and management processes, or becomes ‘invisible’ and therefore overlooked in such processes. Shadow waters can be understood as visible or invisible water in a river that reaches from groundwater up towards surface water, and across different parts of a catchment, and in the context of how recognition of prominent and low-priority areas of water can change over time. Waterways, including surface water and groundwater hold cultural, spiritual and economic values for traditional custodians, and are crucial for the continuation of livelihoods and ability to care for Country. To date, Indigenous water values are not consistently recognised or included in planning and management strategies for Australia’s waterways. Indigenous water values provide depth, interest and relevance to understanding heritage value as a reason for the management and protection of ecosystems at risk. For a riverine ecosystem at risk, an understanding about Indigenous water values will also help to develop evaluative capacity around the effective implementation of traditional and contemporary management strategies in terms of responsibilities, ethics, and the predicted, preferred and possible sustainable futures, of caring for waterways.

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Article 2 is contextualised around the neighbouring Goulburn River and Cudgegong River – a catchment placed at risk through coal mining, agricultural and sand-mining activities. Management of the Goulburn River occurs collaboratively via National Parks and Wildlife Service working with the local Indigenous community, and through joint research projects such as the formalised research agreement between MLALC and Macquarie University. Activism from local environmentalists also form part of the management and protection strategies. The Goulburn River is eastwards flowing and is a part of the Hunter River catchment; parts of the Goulburn are valued by the local Wiradjuri community as a sacred place for women. Boundaries and meanders of the river are crucial for communication along songlines and delineation of kinship and community relationships, such as those related to marriage. The Cudgegong River is westwards flowing and is part of the Murray-Darling Basin, valued by some as an environment for leisure.

As a professional reading, which could form part of the personal identified hours related to professional learning, Article 2 introduces teachers to new terms, such as 'shadow waters', 'Indigenous water cultures' and 'Indigenous water knowledge' which are all

unpacked theoretically and practically in the context of contemporary research focused on an at-risk river catchment using a combined Wiradjuri and non-Indigenous voice. Key messages from the research could be incorporated in to classroom teaching about Ecosystems At Risk, for students to use as illustrative examples when responding to questions about traditional and contemporary management strategies, and reasons for the protection and management of ecosystems at risk. Alternatively, the Goulburn and Cudgegong Rivers could be further investigated through communication with the MLALC, Macquarie University and other stakeholders, to be developed in to a formal case-study which would be suitable for use as one of the required two case studies of an ecosystem at risk.

In summary, the content contained within City Road Podcast, Article 1, and Article 2 provide a suitable entry point for teachers to connect 'academic' Geography and 'school' Geography. Whether these resources are used to extend and deepen professional knowledge about various units across the Stage 6 course, or become introduced to the classroom for use with students, each publication provides valuable, contemporary insights to key areas of the Preliminary and HSC syllabus.

GEOGRAPHY

WEBINAR PROGRAM

TERM 3 – WEBINAR 1: LITERACY IN GEOGRAPHY

Literacy in Geography will be held on Wednesday, 29 August 4.00 – 5.00pm.

The webinar will be presented by David Proctor. David is an experienced high school geography teacher.

Writing and responding in Geography utilises a wide range of literacy texts that assists students in building understanding their world. Students express their understanding by using geographic vocabulary. Avenues for geographic writing will be explored along with revision activities.

There is no charge for this webinar, **CLICK TO REGISTER**
Once registered you will be sent access information prior to the day of the webinar.

GLOBAL TOURISM UPDATE



Dr Grant Kleeman, Vice President GTANSW

Tourism is the world's largest industry. In 2017, the industry's direct economic contribution was US\$2.57 trillion (3.2% of the world's total GDP). When indirect benefits are included the industry's total economic contribution reached 10.4% of the world's GDP or US\$8.27 trillion.

That's nearly seven times larger than the total Australian economy. In terms of employment, the sector accounts for 9.9% of global employment (313,221,000 jobs). This includes jobs indirectly supported by the industry. The sector accounted for 20% of all jobs created over the course of the last decade. By 2028, the industry is projected to account for 413,556,000 jobs (11.6% of all employment).

It is important to remember that the emergence of the tourism industry is largely a feature of the latter half of the twentieth century. In 1950, the total number of people travelling internationally numbered just 25 million and most of these trips were cross-boarder movements within Europe. By 1960, the number of people travelling internationally had increased to 278 million. By 2000 it reached 674 million. Today, more than 1.3 billion participate in tourism related international movements. The World Tourism Organization (WTO) forecasts that international movements will rise to 1.8 billion by 2030 (that is one in five or 20% of the world's population travelling internationally each year). Figure 1 shows the rapid expansion of the industry in the period 1995–2017. Only the Global Financial Crisis (GFC) of 2008 disrupted the growth trajectory, albeit for just 12 months. The relatively short-lived impacts of the GFC are still evident in graph of international tourist arrivals (monthly change) shown in Figure 2.

As the industry has matured it has become more diverse and specialised. The degree of specialisation (expressed in terms of revenue) is shown in Figure 3. Cultural tourism continues to be the largest sector, followed by culinary tourism, ecotourism and wellness tourism.

Also of relevant in any examination of the global tourism industry is the polarisation taking place within sector. At one end of the continuum are the transnational corporations – the global travel companies, the airlines, cruise lines, and multi-brand hotel corporations. At the other end of the continuum

are the local entrepreneurs – the entertainers, stallholders, restaurants, operators of local attractions and restaurants, and B&B and Airbnb owners.

The growth in global tourism is not without its consequences. Overcrowding is becoming a major political issue as the surge in visitor numbers alienates local residents, overwhelms local infrastructure and degrades the environment.

Much of the growth in global tourism can be accounted for by the decline in the real cost of travel (driven largely developments in aviation technologies, especially the introduction of high capacity aircraft beginning with the Boeing 747 in 1969) and the rise of a global middle class with enough discretionary income to engage in travel.

In terms of the latter, the world's middle class continues grow rapidly. By 2018 there were about 3.3 billion people in the global middle class. Of the 140 million people joining the middle class annually, the overwhelming majority (an estimated 88 per cent) live in Asia. China and India alone now claim more than 20 per cent of the global consumer middle class—with a combined total of 362 million people, more than in all of Western Europe. By 2022 the global middle class will number 4.2 billion. By 2028 it will number 5.2 billion.

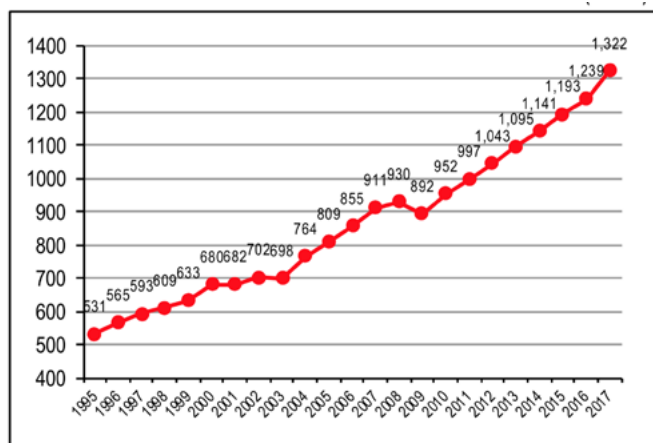
The purchasing power of the middle class is projected to increase from \$35 trillion in 2018 to \$64 trillion in 2030. Households entering the middle class increase the demand for both consumer durables and services including tourism, entertainment, health, education and transport. The lifestyle aspirations of the middle class are central the industry's future.

In this article we focus on the role of China in the growth of international tourism and the not unrelated issue of overcrowding of popular tourist destinations.

YEAR 12 PEOPLE AND ECONOMIC ACTIVITY

International tourist arrivals, 2005–2017

(Million)

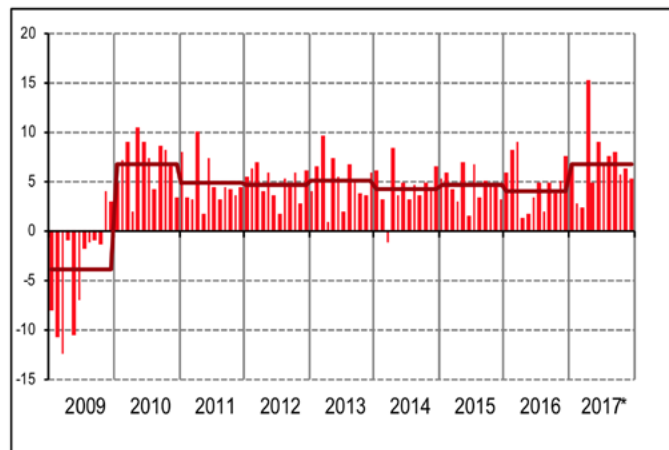


Source: World Tourism Organization (UNWTO) ©

Figure 1: International tourist arrivals exceeded 1.3 billion in 2017.

International tourist arrivals, monthly change, 2009–2017

(Percentage change)



Source: World Tourism Organization (UNWTO) ©

Figure 2: International tourist movements have grown steadily since the GFC in 2008.

Types of income: Size of sector by revenues (US\$)

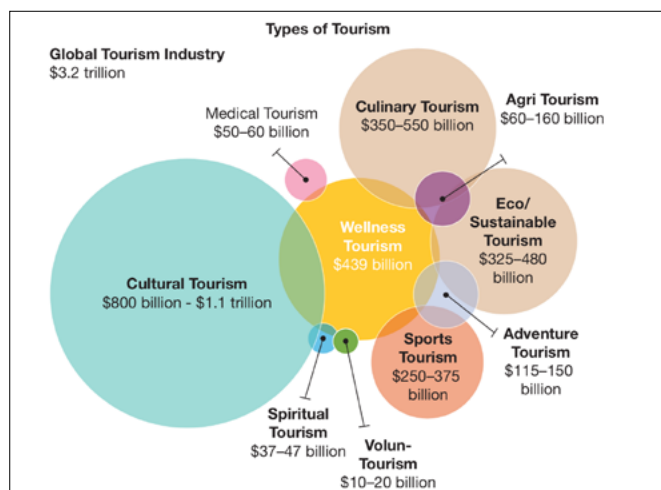


Figure 3: Global tourism becomes more specialised (or fragmented)

The Chinese tourism surge

The growing number of Chinese travelling abroad has fueled much of the recent growth in global tourism.

Beginning in 1978 the Chinese Government, under the leadership of Deng Xiaoping, initiated a transition from a centralised, planned economy to a free market economy. The government's economic reforms lifted hundreds of million of people out of poverty and resulted in an emerging middle class with the means to travel and explore.

The Chinese government also made it easier for Chinese passport holders to travel abroad. In addition to revoking restrictions on international travel, China signed visa exemption and visa-on-arrival agreements with 61 countries (as of 2017).

As a result of these reforms, China, in 2012, became the world's largest single source of outbound tourists. It is also the world's largest source of tourism revenue at US\$258 Billion (See Figures 6 and 8).



Figure 4: Chinese tourist group taking photographs in Segovia, Spain. (Source: Shutterstock)

This growth in outbound Chinese tourism is shown in Figure 5. In 2017, the number of outbound tourists from China reached 127 million people (a 4% increase on 2016), and Chinese visitors spent US\$115.3 billion in overseas destinations. The top destinations visited by Chinese tourists were: Thailand (8.77 million), Japan (7.35 million), Vietnam (4.7 million), South Korea (4.1 million) and Singapore (2.2 million). Singapore is followed by the USA and then Italy.

Given China's chronic air pollution it is not surprising that destinations with clean air and a natural environment have become especially popular with Chinese tourists. Island destinations are very popular and accounted for 30 per cent of the total outbound travellers in 2016. Popular island-based destinations include Phuket (Thailand), Bali (Indonesia), Okinawa

YEAR 12 PEOPLE AND ECONOMIC ACTIVITY

(Japan), Maldives, Sabah (Malaysia), Nha Trang (Vietnam), Saipan (Mariana Islands) and Sri Lanka. In 2017, Chinese visitors replaced Australians as the number one source of visitors to Indonesia, with Bali by far the main beneficiary of the influx.

Although it sits well down the preferred destination rankings, Australia is benefiting massively from Chinese tourists, with 1.39 million arrivals in the year to the end of February 2018, a 13 per cent increase on the previous year. That was the first time China overtook New Zealand as our number one source of international visitors.

Number of outbound Chinese tourists, 2010–2017

Year	Number of outbound tourists	Percentage increase on previous year
2010	57.4 million	20.4%
2011	70.2 million	22.4%
2012	83.1 million	18.4%
2013	98.2 million	26.8%
2014	107.0 million	9.2%
2015	117.0 million	9.3%
2016	122.0 million	4.3%
2017	127.0 million	4.0%

Figure 5: The number of Chinese travelling internationally has more than doubled since 2010.

World's top tourism spenders, 2017

Country	Tourism spending (US\$ Billion)	Percentage increase on the previous year
China	258	+5%
USA	135	+9%
Germany	84	+3%
United Kingdom	63	+3%
France	41	+1%

Figure 6: The Chinese are the world's biggest spenders on tourism.

The surge in the number of Chinese tourists is expected to continue for the foreseeable future. The World Tourism Organisation (WTO) projects the number to reach 400 million by 2030 (that's nearly a quarter of all international travellers). Of the increase in total international movements between 2017 and 2030 (from 1.2 billion to 1.8 billion) almost half will originate in China.

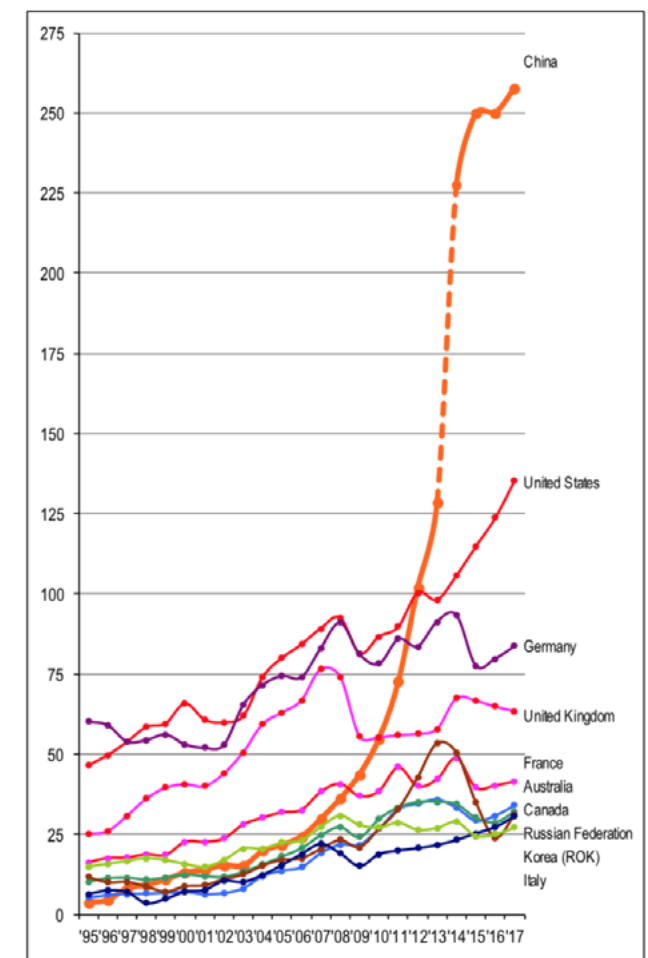
Even at 400 million there is still potential for further growth. Significantly, China's outbound tourists represent less than 10 per cent of the country's total population. This suggests there exists a huge potential to grow the number of Chinese engaged in international tourism.



Figure 7: China's middle class now aspires to experience the world's great tourist destinations. (Source: Shutterstock)

Outbound tourism international tourism expenditure 1995–2017

US\$ Billions



Source: World Tourism Organization (UNWTO) ©

Figure 8: China now dominates global tourism expenditure – up massively since the mid-1990s.

YEAR 12 PEOPLE AND ECONOMIC ACTIVITY

Overcrowding

The travel and tourism industry is now a key driver of the global economy. And, thanks largely to a rapidly expanding middle class (especially in developing countries such as China and India), improved digital and physical connectivity (largely a result of declines in real cost of travel and advances in aviation technologies), and the aspiration of people to explore the world, the industry is expanding rapidly.

But! The surge in the number of tourists threatens to overwhelm some of the world's most famous tourist destinations. Once a destination reaches a 'tipping point', the numbers of people visiting specific locations can alienate local populations, overwhelm infrastructure, and ultimately impact negatively on the visitor experience. The impacts of tourism on the biophysical and built environments are outlined in Table 1.

While such tourism-related overcrowding is not new, it is impacting on an increasing number of destinations across the globe, threatening the liveability and amenity of places, impacting on cultures and degrading the biophysical and built environments.

The consequences of this overcrowding (sometimes referred to as 'overtourism') include:

- the alienation of local residents resulting in an increase in anti-social behaviour such as 'anti-tourist' graffiti, verbal (and in some instances physical) assault of tourists and the vandalism of tourist busses.
- the physical crowding of streets and attractions
- overloaded infrastructure, especially public transport
- damage to nature and threats to culture and heritage

Ultimately, these consequences run the danger of degrading the experiences that attracted tourists to the destination in the first place.

Examples of popular European destinations impacted upon by overcrowding include Amsterdam in the Netherlands; Rome, Venice, Milan and Florence in Italy; Dubrovnik in Croatia; and Barcelona, Palma de Mallorca and Bilbao in Spain.

In Italy, overcrowding in Rome and Venice (especially in the northern summer) is the source of growing discontent. In the case of Venice, 20 million visitors a year (55,000 a day) crowd the city's narrow canals, alleyways and piazzas. As a consequence, many of

the city's residents feel overwhelmed by the flood of visitors. Many have left for the mainland, forced out by high rents and the difficulty of living day-to-day in what many see now see as a historical theme park rather than a thriving community.

The city's population has declined from a peak of 164,000 in 1931 to just 55,000 today. High housing rents, a result of the apartments being converted to short-term holiday rentals (for example, Airbnb), boutique hotels and B&B accommodation, have contributed to the drift of people to the mainland as has the closure of many of the shops and services that once supported the local population. Many of these have been forced to close because landlords can extract higher rental income from souvenir vendors, restaurant operators and the branded clothing boutiques targeting the daily ebb and flow of tourists.



Figure 9: Even in winter Venice is often packed with tourists keen to explore city's many attractions (Source: Shutterstock)

Especially problematic are long weekends such as the Easter and May Day celebrations when up to 125,000 visitors descend on the city. Locals refer to such weekends as a "Bollino Nero" (code black) – the term commonly used by Italians to describe motorway gridlock in Italy.

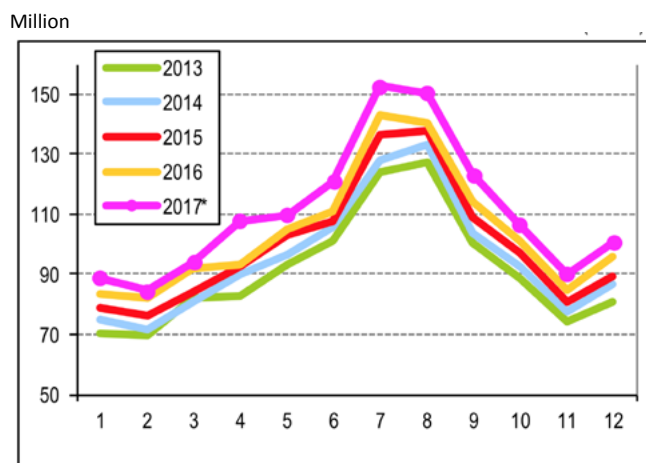
Also relevant is seasonality. While the northern hemisphere's summer remains the peak tourism season (see Figure 11) seasonality is becoming less relevant as the numbers of out-of season visitations increase worldwide. In Venice, for example, the once relatively quiet winter months are becoming increasingly busy.

Even little things irritate locals and add to congestion in Venice. Examples include not keeping to the right when crossing bridges, stopping on the city's raised wooden walkways (used as pathways when the city floods) to take photographs, littering and eating lunch in resident's doorways.



Figure 10: The increasing numbers of giant cruise ships visiting Venice is a major source of irritation for those living in the city. (Source: Shutterstock)

International tourist arrivals, by month, 2013–2017



Source: World Tourism Organization (UNWTO) ©

Figure 11: While summer in the Northern Hemisphere remains the peak tourism season the number of people engage in tourist related activities has increased throughout the year.

The increasing numbers of giant cruise ships visiting Venice is another source of irritation. Each ship can disembark up to 4,000–5,000 tourists right into the heart of the city. Protestors are demanding that authorities ban such ships or at least limit their size and place limits on the number that can dock there each summer.

To address the issue of congestion, the city's major, Luigi Brugnaro, recently announced that authorities would trial metal barriers and turnstiles at two key entry points: the Calatrava Bridge at Piazzale Roma, where car and coach passengers arrive, and Lista di Spagna, outside the city's railway station. The intention of the barriers is to segregate tourists from locals on the main routes into the city's historic centre, Piazza San Marco. While uniformed police allow resident access

through the turnstiles, everyone else is directed to use alternative routes to the Rialto Bridge and Piazza San Marco. Protestors rejected this initiative and demanded a response that avoided the corralling of people.

Dubrovnik is another destination adversely affected by overcrowding. The Croatian city has seen a huge increase in the number of visitors, partly due to the exposure it received in the *Game of Thrones* television series. In late 2017, the city's mayor announced plans to slash the number of tourists allowed into the Dubrovnik's ancient centre. A daily cap of 4,000 people will be imposed by 2019 after UNESCO warned that Dubrovnik risked being placed on the organisation's World Heritage Endangered List. UNESCO claims that the sheer number of tourists visiting the city poses a threat to its culture and heritage.

On the Croatian island of Hvar the local population has been unsettled by the island's growing reputation as a party destination. Local authorities have introduced huge fines for drinking in public (€700), wearing swimsuits in the historic town centre (€600) and not wearing a top in the town (€500).

In the face of growing community protests, Amsterdam's tourism authorities have announced plans to reduce the impact of the 14 million tourists visiting the city each year. Authorities have developed a range of strategies to subtly move tourists away from the most popular attractions, such as the city's Red Light District and Museum Quarter to alternative attractions. They have used app-based tourism data to study the way tourists behave. Typically, tourists visit the Van Gogh Museum in the morning, and take a canal boat cruise in the afternoon. Authorities have sought to switch this pattern, for example by suggesting people take a boat ride in the morning to avoid the crowds.

Another strategy involves displaying a live feed showing the queue at the most popular places, such as the Van Gogh Museum, to encourage visitors to plan their trip for later in the day or opt for another of the city's attractions altogether.

In Barcelona, Spain, anti-tourist protests, accompanied with graffiti saying 'tourists go home' and 'tourism kills', have occurred across the city. Tourist buses have had their tyres slashed and their windows spray-painted. The bikes of tourists have been vandalised. Of particular concern are rising rents. Some neighbourhoods now have more apartments available for tourists than permanent residents.



Figure 12: Anti-tourist graffiti is one indicator that resident populations sometime resent the crowding of destinations.

The Spanish island of Mallorca has also been the site anti-tourist demonstrations and graffiti across the city of Palma de Mallorca. Smoke flares have also been set off among diners in popular tourist areas. Residents fear that tourism is turning the town into a theme park, where locals can no longer afford to live.

The Spanish city of Bilbao is another place where locals have protested against the impacts of tourism. Activists, concerned about the changing character if the region spray-painted the offices of the Basque Country tourist board.

While authorities struggle to achieve a balance between meeting the needs of tourists, businesses and local residents in many destinations, it is inevitable that tourism numbers will only continue to grow. The industry will continue to create new jobs, new opportunities, and new experiences. The challenges of growth, and especially overcrowding, are ongoing. There is, however, a general recognition that tourism acts as force for greater international understanding and peace in the world.

Table 1: Impacts of tourism on the biophysical and built environments

The biophysical environment

Changes in floral and faunal species composition

- * Disruption of breeding habits
- * Killing of animals through hunting
- * Killing of animals in order to supply goods for the souvenir trade
- * Inward or outward migration of animals
- * Destruction of vegetation through the gathering of wood or plants

- * Change in extent and/or nature of vegetation cover through clearance or planting to accommodate tourist facilities
- * Creation of a wildlife reserve/sanctuary

Erosion

- * Compaction of soils, causing increased surface runoff and erosion
- * Increased risk of occurrence of land slips/slides
- * Increased risk of avalanche occurrence
- * Damage to geological features, such as tors and caves
- * Damage to riverbanks

Pollution

- * Water pollution through discharges of sewage and spillages of oil or petrol
- * Air pollution from vehicle emissions
- * Noise pollution from tourist transportation and activities

Natural resources

- * Depletion of ground and surface water supplies
- * Depletion of fossil fuels to generate energy for tourist activity
- * Increased risk of occurrence of fire

Visual impact

- * Facilities, such as buildings, chairlifts and car parks and litter.

The built environment

Urban environment

- * Land taken out of primary production
- * Change of hydrological patterns

Restoration

- * Reuse of disused buildings

Infrastructure

- * Overload of infrastructure, such as roads, railways, car parking, electricity grids, communications systems, waste disposal facilities and water supplies
- * Provision of new infrastructure
- * Environmental management to adapt areas for tourist use, such as sea walls and land reclamation

YEAR 12 PEOPLE AND ECONOMIC ACTIVITY

Urban form

- * Changes in residential, retail or industrial land uses, such as the move from houses to hotels and boarding houses
- * Changes to the urban fabric, such as roads and pavements
- * Emergence of contrasts between urban areas developed for the tourist population and those for the host population

Visual impact

- * Growth of the built-up area
- * New architectural styles
- * People and belongings
- * Tourism-related advertising

RIGHT: NCL vintage poster - The Grand Staircase-Escalante National Monument, southern Utah



Geography Teachers Association of NSW

SENIOR GEOGRAPHY TEACHER CONFERENCE

Friday 9 November, 8.30am – 3.30pm

**UTS Business School, Dr Chau Chak Wing Building
14–28 Ultimo Road, Ultimo**

The Senior Geography Conference is an opportunity to ask questions, share ideas and resources and develop support networks.

Conference presenters consist of experienced and current teachers of senior geography, HSC markers, academics and GTA NSW Councillors.

Early Bird Conference registration and payment [CLICK HERE](#)

SAVE THE DATE FOR THIS NOT TO BE MISSED EVENT

Future Directions of Tourism – Internet research

Louise Swanson
Vice President GTA NSW

1. Identify a range of countries that have become more open to tourists over the past decade or so. Describe why they were previously closed to tourists (or at least discouraged tourists). Explain why tourists would be attracted to these countries. Consider how these countries will influence the future direction of tourism.

Country name	Why was it previously closed to tourists?	Why would tourists want to visit this country?	How will this country influence the future directions of tourism?

Future Directions of Tourism – Internet research

2. Research 5 technological developments that will influence the future directions of tourism.

- What is the purpose of this development (What does it do)?
- How does this development change the way things were done in the past?
- How will it actually influence the future of tourism?

Technological development	Purpose of the development	How does it change previous processes?	How will it influence the future of tourism?

WINE INDUSTRY UPDATE

Dr Grant Kleeman, Vice President GTA NSW



After decade of battling the impact of a relatively high Australian dollar, the Australian wine industry is again benefiting from strong export growth. In the year to June 2016, the value of Australian wine exports grew by 11% to \$2.11 billion. In 2016–17 exports increased to \$2.31, and increase of 10%. Much of this growth has been underpinned by strong demand for Australian wines in China. The health of the export market is critical to the Australian wine industry with more than 60% of all wine produced exported.

Key industry insights:

- The 2017 vintage saw historically high production for the second year in a row – 1.98million tonnes of grapes crushed (up 8% on 2016) and 1.37 billion litres of wine produced (up 5% on the previous year).
- Wine sales totalled \$5.6 billion – an 8% increase on 2016.
- An additional 59 million litres of Australian wine were sold in 2016–17, compared with the year before, with an additional value of \$393 million.
- Sixty-one per cent of production was exported – that's 777 million litres (a 7% increase on 2016) valued at \$2.3 billion (a 9% increase).
- Domestic sales accounted for 39% of production by volume. That's 500 million litres (up 2%) and valued at \$3.3 billion (up 6%).
- Red wines dominated exports (60%) compared with whites (28%)
- At 45% whites were the largest sellers on the domestic market compared to reds (40%). Sparkling wines accounted for 11% of sales ahead of fortified wines (4%).
- Inventories of stored wine continue to increase. They now stand at 1.97 billion litres – up 3% in 2016–17. See Figure 2.
- Increased sales have been driven by the trend towards the consumption of premium brands in both the domestic and export markets. Sales of wine in the \$20.00 to \$29.99 were up 68%. Those in the \$60.00 to \$99.99 were up 52%. Sales of wines in the \$15.00 to \$19.99 bracket were down 18%.
- Wine sales to China exceeded \$1 billion for the first time in the year to March 2018. The USA (\$439 million) is the second largest market followed by the UK (\$373 million), Canada (\$193 million) and New Zealand (\$82 million).
- Thirty-two million glasses of Australian wine are consumed worldwide daily.
- The short-term outlook for the wine sector is positive, with continuing sales growth expected, especially in export markets, and strengthening prices for wine and grapes, facilitated by global shortages in supply.

Wine production, sales and inventory, 2005-06 to 2016-17

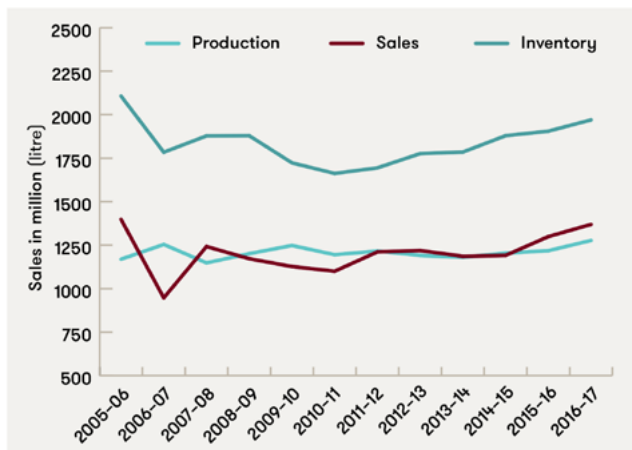


Figure 1: Production has outstripped sales since 2014–15 adding to the inventory (i.e. wine in storage). Source: Wine Australia.

The Chinese market

China, with its rapidly growing middle class, has been central to the revival of Australian wine exports.

In 2016–17, wine exports to China increased by 33 per cent to \$721 million. Sales in the year to March 2018 posted an even more impressive increase of 51% to a total value of \$1.04 billion. While part of the recent boost in sales results from the implementation of the China–Australia Free Trade Agreement (ChAFTA) the principal reason is growing consumer demand for premium Australian wines among the Chinese middle class.

The changing consumer preferences and purchasing patterns of China's middle class is reshaping both its domestic economy and the global economy more broadly.

However, in such a vast and diverse country as China, the middle class is by no means homogenous in its consumer preferences. Chinese millennials—those born between the early 1980s and the late 1990s—are more than 360 million strong and have a much different global outlook and consumption profile than older generations. Many are attracted to the trappings of a western lifestyle.

Being middle class is not just about income level—it is also a state of mind, reflecting an individual's attitudes and lifestyle. Like their counterparts elsewhere in the world China's middle-class consumers purchase products that improve their social image. The social status inherent in the consumption of particular products is one reason why Chinese consumers are so brand conscious and why China accounts for

about one-third of the world's luxury purchases. The importance of 'social image' helps to explain why premium wine products have been central to the success of Australian producers in the Chinese market.

Hong Kong has played a key role in the industry's success in China. The former British colony is an important trading hub with important distribution links to mainland China. Imported wines are re-exported to other Asian destinations, with 95 per cent of re-exports going to mainland China.

Key issues:

- **Exchange rates** – An appreciating Australian dollar makes it more difficult to sell wine on the global market. A depreciating Australian dollar makes it easier.
- **Dependence on discretionary spending** – That is the money people have after they have met their essential costs (food, clothing and shelter). During periods of depressed consumer confidence people tend to reduce discretionary spending. In the case of wine they typically opt for cheaper labels. Sales of wine via restaurants will decline as people cut back on eating out.



Figure 2: Woolworths owned Dan Murphy's is Australia's largest wine retailer.

• The concentration of ownership in wine retailing in Australia

The concentration of ownership in wine retailing puts downward pressure on the prices producers receives.

Woolworths and Coles dominate wine retailing in Australia. Woolworths owns Dan Murphy's, BWS and Woolworths Liquor. Coles owns First Choice, Vintage Cellars and Liquorland. Together these outlets account for an estimated 72% of the \$14.5 billion annual alcohol sales in Australia. Woolworths alone holds almost 50% of the retail market. Coles controls 15.5%.

An additional concern is the trend towards home brand wines. Woolworths and Coles are actively

YEAR 12 PEOPLE AND ECONOMIC ACTIVITY

promoting their own home brand wine labels, which are now estimated to account for 20–25% of sales, compared to just 5% a decade ago.



Figure 3: The concentration of wine retailing in Australia puts downward pressure on the price producers receive for their wine.

- **Competition from other beverages**

Wine competes against a diverse range of alcohol beverages. Boutique beers and pre-mixed spirit-based drinks are popular with younger consumers. Educating young people about wine is a challenge the industry needs to embrace.

- **Climate change**

Climate is one of the key factors controlling grape and wine production. It determines the suitability of grape varieties for particular regions as well as the type and quality of the wine produced. For the production of high quality wines, there needs to be a balance between climate, soil types and grape variety. As the climate changes this balance is upset and changes need to be made if quality is to be maintained.

The gradual rise in global temperatures will affect viticulture all over the world. In doing so, it will have both positive and negative effects on the various wine regions of the world. Growers will have to adapt to climate change using various mitigation strategies. In some instances, grape varieties will need to change. Breeding programs (and perhaps genetic engineering) may also be needed to develop grape varieties better able to tolerate changing environmental conditions.

- **Tendency towards globalisation and localisation**

At one end of the continuum from large-scale to small-scale producers are the big, multi brand, transnational corporate players. The ten largest of

these corporations are listed in Table 1. Together they account for 12.62% of world production.

Such corporations typically operate at a global scale. They are profit driven and their wines are often produced on an industrial scale using industrial processes. Economic factors dominate and the wines produced are 'generic' in terms of locality. Brands tend to be well known and are often widely available.

Table 1: The world's 10 largest wine corporations, 2016

Company and place of origin	Percentage of world production
E & J Gallo (USA)	2.70%
Constellation Brands (USA)	1.70%
The Wine Group (USA)	1.50%
Treasury Wine Estate (Australia)*	1.12%
Viña Concha y Toro (Chile)	1.03%
Castel Frères (France)	1.02%
Accolade Wines (Australia)#	0.97%
Pernod Ricard (France)	0.97%
Grupo Peñaflor (Argentina)	0.90%
FeCoVitA Coop (Argentina)	0.70%

*** Treasury Wine Estate's 41 brands include:** *Acacia, Belcreme De Lys, Beaulieu, Beringer, Blossom Hill and Chateau St Jean in the USA; Secret Stone and Matua Valley in NZ; Castello de Gabbiano in Italy; and Heemskerk, Leo Buring, Penfolds, Pepperjack, Rosemount, Saltram, Seppelt, Wolf Blass and Wynns in Australia.*

Accolade Wine's 56 brands include: *Atlas Peak, Echo Falls, Geyser Peak, Paul Masson, Ravenswood, Robert Mondavi and Turner Road in North America; Drylands, Monkey Bay, Mud House, Ta Ku and Waipara Hills in New Zealand; Anakena and Gran Tierra in Chile; Da Luca and Mezzomondo in Italy; Fish Hoek, Flagstone, Kumala in South America; and Banrock Station, Berri Estates, Eddystone Point, Grant Burg, Hardys, Houghton, Knappstein, Leasingham, Petaluma, Stanley Wines, St Hallett, Tatchilla and Yarra Burn in Australia.*

At the other end of the continuum are the small-scale estate wine producers. Often these are family owned and operated and have a strong association, culturally and geographically, with the place in which they are located. The producers are typically small (boutique) wineries and the owners are often lifestyle driven. The wines tend to be innovative and are made using 'traditional' processes. Cultural influences are strong and the wines are often distinctive in terms of locality (or *terroir*). Wines are typically sold via the cellar door or online using email mailing lists. Where wines are sold through retail outlets these tend to be small independent wine retailers rather than the large outlets controlled by Woolworths and Coles.

People and Economic Activity – Exam Preparation Activity

Lorraine Chaffer, President GTANSW

Students complete these statements using syllabus knowledge.

My Economic activity

My Economic enterprise

KNOW THE SYLLABUS

Global economic activity

- a description of the patterns and of ONE economic activity in a context.

- explaining the nature, spatial patterns and future directions of the selected economic activity

such as

B

E

E

S

O

T

P

NOTE:

Such as refers to:

.....

.....

.....

.....

- the E, S..... and E..... impacts of the economic activity such as pollution, resource depletion, labour exploitation, cultural integration, provision of infrastructure, job creation, transfer pricing. (SEE)

Economic enterprise

- a study of an economic enterprise operating at a scale.
(Local scale has traditionally meant)

The case study should explore:

- the N..... of the economic enterprise
- L..... factors (**THINK)
- E..... D.....including environmental constraints, climate, and human impacts on the environment such as pollution and ecological sustainability
- I..... and E..... linkages and flows of, and
- effects of global changes in the on the enterprise.

Ecological dimension means

.....
.....
.....

Exam Preparation Activity

OUTCOMES

A student:

- H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity
- H4 analyses the and of an economic activity
- H5 evaluates in terms of ecological sustainability
- H6 evaluates, and, environmental change
- H7 justifies applicable and useful in the workplace and relevant to a changing world
- H8 plans geographical inquiries to analyse and synthesise information from a variety of sources
- H9 evaluates geographical information and sources for, validity and
- H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts
- H11 applies mathematical ideas and techniques to analyse geographical data (skills)
- H12 explains geographical patterns, processes and through appropriate case studies and illustrative examples

Selected outcomes

- GEOGRAPHY METHODS LINKED TO THE WORKPLACE (vocational) (H7)

Examples

- F..... methods
- Analysing and economic data
- Analysing spatial relationships using and
- Identifying changes from

- USEFULNESS, VALIDITY & RELIABILITY (H9)

- Did the source provide (Usefulness)
- Is the data (Reliability)
- Does the data or information correlate with (validity)

MATHEMATICAL IDEAS AND SKILLS H11

- *Calculating 'rate of change' using employment figures*
- *Calculating the area of a land use from aerial photographs, absolutely and relatively*
- *Interpreting proportional circles containing pie graphs*
- *Interpreting a ternary graph depicting raw material input*
- *Interpreting flow charts depicting trade data*

Exam Preparation Activity

BIG MISTAKES

- Writing about the economic instead of the
- Not linking the local enterprise to the global
- Confusing WITH

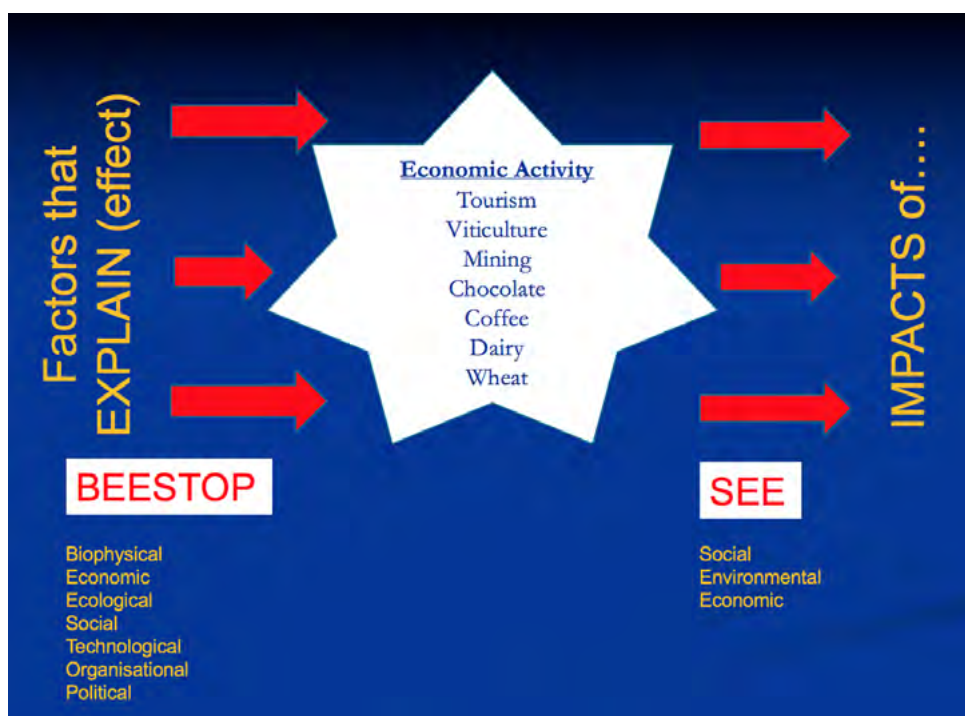


Image courtesy of Alexandria Lucas

YOU MUST LINK

BEESTOP to AND

Future directions are based on and

Look for causes of change and predictions for the future (_ _ _ _ _) and the likely effect of those future directions on and



Image courtesy of Alexandria Lucas

Exam Preparation Activity

Students complete this section under teacher guidance.

ESSENTIAL BACKGROUND KNOWLEDGE AND UNDERSTANDING

1. Sectors of an economy

..... e.g.
..... e.g.
..... e.g.
..... e.g.

Often seen in Graphs

2. Globalisation (Global economic integration)

.....
.....
.....

This links your global economic activity to the Urban Places topic area of
.....

3. Sustainability and ecologically sustainable development

Sustainability “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Stage 6 Geography Syllabus)

Ecologically sustainable development “using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.” (Stage 6 Geography Syllabus)

These concepts links to the of your economic enterprise.

Both concepts should be integral to the AIMS and GOALS of every economic activity and enterprise

Three pillars of sustainability – social, economic and environmental (SEE)

Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. It has three main pillars: economic, environmental, and social. These three pillars are informally referred to as people, planet and profits.

This links to the impacts of your economic activity

S
E
E



Exam Preparation Activity

Students complete this section under teacher guidance.

What every economic activity or enterprise needs (MIND MAP)

If you can identify the needs of every economic activity you will be better placed to answer questions about economic activities and enterprises that you might not have studied (Using the Stimulus Booklet)

Stimulus based questions

You may get questions unrelated to an economic activity or enterprise you have studied.

Advice on approaching these questions

Skills linked to economic activity

-show a mix of three components that add to 100%.
Example – sectors of an economy, the source of workers in an enterprise, soil characteristics on a farm.
- to show exponential growth or decline in statistical data
- Calculating (change) over time
- Calculating **absolute and proportional / % change** in production
- Drawing a to show landuse from a topographic map and /or satellite image
- Interpreting **pie graphs**

How to effectively use a media file for People and economic activity

Exam Preparation Activity: Suggested Answers

My Economic activity e.g. Aquaculture

My Economic enterprise e.g. Tassal Tasmanian Salmon in Tasmania

KNOW THE SYLLABUS

* If you cannot complete the syllabus statements you do not know the syllabus well enough.

Global economic activity

- a description of the nature, spatial patterns and future directions of ONE economic activity in a global context.
- Factors explaining the nature, spatial patterns and future directions of the selected economic activity such as

BIOPHYSICAL

ECONOMIC

ECOLOGICAL

SOCIAL

ORGANISATIONAL

TECHNOLOGICAL

POLITICAL

NOTE:

Such as refers to:

The dash points

The examples for each factor

Know something for each factor that is relevant to your activity

- the SOCIAL, ENVIRONMENTAL, and ECONOMIC impacts of the economic activity such as pollution, resource depletion, labour exploitation, cultural integration, provision of infrastructure, job creation, transfer pricing. (SEE)

Economic enterprise

- a geographical study of an economic enterprise operating at a local scale.
(Local scale has traditionally meant in Australia)

The case study should explore:

- the NATURE of the economic enterprise
- LOCATIONAL factors (**THINK BEESTOP)
- ECOLOGICAL DIMENSIONS including environmental constraints, climate, and human impacts on the environment such as pollution and ecological sustainability
- INTERNAL and EXTERNAL linkages and flows of people, goods, services and ideas
- effects of global changes in the ECONOMIC ACTIVITY on the enterprise.

Ecological dimension

- Ecological dimension means the relationship between people and the natural elements of the environment and the impacts that they have upon one another

Exam Preparation Activity: Suggested Answers

OUTCOMES

A student:

- H1 explains the changing nature, spatial patterns and interaction of ecosystems, urban places and economic activity
- H4 analyses the changing **spatial** and **ecological dimensions** of an economic activity
- H5 evaluates **environmental management strategies** in terms of ecological sustainability
- H6 evaluates the **impacts of**, and **responses of people to**, environmental change
- H7 justifies **geographical methods** applicable and useful in the workplace and relevant to a changing world
- H8 plans geographical inquiries to analyse and synthesise information from a variety of sources
- H9 evaluates geographical information and sources for **usefulness**, validity and **reliability**
- H10 applies maps, graphs and statistics, photographs and fieldwork to analyse and integrate data in geographical contexts
- H11 applies mathematical ideas and techniques to analyse geographical data (skills)
- H12 explains geographical patterns, processes and **future trends** through appropriate case studies and illustrative examples

Selected outcomes

- GEOGRAPHY METHODS LINKED TO THE WORKPLACE (vocational) (Outcome H7)

Examples

- **Fieldwork** methods
- Analysing **census data** and economic **production data**
- Analysing spatial relationships using **landuse** and **topographic maps**
- Identifying changes from **aerial photographs**

- USEFULNESS, VALIDITY & RELIABILITY (H9)

- Did the source **provide the information you needed?** (Usefulness)
- Is the data **from an accurate source** e.g. Government (Reliability)
- Does the data or information correlate with **other information and sources** (validity)

- MATHEMATICAL IDEAS AND SKILLS H11

- *Calculating 'rate of change' using employment figures*
- *Calculating the area of a land use from aerial photographs, absolutely and relatively*
- *Interpreting proportional circles containing pie graphs*
- *Interpreting a ternary graph depicting raw material input*
- *Interpreting flow charts depicting trade data*

Exam Preparation Activity: Suggested Answers

BIG EXAM MISTAKES

- Writing about the economic **enterprise** instead of the **activity**
- Not linking the local enterprise to the global **activity**
- Confusing 'Factors Explaining' (BEESTOP) WITH 'impacts of' (SEE)

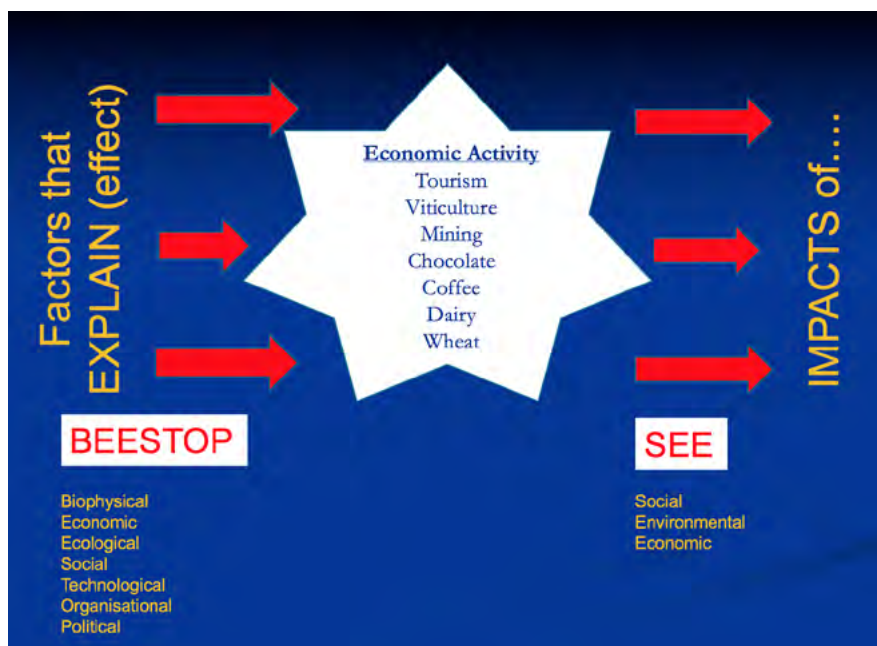


Image courtesy of Alexandria Lucas

YOU MUST LINK

BEESTOP to **nature**, **spatial patterns** AND **future directions**.

Future directions are based on **current trends**, **evidence** and **predictions**

Look for causes of change and predictions for the future (BEESTOP) and the likely effect of those future directions on **nature and spatial patterns**

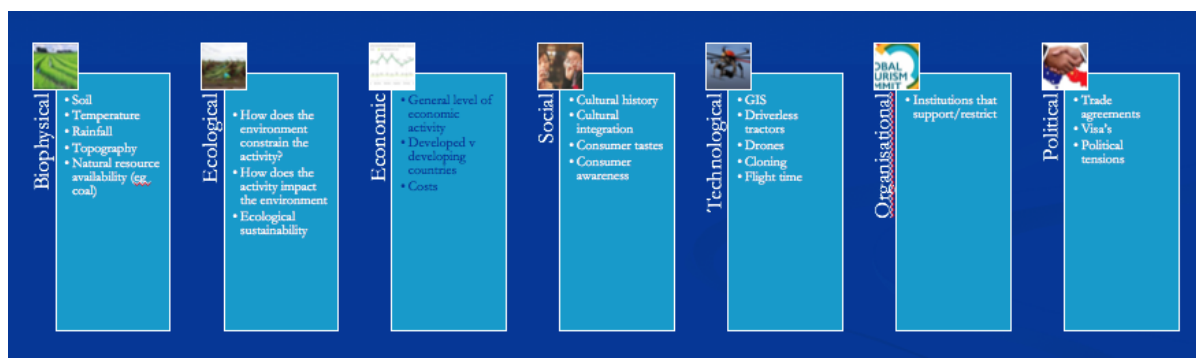


Image courtesy of Alexandria Lucas

Exam Preparation Activity: Suggested Answers

ESSENTIAL BACKGROUND KNOWLEDGE AND UNDERSTANDING

1. Sectors of the economy

Primary e.g. dairy farming, gold mining

Secondary e.g. car manufacturing, wine production

Tertiary e.g. clothes retailing, Uber

(Quaternary e.g. Internet services – may be included in Tertiary)

Often seen in **ternary** Graphs (P, S and T)

2. Globalisation (Global economic integration)

We live in a connected world where economic integration means many economic activities have a global dimension & are influenced by economic forces operating at a global scale.

This links your global economic activity to the Urban Places topic area of **World Cities**

3. Sustainability and ecologically sustainable development

Sustainability “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. (Stage 6 Geography Syllabus)

Ecologically sustainable development “using, conserving and enhancing the community’s resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased”. (Stage 6 Geography Syllabus)

These concepts links to the **ecological dimensions** of your economic enterprise.

Both concepts should be integral to the AIMS and GOALS of every economic activity and enterprise

Three pillars of sustainability – social, economic and environmental (SEE)

Sustainability is most often defined as meeting the needs of the present without compromising the ability of future generations to meet theirs. It has three main pillars: economic, environmental, and social. These three pillars are informally referred to as people, planet and profits.

This links to the impacts of your economic activity

Social

Environmental

Economic



Exam Preparation Activity: Suggested Answers

What every economic activity or enterprise needs (MIND MAP)

If you can identify the needs of every economic activity you will be better placed to answer questions about economic activities and enterprises, you have not studied (Using the Stimulus Booklet)

Some ideas that could be added to a mind map.

- Site
- Resources
- Labour
- Capital – \$, equipment, buildings
- Infrastructure – water, power, transport
- Technology – ideas, techniques, equipment
- Markets
- Business Services
- A specific set of biophysical characteristics

* LINK THESE TO BEESTOP (Add the relevant letter)

Stimulus based questions

You may get questions unrelated to an economic activity or enterprise you have studied.

Advice on approaching these questions

Use a stimulus map or images from a past HSC paper to complete the following:

- Identify one economic activity
- Identify TWO factors that could affect it's nature
- Describe how ONE factor determines the spatial pattern
- Outline how ONE factor could determine the future directions of the economic activity
- Discuss TWO possible impacts of this economic activity
- Evaluate the ecological sustainability of this economic activity

Skills linked to economic activity

- Ternary Graphs show a mix of three components that add to 100%. Example – sectors of an economy, the source of workers in an enterprise, soil characteristics on a farm.
- Semi logarithmic graphs to show exponential growth or decline in statistical data
- Calculating rate of increase or decrease (change) over time
- Calculating absolute and proportional / % change in production
- Drawing a Precis Map to show landuse from a topographic map and /or satellite image
- Interpreting and constructing pie graphs

How to effectively use a media file for People and Economic Activity

- current / contemporary articles
- articles relevant to factors affecting - identify the relevant factor(s) & explain the influence
- articles that 'explain' and demonstrate 'impacts' of different economic activities.
- Write a paragraph that relates the article to the syllabus dot points.
- Choose two sources within articles eg a graph, picture, quotes etc and evaluate the source for usefulness, reliability and validity

STAGE 6 FIELDWORK ESSENTIALS

Preparing for Fieldwork (Tourism)

Louise Swanson, Vice President GTA NSW

While studying Tourism as an economic activity students will need to undertake fieldwork.

Before students go out in the field and complete their fieldwork there are several preparatory activities that they need to undertake to get the best out of their research.

PRE-FIELDWORK CHECKLIST

- ☐ Formulate a geographical question or determine an issue for study.
- ☐ Identify appropriate sources of geographical information (both primary and secondary).
- ☐ Identify appropriate tools and fieldwork for the investigation.
- ☐ Plan and organise fieldwork activities.

FORMULATING A GEOGRAPHICAL QUESTION

Choose a topic that you are interested in and which addresses the requirements of the task you have been given. You can choose to do your fieldwork about the economic activity (tourism in general), or the economic enterprise operating at a local scale (e.g. Perisher). It might be useful to use the syllabus to give you some ideas about appropriate topics. For example, you might consider one of the following:

- Growth/decline in tourism at your field site.
- Positive/negative impacts of a new development on tourism at your field site.
- Positive/negative environmental impacts of tourism at your field site.
- Positive/negative social impacts of tourism at your field site.
- Positive/negative economic impacts of tourism at your field site.
- Sustainability of tourism at your field site.
- Locational factors affecting the economic enterprise
- Environmental constraints on the economic enterprise.

Hint: Once you think you have decided on your topic, reflect on the question/issue and ensure that it has obvious links to Geography. Sometimes when you find a topic that you like, you can forget that it can't just be an interest, it needs to directly tie in with the subject.

Conduct some preliminary research and determine whether there is enough depth to your topic. Tease out the ideas related to your topic by creating a mind map or table that addresses: sub-topic of your question/issue, specific issues related to each sub-topic, and different perspectives/debates related to the sub-topic.

- Consider the wording of your question/issue. It is better to use words that allow you to show the full scope of what you have learnt. Use directive terms like analyse or evaluate rather than more basic terms like describe or outline. These basic directive terms will limit your project depth.
- Identify appropriate sources of geographical information
- Brainstorm different sources of information that you will be able to use to begin to learn about your question/issue.

STAGE 6 FIELDWORK ESSENTIALS

IDENTIFY APPROPRIATE TOOLS AND FIELDWORK ACTIVITIES

Primary research refers to research conducted first hand. Examples of primary research include personal observations, measurements, recordings, photographs taken by you, interviews (e.g. with a local council member, government department, special interest groups), questionnaires, maps that you create, sketch maps, photo sketches, numerical and graphical data that you collect, ground and oblique photographs that you take or videos that you record.

Secondary research is research that someone else has conducted that you can use and interpret. Examples of secondary research include maps, numerical and graphical data from the internet, organisations or companies, aerial photographs and satellite images, videos filmed by others, books, journals, pamphlets, journals, newspapers, and magazine articles.

The **fieldwork technique** that you use will be determined by what type of information you want to find out.

What do people think about....?

- interviews
- questionnaires
- letters
- meetings - observations
- protests - observations

What is happening at a particular place...?

- observing traffic flow
- observing pedestrian flow
- observing land use

Vegetation measurements...

- sampling – random, quadrat methods
- height of vegetation
- density of vegetation
- species identification

Slope...

- cross-sections
- steepness of the slope (clinometer)
- aspect of the slope

Soils...

- soil profile
- soil acidity
- soil texture
- soil moisture content
- soil colour

Weather...

- temperature
- rainfall
- wind
- air pressure
- relative humidity
- clouds

Rivers and Creeks...

- measuring changes in channel shape
- velocity
- discharge
- material carried in the stream

Pollution...

- noise readings
- water quality
- air quality

Many of these techniques are more relevant for fieldwork investigating the physical environment. However, if you were investigating an issue such as the environmental impacts of a tourist activity, or the impacts of biophysical factors on a tourist activity, then many of these would be suitable.

These fieldwork tools can be used to undertake geographical inquiry in any Stage 6 topic and the Senior Geography Project.

STAGE 6 FIELDWORK ESSENTIALS

PLAN AND ORGANISE FIELDWORK ACTIVITIES

Create a log of activities that you intend to carry out. If you are carrying out the fieldwork as part of a project, then you may plan your fieldwork over a term or two. If it is part of a class activity, then you might need to plan your activities over a shorter period like two or three weeks. Use a table set out like the one below. Add as many rows as you need.

Date	Fieldwork activity	Primary/Secondary	Information to be collected

Before you go to your field site, make sure that you have everything you need to complete your fieldwork.

The basics that you will need to take with you to your field site:

- Blank outline map of your field site to make annotations/notes
- Blank outline map (and a couple of coloured pencils) of your field site to complete a land use survey
- Multiple blank copies (and a pen) of your survey questions. Alternatively, you could set this up as a survey monkey or google form and complete it on your device as you ask the questions.
- Your interview questions, blank paper and pen. Alternatively, you could record the interview on your phone (audio and/or video – make sure you ask permission first).

You may need a whole range of fieldwork equipment depending on the techniques you have chosen. Review fieldwork techniques at:

About Fieldwork link – http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/about_fieldwork/index.htm



PLANNING FIELDWORK WORKSHEET

Suggested topic:

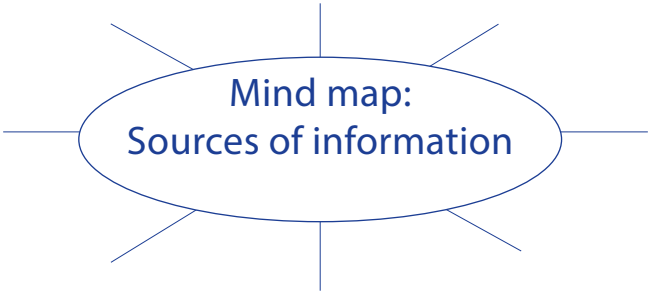
Possible research question:
(use directive terms like evaluate, assess, analyse, investigate, examine, etc):
.....
.....

How do your research topic and question relate to the subject of Geography?
.....
.....

Sub-topic of your question/ issue	Specific issues related to each sub-topic	Different perspectives/debates related to the sub-topic

STAGE 6 FIELDWORK ESSENTIALS

SOURCES OF INFORMATION



Identify the tools and/or fieldwork technique that you will use to investigate your topic.
Make a list of the techniques you will use.

.....

.....

.....

.....

CREATE A PLAN OF ACTIVITIES

Date	Fieldwork activity	Primary/Secondary	Information to be collected

STAGE 6 FIELDWORK ESSENTIALS

Conducting surveys and interviews

Louise Swanson, Vice President GTA NSW

Surveys and interviews provide valuable information and data for geographical inquiries. It is very expensive, time consuming and impractical to survey very large sections of a population. Surveys just collect the opinions of a section of the population. This part of the population is called a sample.



Source: Wikimedia Commons

To conduct an effective survey or interview students need to undertake preparation to design structured, but straight-forward questions that address their research topic. It is also important to consider the type of data that is needed to ensure that the question provides what is needed.

INTERVIEWS

Interviews are important because they can provide a lot of general information about the topic, and can also provide direction for future research. Ensure that you know about the interest or expertise of the person you are interviewing. This should help to make your questions relevant and ensure that you get information useful to your research.

Try to ask a few general, open-ended questions that enable the interviewee to talk openly. If the person doesn't respond, a few probing or specific questions might be required. If you miss something the interviewee says or if you want to clarify something, you can always ask something more specific.

Try to complete a few interviews before you design your survey.

Who might you interview?

- Local councillor
- Council employee
- Local business owner
- Community group

Before the interview

Research the person you are interviewing – What are their interests/areas of expertise?

Ask a few questions by email beforehand to give you an idea of the types of questions you might ask in person.

Pre-arrange a meeting time. Don't just expect someone to be able to meet when it suits you.

Have a draft set of questions ready to ask the interviewee (but be flexible if the interview leads you in a slightly different direction).

After the interview

- Send a thank you in a follow up email.
- Transcribe your notes while they are still fresh in your mind.

Ethical research practices

If you are going to use audio or video to record your interview, be sure to ask permission first. The interviewee may not want to be recorded in which case you will just have to write notes.

The views of those being questioned should not be influenced or confused by confusing questions or the views of the interviewer. Ensure that your questions are open ended and avoid leading questions.

SURVEYS

Surveys are a useful tool to canvas the opinions and feelings of a group of people. They can be used to determine levels of community involvement in relation to an issue, and to see how much they like or dislike or

STAGE 6 FIELDWORK ESSENTIALS

are affected by something. Surveys are usually made up of a range of different question types. Examples of question types include multiple choice questions, ranking questions, dichotomous questions (e.g. yes or no), rating scales (e.g. 1 to 5 stars), likert scales (e.g. strongly disagree, disagree, neutral, agree, strongly agree), or open-ended questions. Most of these question types make data analysis quite easy because they can be numerically presented and represented in graphs and tables. Open-ended questions tend to require more time and attention to analyse.

Before the survey

Design your survey in a way to simplify data collection and data entry. If you are going to do the survey manually on paper, then you will also need to manually enter it into a database later. It is much easier to set up a Survey Monkey or Google Form to collect your data.

Include a paragraph describing what it is you are investigating.

Test your questionnaire on a small group of people before conducting your survey. Change any questions that the test group found confusing.

After the survey

After the survey period ends, close the survey and remove any links to it that you may have posted online. This will help to ensure that the results are not affected by anything that happens outside of the survey period.

Who might you survey?

- Local residents
- Neighbours
- Business people

Ethical research practices

If you choose to use a Google form or Survey Monkey to record your survey results, be mindful of the type of data you are collecting. People may not feel comfortable attaching their name to the survey results, or providing personal information such as income, date of birth, etc. Consider whether you really need the information that you are asking about. It may also be helpful if you assure participants that the data will be de-personalised, and that you will be deleting the data after it has been analysed. Confidentiality is the key, don't ask for names on the survey.

GeoCareers

Meet a Geographer – Working indoors



Adam Terrill
Associate Town Planner
Tract Consultants

Work description

Adam undertakes strategic planning studies looking at the best locations and implications of new houses, shops, roads, train stations and parks. This involves site inspections, regular meetings, working with allied professions such as architects and engineers, preparing plans and reports and advocating proposals at VCAT or Planning Panels.

Future career options

The issues town planners deal with everyday are becoming more important and topical in everyone's lives. Increasingly, town planners are well placed to manage the big issues of the 21st century, such as climate change and housing affordability.



Find out about other GeoCareers –
geocareers.net.au

The GeoCareers website is an initiative of the Australian Geography Teachers' Association (AGTA).

STAGE 6 FIELDWORK ESSENTIALS

Know Basic Fieldwork Tools and Techniques

Louise Swanson, Vice President GTA NSW

Match the following fieldwork tools to the descriptions of their use.

Digital camera, Light meter, Soil samples, Clinometer, Thermometer, Tape measure, Anemometer, Quadrat/Vegetation Chart, Hygrometer, Topographic map

	Used to measure temperature. In Geography common measurements include soil temperature at 5 centimetres depth, soil surface temperature, and air temperature 1 metre off the ground. The unit of measurement is °C (degrees Celsius).
	Used to measure the angle of a slope in degrees. This is a useful tool to create an accurate cross-section of an area being studied.
	Used to measure wind speed. Unit of measurement is metres per second or kilometres per hour, depending on the strength of the wind.
	Throwing a 1-metre quadrat into an area and counting the number of different plants there will give you an idea of its biodiversity. From random samples generalisations may be drawn.
	Used to measure horizontal distance. Measurements are usually taken in metres, depending on the length of the transect to be drawn.
	Measures the intensity of light in an area. Unit of measurement is a Lux. The higher the reading the brighter the light.
	Used to measure humidity. Units of measurement are in percentage—the higher the percentage, the higher the humidity.
	Soil samples enable greater analysis of an area and can provide insight into the type of soil, clay content as well as pH levels.
	Technology is changing fieldwork techniques. Line drawings and sketches are a useful skill in Geography although these are largely being replaced by digital images.
	An essential tool for any fieldwork. This type of map shows land use, vegetation, spatial relationships and patterns as well as topography.

URBAN DYNAMICS

Grace Larobina, Hills Grammar



Barangaroo Reserve. Source: Wikimedia Commons

Introduction

At Hills Grammar, the Year 12 Geography Urban Places topic involves in-depth case studies for the urban dynamics section of the syllabus – the city of Sydney and the suburb of Barangaroo. In order to give the students first-hand experience to collect information and draw conclusions we visit two sites.

The morning starts at Site 1: Barangaroo – a suburb transformed by urban dynamics. Here we undertake a tour with Lend Lease where the students will see firsthand what a carbon neutral precinct looks like and gain an insight into the largest urban regeneration project currently underway anywhere in Australia. The walking tour is within public areas and students learn about the key sustainability, liveability and historical elements of one of Sydney's newest suburbs.

An excellent site that the students use prior to and after the fieldwork is <https://www.barangaroosouth.com.au/community/learning-portal>

After morning tea, we then visit Site 2: The Sydney Tower Eye as a vantage point to see the impacts and spatial dimensions of urban dynamics in a large city – Sydney.

A key literacy aspect of the fieldwork is to write evidenced based paragraphs integrating the findings of the inquiry.

Classroom discussions involve identifying and exploring geographical methods applicable and useful in the workplace and how to apply the information to short answer HSC questions.



Darling Harbour and Glebe Island from The Eye, Sydney Tower. Source: Wikimedia Commons

Case Study 1: Urban Dynamics (Urban Renewal, Urban Decay) Barangaroo

SYLLABUS

Urban dynamics

- The urban dynamics of change: suburbanisation, exurbanisation, counter urbanisation, decentralisation, consolidation, urban decay, urban renewal, urban village, spatial exclusion
- A case study showing ONE of the urban dynamics listed above, operating in a country town or suburb

Case study 1: Showing ONE of the urban dynamics operating in a suburb – Barangaroo

Introduction

Barangaroo is a 22 ha inner-city suburb of Sydney, New South Wales, Australia. It is located on the NW edge of the Sydney central business district and the southern end of the Sydney Harbour Bridge; Post code 2000. The new suburb of Barangaroo has undergone a transformation from its historical past. In many ways, Barangaroo is a snap shot reflection of Sydney; the industrial and trade era to the new clean energy and financial hub of the city. What we see today is the culmination of years of planning for a better Sydney foreshore and a reflection of the changing nature of Sydney as a world city. Barangaroo is the result of two key urban dynamics: urban decay followed by urban renewal. It is difficult to discuss this urban renewal project without a context of urban decay.



FIELDWORK

Based on your initial observations; outline the most striking aspects of this urban renewal project?

HISTORY OF BARANGAROO

Outline the history of this location:

a. Indigenous _____

b. Early industrial use, and urban decay _____

Describe the location of Barangaroo (Use your Phone apps to determine)

FIELDWORK: YEAR 12 URBAN PLACES

d. What direction is Barangaroo from Kenthurst (Hills Grammar)

e. Outline THREE positive impacts of the location of the newly developed Barangaroo.
(Impacts can be Social, Economic, Environmental)

1.

2.

3.

f. Discuss the implications of ONE of the positive impacts you have identified above.

Identified positive impact of location of Barangaroo	
Positive	Negative

Outline THREE negative impacts of the location of the newly developed Barangaroo.
(Impacts can be Social, Economic, Environmental)

1.

2.

3.

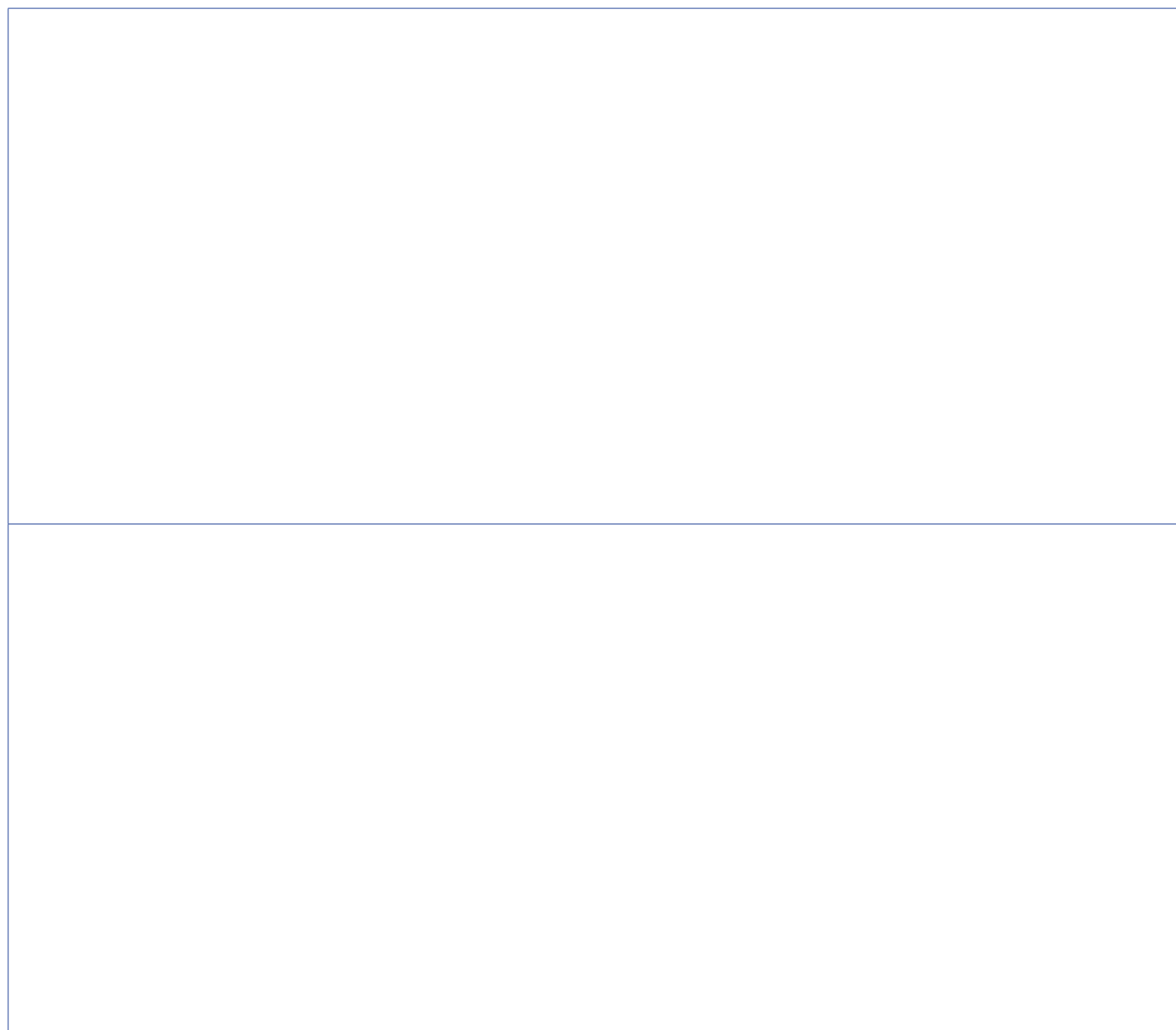
Discuss the implications of ONE of the negative impacts you have identified above.

Identified negative impact of location of Barrangaroo	
Positive	Negative

FIELDWORK: YEAR 12 URBAN PLACES

g. Explain how has the coastal location influenced the urban renewal development of Barangaroo?

h. Draw a field sketch that highlights the locational features of the key urban renewal features of Barangaroo.
Take a photographs of the site for future reference.



FIELDWORK: YEAR 12 URBAN PLACES



CONNECTIVITY

1. Outline the main modes of access to Barangaroo.

2. Explain the impacts of the Ferry Wharf and Wynyard Station to the flows of people through Barangaroo.

3. Predict how the George Street light rail will influence the connectivity of Barangaroo when it is completed.

4. Explain how connectivity gives Barangaroo a culture of place.

FIELDWORK: YEAR 12 URBAN PLACES



LIVEABILITY

1. Using the following Liveability Index, describe how the urban renewal of the original site has influenced the liveability of Barangaroo. <https://www.domain.com.au/news/domain-liveable-sydney-citys-555-suburbs-ranked/>

2. Describe the residential apartments within Barangaroo.

- a. What is the target market for these apartments; why do you think the urban planners designed it this way?

- b. How has the urban design of the suburb of Barangaroo made this suburb liveable? [Refer to commercial services, access to restaurants, entertainment, health and well-being, access to the rest of Sydney, public transport]

SUSTAINABILITY OF BARANGAROO

1. Complete the following table.

THREE features that make Barangaroo Sustainable	THREE features that make Barangaroo Unsustainable

2. Barangaroo has received recognition for Ecological Sustainability.
Do you agree or disagree? Justify your answer.

3. Explain why sustainability is such a key feature of the urban renewal project.

FIELDWORK: YEAR 12 URBAN PLACES

FIELDWORK IN HSC RESPONSES

Plan how you will reference the fieldwork in your extended responses

Apply your knowledge and understanding

Answer the following past HSC questions taken from the NESA website:

(2007) Critically analyse ONE urban dynamic of change operating in a country town or suburb

(2010) Analyse ONE of the urban dynamics of change operating in a country town or a suburb



Nawi Cove, Barrangaroo. Source: Wikimedia Commons

Case Study 2: Results of the urban dynamics in a large city selected from the developed world – Sydney



SYLLABUS

A case study of the results of the urban dynamics in a large city selected from the developed world including its:

- Social structure and spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity
- Changing economic character, nature and location of residential land, commercial and industrial development
- Culture of place as expressed in the architecture, streetscape, heritage architecture, noise, colour, street life, energy, vitality and lifestyles
- Growth, development, future trends and ecological sustainability



From the Observation Deck of The Sydney Tower

SYLLABUS

- Culture of place as expressed in the architecture, streetscape, heritage architecture, noise, colour, street life, energy, vitality and lifestyles

1. Identify THREE historical buildings and explain their use.

NAME OF BUILDING/ DESCRIPTION	HISTORICAL USE	CONTEMPORARY USE

FIELDWORK: YEAR 12 URBAN PLACES

2. Identify these TWO historic buildings that are still used for their original purpose.



a. _____



b. _____

3. Explain how these historical buildings add to the **culture of place** of Sydney.

4. Explain how contemporary architectural features such as the Opera House and Sydney Harbour Bridge add to the **culture of place** of Sydney.

FIELDWORK: YEAR 12 URBAN PLACES

SYLLABUS

- Spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity



5. Using evidence from your observations, explain the spatial patterns of the following urban dynamics of change operate within Sydney. Name specific suburbs in your answer.

a. Suburbanisation

b. Urban Renewal (Locate Barangaroo!)

c. Urban Decay

6. Identify and describe any evidence of ethnicity in Sydney. (China Town)

7. Describe pattern of poverty and wealth as identified in Sydney.

FIELDWORK: YEAR 12 URBAN PLACES

SYLLABUS

- **Changing economic character, nature and location of residential land, commercial and industrial development**

8. Describe the land use patterns you can observe in Sydney

a. Residential

b. Commercial

c. Industrial

9. Explain why the patterns of land use have emerged.

[Refer to the land use models Concentric Circles, Sector, and Multi Nuclei]

FIELDWORK: YEAR 12 URBAN PLACES

10. How has Sydney's changing economic character influenced present urban planning?
[Visit Google Earth to see before and after streetscape]

11. Sydney's Overseas Passenger Terminal has undergone major transformation.
Explain why this urban renewal project was undertaken- how is this a reflection of Sydney's changing economic character?

12. The International Convention Centre Sydney (ICC) has just recently opened to the public.
Explain why this urban renewal project was undertaken – how is this a reflection of Sydney's changing economic character?

FIELDWORK: YEAR 12 URBAN PLACES

FIELDWORK IN HSC RESPONSES

Plan how you will reference the fieldwork in your extended responses

Apply your knowledge and understanding

Answer the following Past HSC questions taken from the NESA website:

(2004) Explain the relationships between the urban dynamics and the changing economic character of a large city in the developed world

(2008) Analyse the impacts of at least TWO urban dynamics operating in a large city of the developed world

(2013) Analyse the impact of urban dynamics on the ecological sustainability of a large city in the developed world



Source: <https://www.iccsydney.com.au/Panorama-Convention-Centre-Exterior>

FIELDWORK: YEAR 12 URBAN PLACES

MELBOURNE

Catherine Donnelly, Head Teacher HSIE
Irrawang High School



This year marks the 10th anniversary of running a Melbourne fieldtrip for my Year 12 students studying the topic Urban Places. I originally decided to focus on Melbourne as a point of difference as most schools study Sydney. It was also around that time Jetstar started offering \$49 dollar flights between Newcastle and Melbourne, so it made it cost effective.

I usually go at the beginning of Term 1 as there are not too many assessment tasks on for other subjects and there are good accommodation deals because after the January Tennis rush, Melbourne is less busy for tourists.

The focus of the trip is on the urban renewal projects occurring in the Docklands – which is the “suburb” we concentrate on as are our case study examining the urban dynamics of change.

A typical itinerary looks like this.....

	Monday		Tuesday		Wednesday
5am	Students meet at airport	8am	Breakfast	8am	Breakfast
6am	Flight departs	9am	The Dock – library tour	9am	Checkout of hotel
8am	Charter bus to hotel	10.30	Big Issue Classroom	10am	Melbourne Zoo
9am	Check in to hotel	12.30	Port Phillip EcoCentre		
10am	Docklands Tour (teacher directed fieldwork activities)	2.30	GIS workshop RMIT	2pm	Ceres Environment Park
12pm	Yarra River Cruise	4pm	Places Victoria Presentation	5pm	Charter bus to airport
2pm	Eureka Skydeck				
5pm	Return to hotel	5.30	Return to hotel		
7pm	Dinner Lygon St	7pm	Dinner Crown Casino		

FIELDWORK: YEAR 12 URBAN PLACES



Source: <https://www.australiaday.vic.gov.au/whats-on/getting-around/>

Activities and Syllabus Links

Docklands tour – students observe and collect data in the Docklands, comparing such things as the flow of people and traffic in the different precincts. They also create their own maps and look at different aspects of culture of place.

This directly relates to these Learn to statements from the syllabus:

- collecting and analysing urban field data
- describing patterns, linkages, networks and change, using maps of large cities and other urban areas
- constructing and interpreting choropleth maps
- synthesising and evaluating fieldwork data about the dynamics of change in a country town or suburb



Yarra River Cruise

The cruise gives students a different perspective of the Docklands as gives some insight into the industrial and maritime history of the site. There is some evidence of urban decay here, but each year I see less and less.

Eureka Skydeck gives an excellent visual and spatial overview of the city, CBD and the Docklands. It is where I've often seen the "aha" moments when students can make the connection between urban theory and actual patterns.

Visual representations of these syllabus points are covered in detail at this site:

- spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity
- changing economic character, nature and location of residential land, commercial and industrial development
- culture of place as expressed in the architecture, streetscape, heritage architecture, noise, colour, street life, energy, vitality and lifestyles

The Dock – Library

"The Library at The Dock is a community hub enabling people to come together to create, explore, connect, belong, learn and participate. The library is Australia's first 6-Star Green Star rated public building and is made from engineered timber and reclaimed hardwood. (from Places Victoria website)

Left: View of Melbourne overlooking Flinders Street Station, Federation Square and the city. Photo: L Chaffer

FIELDWORK: YEAR 12 URBAN PLACES

This is an excellent example of sustainability and directly relates to the syllabus point:

- growth, development, future trends and ecological sustainability



Source: <http://www.melbourne.vic.gov.au/SiteCollectionImages/exterior-library-dock.jpg>

The Big Issue Classroom

An excellent and confronting experience for students who get to see first-hand the impacts of homelessness on individuals in the inner city. They participate in a practical workshop and then have the chance to listen to a homeless person about their experiences. This is one of the most powerful interactions I have witnessed as teacher and have often had students (and myself) been visibly upset by some horrendous stories of life on the streets.

This directly relates to:

- spatial patterns of advantage and disadvantage, wealth and poverty, ethnicity

Port Phillip Eco-Centre

At this site we investigate sustainability, have a tour of this retro fitted ecohouse and the opportunity to work with Neil Blake, founder of the BayKeepers Program, which is an additional case study for the Ecosystems at Risk topic. Neil is a true eco-warrior who has worked for many years to keep Port Phillip Bay in good health for current and future generations, by combining projects of practical action, advocacy and education. There is an excellent documentary "BayKeepers" available for sale which is essential pre-fieldwork viewing for students.



Source: <http://www.ecocentre.com/>

Syllabus links:

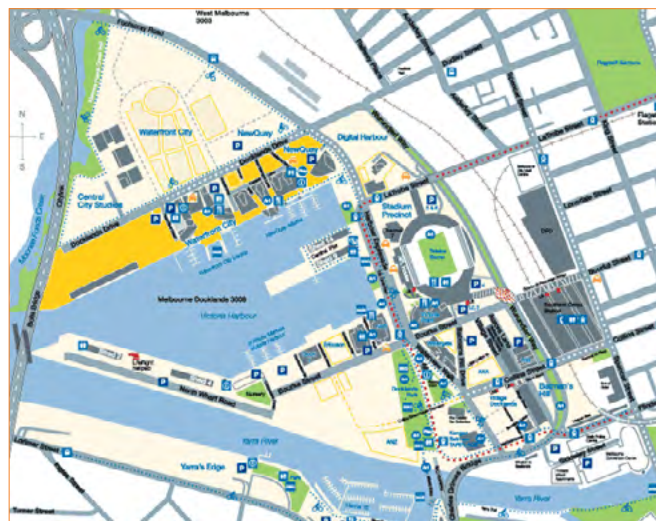
- future trends and ecological sustainability
- evaluates environmental management strategies in terms of ecological sustainability
- evaluates the impacts of, and responses of people to, environmental change

RMIT – GIS Workshops

The school of Geospatial Science offers free workshops for senior students. This is an excellent opportunity for students to see the vocational relevance of Geography in the workplace and also an opportunity to use the sophisticated equipment and computer programs that we don't generally have access to in schools.

Syllabus links:

- identify geographical methods applicable to and useful in the workplace such as urban planning
- using GIS, satellite imagery and aerial photography
- analysing maps including topographic, cadastral and land use maps
- collecting and analysing urban field data



https://whatson.melbourne.vic.gov.au/Documents/Maps/Docklands_map.pdf

Places Victoria (now called Development Victoria)

Urban planners give students a detailed overview of the Docklands project, looking at all aspects of planning and implementation of such a large project. A highlight of this is the fantastic timber scale model which shows what has been built so far and what projects are still to be implemented.

Syllabus links:

- describing patterns, linkages, networks and change, using maps of large cities and other urban areas
- synthesising and evaluating fieldwork data about the dynamics of change in a country town or suburb

FIELDWORK: YEAR 12 URBAN PLACES

- the relevance of a geographical understanding of urban places to a particular vocation such as: urban and regional planning etc.

Ceres Community Environment Park

Ceres is a sustainability centre and urban farm located in Brunswick – a 20 minute tram ride for the city. It operates like a NSW EEC whereby staff run a variety of incursions and excursions. We have participated in a number of their workshops relating to sustainability, waste management, energy, water and biodiversity. These programs are very hands on and engaging for students.

Syllabus links:

- The relevance of a geographical understanding of urban places to a particular vocation such as: urban and regional planning, designing effective city infrastructure, planning the delivery of social services, monitoring environmental quality and sustainability, preserving heritage sites.
- growth, development, future trends and ecological sustainability

Map of the Ceres Community Environment Park



https://www.tripadvisor.com.au/LocationPhotoDirectLink-g3250505-d3333821-i115039885-CERES_Community_Environment_Park-Brunswick_East_Moreland_Greater_Melbou.html



Melbourne Zoo

This is always one of the favourite activities of the trip. We have a one hour structured presentation by staff on endangered species programs and then students get to spend some free time in the zoo. This year we were lucky enough to witness the first ever surviving batch of newly spawned Southern Corroboree Tree Frogs bred in captivity.

Syllabus links:

- evaluates environmental management strategies in terms of ecological sustainability H6 evaluates the impacts of, and responses of people to, environmental change
- impacts due to human induced modifications to energy flows, nutrient cycling, and relationships between biophysical components
- human impacts (both positive and negative) – traditional and contemporary management practices.

It is a huge effort in terms of planning and covering classes, but a fieldwork trip such as this is invaluable to help students see the link between theory and practice and to develop their spatial skills and love of geography.



Source: https://upload.wikimedia.org/wikipedia/commons/e/eb/Melbourne_Zoo%2C_Victoria%2C_Australia_-22Jan2011.jpg

ADVICE TO CONTRIBUTORS

Editorial policy attempts to:

- promote material which will assist the study and teaching of geography
- encourage teachers to share their ideas on teaching geography
- provide a means by which teachers can publish articles
- inform readers of developments in geographical education

Articles are sought reflecting research and innovations in teaching practices in schools. From time to time issues of the Bulletin address specific themes.

Refereeing

All suitable manuscripts submitted to the Geography Bulletin are subject to the process of review. The authors and contributors alone are responsible for the opinions expressed in their articles and while reasonable checks are made to ensure the accuracy of all statements, neither the editor nor the Geography Teachers' Association of New South Wales Inc accepts responsibility for statements or opinions expressed herein.

Books for review should be sent to:

The GTA NSW Council
PO Box 699
Lidcombe NSW 1825

Editions

There are four bulletins each year – two published each semester.

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1. **Objective:** The Geography Bulletin is the quarterly journal of the New South Wales Geography Teachers' Association, Inc. The role of the Geography Bulletin is to disseminate up-to-date geographical information and to widen access to new geographic teaching ideas and methods. Articles of interest to teachers and students of geography in both secondary and tertiary institutions are invited, and contributions of factually correct, informed analyses, and case studies suitable for use in secondary schools are particularly welcomed.

2. **Content:** Articles, not normally exceeding 5000 words (no minimum specification), should be submitted to the GTANSW Office gta.admin@ptc.nsw.edu.au or by mail to: . **PO Box 699, Lidcombe, NSW 1825** who will forward to the editor: Submissions can also be sent directly to the editor: Lorraine Chaffer (lchaffer@tpg.com.au)

Articles are welcomed from tertiary and secondary teachers, students, business and government representatives. Articles may also be solicited from time to time. Articles submitted will be evaluated according to their ability to meet the objectives outlined above.

3. **Format:** Digital submission in Word format. Tables should be on separate pages, one per page, and figures should be clearly drawn, one per page, in black on opaque paper suitable for reproduction. Photographs should be in high resolution digital format. An indication should be given in the text of approximate location of tables, figures and photographs. Every illustration needs a caption. Photographs, tables and illustrations sourced from the internet must acknowledge the source and have a URL link to the original context.

4. **Title:** The title should be short, yet clear and descriptive. The author's name should appear in full, together with a full title of position held and location of employment.

5. **Covering Letter:** As email with submitted articles. If the manuscript has been submitted to another journal, this should be stated clearly.

6. **Photo of Contributor:** Contributors may enclose a passport-type photograph and a brief biographical statement as part of their article.

7. **References:** References should follow the conventional author-date format:

Abbott, B. K. (1980) *The Historical and Geographical Development of Muswellbrook* Newcastle: Hunter Valley Press.

Harrison, T. L. (1973a) *Railway to Jugiong* Adelaide: The Rosebud Press. (2nd Ed.)

Harrison, T. L. (1973b) The Spatial Distribution of Macadamia Plantations on the Far North Coast of New South Wales, *Journal of Rural and Agricultural Problems*, 13, 4, Oct. pp. 347–359.

O'Donovan, M. J., *et. al.* (1980) "Animal life in the North Star District of New South Wales". In W.W. Murphy, (Ed.) *Readings in Regional Geography (Vol. 2)*, Sydney: Williams and Sons.

8. **Spelling** should follow the Macquarie Dictionary, and Australian place names should follow the Geographical Place Names Board for the appropriate state.





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