GEOGRAPHY BULLETIN

Australian Curriculum: Geography

The Geography Teachers' Association of New South Wales Inc.

Volume 45 No 3 2013

In this issue:

PROJECTS • REPORTS • RESOURCES • ARTICLES • REVIEWS

GEOGRAPHY BULLETIN

Editors
Dr Susan Bliss, Editor, Educational consultant
Dr Grant Kleeman, Macquarie University

Articles and letters should be sent to the editor:
Dr Grant Kleeman,
School of Education Macquarie University
Sydney NSW 2109
Email: grant.kleeman@mq.edu.au

Design and layout:
Jill Sillar, Professional Teachers' Council NSW
jill.sillar@ptc.nsw.edu.au

ISSN 0156-9236

The Geography Teachers' Association of New South Wales Inc.

OFFICE OF THE GEOGRAPHY TEACHERS' ASSOCIATION OF NEW SOUTH WALES

ABN 59246850128
Address: 56 Bland Street, Ashfield NSW 2131
Postal Address: PO Box 577
Leichhardt, NSW, 2040, Australia
Telephone: (02) 9716 0378, Fax: (02) 9564 2342
Website: www.gtansw.org.au
Email: gta.admin@ptc.nsw.edu.au

ANNUAL MEMBERSHIP (Subscriptions include GST)

Personal membership $90.00
Corporate membership (school, department or business) $180.00
Concessional membership (retiree, part-time teacher or student) $40.00

Cover: Saskatchewan forest fire. Source: Wikimedia Commons

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 particular emphasis on the area of the Pacific basin and its near neighbours and 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' on the preceding page. 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.

GEOGRAPHY BULLETIN

The Geography Teachers' Association of New South Wales Inc.

Vol 45, No3 2013

EDITOR: Dr Susan Bliss

CONTENTS

EDITORIAL

Dr Susan Bliss, Editor

The Geography Teachers' Association of NSW has had a successful and busy term. The annual conference was attended by 350 teachers from urban and rural areas, and Lorraine Chaffer was awarded the Brock Rowe Award and Martin Pluss the Geoff Connolly Award. All conference presentations were placed on the GTA website and evaluation of the conference via Survey Monkey created and published online surveys in minutes. Participants' tweeted comments as the day progressed.

This edition of the journal focuses on GeogSpace which provides resource materials for Geography teachers. The materials develop knowledge, skills and pedagogical capacity to enable teachers to effectively teach the subject. Over time it is anticipated GeogSpace will continue to grow and become more interactive.

The journal includes teaching material for topics in the Australian Curriculum: Geography:

- Geography of Stuff is a unit of work from the UK Royal Geographical society with IBG. The unit focuses on the *Geographies of Interconnections* (Year 9)
- Geography of Food is an excellent unit written by the UK Geographical Association appropriate for *Biomes and Food Security* (Year 9). It contains on-line courses for teachers to aid their teaching
- *Food* (Year 9) and *Human Wellbeing* (Year 10) resources are provided by World Vision
- *Hazards* covering atmospheric or hydrologic (Year 7) and geomorphic or biotic (Year 8) are studied
- *Geographical Skills* includes *Cartoon Analysis, Using ICT in Geography, Satellite Images and Maps.*

Key inquiry questions are articulated in articles. Seven geographical concepts are integrated within units of work, and ICT links are included.

Seven Geographical Concepts

Source: Malcolm McInerney

EDITORIAL

Former president of the Royal Geographical Society, Michael Palin noted: 'Geography explains the past, illuminates the present, and prepares us for the future. What could be more important than that?'

Tim Costello, chief executive officer of World Vision Australia and patron of the Australian Geography Teachers Association (AGTA) stated that 'over time and with experience we learn to make sense of the world, to understand the processes and systems that make it work the way it does. This learning is the accumulation of observation, measurement, mapping and analysis. We learn to perceive our space, and our sense of place in it, and to make judgments and take actions accordingly.'

As a member of GTA for over 52 years I have decided to retire from the Council and spend more time with family. I am proud to have met extraordinary and hard working geographers on my journey through life and how their love of the subject has been effectively transferred to future generations.

Susan Bliss

GEOGRAPHY TEACHERS' ASSOCIATION NSW AWARDS 2013

Brock Rowe Award 2013 to Lorraine Chaffer

Over 37 years Lorraine has consistently demonstrated excellence in the teaching of Geography in secondary schools.

Lorraine has been head teacher, head teacher administration and head teacher in teaching and learning. She developed fieldwork activities in collaboration with Rumbularra Environmental Education Centre, and was author of the Jacaranda Geoactive Series, Teachers Edition (Stages 4–5) and Macmillan Geoworld (7 – 10) for the Australian curriculum.

Lorraine has been a member of the School Certificate Exam Committee and participated in consultation forums for NSW DEC on the Australian Curriculum – Geography. Over the years she has been a presenter at conferences for HSC students and Geography teachers. Lorraine was presented with the Rotary Pride of Workmanship Award in 2013 and will assume the GTA NSW Presidency for 2013–2014.

Geoff Connolly Award 2013 to Martin Pluss

For his contribution to over 46 articles since 1983 to the Journal of the Geography Teachers' Association of NSW.

Martin is the Dean of Learning Technologies at an independent girls' school in Sydney. He has been a GTA NSW councillor for many years.

REPORT

GTANSW ANNUAL CONFERENCE 2013

Source: https://www.facebook.com/photo.php?fbid=611004248928199&set=a.611004215594869.1073741826.429308213764471&type=3&theater

The Geography Teachers' Association of NSW held its annual conference on 30 August 2013 on the topic '*Geography – Making a difference for Australia.*' The conference was organised by Dr. Susan Bliss with the support of GTANSW councillors (in particular Martin Pluss) and the staff of PTC NSW (mainly Shreela Pradhan).

The conference was held at Rydges Hotel, World Square Sydney, and Global Kids Goals enabled a discount of $9,000, which was the cost of hiring the Ballroom for the day. The popularity of the conference resulted in 350 teachers attending with registration closing two weeks before the event. The function was the most successful GTA conference held in terms of participants and profits.

Speakers included:

* Susan Caldis – ACARA Geography Curriculum
* Prof. Gordon Waitt, University of Wollongong – *Geographies of Interconnections (Year 9)*
* Rebecca Nicholas – *Using Web 2 tools*
* Dr Susan Bliss – *Hazards (Years 7 and 8)*
* Dr Jennifer Curtis – *Global Education resources to support the Geography curriculum*
* Lindsay Swan, NSW Board of Studies – *Implementation of Australian Geography Curriculum*
* Dr Tracey McAskill, ACARA – *Achievement Standards and Work Sample Portfolios*
* Lorraine Chaffer – *Place and liveability (Year 7)*
* Malcolm McInerney – *AGTA web-based curriculum support materials*
* Nick Hutchinson – *Personal geographies (Year 9)*
* Milton Brown – *Geographies of interconnections (Year 9) and the role of NGO to improve human wellbeing (Year 10)*
* *Greg Reid – Water in the world (Year 7)*
* Dr Alison Gates – *Biomes and food security (Year 9)*
* Debra Owens – *Geographies of interconnections (Year 9)*

Numerous door prizes included items from Billabong and a teacher-family tour to New Zealand.

The survey report indicated the program was well organised and topics relevant to the Australian Curriculum: Geography. The speakers were excellent, informative and well prepared, and presentations were available on GTA website. Many teachers used ipads and twitter during the conference to express their thoughts. The hotel layout was superb and food of a high quality. Registration was handled smoothly and response stated exhibits added value to the conference.

However most teachers were surprised to hear the timeline for Geography syllabus and its implementation in NSW will be 2016 – 2017. Some teachers suggested F-6 conference to ensure students entering Year 7 have sound geographical knowledge, understanding and skills, and skills workshops for new geography teachers.

Australian Curriculum: Geographies of Interconnections Year 9

A Jarkarta Mall. Source: Wikimedia Commons

The unit focuses on interconnections that link teenage consumers living in the UK with overseas people, places and environments. It 'introduces moral, ethical and environmental issues associated with the global trade in consumer goods including child labour and food miles'.

The unit investigates 'stuff' such as laptops and reasons for growth of consumerism – especially amongst teens. Music downloads, online ordering of consumer goods and virtual chat rooms are covered. Additionally the unit studies the environmental and social impacts of global trade especially at Christmas and Easter and strategies for action such as recycle, re-use, refuse and replace, and the purchase of locally produced goods.

Scooped by Dr Susan Bliss

Source: Royal Geographical society with IBG – http://www.rgs.org/NR/rdonlyres/BFC14392-2E26-415E-A198-C32322463750/0/KS3_Stuff_Factsheet.pdf

Geography of stuff using Google Earth

Source: http://www.rgs.org/OurWork/Schools/Teaching+resources/Key+Stage+3+resources/The+geography+of+my+stuff/Stuff+Using+Google+Earth.htm

Key questions:

- Where does my stuff come from?
- Why do I need so much stuff?
- Who makes our stuff?
- What happens to our stuff when it is not longer required?
- How are we interconnected with people, places and environments in other parts of the world?
- How can we help reduce damage caused by runaway consumerism?
- What are the links between consumerism and:
    - excessive food miles
    - climate change
    - child labour and labour exploitation
    - depletion of non renewable resources
    - online fraud
    - changes to communities

Royal Geographical Society with IBG

The Geography of My Stuff – 'geography explained' fact sheet

	Key ideas	Key facts
Lesson 1: Where does my stuff come from?	**The sources of consumer items are spread across the globe.**	Labels on products that we buy can tell us a bit about the origins of that product, but they don't tell us the whole story. There are many questions that can be asked: Where was the product made? Who made it? What were the working conditions like for this person? Where did the different components come from? Who owns the company that made the product? Where do they make / spend their money? What are the environmental implications of the manufacturing / packaging / transporting of the product? And so on. The American writer Thomas Friedman found that the components of his Dell laptop originated from a possible forty different factories in sixteen different countries. So it's not just the final product that needs to be investigated, but all of the component parts as well. In their *Teaching Geography* article "Made in...? Appreciating the everyday geographies of connected lives", Cook et al. (2007) highlight the opportunities for studying geography that arise from consumption. They suggest that globalization, uneven development, interdependence, scale and connection, proximity and distance, relational thinking, identity, responsibility and futures can all be explored through researching the origins of the items that we buy. (Read this article) In the study of consumption, people can be producers or consumers – or both. A **producer** is a worker who makes goods and services for other people to use and enjoy. This work can be in agriculture (growing food), manufacturing (making and assembling products such as pens, light bulbs or TVs) or services (providing a service such as legal advice). The service sector also includes creative arts such as music and film making. A **consumer** is someone who purchases and enjoys the use of commodities (items including manufactured goods and food). Definitions of 'consumer' can be widened to also include the purchase and/or enjoyment of music, film and TV, art, leisure, tourism and professional services.
	The idea of consumption embraces more than just food – it also includes goods, services and the arts.	**Food miles** are measures of how far food has travelled to reach a consumer. Some food is produced locally and may only travel a few miles. However, most supermarkets buy food from far away places, such as asparagus from South America, which travels thousands of miles to the UK. When it comes to processed food and eating out, we have to take into account all of the separate ingredients of the product, all of which may have come from different places. Measures of the impacts of consumption are not restricted to food, but include all of the goods and services that we use, as well as our leisure pursuits such as music and film. Manufactured goods may contain parts from many different places, and art, music and film also have different 'ingredients' as well as national influences (e.g. Bollywood films and Hip Hop music). They may also have people from

Royal Geographical Society with IBG

		different countries working together to produce the film or CD. Instead of measuring food miles, here we can study a product's carbon footprint. A **carbon footprint** is a measure of how much carbon dioxide is used in the production of a product, for example in its manufacture or by transporting it from one place to another. Carbon dioxide is released when fuel is burned and for this reason it is better for the environment if we avoid consuming food and goods with a high carbon footprint. This is because too much carbon dioxide in the earth's atmosphere is causing the planet to slowly heat up.
Lesson 2: Why can people buy more stuff than they used to?	**Societies are continually changing and the average level of wealth in the UK has grown considerably over time.** **Much of this wealth is now spent on consumer goods and leisure time pursuits.**	Before the 1970s, household incomes were not high enough for families to buy as much food and as many consumer goods as they do today. Society has become richer as more people have moved out of low-paid factory and farming occupations and into well-paid office jobs. People now have more disposable income to spend on consumer goods and leisure pursuits, and this is also reflected in the average amount of pocket money that UK teenagers receive, especially in comparison with teenagers in other countries of the world. Whereas in the 1970s a teenager might have been content with a bicycle and a radio, in the 2000s the range of products that a teenager may own has expanded dramatically to include iPods, lap tops, mobile phones and DVD players – amongst many other things. As well as a rise in average incomes, another reason we are able to consume more is that the relative prices of many of the goods that we buy have fallen. This is particularly the case for manufactured electrical and hi-tech products, and is related to the emergence of cheaper producer nations overseas as well as improvements in the technologies of production. When they were first made available a few years ago, set top (Freeview) boxes cost over £100. In 2007, however, Tesco launched a digital set top box which cost just £10. Chris Price from consumer electronics website TechDigest claims that the low prices are the result of an extremely competitive market for these products. There used to be just a few retail outlets selling electrical products, but now that it is possible to buy them in so many different places, including online and in the supermarket, retailers are cutting prices to attract customers. Other products that have seen dramatic price decreases over the past ten years include powerful computers (a drop of 90% from £2500 to £250), DVD players (90% from £300 to £30), small TVs (76% from £400 to £100) and CDs and DVDs (50% from £16 to £8). Clothes have also seen a fall in price – the average price has dropped 36% since 1996 and it is now possible to buy a pair of jeans for £4. However, there are some negative impacts of these price drops. Product quality is often sacrificed, and people come to see such items as 'disposable' – it is cheaper to replace them than fix them. This has implications for the amount of waste we dispose of, much of which in the case of electrical items may be toxic to the environment. Importing products from cheaper factories overseas has further environmental impacts, and there are social implications both for the low paid overseas workers, and

Royal Geographical Society with IBG

		UK workers who may have been made redundant with the closure of factories here. Further information can be found in the following article: "Consumers enjoy falling prices"
Lesson 3: Where do we go to buy our stuff?	**Different types of retail land use exist.**	**Types of retailing:** **Convenience store:** local store such as a newsagent or small grocer. Usually sells only cheap everyday items (called 'low-order' goods) to small numbers of people from perhaps just a few local streets. **Comparison store:** store found in the Central Business District (CBD) of a town, usually selling more expensive ('high-order' goods) that are not required every day. Includes book shops, shoe shops and electrical shops. Often, comparison stores are 'chain stores', e.g. Woolworths. **Street market:** in some places, vegetables and other foods can be bought from street markets on some days of the week. Other goods, such as clothes, are also sold this way. Street markets are common in older parts of large cities and are sometimes targeted at up-market consumers (e.g. organic farmers' markets). **Out-of-town superstore:** a very large branch of a retail chain, often found at the edge of a town or city in a 'retail park'. The largest stores (over 2500 m^2) are called hypermarkets. **Retail park:** an area that has been set aside at or near the edge of a town or city where out-of-town stores can group together. Sometimes large structures such as the Bluewater shopping centre are built, where retailers can be housed. **'Metro' store:** this is the latest trend in retailing and comprises a scaled-down inner city supermarket, often attached to a petrol station. These stores are accessible and encourage people to shop while they refuel or pick up some items on the way home from work. The rise in disposable incomes has generated a demand for goods which could not be met by existing shops in town centres. This is because of the shortage of land in the CBD, and the high land values. As a result, chain brands such as Sainsbury's, Tesco, Marks and Spencer and Ikea – along with others – sought planning permission to build large new stores on the edges of towns and cities. The growth of out-of-town stores has been helped by other factors. Unlike in the past, the majority of the public now have access to a car, while roads have been improved and widened in many towns and cities over the last thirty years. This has helped to make shopping sites at the edges of settlements very easily accessible for most people. There are now over 1000 supermarkets, hypermarkets and retail shopping centres in the UK. Ikea has only three stores in the south east, but it hopes to cater for all London homes with these, suggesting that all Londoners are within reach of one of the stores. Huge warehouses at each site allow a diverse range of goods to be stocked in bulk.

Royal Geographical Society with IBG

	These sites of consumption bring a range of social and environmental impacts.	Each of the retail types mentioned has its advantages and disadvantages, and a range of social and environmental impacts. The local high street may be accessible and beneficial for community cohesion, but land values are high and there may be traffic congestion and a lack of parking. On the other hand, out of town retail parks may provide a wide range of shops and ample parking, but their construction may have environmental implications (perhaps being built on green space), and they may not be accessible to some sectors of the community, for example the elderly. The local convenience store may be accessible, but it won't stock a wide range of products and will be in direct competition with the new metro supermarkets. Will it take enough revenue to survive, and if it doesn't, what are the implications again for less mobile members of the community?
Lesson 4: Virtual stuff	**The geography of consumption increasingly has an online dimension to it.** **The growth of online shopping has an impact on shops and societies back in the 'real' world. There are also implications for the environment.**	Britain is Europe's number one online shopping nation. By August 2008, Britain was spending a total of £4.6 billion online per year, which amounts to an average of £79 per person. Even though the economy slowed in 2008, online sales rose by 11.3%. The online retailer Amazon made a profit of $158 million in the three months to June 2008. Online shopping is successful because it is quick and easy, 57% of UK homes now have the Internet, you can shop at any time of day or night – and even if it's bad weather – and all the big high street stores now have websites so you can still buy from your favourite shop. At times during December 2007, Amazon received 11 orders per second! Analysts have suggested that the recent rise in petrol prices is another reason that people are more likely to shop from home. Of course, the rise in online shopping has implications for shops back in the 'real world'. Many high street shops are suffering from declining sales, and this is especially the case for music and DVD stores as more and more people are downloading music and films from the Internet onto their computers and iPods. You can buy music legally on the Internet from sources such as iTunes. However, some people also share CDs by copying them and some music files are posted on the Internet where others can gain access to them. If music is downloaded illegally from unofficial sources like these, this is called piracy. The Internet is having a major effect on the music industry and how it is run. If people do not pay for music, then record companies have less money to invest in future bands. The Internet means that CD sales have fallen, and as a result, so have profits for the performers, the songwriters and the record companies. When it comes to the environment, online shopping has both positive and negative implications: • Cheaper purchasing online means even more products are being manufactured and sold – all of which requires energy and is responsible for more carbon dioxide being emitted. • Some online purchases are delivered in vans and lorries meaning that there are more large vehicles on our roads. • More and more people are using computers to download and listen to music and films. This leads to computers being left on all day (and all night sometimes) which uses a lot of energy.

Royal Geographical Society with IBG

		• Firms like Google have offices containing tens of thousands of computers to help people to search for products online. This uses up enormous amounts of energy. However... • More people are downloading music, books and newspapers onto their i-Pods and computers. Fewer CDs, books and newspapers are made which saves paper – and trees. • Some shops are shutting down (e.g. DVD hire shops, electrical and book shops) as people are buying online. This means less people travel into town centres, causing less pollution and congestion. • Many online purchases are delivered in the normal way by Royal Mail, so there is no increase in transport and pollution. With the rise in the number of people shopping online, the potential for net crime increases. 86% of targeted attacks on computers are aimed at home users. Attacks include hacking, viruses, spam and phishing. Many people still don't take basic steps to protect themselves from net crime, with 17% with no virus software and 22% with no firewall. The Get Safe Online website provides people with information about how they can protect themselves online. Read this article from the BBC website.
Lesson 5: The kids who make our stuff	**Our own lives (as consumers) connect with those of children living in poorer nations (as producers) through the geography of consumption.**	Child labour is the employment of children at regular and sustained work. Many countries consider this exploitative, and in many countries there is a minimum legal age for work. In the UK, it is 16 years. Other countries have different age limits, for example in Germany and Japan it is 15, in India and Egypt it is 14 and in Trinidad it is 12. However, some countries have no legal minimum working age for children, including Congo, Malawi and Papua New Guinea. According to UNICEF, there are 250 million children aged between 2 and 17 working worldwide. Most child labour occurs in African and Southern Asian countries, with Mali having the highest proportion at 805 child labourers per 10,000 people. Children may be employed in a wide range of jobs, including factory work, mining, quarrying, agriculture, helping in their parents' business, selling, acting as guides for tourists, polishing shoes and cleaning. In some cases, they may be forced into prostitution or military activity. This section previously contained text and a related web link to the BBC's *Panorama* programme of 23 June 2008 'Primark – On the Rack' which the Society has removed from its own website. On 16 June 2011 the BBC Trust's Editorial Standards Committee (ESC) concluded that it was more likely than not that certain footage in the programme was not genuine, and that the *Panorama* programme committed serious breaches of the BBC's Editorial Guidelines on accuracy and fairness. The ESC directed the BBC to issue on-air and web-based apologies to Primark and not to sell or repeat the programme.

Royal Geographical Society with IBG

Lesson 6: Global impacts and possible actions	**The demand for consumer items in the UK has impacts which are spread across the globe.**	Consumerism is linked with issues on a range of scales that have been covered in this unit so far: • Excessive food miles and climate change • Loss of green belt land • Child labour and labour exploitation • Depletion of resources • Online fraud • Changes to our communities
	Our consumption has impacts on a range of different societies and environments.	In the UK we consume a lot. As a result, we throw away a lot of rubbish. Currently, levels of household waste in the UK are increasing at a rate of 3% each year. This equates to a doubling of levels every twenty years. Waste levels spike during Christmas and New Year, with about one-tenth of our annual rubbish (three million tonnes) being generated over the festive period. The government sponsored organisation Recycle Now estimates that we throw away one billion Christmas cards, eight million Christmas trees and 750 million bottles every year. Turkey foil alone creates 3,000 tonnes of waste and 83 million km^2 of wrapping paper are used. This creates a huge impact on the environment. Currently, 75% of our waste ends up in landfill, although new laws are being introduced in the UK that will impose taxes on local councils if more materials are not recycled instead. But waste isn't the only environmental problem created by the Christmas festival. According to scientists at the Institute of Physics, the UK generates 2 million tonnes of extra greenhouse gases at this time of year roasting turkeys, watching extra TV and lighting up houses with Christmas lights. In the UK we have also increased our consumption of bottled water at the fastest rate of any country in Europe over the last five years. This is strange, considering that we have some of the best quality tap water in the world. The impact of these plastic bottles – which take hundreds of years to decompose – is huge as the vast majority of plastic bottles are neither reused nor recycled. But it is not just our own land fill sites that are suffering. Much of our waste is shipped 5000 miles for recycling in China. In 2006, China exported £12.6 billion worth of manufactured goods to the UK, and received 1.9 million tonnes of rubbish in return. It is illegal for EU countries to export waste for disposal, but it can be shipped out for recycling. Unfortunately, many of the recycling plants it is sent to are unregulated, creating pollution and health risks. You can read more about the recycling of UK waste in China in these two articles from the Guardian online website: Waste land and British waste adds to environmental crisis across China.
	How can we help to reduce the damage caused by runaway consumerism?	There are four actions (the four Rs) that can help us use less of the earth's natural resources: • **Recycle** – waste products are broken down and used to make another product, for example plastic bottles are melted down and used to make new bottles, or in some cases, fleeces! Paper can be pulped and used to make new paper, meaning that fewer trees need to be cut down. • **Reuse** – many items can be reused several times before they are thrown away, for example plastic bags or plastic bottles, which can be refilled from the tap. Reusing items means that fewer need to

Royal Geographical Society with IBG

		be manufactured in the first place, saving valuable resources. • **Refuse** – before buying something new, ask yourself whether you really need it. Consider refusing to buy excessively packaged goods – this type of consumer boycott puts pressure on manufacturers to reduce their packaging. Take your own bag to the supermarket and refuse a plastic carrier bag. • **Repair** – before throwing away a broken object consider whether it can be repaired – either by yourself or by a professional. Torn clothes can be stitched, broken toys glued, even computers can be fixed. Getting something repaired rather than buying a replacement again saves resources and prevents more and more waste being sent to landfill.

A Jarkarta Shopping Mall. Source: Wikimedia Commons

GEOGSPACE RESOURCES

Malcolm McInerney, AGTA Chair

The Year 7-10 Geography curriculum contains two topics for each year level with one focussed on physical geography and the other on human geography. The following topic coverage is:

- Water in the world (7)
- Place and liveability (7)
- Landforms and landscapes (8)
- Changing nations (8)
- Biomes and food security (9)
- Geographies of interconnections(9)
- Environmental change and management (10)
- Geographies of human wellbeing (10)

Unlike the F–6, a curriculum narrative is much more difficult to articulate, though such a process is an interesting activity for faculties to undertake in an effort to deconstruct the curriculum and develop their own rationale for the curriculum progression.

GeogSpace on-line resources

Once the Geography curriculum was written, AGTA saw the need to develop resources to support it. In March 2012, AGTA was successful in tendering to undertake the development of the Geography on-line resources for the ***Educational Services Australia*** (ESA) ***Supporting the Australian Curriculum On-line*** (SACOL) project. AGTA commenced developing the resource, to be known as GeogSpace, in July 2012 and employed 12 writers from across Australia to write innovative and comprehensive illustrations of practice linked to the Australian Curriculum: Geography. On 31 May 2013, the GeogSpace site went live at www.geogspace.edu.au and was met with great enthusiasm from geographers around Australia who saw the resource as much needed support to the successful implementation of the new curriculum. The illustrations of practice are not just activities for students but have also been designed to provide materials for quality professional learning. GeogSpace was developed with the following in mind. To:

- be a resource to support the teaching of the Australian Curriculum: Geography
- provide the framework, content pedagogical knowledge, teaching approaches and resources to support professional learning across Australia
- have the capacity to support the delivery of professional learning to "Geography" and "non-Geography" Geography teachers
- cater for primary and secondary school implementation of the Australian Curriculum: Geography

- integrate ICTs throughout the curriculum relevant to the teaching of Geography
- reflect "world best practice" i.e. range of sources, in particular the UK Geography teaching resources have been purchased
- be a free website (open to all) containing over 60 illustrations of practice and professional learning objects
- be written and developed by Australian Geography teachers from every state of Australia – a first ever resource for Australian Geography teaching
- be a 21st Century Geography resource dedicated to the Australian Curriculum: Geography.

GeogSpace structure

The GeogSpace site comprises two major resource sections – Core units and Support units.

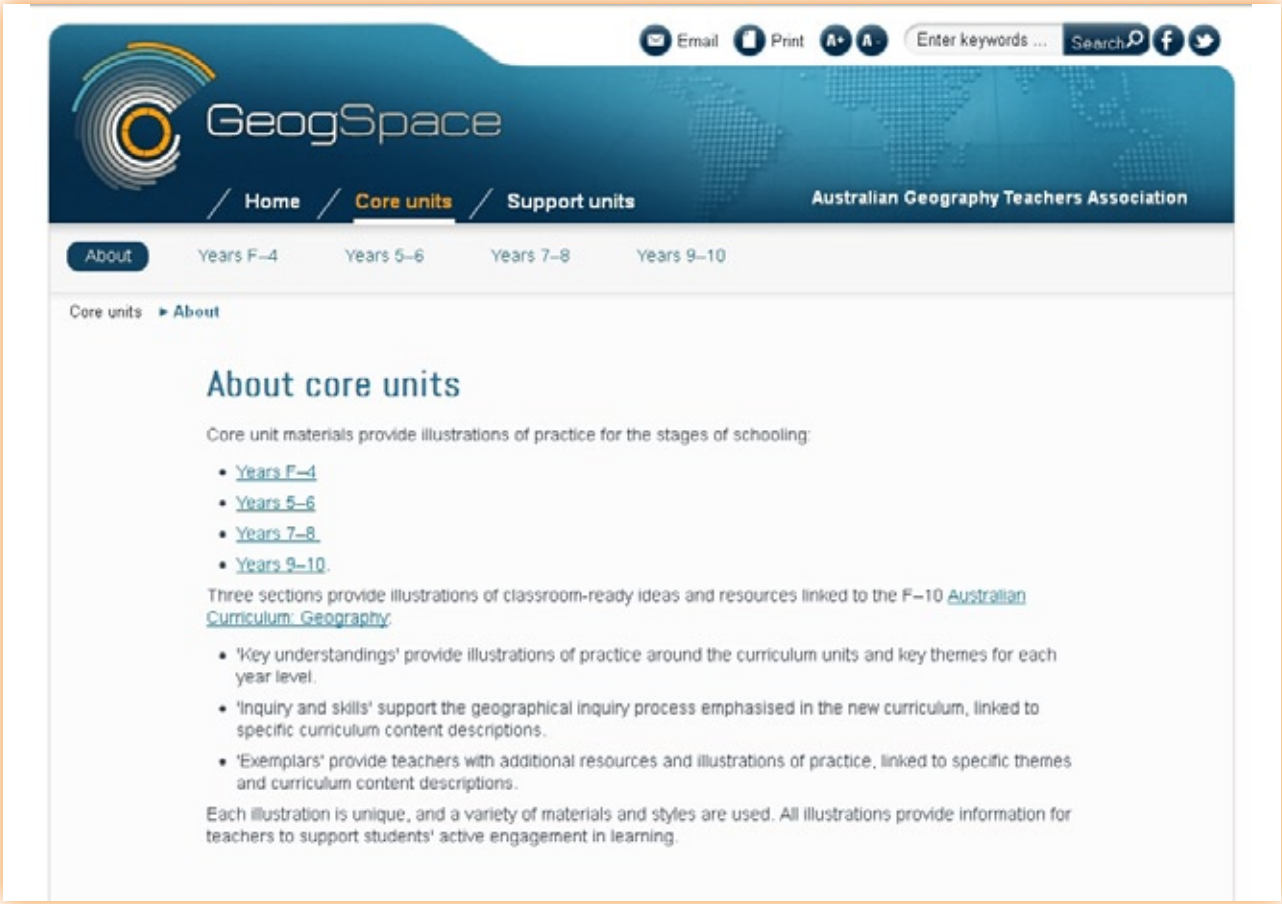
Core units comprise illustrations of practice for stages of schooling described in the Australian Curriculum: Geography.

The illustrations are provided for Years F–4, Years 5–6, Years 7–8 and Years 9–10.

The illustrations are designed to provide classroom-ready ideas and resources that reflect the dynamism of Geography. Each illustration is linked to the curriculum and provides opportunities for students to actively engage in learning, whether it be through undertaking class research, practical activities, field investigations or through taking local action.

The Core units have three sections for each of the stages of schooling:

1. Key understandings: the fundamental understandings are articulated and illustrations of practice are developed to model the understandings
2. Inquiry and skills: the key inquiry and skills for the stage are articulated and illustrations of practice are developed to model the skills
3. Exemplars: learning activities have been designed as illustrations of practice, directly linked into the content descriptions of the curriculum.



Support units provide illustrations of practice designed to support teachers' professional learning and provide guidance, information and resources in eight areas of geographical education:

1. Thinking geographically: illustrations to develop and enrich the geographical imagination and exploring vocabulary to adequately express the richness of geographical concepts
2. Why teach geography?: illustrations to explore how geographical studies help students to understand the uniqueness of their own place, the world they live in and their involvement within it
3. Professional practice: illustrations to explore how teachers can support students whose attitudes, abilities, cultural backgrounds and preferred learning styles vary greatly

4. Fieldwork: illustrations to support the use of fieldwork as a physical activity of "exploring Geography".
5. ICTs in Geography: illustrations to promote the use of geospatial technologies to support spatial thinking and to make the acquisition of knowledge more efficient and engaging
6. Assessment in Geography: illustrations to support teachers in understanding the standards, and how to apply them in both planning and practice
7. Language of Geography: illustrations to explore how literacy learning practices that can be employed in the Geography classroom
8. Geographical inquiry: illustrations to show how geographical inquiry can give students the opportunity to actively engage in understanding their own place and the world they live in.

It is anticipated GeogSpace will continue to grow and become even more interactive and comprehensive as it reflects the dynamism of geographical education in the 21st century. AGTA welcomes feedback about the GeogSpace site and resources and looks forward for the resource to be used across Australia, as it is intended, to support the implementation of the curriculum. Feel free to advertise in any way possible amongst your colleagues interested in teaching the Australian Curriculum: Geography and "learn" about modern Geography in schools (flyer below, available on the AGTA site at www.agta.asn.au.

Spatial technology

After years advocating for the use of spatial technology in schools, the Australian Curriculum: Geography overtly refers to the use of GIS and other spatial technologies as not only desirable but as an expectation.

> *"In Geography, students develop ICT capability when they locate, select, evaluate, communicate and share geographical information using digital technologies and learn to use spatial technologies."*

From the General capabilities section of the ACARA Rationale for geography at **www.australiancurriculum.edu.au/Geography/General-capabilities**

Other important references to the use of spatial technology is to be found throughout the Inquiry and Skills strand, in the very geographical level of inquiry titled: ***collecting, recording, evaluating and representing. For example from Year 6 onwards one of the content descriptions for this inquiry level is:***

> *"Represent the spatial distribution of geographical phenomena by constructing special purpose maps that conform to cartographic conventions, using spatial technologies as appropriate."*

Foundation to Year 10 at **www.australiancurriculum.edu.au/Geography/Curriculum/F-10**

Such an overt reference to the use of spatial technology in the document is an important adjunct to our efforts to use the modern technology of Geography in geography classrooms. Whilst an opportunity, for this expectation to not be a risk to the teaching of the curriculum, considerable time and effort needs to put into building the capacity of teachers to meaningfully use spatial technology. What the curriculum has done is give a green light for such work!

Fieldwork

As have all GTAs across Australia, the GTNSW has been a strong advocate of fieldwork as an important and integral part of Geography. Whilst cautious in mandating fieldwork, the curriculum does make overt reference to fieldwork as an important activity if a school intends to conduct quality geographical education.

> *"They conduct fieldwork, map and interpret data and spatial distributions, and use spatial technologies."*

From the Rational of the curriculum at **www.australiancurriculum.edu.au/Geography/Rationale**

Although it is somewhat disappointing that fieldwork is not specifically mentioned in the content descriptions in the ***Inquiry and Skills*** strand, fieldwork is implied in year level Content Descriptions and Elaborations in most years. For example:

> *"Evaluate sources for their reliability, bias and usefulness, and represent multi-variable data in a range of appropriate forms, for example, scatter plots, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies."*

Year 9 content description

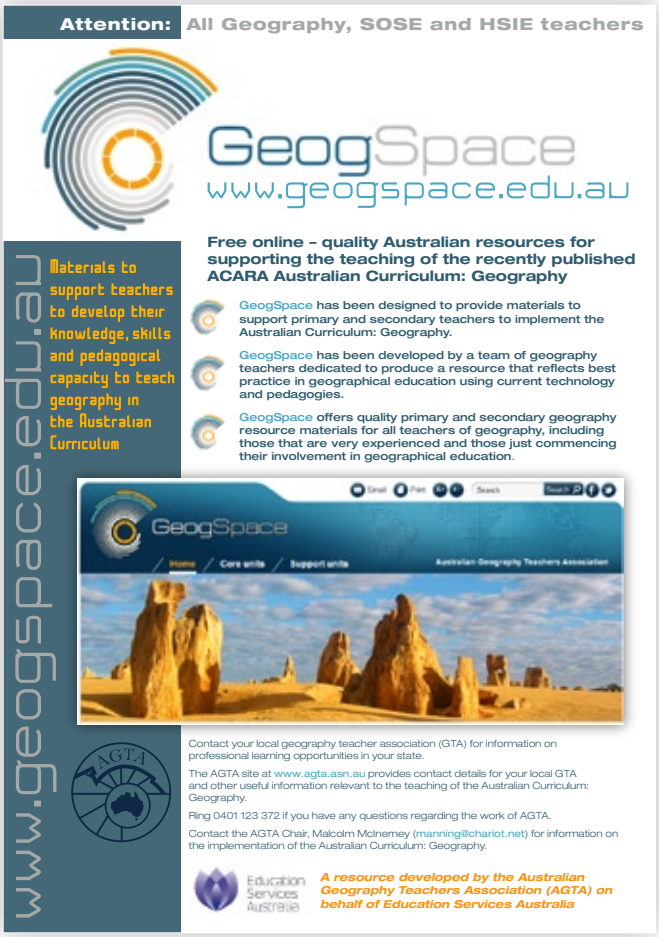
> *. . . "interpreting and creating maps such as flow and choropleth maps, or plans for specific purposes, for example, a bushfire management plan mapping geographical data using spatial technologies, the location of recent bushfires in Australia, or information they have collected through fieldwork."*

Year 5 elaboration

It is also worth noting that fieldwork was implicit in the 2011 Shape Paper for the curriculum with statements such as:

> *"The Australian Curriculum: Geography will involve field work at all stages, as this is an essential core component of geographical learning. Field work is any study undertaken outside the classroom, and could be within the school grounds, around the neighbouring streets, or in more distant locations."*

Shape of the Australian Curriculum: Geography January 2011, page 15
www.acara.edu.au/verve/_resources/Shape_of_the_Australian_Curriculum_Geography.pdf



Inquisitive inquiry

As geographers we are keen to nurture the inquisitiveness of students so that they can develop an understanding of the geographical world for themselves. Such inquisitiveness and questioning is an important component of the inquiry approach, an approach strongly embedded and enunciated in the curriculum through the structure and content of the Inquiry and Skills strand. As is stated in the curriculum:

> *"Geography uses an inquiry approach to assist students to make meaning of their world. It teaches them to respond to questions in a geographically distinctive way, plan an inquiry; collect, evaluate, analyse and interpret information; and suggest responses to what they have learned."*

The Rationale at **www.australiancurriculum.edu.au/Geography/Rationale**

> ***"Geography aims to ensure that students develop the capacity to be competent, critical and creative users of geographical inquiry methods and skills."***

Aim number 4 of the curriculum at **www.australiancurriculum.edu.au/Geography/Aims**

Such an integrated focus on geographical inquiry as developed in the new curriculum lends great support to quality student centred geographical learning and should be a useful guide to the nature of the pedagogy employed in the teaching Geography.

EXPLORING THE GEOGRAPHY OF FOOD – YEAR 9

Dr Susan Bliss
Collation of information from UK Geographical Association – http://www.geography.org.uk/cpdevents/onlinecpd/

Image source: http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/plenary/

The 'Global Food Crises' is continually in the news. Available and accessible food for over 7.1 billion people constantly changes when areas experience floods, droughts, cyclones and climate change. To update information newspapers and media reports are required to be sourced from a range of perspectives. It is important to use the inquiry approach when studying the topic to obtain balanced information, as well as classroom activities such as debates, role plays and Six Thinking Hats.

Introduction

UK Geographical Association noted that **food** is a basic human right and the production and consumption of food connects people with environments, water cycle, trade and aid. The following Geographical Association courses, explore the development of the coming 'perfect storm' and its relationship with food. The courses also provide opportunities for students to develop digital and media literacy by engaging in a range of web based resources.

Courses

Getting Started

My learning journey – what will I focus on and how will I achieve this? 1 hour – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/gettingstarted

Why is hunger a geographical issue?

This course looks at geographical issues related to hunger. 1.5 hours – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/hunger

OXFAM and 'The Perfect Storm'

How is increased food production and a worsening of environmental conditions contributing to a 'perfect storm'? 1 hour – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/theperfectstorm/

Climate change and food supply

How does climate change impact upon food production and supply? Thinking about possible futures. 1.5 hours – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/climatechange/

Plenty more fish in the sea?

This course introduces the issues surrounding sustainability and looks at measures designed to overcome these issues. 1 hour – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/plentymorefish

Cooking up a storm?

This course explores the implications of different methods of food preparation for the environment. 1.5 hours – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/cookingupastorm

Plenary: Thinking about food futures

What is the future of our food supply? This course also provides a framework for reflection and suggests how you might share your learning. 45 minutes – http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/plenary

EXPLORING THE GEOGRAPHY OF FOOD – YEAR 9

Food Security

'Food security refers to the availability and accessibility of food and is an issue that affects everyone.' **–** http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/

Courses

Getting Started

Introducing the topic of food security. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/gettingstarted/

Supermarket Shock

Take part in an imaginary shopping trip to explore how shoppers are responding to rising food prices by cutting costs.– http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/supermarketshock/

Local Food Strategies

What strategies would you and your pupils be prepared to use in a situation of food insecurity? – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/localfoodstrategies/

Global Food Strategies

What strategies might be used globally in response to the food crisis? An introduction to Oxfam. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/globalfoodstrategies/

The Perfect Storm

What is 'the perfect storm' and what are the factors that are contributing to it? – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/theperfectstorm/

Food Aid

Food aid - is it just something that is needed overseas? This unit looks at food bank schemes operating in the UK. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/foodaid/

Getting the Message Across

In this unit we explore how charities such as Oxfam use media campaigns to get their message across. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/gettingthemessageacross/

Making a meal of it: Creating a presentation

In this unit you will learn how to use a web tool called Animoto to create a multimedia classroom presentation. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/makingamealofit/

Pedagogy and Thinking

What is the theory behind the practice? This section looks at controversial issues, enquiry, values and more. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/pedagogyandthinking/

Plenary

A final reflection on the units, and a collection of links and resources to guide your own further research. – http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/plenary/

Activity 1: Food for thought

Source: http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/gettingstarted

Take a large blank sheet of paper, open a mind-mapping software package such as Inspiration (http://www.inspiration.com) or visit on online mind-mapping site such as MindMeister (http://www.mindmeister.com) or free software such as FreeMind (http://freemind.sourceforge.net/wiki/index.php/Main_Page).

'Create a mind-map with the word FOOD in the centre and think of the possible curriculum links that could be explored, resources that could be tapped into, people who could be contacted and personal experiences which could be investigated. Additional support could be given by providing a range of key questions to direct the mind-mapping in particular directions. Suggest what those questions might be. At this stage, the aim should be to consider all possibilities, which can then be narrowed down later when you move on to one or more of the other courses in this family.'

Activity 2 Changes to food

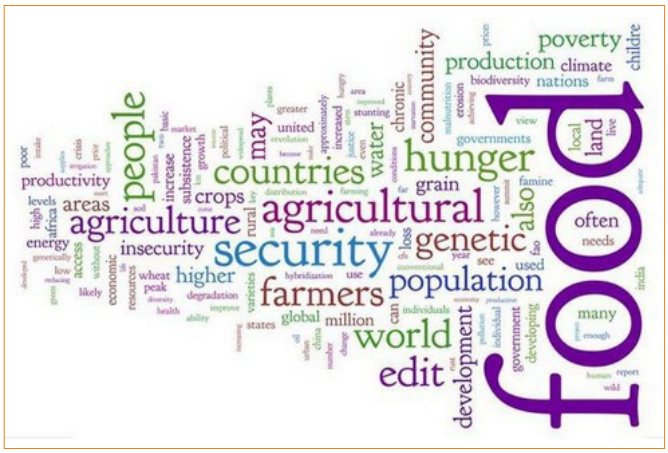
Source: http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/gettingstarted/

Take a look at the image above which shows the amount of rice that a wage in Cambodia could buy in 2008 compared to 2007.What might have caused this situation to happen? How are you and your students being affected by the rising cost of food?

Activity 3: Worldl on food

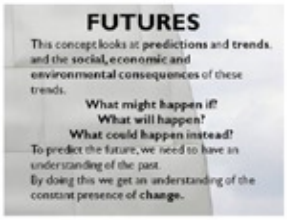
Source http://www.geography.org.uk/cpdevents/onlinecpd/foodsecurity/supermarketshock/

Discuss the issues concerning food



Activity 4: Futures

Source: http://www.geography.org.uk/cpdevents/onlinecpd/geographyoffood/plenary



What is meant by the future of food security? How is this difficult to determine/ How can more people in the future become food secure?

ICT

FAO – http://www.fao.org/getinvolved/en/

World Food Day – http://www.fao.org/getinvolved/worldfoodday/en/

Oxfam World Food Crises – http://www.oxfam.org.uk/what-we-do/issues-we-work-on/food

Food for Thought. Resources for teaching about food by Tony Cassidy – http://www.radicalgeography.co.uk/Food.html

BBC NEWS: Special Report on 'The cost of food', contains numerous images and reports as well as links to a large number of related articles – http://news.bbc.co.uk/2/hi/in_depth/world/2008/costoffood/default.stm

Worldmapper – A collection of world maps, where territories are re-sized on each map according to the subject of interest. Many of these are related to the issues considered in this course – http://www.worldmapper.org/

Food for a Healthy Planet. Part of the Climate Choices – Children's Voices website from Practical Action exploring, amongst other things, the concept of 'food miles', with some helpful resources. – http://www.climatechoices.org.uk/pages/food0.htm

Raj Patel – The author of *Stuffed and Starved* maintains this blog that contains articles on food and development and related issues – http://rajpatel.org/

Future of food – http://www.abc.net.au/news/2013-02-18/the-future-of-water-in-australia/4525246

WORLD VISION RESOURCES

Food and Human Wellbeing Years 9 & 10: Australian Curriculum

Source of information and video http://www.worldvision.com.au/resources/SchoolResources/IndonesianResource.aspx?id=e6251963-cd63-4dd9-a0a1-f3845bb44726

This article addresses the Year 9 unit **Biomes and food security** and the Year 10 unit **Global geographies of human wellbeing**. It explores the challenges of food security, including land and water degradation, soils, competing land uses and climate change. These resources look at two very different Indonesian islands, Bali and Sumba.

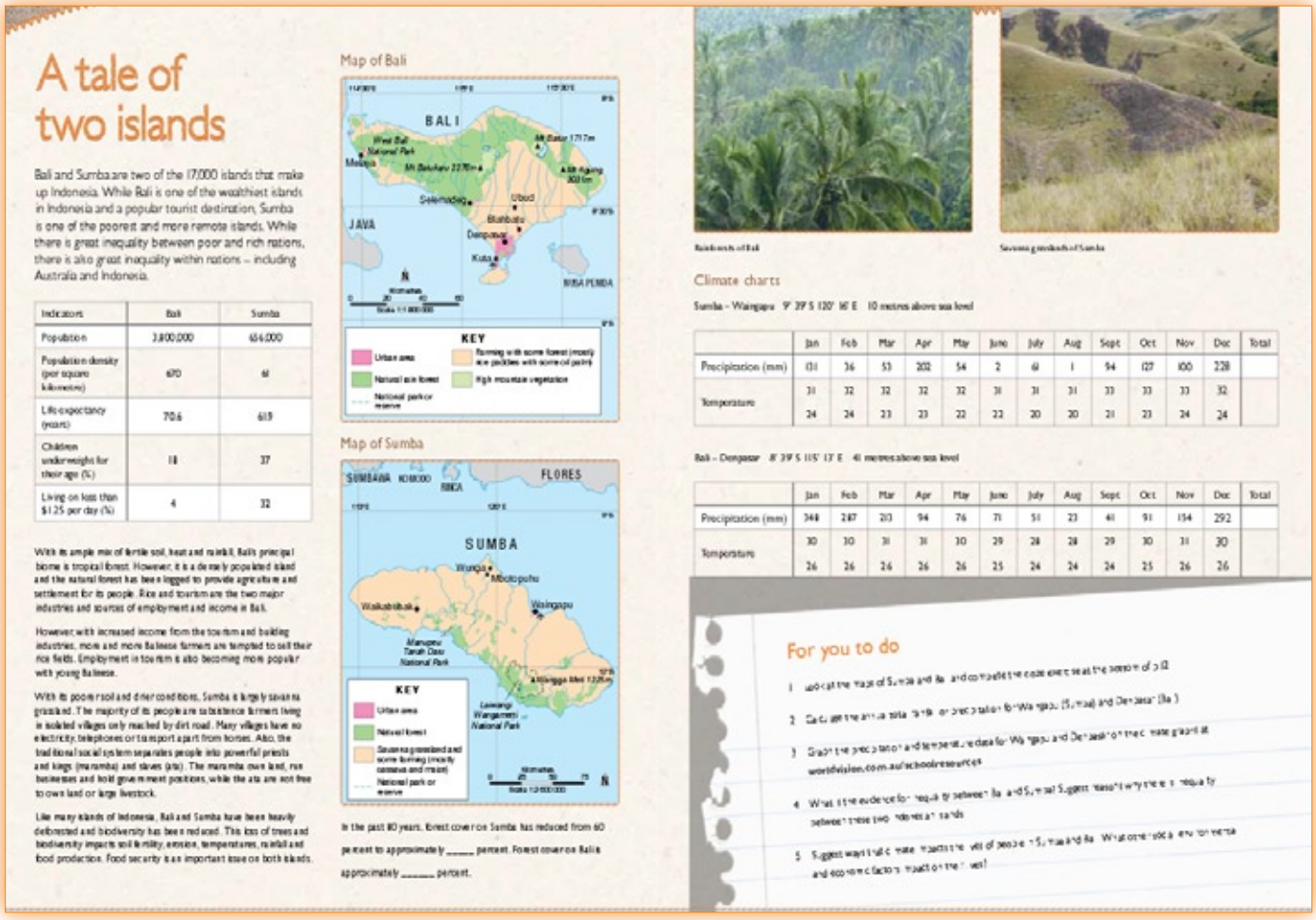
Overview:

- Tale of two islands
- Bali – rice and forests
- Sumba – corn and savanna grassland
- Food security strategies
- Reflections and thinking hats

Source: http://www.worldvision.com.au/Libraries/School_Resources/7018_Indo_Stories_Chapter_2.pdf

Complete the following activities

1. Questions on DVD http://www.worldvision.com.au/Libraries/School_Resources/DVD_activity_food.pdf
2. Complete climate graphs – http://www.worldvision.com.au/Libraries/School_Resources/Sumba_and_Bali_-_climate_graphs_p_12-13.pdf
3. Complete Venn diagram to show similarities and differences between Bali and Sumba – http://www.worldvision.com.au/Libraries/School_Resources/Sumba_and_Bali_%E2%80%93_similarities_and_differences_p_14-15.pdf
4. Draw a web map showing food insecurity for people living in Sumba – http://www.worldvision.com.au/Libraries/School_Resources/Sumba_%E2%80%93_savanna_grassland_p_15.pdf



Bali – rice and forests

Bali is one of the wealthiest islands of Indonesia and a favourite tourist destination for Australians. It has a population of 3.9 million and tourism and rice production are the major sources of income and employment. It is the most densely populated island in Indonesia with 670 people per square kilometre (km²). It has volcanic, fertile soil and high rainfall that is most suitable for agriculture. Indonesia is the third largest rice producer in the world.

Since the 18th century, Balinese rice farmers have used a unique water management strategy. All peasants whose fields are fed by the same water course belong to a subak or irrigation cooperative. The farmers meet together to make decisions about the construction, maintenance and distribution of their water system. This strategy is essential to effective rice cultivation on Bali, where water travels through valleys and across terraces on its journey from mountains to the sea. It is a strategy that reflects a Hindu philosophy where temples and rituals seek to promote a harmonious relationship between the people and their environment. This is an important traditional approach for the challenge of supporting a dense population on a rugged volcanic island.

Bali has about 1,200 subak cooperatives and in 2012, UNESCO recognised subak farms as World Heritage sites.

However, rice production on Bali is threatened by the steady growth of tourist areas and increasing urbanisation. The lure of working in the building or tourist industry, combined with high land prices, tempt more and more farmers to sell their rice fields. Young Balinese are moving away from rice cultivation and productive arable land is lost as tourist developments are built. Tourism also demands more of the water supply and this is also a risk factor for the future of Bali's rice production.

Terraced rice paddy fields are a common sight across Bali. Approximately 84 percent of total rice area in Indonesia is irrigated and rice is grown year-round, with some farmers being able to cultivate three crops within a given 12-month period.

Sumba – corn and savanna grassland

Sumba is one of the poorest islands in Indonesia. It has a population of 656,000 and a population density of 61 per km². Most live as subsistence farmers in poor rural areas without electricity or sanitation.

It is hot with low rainfall. The dry season lasts nine months and drought is a constant threat. To make matters worse, annual burning of grassland and deforestation means that only 6–10 percent of the island is now covered in forest. Like parts of northern Australia, it is savanah grassland. The soil suffers from erosion, and during the short rainy season, topsoil is washed away and the ground fails to absorb water.

The shallow, infertile soil and heavy dependence on rain-fed agriculture make agriculture difficult. There is an over dependence on corn and cassava as the main crops and locusts have also been a threat.

Harvested corn is stored by the village in trees during the dry season. This protects the food from rats and other animals.

Food shortages are common and food security is a challenge. This means children become malnourished and drop out of school to help their parents on the farm. Thirty-seven percent of children are underweight for their age and this also causes stress and fear for the future.

The people do not move because they believe the land belongs to their ancestors and they have a responsibility to live there and care for it. These are traditional beliefs that make development and change a challenge in Sumba.

Village housing on Sumba. Homes do not have access to water or sanitation. Cooking is done over a fire. Can you see the source for this fire in this house?

For you to do

1 What are the food security threats for Sumba? What are the food security threats facing the people of Sumba?

2 Look at the main climate graph and maps on pp12&13. Use the World diagram at worldvision.com.au/schoolsresources to show the similarities and differences between Sumba and Bali.

3 Read the text on p12&13. Identify the different food security problems facing Sumba and demonstrate them on a map at worldvision.com.au/schoolsresources

Food security strategies

Over the years, the communities on Sumba have explored a range of strategies to address their food security. In 1998, the El Nino weather pattern led to serious malnutrition and hunger. In response, World Vision and AusAID conducted a "food for work" program. Families were provided with corn and rice in exchange for working on community development projects.

Over the next 10 years, World Vision provided agriculture training, and seeds and tools to improve food production. This led to some success but with ongoing lack of rain and poor soil quality, work is now focusing on more long-term natural resource management.

For sustainable food security, the communities are now looking to plan for the future and use natural resources wisely and effectively. Communities now talk about "forests for our children".

The communities are now using agroforestry to help absorb water, improve soil fertility, and increase both their food security and their income. It is a risk management strategy in the face of climate change. This involves planting both trees and food crops together to create a more diverse, profitable, healthy and sustainable land-use system. Some of the teak and mahogany trees planted can be harvested after seven years to ensure an income for children to attend school. Others can be harvested after 10 years and more again after 25 years.

Another important strategy to address the problems of deforestation and burning is growing and managing the regrowth of existing trees. Using local tools such as machetes and knives, farmers prune branches from existing tree stumps. The cut off branches are used for firewood and one central stem on the plant is left to grow straight up. The plant puts its remaining energy into this solitary trunk which enables the plant to grow more rapidly. The regrowth of vegetation strategy can be seen on the ABC Lateline program. Reforestation project adds hope to food crisis (4 minutes 55 sec). View site at: **www.abc.net.au/lateline/content/2012/s3542254.htm**

World Vision Indonesia works with community members in 44 villages on Sumba – to plant crops and preserve trees. More than 1,000 families have been encouraged to plant more than 30,000 trees across 30 hectares of land.

Community leader Yonas with cassava intercropped with teak and mahogany. Here the cassava leaves are picked and provide food that is high in both protein and vitamins. Other crops planted among the trees include peanuts, soy and green beans.

Community members worked hard to clear stones from the land and build stone fences. Communities have produced agreements to stop burning land, to fence and keep livestock out, and grow tree regrowth. This is important to protect the trees and crops from free-roaming cattle. Community members are seen here with their fence and agroforestry plantation in the distance.

Income from the timber grown is saved in a school bank account. Withdrawals can only be made for education or school purposes. This sign shows the cooperation of local organisations in this project (from left to right): the East Sumba local government, World Vision Indonesia, Bank NTT, a local Child Protection Agency.

Sign translation: "Great parents save money for their children."

Mrs Agustina Kori Hau, farmer from Praikaliel Village: "As well as meeting our everyday needs, with every harvest of bean, corn and vegetables, I always set some money aside for the children's saving account."

After one year, the community agroforestry plot shows rows of healthy teak and mahogany trees. These valuable tree species are planted to create a timber market and income to ensure that children are able to attend school. For example, some of the teak will be harvested after seven years and one hectare is expected to produce income of $385. As the trees grow bigger a second harvest after 10 years will produce an income of $800 per hectare and those harvested after 25 years are expected to produce an income of $1,650.

Another community strategy on the island includes the production and sale of traditional dyed weaving. Farmers' wives have now joined together to supplement their family income, so in times of drought and food scarcity, they will be able to buy food. Established in 2000, the group won the 2012 Food Security and Sustainability award for Indonesia. The weaving is produced from hand-spun cotton which is then dyed with indigo plants and Soroba tree leaves.

For you to do

1 Read p14-15 and explain why food security is an important issue for people on Sumba. Create a mind map showing strategies to improve food security on Sumba.

2 What is meant by the terms 'agroforestry' and 'regrowth'? How do they help address the needs of the people on Sumba?

3 Why is agroforestry an appropriate land use?

Reflection and action

I was surprised to find out…	
The most interesting thing I learnt was…	
I would like to know more about…	
I don't understand…	
One thing I would like to do now is…	

Edward de Bono's thinking hats

Use de Bono's six thinking hats to explore Australia's engagement with Asia: Indonesia. This includes the DVD chapter and written resources.

White hat: What are some of the facts you learnt as a result of looking at this topic?

Red hat: How do you feel as a result of looking at this topic? Hopeful, angry, depressed, thankful, disappointed, something else?

Black hat: What were some of the negative aspects to this topic?

Yellow hat: What are some of the positive, encouraging or hopeful aspects of this topic?

Green hat: What are some ideas or possible actions that could address an issue in this topic?

Blue hat: What is the "big picture idea" behind this topic? What have you learnt about Australia's engagement with Indonesia?

YEAR 7 – ATMOSPHERIC OR HYDROLOGIC
YEAR 8 – GEOMORPHIC OR BIOTIC

Dr Susan Bliss

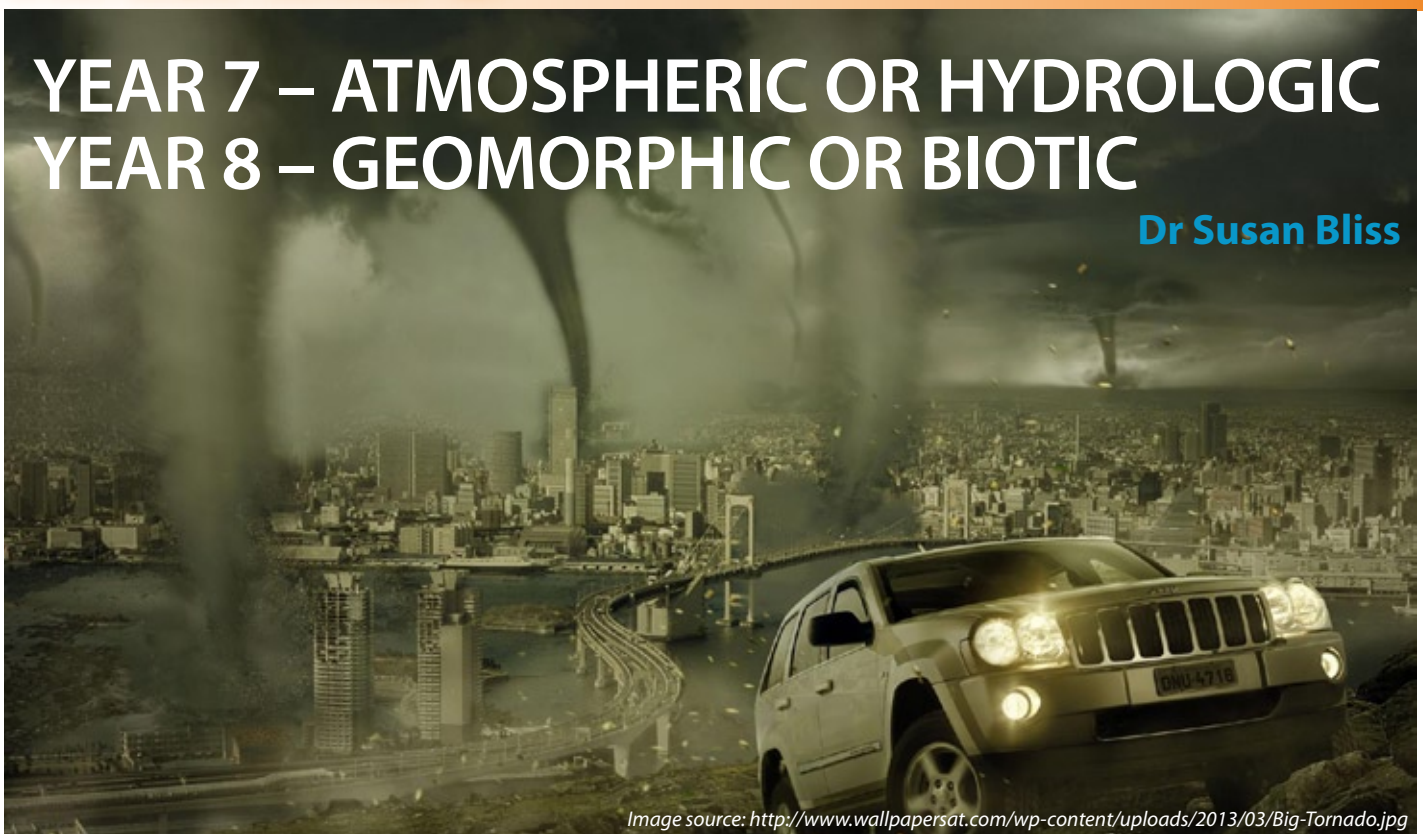


Image source: http://www.wallpapersat.com/wp-content/uploads/2013/03/Big-Tornado.jpg

Curriculum links

Year 7/1 Atmospheric or Hydrologic hazard

- **Elaborations**
  - explaining economic, environmental and social impacts of a selected atmospheric or hydrologic hazard on people and places
  - describing community responses to the hazard
- **Inquiry and skills**
  - using graphs, weather maps and satellite images examine temporal and spatial patterns of a selected hydrologic hazard in Australia, and another region of the world, for example countries of the Asia region

Year 8/1 Geomorphic or Biotic hazard

- **Content Descriptor**
  - causes, impacts and responses to geomorphic hazard
- **Elaborations**
  - investigating the natural causes and spatial distribution of a geomorphic hazard e.g. volcanic eruptions, earthquakes, tsunamis, landslides and avalanches or biotic hazard such as a bushfire that effects a landscape
  - describing how the effects caused by geomorphic hazards are influences by social, cultural and economic factors e.g. where people choose to live, poverty and lack of infrastructure and resources to prepare and respond
  - researching how the principles of prevention, mitigation and preparedness minimises the harmful effects of geomorphic hazards or bushfires

Mother Nature's unexpected acts

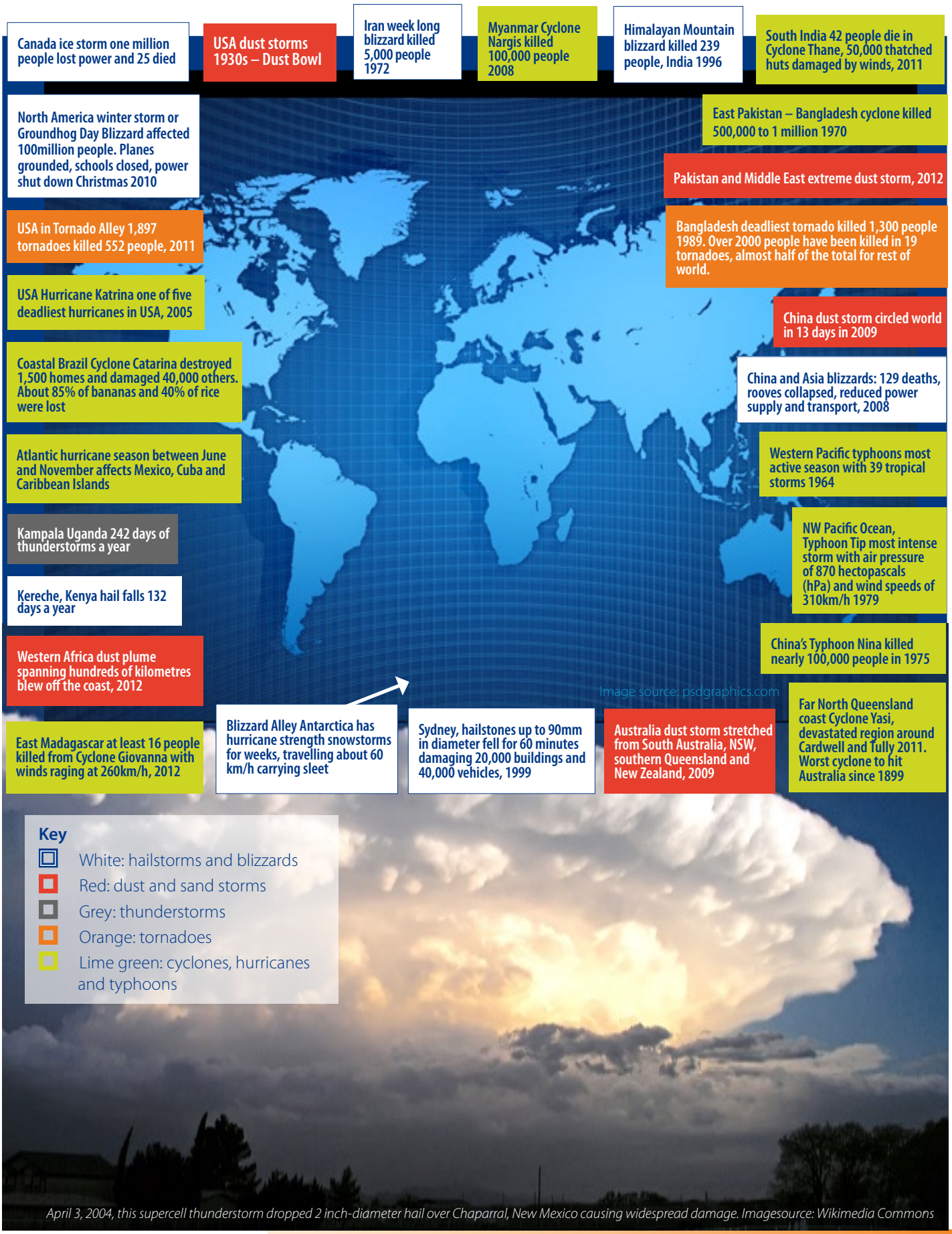
- some parts of the planet experience ravaging tornadoes, hurricanes, earthquakes, volcanic eruptions, fires
- damage caused by these hazards are generally unpredictable. In some countries like Australia residents have learned to prepare for these disasters. However, sometimes no amount of planning is inadequate

OVERVIEW YEAR 7 – ATMOSPHERIC OR HYDROLOGIC HAZARDS

GEOWORLD (MACMILLAN)

Hydrological hazards comprise 90 per cent of the world's environmental hazards. The physical causes of hydrological hazards such as droughts, floods and storms such as tropical cyclones, hurricanes, typhoons, blizzards and dust storms, have economic, environmental and social impacts on people and places in Australia and overseas. Human activities have also impacted on the frequency and severity of hydrological hazards. Climate change has significantly affected the water cycle by increasing the temperature and water vapour in the atmosphere. This has changed global circulation patterns and increased the potential for extreme hydrological hazards.

Global overview of extreme storms



April 3, 2004, this supercell thunderstorm dropped 2 inch-diameter hail over Chaparral, New Mexico causing widespread damage. Imagesource: Wikimedia Commons

Natural hazards

Natural hazards can be divided into:

- atmospheric: cyclones, floods, droughts. tornadoes and fires
- geomorphic: volcanic eruptions, earthquakes, landslides, avalanches and tsunamis
- biologic: epidemics and famine

What is a hydrologic hazard?

Hydrological hazards may be classified according to the main processes that create them. Some environmental hazards are caused by several interrelated processes. For example, tropical cyclones cause flooding and trigger mudslides on steep slopes saturated with rainfall. Tropical cyclones also create storm surges that may affect coastal regions.

According to the World Meteorological Organisation (WMO), about 90 per cent of environmental hazards are hydrological in origin. Environmental hazards occur at a range of temporal and spatial scales. They are inevitable and unstoppable events that have been happening for billions of years. Humans have no control over them. However, the world's leading scientists have shown that hydrological hazards are becoming more frequent and more intense at a range of scales due to climate change.

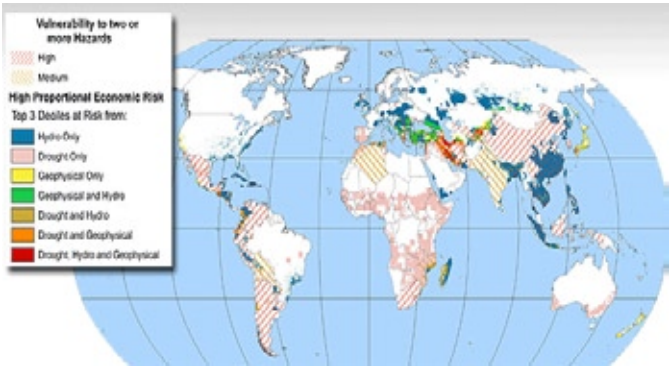
Hydrological hazards may be slow- or rapid-onset events that occur at or near the Earth's surface. Some hydrological hazards such as tornados tend to occur in specific areas while others such as droughts and floods are more widely distributed.

Hazards versus disasters

Hydrological hazards are part of nature. However, if a hydrological hazard leads to loss of human life, damage to property, infrastructure and economic assets, it is classified as a hydrological disaster. Economic losses from hydrological disasters in developing countries are 20 times greater as a percentage of GDP than developed nations.

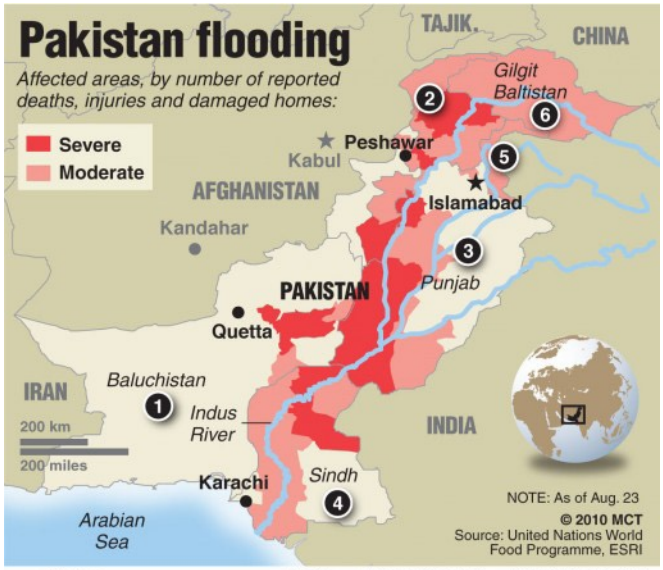
Vulnerability and high proportional economic risk of environmental hazards

Map: Vulnerability to two or more hazards



Source: http://www.worldbank.org/ieg/naturaldisasters/>

Map: Extent of the 2010 flood and its impacts in Pakistan



	Province	Deaths	Houses damaged	Population affected
1	Baluchistan	45	75,261	672,171
2	Kyber Pakhtunkhwa	1,068	179,874	4,365,909
3	Punjab	103	500,000	8,200,000
4	Sindh	71	462,251	3,684,267
5	Azad Jammu and Kashmir	69	6,472	245,000
6	Gilgit Baltistan	183	2,820	8,561
	Total	**1,539**	**1,226,678**	**17,175,908**

Source: http://www.agricorner.com/wp-content/uploads/2010/11/Pakistan-Flood-a.jpg

Impacts of a blizzard on Boston

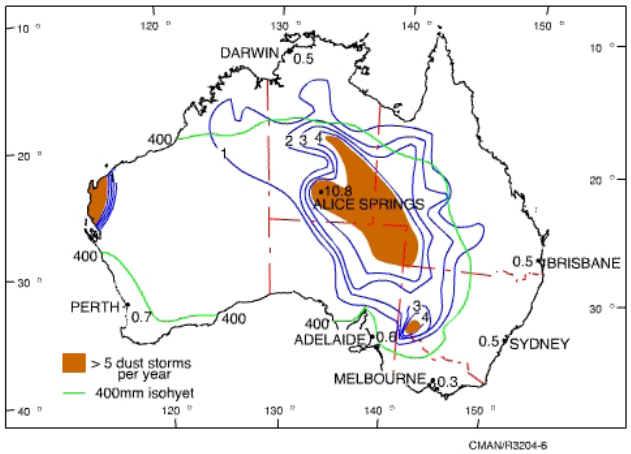
Boston, USA Christmas 2010 (Photo: David Bliss)

Cyclone Nargis, Myanmar and the storm surge

These homes were covered by the storm surge from Cyclone Nargis in 2008

Photo: Marianne Jago, AusAID.
Source: http://www.flickr.com/photos/ausaid_photolibrary/3963694747/

Average dust storms over Australia



Source: http://www.bom.gov.au/lam/climate/levelthree/c20thc/storm8.htm

Economic costs

American financial expert, Warren Buffet claimed that environmental disasters (which consist mostly of hydrological hazards) have a more serious economic impact than terrorism. Extremely large hydrological disasters can cripple a country's economic growth for decades. People need to be rescued, sheltered, fed, watered, clothed and cared for. Law and order needs to be maintained to prevent looting. Power, water and gas supplies need to be repaired and reconnected. Damage from hydrological disasters needs to be removed and infrastructure, houses and businesses repaired and rebuilt. Local governments often bear the brunt of the costs, but governments usually help, especially if the event is significant enough to be officially declared a disaster. If the disaster overwhelms the capacity of national resources, the country may request international assistance. Taxpayers ultimately finance disaster management activities. Individuals in wealthy countries who have insurance cover may recoup

Environmental and societal costs

Hydrological disasters can damage the natural environment especially when contaminants are released into the soil, air and water. Sewage often pollutes waterways during floods. Cleaning up this environmental damage adds significantly to the cost of disasters for governments.

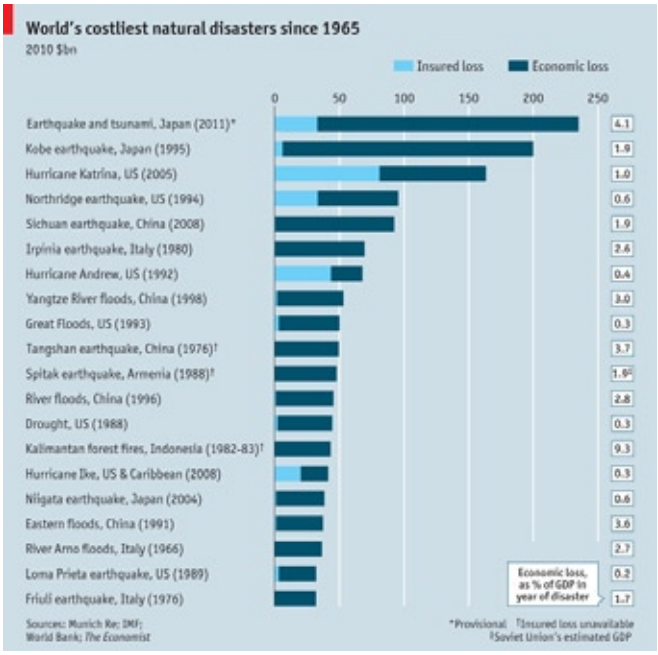
Hydrological disasters have a profound effect on communities. Social networks are disrupted as people are displaced and forced to relocate. School and home life is fractured and takes time to return to normal. The sense of community pride and spirit may also suffer. The effects on marginalised minorities such as those who are non-English speaking, elderly, homeless, disabled or on lower incomes is greater than on those who are better able to cope for themselves.

Are disasters more frequent?

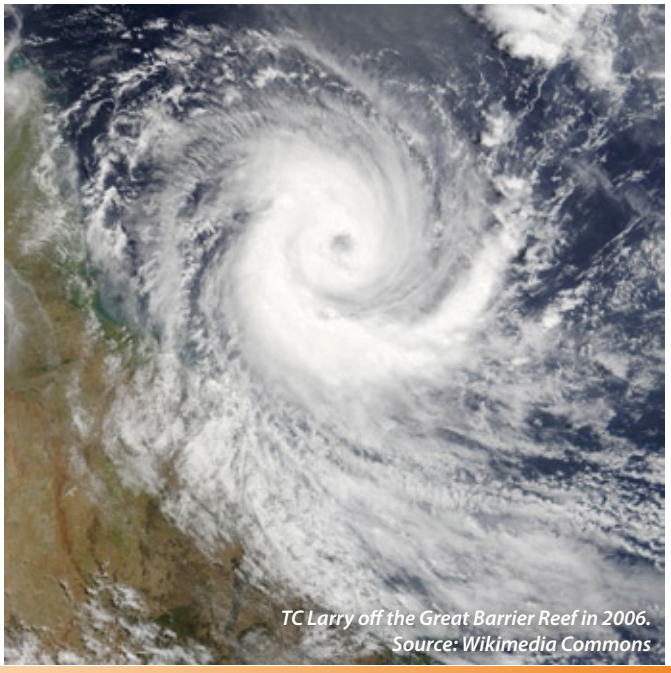
The number of hydrological events has increased. Scientists believe that this is linked with climate change, particularly the increases in extreme temperatures and rainfall. Global sea temperatures have risen over the past century and this contributed to an increase in hydrological disasters, even though some of these such as hurricanes may be cyclical in nature. However, there is now more international reporting of environmental disasters than previously because of increases in relief and reconstruction assistance. In addition, accurate modern technology for observing natural events has increased along with the number of specialised agencies that track and report hydrological disasters.

Australia's worst environmental disaster is the 'Black Saturday' bushfires of 7 February 2009 in which 173 people were killed and 2,298 homes destroyed.

World's costliest environmental disasters since 1965 in terms of insured loss and economic loss



Source: http://www.economist.com/blogs/dailychart/2011/03/natural_disasters



TC Larry off the Great Barrier Reef in 2006. Source: Wikimedia Commons

Reducing disaster risks

Risk is defined as the exposure of people to an environmental hazard. Risk can be reduced by undertaking an assessment to identify hazards and how people can best cope with them. Increasing people's awareness of risks as part of a public education campaign reduces the risk of negative consequences when environment hazards occur. Governments need to address the risks through laws and by providing structures and organisations to help communities plan for disasters. Emergency practice minimises loss of life in the event of a disaster, but is virtually impossible to organise in poorer countries. Reducing the risk of disaster also includes building large engineering solutions such as dams and levees. These are effective in diverting and reducing floods, especially in the heavily populated, extensive floodplains of eastern China.

Comprehensive early warning systems are essential to reduce the number of lives lost to hydrological hazards. For example, tropical cyclone Yasi that hit North Queensland in 2011 was the world's largest tropical storm, but despite the destruction to property and the environment, it claimed only one life because affected communities were well prepared. When the Indian Ocean tsunami of 2004 claimed more than 250 000 lives, there was no early warning system for the Indian Ocean. At that time, only the Pacific Ocean had such a system. Now there is an early warning system which has been used successfully to alert people to possible tsunamis.

Reducing vulnerability

Vulnerability refers not only to the ability of the community to cope with hazards, but also its ability to recover from them. The UN's Disaster Risk Reduction (DRR) strategy recognises that vulnerable groups such as the poor and socially excluded lack the capacity to cope with major hazards because of existing environmental, social, economic and political factors. For example, slum dwellers often build in unsafe areas prone to flooding or landslides. DRR aims to minimise vulnerabilities and disaster risks in a community by preventing or limiting (mitigating and preparing for) the negative impacts of hazards. The degree of vulnerability in a community varies according to several factors including socio-economic level (wealth), education and awareness of hazards, organisational structures such as emergency services and volunteer organisations, mass communication, and people's age and health. Land use planning can also minimise the impact of hazards. For example, cyclone standards are mandatory for all new buildings in northern Australia.

Source: Wikimedia Commons

Disaster management cycle

Source: http://www.docstoc.com/docs/28922343/Disaster-Risk-Management-Cycle#

OVERVIEW YEAR 8 – GEOMORPHIC OR BIOTIC HAZARDS

GEOWORLD (MACMILLAN)

Risks, vulnerability, management

About 500 million people live on or close to active volcanoes as they provide minerals, geothermal energy, fertile soils and tourism. These ***vulnerable*** people are at ***risk*** from exploding rocks and poisonous gasses. For example in 1902 on the island of Martinique the eruption of Mt Pelee destroyed the town of Saint Pierre.

The victims of the Indonesian tsunami in 2004 were unaware of the warning signs of an approaching tsunami (e.g. water line disappearing into the far ocean) which killed almost 310,000 people in 14 countries.

Obviously, little can be done to block these huge tsunami waves and volcanic explosions, however, governments are now more aware of the ***risk*** these ***hazards*** are to ***vulnerable*** people and have implemented plans to reduce their adverse impacts**.** As every $1 spent on preventative disaster results in an $8 reduction in damages from disasters the UN International Day for Disaster Reduction (IDDR) promotes disaster prevention and preparedness. Aimed to warn people of impeding hazards, Earth Observation (EO) technologies include thousands of data buoys in oceans, land-based monitoring stations and 60 environmental satellites orbiting Earth.

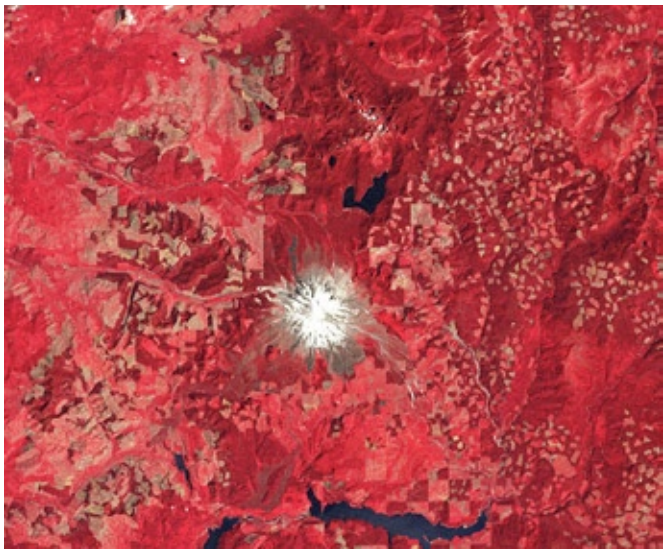
Deaths from natural disasters by death toll

Rank	Deaths	Event*
2	242,419–779,000	1976 Tangshan earthquake, China
4	316,000	2010 Haiti earthquake, Haiti
5	240,000	2004 Indian Ocean Tsunami, Indonesia
6	234,117	1920 Haiyuan earthquake, China
7	142,000	1923 Great Kanto earthquake, Japan
10	123,000	1908 Messina earthquake/tsunami, Italy

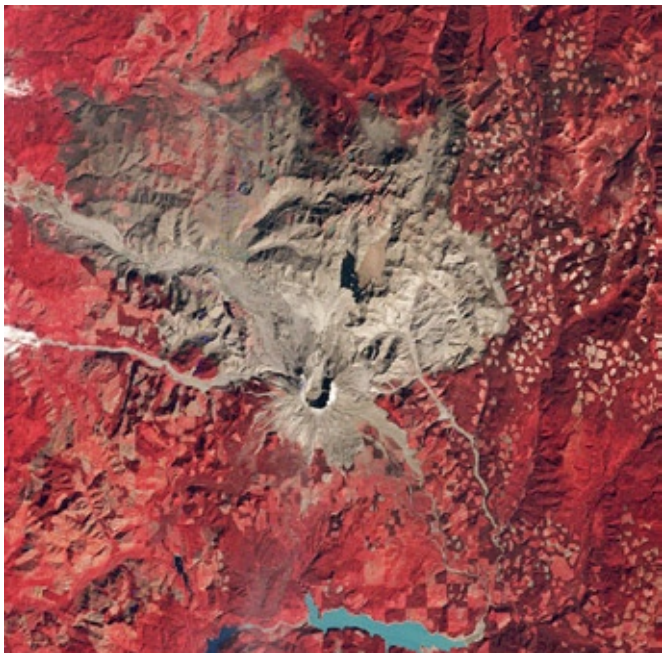
Adapted from http://en.wikipedia.org/wiki/List_of_natural_disasters_by_death_toll

Satellite imagery – Before and after the 1980 Mt St Helens eruption (USA)

a) Before the 1980 Mt St .Helens Eruption



b) Four months after the 1980 Mt St Helens Eruption



Source: http://www.businessinsider.com/satellite-images-natural-disasters-2011-3?op=1

Photo of the south face of Mt St Helens during the eruption of March 8, 2005
Source: Wikimedia Commons

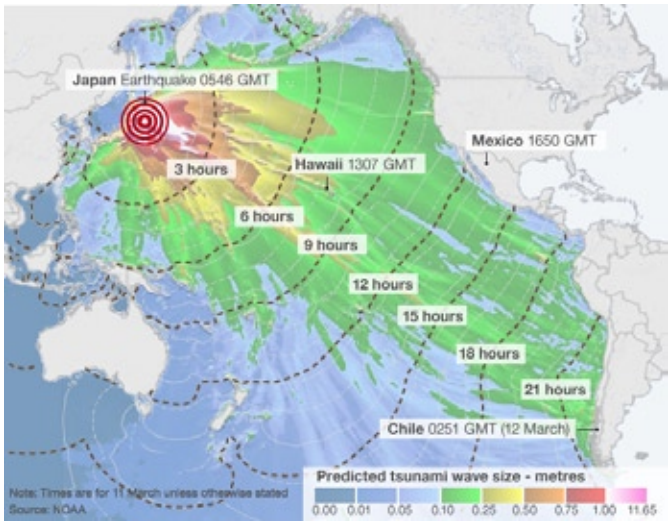
Satellite image of ash plume from volcanic explosion of Eyjafjallajökull in Iceland 2010

Source: http://tucsoncitizen.com/wryheat/2010/04/16/geologic-setting-of-icelandic-volcanoes/

Map locating the 2010 Haiti earthquake:

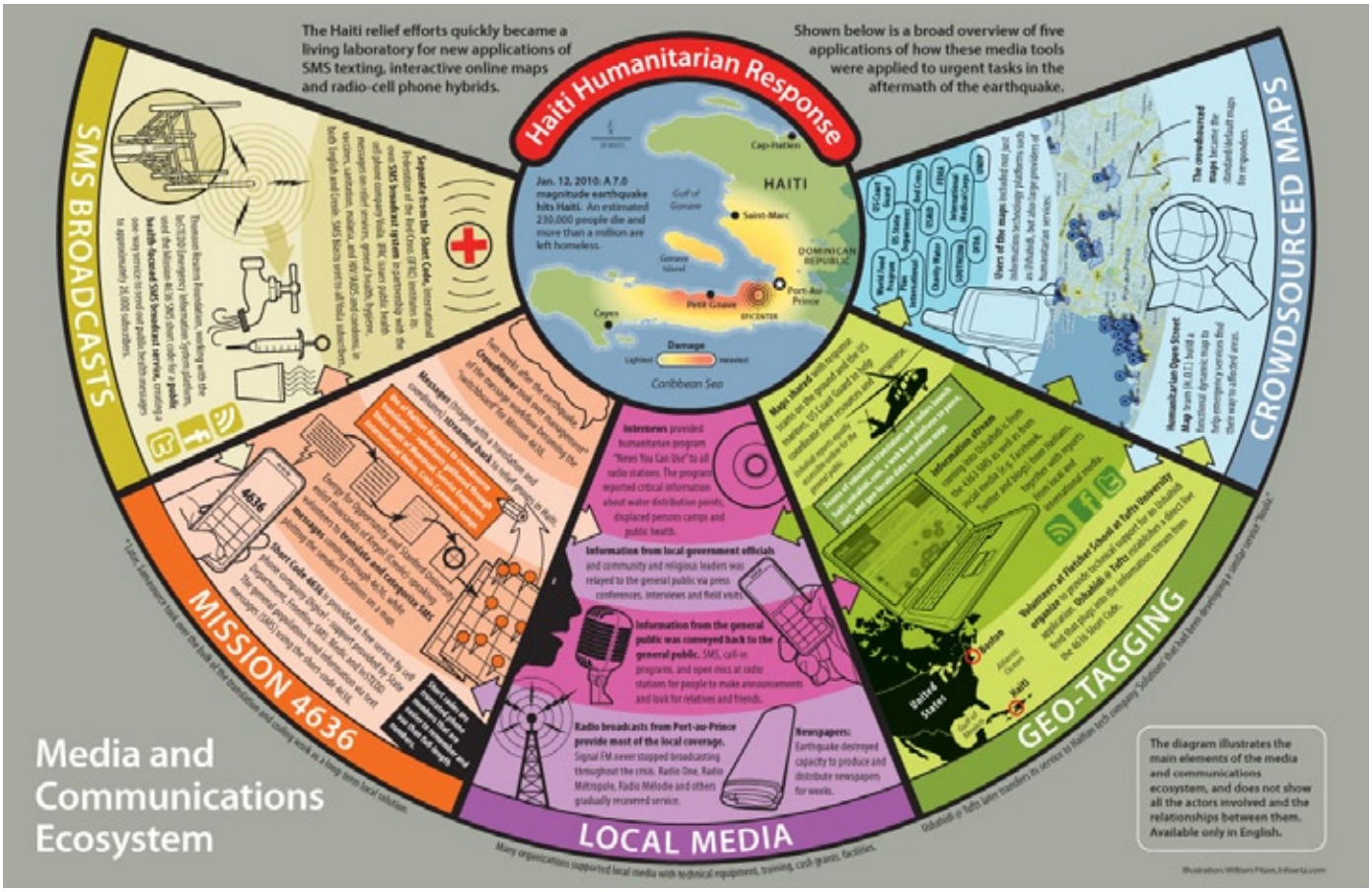
Source: http://news.bbc.co.uk/2/hi/8466385.stm

Map tsunami wave heights and times it reaches places 2011



Source: http://serc.carleton.edu/images/NAGTWorkshops/visualization/collections/2011_japan_earthquake_tsunami.jpg

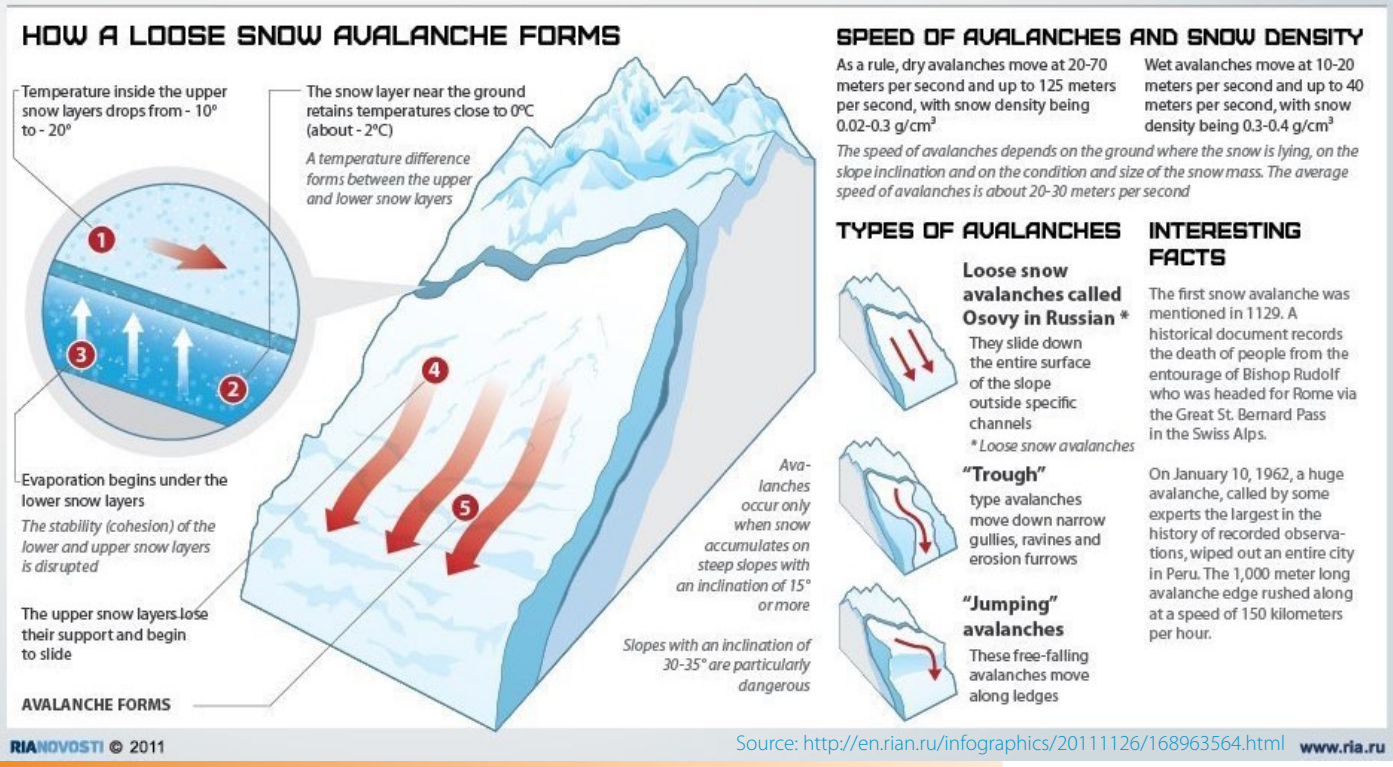
Haiti's humanitarian response



Source: http://cdn.theatlantic.com/static/mt/assets/science/haititech.jpg

Causes of avalanches

An avalanche is a mass of snow falling or sliding down from large mountain slopes. It resembles a landslide. As it moves, the avalanche creates a shock wave facilitating the greatest destruction



Source: http://en.rian.ru/infographics/20111126/168963564.html

Fire hazards

Rank	Death toll	Event	Date
1	1,200 – 2,500	Peshtigo, Wisconsin, USA	1871
2	1,200	Kursha-2, Soviet Union	1936
3	453	Cloquet Fire, Minnesota, USA	1918
4	418	Great Hinckley Fire, Minnesota, USA	1894
5	282	Thumb Fire, Michigan, USA	1881
6	273	Matheson Fire, Ontario, Canada	1916
7	240	Sumatra and Kalimantan, Indonesia	1997
8	230	Landes region. France	1949
9	213	Black Dragon, China	1987
10	173	Black Saturday, Australia	2009

Adapted from http://en.wikipedia.org/wiki/List_of_natural_disasters_by_death_tol

During the first week of June 2009, Sustainable Resource Alberta burned nearly 8,000 hectares of forest in Western Alberta. The forest was destroyed to bring about greater diversity, stem the spread of mountain pine beetle and to create a fire barrier for any future wild fires. Image source: http://commons.wikimedia.org/wiki/File:Aerial_view_of_a_forest_fire_in_Saskatchewan_-b.jpg

MAPS EXPLAIN THE WORLD

Scooped Dr Susan Bliss

Max Fisher stated that 'maps can be a remarkably powerful tool for understanding the world and how it works.' His website contains interesting maps covering the Australian Curriculum: Geography.

Source: http://www.washingtonpost.com/blogs/worldviews/wp/2013/08/12/40-maps-that-explain-the-world/

Video – Inspecting maps that explain the world

Source: http://www.washingtonpost.com/blogs/worldviews/wp/2013/08/13/discussing-the-40-maps-that-explain-the-world/

1. Perspective map – spatial distribution of population

Year 8 Population

Source: http://www.washingtonpost.com/blogs/worldviews/files/2013/08/population-map.jpg

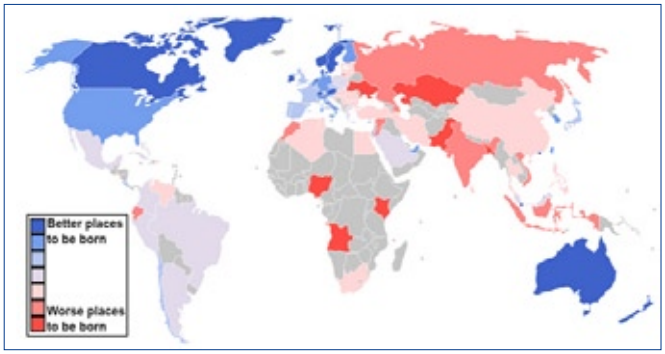
More than half of humanity lives within the circle. The numbers check out.

When the world population was roughly 7,083,460,000 in 2011: China: 1,349,585,838 people; India: 1,220,800,359; Indonesia: 251,160,124; Bangladesh: 163,654,860; Japan: 127,253,075; Philippines: 105,720,644; Vietnam: 92,477,857; Thailand: 67,448,120; Burma: 55,167,330; South Korea: 48,955,203; Nepal: 30,430,267; Malaysia: 29,628,392; North Korea: 24,720,407; Taiwan: 23,299,716; Sri Lanka: 21,675,648; Cambodia: 15,205,539; Laos: 6,695,166; Mongolia: 3,226,516; Bhutan: 725,296.

Source: http://www.washingtonpost.com/blogs/worldviews/wp/2013/05/07/map-more-than-half-of-humanity-lives-within-this-circle/

2. Best and worst places to be born

Year 10 Geographies of Human Wellbeing



Source: http://www.washingtonpost.com/blogs/worldviews/files/2013/01/where-to-be-born-map3.jpg

What is the relationship between best and worst places to be born and GDP?

The firm looked at 80 countries, scoring them across 11 variables to determine - best opportunities for a healthy, safe and prosperous life in years ahead. Generally countries with highest GDP were preferred places to be born. However 'money can't buy you happiness, though it will get you 2/3 of the way.' Top-ranked countries included Australia, Canada and Scandinavian countries as well as Asia's Hong Kong, Singapore and Taiwan. China, India and Russia are still not great places to be born.

'The best countries to be born were small, peaceful, homogenous, liberal democracies.' … and 'countries with violence, poverty or political oppression ranked poorly'.

3. Where to be born index 2013 table

The where-to-be-born index, 2013

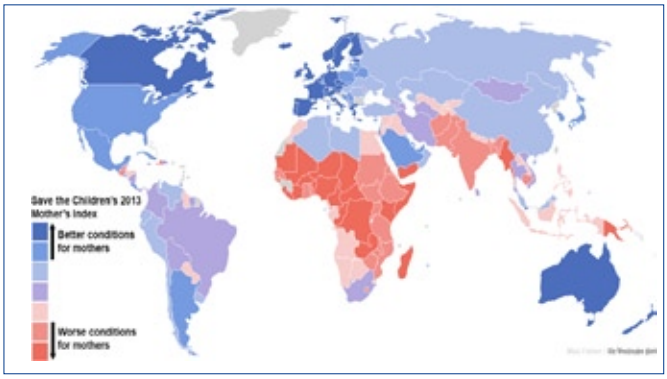
Rank	Country	Score*	Rank	Country	Score*	Rank	Country	Score*	Rank	Country	Score*
1	Switzerland	8.22	21	Italy	7.21	=40	Cuba	6.39	61	Bulgaria	5.73
2	Australia	8.12	22	Kuwait	7.18	42	Colombia	6.27	62	El Salvador	5.72
3	Norway	8.09	=23	Chile	7.10	43	Peru	6.24	=63	Philippines	5.71
4	Sweden	8.02	=23	Cyprus	7.10	=44	Estonia	6.07	=63	Sri Lanka	5.71
5	Denmark	8.01	25	Japan	7.08	=44	Venezuela	6.07	65	Ecuador	5.70
6	Singapore	8.00	26	France	7.04	=46	Croatia	6.06	=66	India	5.67
7	New Zealand	7.95	27	Britain	7.01	=46	Hungary	6.06	=66	Morocco	5.67
8	Netherlands	7.94	=28	Czech Rep.	6.96	48	Latvia	6.01	68	Vietnam	5.64
9	Canada	7.81	=28	Spain	6.96	49	China	5.99	69	Jordan	5.63
10	Hong Kong	7.80	=30	Costa Rica	6.92	50	Thailand	5.96	70	Azerbaijan	5.60
11	Finland	7.76	=30	Portugal	6.92	51	Turkey	5.95	71	Indonesia	5.54
12	Ireland	7.74	32	Slovenia	6.77	52	Dominican Rep.	5.93	72	Russia	5.31
13	Austria	7.73	33	Poland	6.66	53	South Africa	5.89	73	Syria	5.29
14	Taiwan	7.67	34	Greece	6.65	=54	Algeria	5.86	74	Kazakhstan	5.20
15	Belgium	7.51	35	Slovakia	6.64	=54	Serbia	5.86	75	Pakistan	5.17
=16	Germany	7.38	36	Malaysia	6.62	56	Romania	5.85	76	Angola	5.09
=16	United States	7.38	37	Brazil	6.52	57	Lithuania	5.82	77	Bangladesh	5.07
18	U.A.E.	7.33	38	Saudi Arabia	6.49	58	Iran	5.78	78	Ukraine	4.98
19	South Korea	7.25	39	Mexico	6.41	59	Tunisia	5.77	79	Kenya	4.91
20	Israel	7.23	=40	Argentina	6.39	60	Egypt	5.76	80	Nigeria	4.74

Source: Economist Intelligence Unit

*Score out of a maximum of 10

Source: http://25.media.tumblr.com/f00fcb438fb8003929d4b1b7f82c1614/tumblr_mfzvl3uZU91qd65vgo1_500.png

4. Best and worst places to be a mother



Source: http://www.washingtonpost.com/blogs/worldviews/files/2013/08/mothers-index.jpg

There were five measurements used – 'risk of maternal death, infant mortality rate, number of years child spends in school, GDP per capita and participation of women in government. Bluer countries are best for mothers, red countries the worst and purple somewhere in the middle.' Northern Europe is the best place for mothers and sub-Saharan Africa the worst.

The average mother in ten bottom-ranked countries lived in Africa. Statistics indicated:

- 1 in 30 women died from pregnancy related causes
- 1 in 7 children died before fifth birthday.
- 8 out of 10 women were likely to suffer loss of a child in their lifetime'

India makes up 29% of all first-day deaths around the world. Approximately 47% of Indian girls marry by 18years. However 75% of girls are in the lowest income group. An estimated 28% of infants in South Asia are born underweight, which is often a product of poor maternal health, early marriage and lack of skilled care at birth (e.g. doctors and nurses)

5. Mothers' Index Rankings 2013

2013 MOTHERS' INDEX RANKINGS

Top 10		Bottom 10	
RANK	COUNTRY	RANK	COUNTRY
1	Finland	167	Côte d'Ivoire
2	Sweden	168	Chad
3	Norway	169	Nigeria
4	Iceland	170	Gambia
5	Netherlands	171	Central African Republic
6	Denmark	172	Niger
7	Spain	173	Mali
8	Belgium	174	Sierra Leone
9	Germany	175	Somalia
10	Australia	176	DR Congo

Source: http://www.washingtonpost.com/blogs/worldviews/wp/2013/05/08/heres-a-map-of-the-best-and-worst-countries-to-be-a-mother/

Photographer – Steve Evans. Source: http://commons.wikimedia.org/wiki/File:Toposa_mother_and_child.jpg

AGTA Conference, January 2015

The AGTA 2015 conference will be held from Sunday 11– Friday 16 January 2015 in Rotorua, New Zealand.

Full details are available on the Group Events website including special group flights from Australia, earlybird registrations, conference accommodation as well as pre and post conference tours.

To benefit from discounted earlybird flights, pre and post conference tour options, and conference accommodation packages it is essential that participants complete and submit an expression of interest form and registration form before 20 June 2014.

Conference brochure – http://www.groupevents.com.au/files/3713/6982/4686/AGTA_Early_Bird_Flyer_web.pdf

CARTOON ANALYSIS – TELLING A STORY

Dr Susan Bliss

Since the mid-nineteenth century cartoons have been used to denote satirical or humorous illustrations in newspapers and magazines. Cartoons address current geographical issues such as climate change, environmental degradation, human rights abuses and migration.

The power of the cartoon lies in its ability to present complex issues in a simplified form. However a person's interpretation of a cartoon is coloured by their cultural background and socio-political experience. Cartoons develop critical thinking, initiate classroom discussion and debate, and enable students to draw their own cartoons on a selected geographical issue

Right: A 19th Century cartoon depicting Napoleon with Satan after burning Moscow. Source: http://commons.wikimedia.org/wiki/File:Napoleon_with_Satan_after_burning_Moscow_%2819th_century%29.png

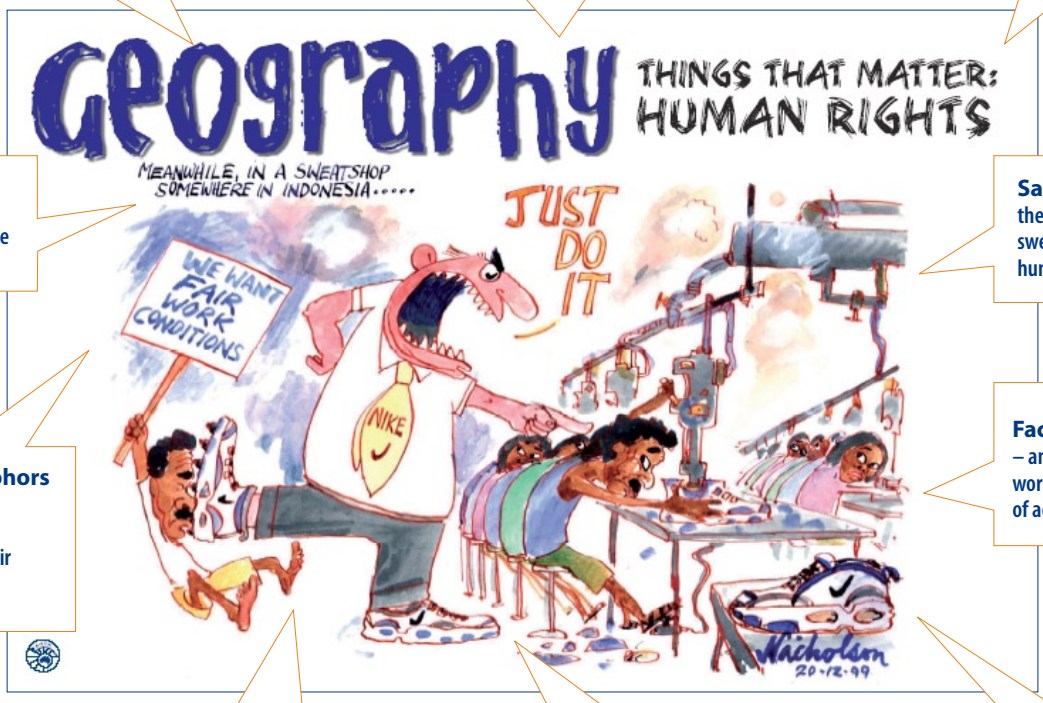
Elements of cartoons

Figure in middle http://www.convictcreations.com/research/images/aussie.jpg

Context – political/social. Workers receive low wages, long hours and experience dangerous working conditions

Perspective – sympathy towards the workers and critical of large corporations and their labour practices .

Stereotyping – sweatshops focus on Indonesia a developing country but the practice also occurs in developed countries



Mood – sympathetic, pessimistic, emotive

Satire – to ridicule the global practice of sweatshops that abuse human rights.

Visual metaphors – "Just Do It" "Indonesia" "Sweatshops" "Fair Work Conditions"

Facial expression – anger of boss, fear of workers, squashed face of activist

Exaggeration – larger sweatshop owner indicating power compared to smaller sweatshop workers –wealth versus poverty; TNCs versus individual rights. Nike is not the only corporation involved in the practice

Symbolism: four Nike swoosh's – on sweatshop owner and shoes

Caricatures – sweatshop owner, subservient sweatshop workers, activist

Interpreting cartoons

Answer the following questions:

- What information does the poster shown above convey?
- What perspective is conveyed in the poster?
- How can active citizens make a difference?

Sources http://nicholsoncartoons.com.au/wp-content/uploads/2011/02/2000-01-01-human-rights-10.jpg and http://www.cursions.com.au/school-resources/3221//2007-AGTA-%22Things-That-Matter%22-Geography-Posters

Landforms, landscapes and water

Exercise – The Mighty Snowy

- What are the visual metaphors and symbols
- Does the cartoon have a caption
- Explain the point of view advertised by the cartoonist
- Discuss how landforms and landscapes have been changed by humans
- Research the Mighty Snowy and how sustainable management strategies could improve water resources

Source: http://nicholsoncartoons.com.au/environment-05.html

Cartoon template

What is the cartoon title? What is the name of cartoonist? What is the date of the cartoon? What was the source? Website, newspaper, journal	
What is the event or issue that inspired the cartoon?	
Who is portrayed in the cartoon? How are the characters portrayed? Facial expressions, body language, dress and what they hold Are there symbols in the cartoon? What are they and what do they represent? Are there captions, speech bubbles, labelling and details to explain the cartoon? How did the words in the cartoon help you clarify the meaning of the cartoon?	
What is the cartoonist's opinion about the topic portrayed in the cartoon? What was the desired effect of the cartoon? • influence others way of thought • project "cartoonists" opinion or bias • influence or lead public opinion • highlight or simplify the significance of an event Do you agree or disagree with the cartoonist's opinion? Why?	
Write one sentence describing your thoughts on the cartoon	
What special interest groups would agree or disagree with the cartoon's message? Why?	

ICT

Cartoon Stock – http://www.cartoonstock.com

Cartoon Web – http://cartoonweb.com

Daryl Cagle's Professional Cartoonists index – http://cagle.slate.msn.com

New Zealand Cartoon Galley – http://www.nzcartoons.com.nz

News Limited Cartoons – http://www.news.com.au/cartoons

Nicholson's Cartoons – http://www.nicholsoncartoons.com.au

PoliticalCartoon.com – http://www.politicalcartoons.com

The Age newspaper – http://www.theage.com.au/cartoons/

The Guardian newspaper – http://www.guardian.co.uk/cartoons

The Sydney Morning Herald – http://www.smh.com.au/cartoons

World's newspapers accessed via: http://www.world-newspapers.com

"Autumn melancholy. — Leaf-fall", a political cartoon by Theodorescu-Sion published in Furnica, the Romanian satirical magazine on 16 October 1908. Source: http://commons.wikimedia.org/wiki/File:Ion_Theodorescu-Sion_-_Melancolie_de_toamn%C4%83._%E2%80%94_C%C4%83derea_frunzelor,_Furnica,_16_oct_1908.JPG

SATELLITE IMAGES IN GEOGRAPHY

Scooped by Dr. Susan Bliss

Remote sensing images of Earth are obtained from Landsat satellites which is a joint venture between NASA and US Geological Survey. Landsat satellites which make loops around Earth measure urban growth, forest loss, desertification expansion and disaster destruction.

National Geographic stated that 'remote sensing consists of using aerial photography and other methods to view what cannot be seen with the unaided eye'.

1. Satellite eye on Earth 2013

Wild fires of Canada and Indonesia, sand storms and steam spewing volcanoes were among the images captured by European Space Agency and NASA satellites in May

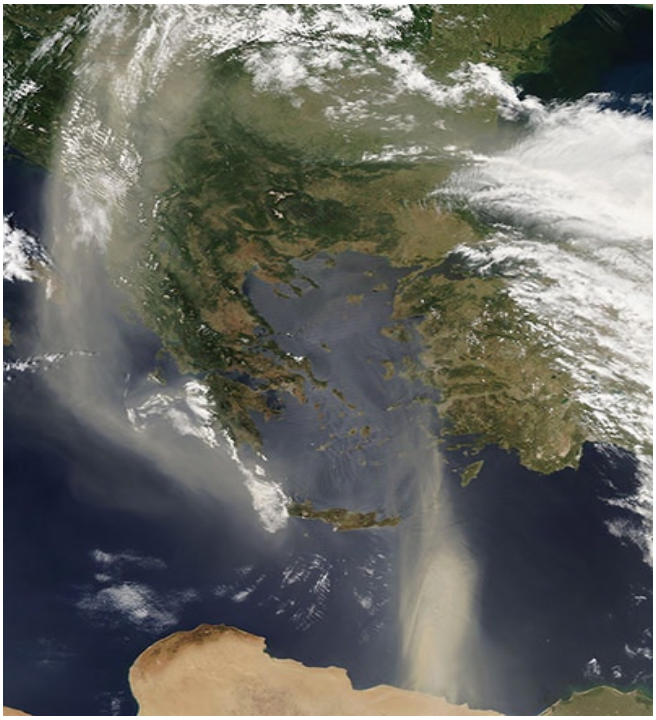
Source: http://www.theguardian.com/environment/gallery/2013/jul/16/satellite-eye-earth-space-pictures#/?picture=412930398&index=0

a. Saharan dust storm

Year 8 Landforms and Landscapes; Year 10 Land

Source: http://www.theguardian.com/environment/gallery/2013/jul/16/satellite-eye-earth-space-pictures#/?picture=412930299&index=3

'A strong Saharan dust storm covered the Mediterranean Sea and much of Europe in late May, bringing an extraordinary end to a very dusty month. Dust storms are common in this



region, and the fine particles move as if on a river of air across vast expanses, coming to rest in regions remote from their Saharan origin. African dust, originating from fine particles in arid topsoil, easily lifts in strong winds, and may rise more than 10,000 feet high. Dust clouds can cross the Atlantic, and may reach the Caribbean and the Americas in five to seven days.'

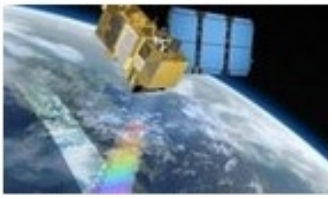
b. Africa's Okavango River empties into the inland Okavango Delta in northern Botswana

Year 8 Landforms and Landscapes and Year 10 Inland Water

Source: http://www.theguardian.com/environment/gallery/2013/jul/16/satellite-eye-earth-space-pictures#/?picture=412930325&index=11

The Okavango River originates in Angola, forms part of the Angola-Namibia border and then ends in northern Botswana. Here, it has formed a depression in the semi-arid Kalahari basin. Appearing purple at the centre of the image is Chief's Island. In the lower-right portion of the image we can see a large cluster of radar reflections from the town of Maun. At the top of the image, a triangle with similar colouring to the delta can be seen. This is a swamp area and national park located mostly in Namibia'

2. New Landsat data just a few clicks away



September 2013 'thousands of never-before-seen data products from the US Landsat satellites acquired over 30 years have been released for online access.'

Source: http://www.esa.int/Our_Activities/Observing_the_Earth/New_Landsat_data_just_a_few_clicks_away

3. Google Earth photos – before and after satellite images

Source: http://mashable.com/2013/09/03/google-earth-before-after/

a. Dubai, UAE

Year 8 Urban

The growth of Emirates boomtown Dubai isn't just visible in its skyscrapers -- it's apparent through its entire coastline. Though most famous for its world map of manmade islands and two palm tree resorts, Google Earth historic images from just 10 years ago show the city's coast has utterly transformed.

Source: http://mashable.com/2013/09/03/google-earth-before-after/#gallery/shocking-google-earth-before-and-after-images/5226552312d2cd32b300050f

b. Seaside Heights, New Jersey, USA

Year 8 Hydrologic hazards

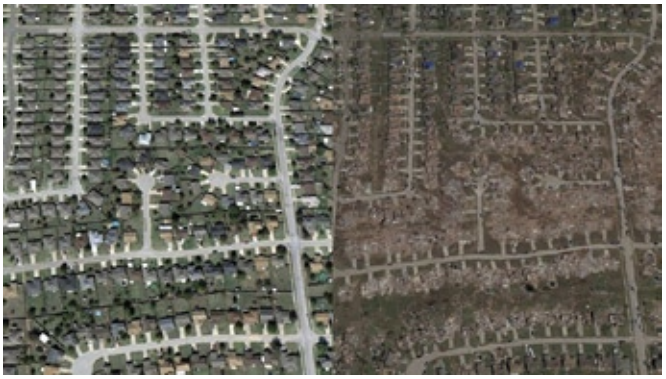
Seaside Heights, N.J.'s boardwalk amusement park was levelled during October 2012's Hurricane Sandy. Missing from the after photo are the Ferris wheel, roller coaster and several buildings.

http://mashable.com/2013/09/03/google-earth-before-after/#gallery/shocking-google-earth-before-and-after-images/5226552312d2cd32b3000511

c. Moore, Oklahoma (USA)

Year 8 Hydrologic hazards

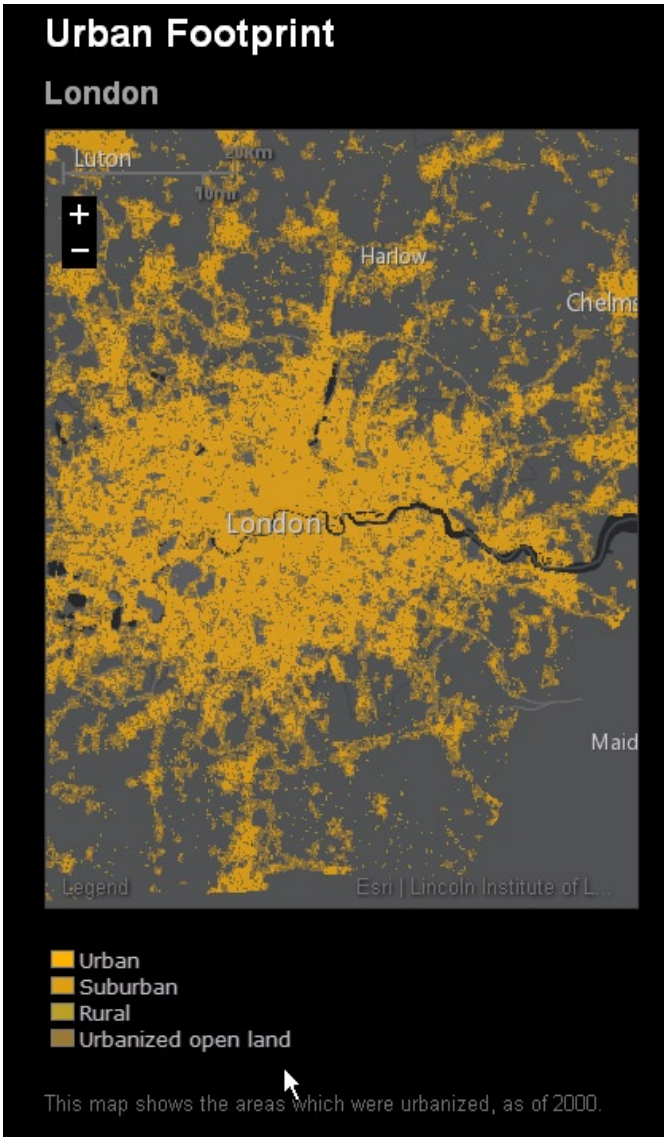
These before-and-after shots of Moore, Oklahoma are somewhat apocalyptic, showing blocks and blocks of destroyed homes. The damage from the May 20 tornado is yet to be repaired.



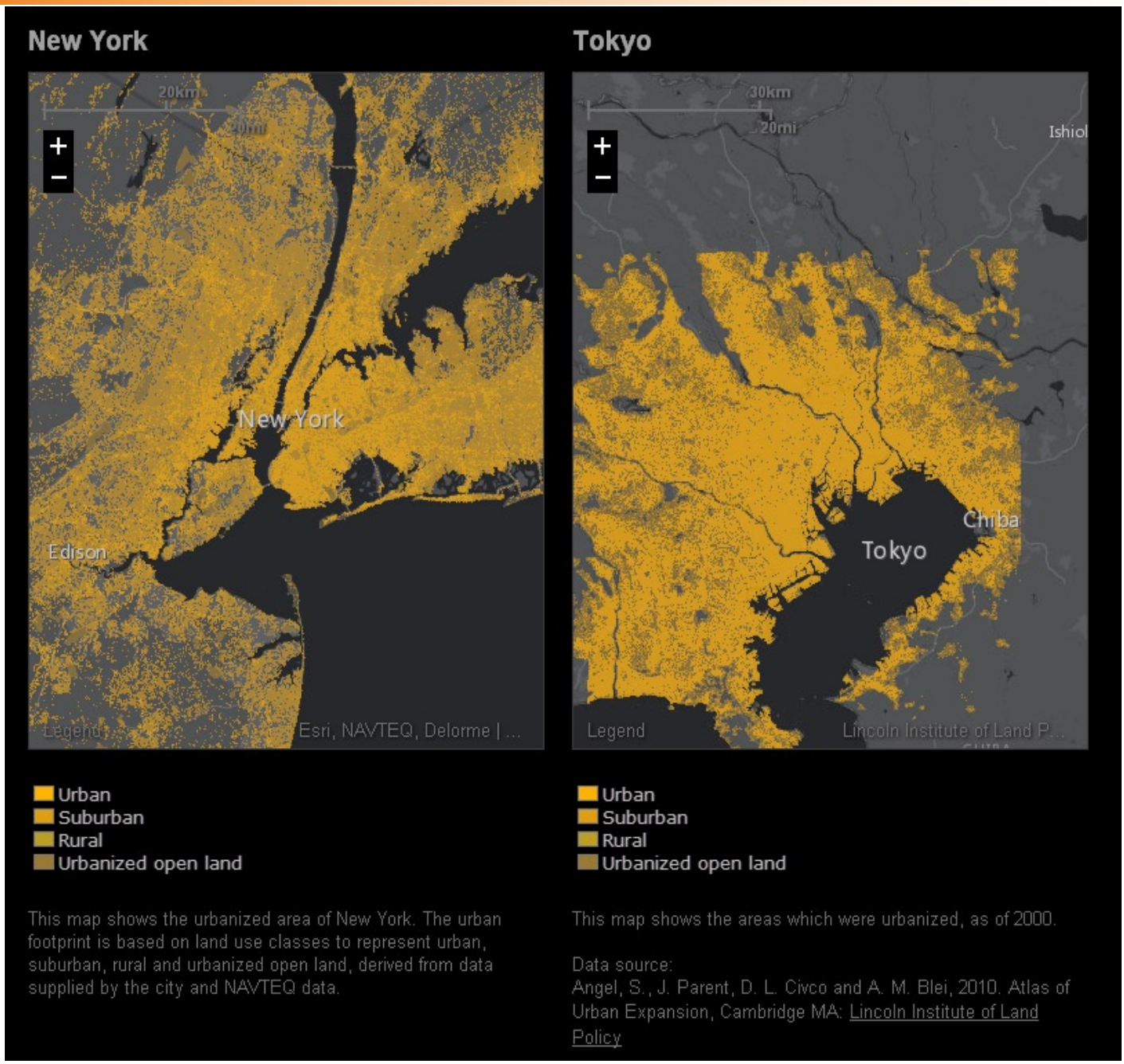
Source: http://mashable.com/2013/09/03/google-earth-before-after/#gallery/shocking-google-earth-before-and-after-images/5226552312d2cd32b3000516

4. Urban observatory – London, New York and Tokyo

Year 8 Urban



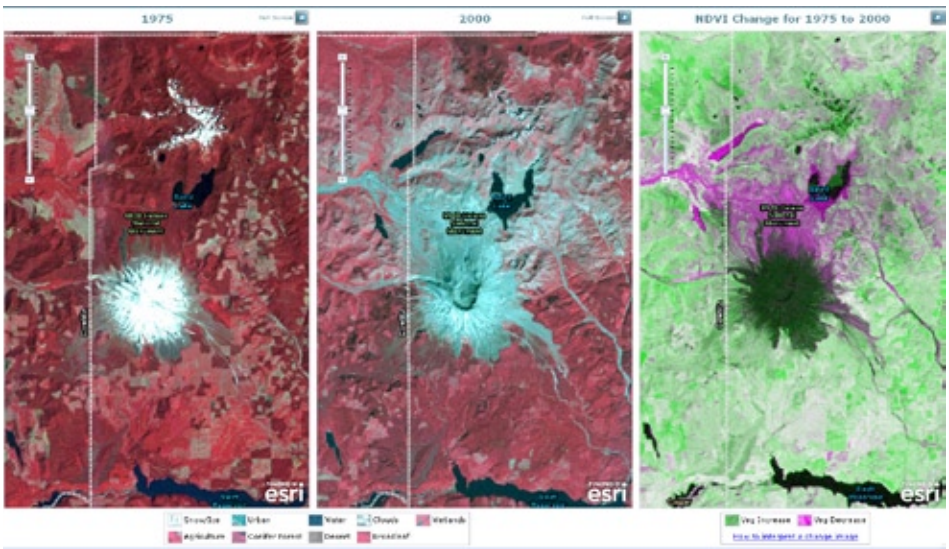
Urban footprints. Source: http://www.urbanobservatory.com/compare/index.html



5. Change Matters – Volcanic eruption of Mt St Helena

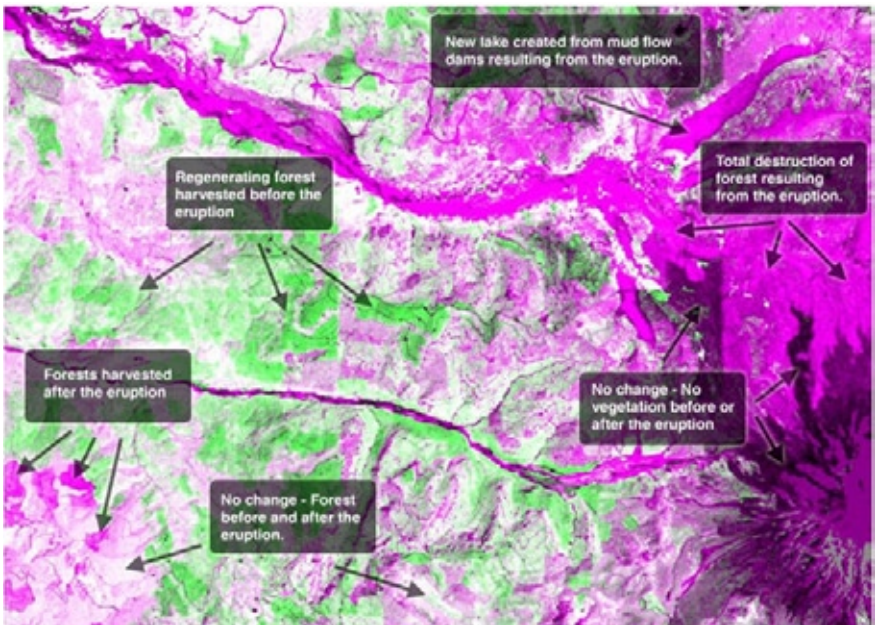
Year 8 Landforms and Landscapes – geomorphic hazards

a. Satellite images of Mt St Helena (USA) over time



Source: http://changematters.esri.com/compare

b. How to interpret changes in a satellite image



Source: http://changematters.esri.com/compare

ICT

Landsat – http://geography.about.com/gi/o.htm?zi=1/XJ&zTi=1&sdn=geography&cdn=education&tm=117&f=21&su=p284.13.342.ip_&tt=2&bt=9&bts=51&zu=http%3A//landsat.usgs.gov/

Global Positioning System (GPS)

National Geographic Satellite imagery – http://geography.about.com/od/geographictechnology/a/gps.htm

http://education.nationalgeographic.com.au/education/topics/satellite-imagery/?ar_a=1

ABS resources for teaching about population

The Australian Bureau of Statistics Education Unit has launched QuickGeog activities which may be accessed online or downloaded and edited to meet your needs. Each one is designed to be completed in less than a period. They contain a graphic or table of data taken from ABS publications and a series of questions or activities. The first release of activities focus on population.

If you haven't seen it already, take a look at 'Spotlight' from the ABS, where students may investigate how they fit within the Australian population. This is a very engaging way to begin a study of population.

Are you looking for historical data on the growth of population in Australia or migration patterns over time? Historical datasets have been simplified and uploaded to the Education Services pages on the website. They contain some interactive visualisations to engage students and encourage them to look at the stories contained within the data.

The ABS website also has a new set of State and Territory Indicators (Cat.no. 1367.0) which provide an overview of population, economy and environment for each of Australia's states and territories.

GLOBAL EDUCATION

GLOBAL EDUCATION
GLOBAL EDUCATION PROJECT NSW

PTC NSW in partnership with AusAID to support the integration of a global perspective across the curriculum

COMPETITION

Announcing the 2013 Global Education Competition

The Global Education Project NSW is running an exciting competition for students in Stages 3, 4 and 5.

NB: Full details for this competition will be available on the Global Education section at: **www.ptc.nsw.edu.au** from the beginning of Term 3.

Make a 2-minute phone film

Task: Create a phone film that explores a Global Education issue:

- interdependence and globalisation
- identity and cultural diversity
- social justice and human rights
- peace building and conflict resolution
- sustainable futures.

Prizes:

The team producing the winning entry will receive:

(a) $500 and Global Education resources to the value of $500 for their school

(b) gift voucher to the value of $500 for the members of the team to share.

STAGE 5 COURSE

Stage 5, NSWBOS Board Endorsed Course: *Active Global Citizenship*

About the Course: Active Global Citizenship is a 100-hour course of study developed by the Global Education Project NSW (GEPNSW) for students undertaking the Stage 5 credential in NSW schools. This course has been approved by the NSW Board of Studies as a Stage 5 Board Endorsed Course.

The course relates to existing Board Developed Courses by drawing on skills and knowledge acquired from existing courses, and enhancing and augmenting these as needed, with the aim of developing globally competent students who have the ability to undertake collaborative community-based projects. This course provides a meaningful overarching conceptual framework of knowledge, understanding, skills, processes, values and attitudes, to explicitly address integrated experiential learning across KLAs in Stage 5.

Access a copy of the course and information to support its implementation go to:
www.ptc.nsw.edu.au, click on Global Education

ABOUT THE GLOBAL EDUCATION PROJECT

The Global Education Project is a national initiative funded by the Australian Government's overseas aid program AusAID to promote and implement the delivery of global education across the curriculum.

We can support you, not only as practitioners, but also as agents of change in how to:

- integrate Global Education content into existing teaching and learning programs
- develop students' global awareness and competencies
- develop active citizenship skills
- develop cross-curriculum programs for year groups, stages or more
- develop students as active global citizens
- implement the Board-endorsed Stage 5 course, Active Global Citizenship
- develop subject-appropriate Global Education teaching and learning resources in all primary and secondary KLAs

We also offer:

Professional Learning

- in-school professional learning for faculties or larger groups
- video-conferencing and face-to-face professional learning events throughout the year

Resources

- an extensive range of print and video resources for primary and secondary. Order from – www.ptc.nsw.edu.au, click on Global Education

PO Box 577, Leichhardt NSW 2040 Phone: (02) 9716 0378 Fax: (02) 9564 2342

USING ICT IN GEOGRAPHY

Scooped by Dr Susan Bliss

Top Apps for Geography

Source: https://bitly.com/bundles/meesterkurt/7

- **World Factbook for iPad** – https://itunes.apple.com/be/app/the-world-factbook-for-ipad/id364904019?mt=8
- **Easy Atlas and World Factbook Lite –** https://itunes.apple.com/be/app/easy-atlas-world-factbook/id423237548?mt=8
- **Al Gore- Our Choice: A Plan to Solve the Climate Crises** – https://itunes.apple.com/be/app/our-choice/id432753658?mt=8
- **Quakewatch – Latest Earthquakes Info –** https://itunes.apple.com/be/app/quakewatch-latest-earthquakes/id314600768?mt=8
- **City on Map Quiz –** https://itunes.apple.com/be/app/stad-op-de-kaart-quiz-voor-ipad/id394882056?mt=8
- **GPS note –** https://itunes.apple.com/be/app/gpsnote/id335485024?mt=8
- **Scenic Map Grand Canyon –** https://itunes.apple.com/be/app/scenic-map-grand-canyon/id363698832?mt=8

ICT

- Google Drive- Quick reference guide for teachers and students – http://edgalaxy.com/journal/2013/8/19/google-drive-quick-refernce-guide-for-teachers-and-students
- Maki- icon set for web cartography – http://www.mapbox.com/maki/
- Powtoon allows you to create animated presentations and cartoon style videos by dragging and dropping – http://www.powtoon.com/

Pedagogy wheel and ICT

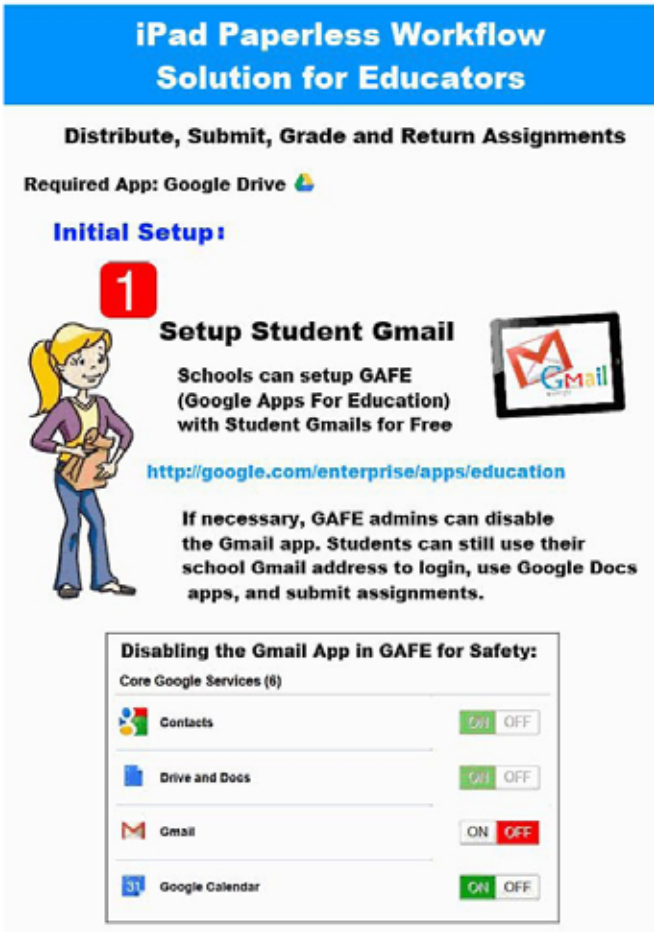
The Pedagogy Wheel by Allan Carrington is licensed under a Creative Commons Attribution 3.0 Unported License. Based on a work at http://tinyurl.com/bloomsblog

Source: http://www.unity.net.au/padwheel/padwheelposter.pdf

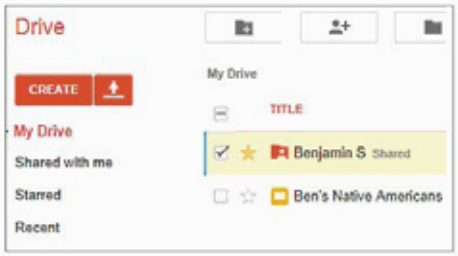
SAMR – Substitution ' In the substitution zone, teachers or students are using technology tools to replace other tools, for instance, using Google Docs to replace Microsoft Word. The task (writing) is the same but the tools are different.'

Creating a paperless classroom with your ipad

Source: http://www.teachthought.com/technology/how-to-create-a-paperless-classroom-with-your-ipad/



2 Students Create and Share a Folder with the Teacher in Google Drive



Students save all their work in their shared folder for the teacher to access.

In this example "Ben" has created and shared the folder "Benjamin S" with his teacher.

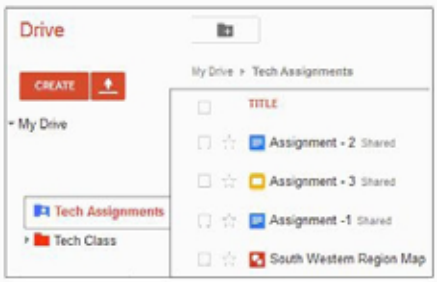
Folder permissions are set to allow the Teacher to view and edit the documents.

3 Teacher Creates a Class Folder with Subfolders (4th Grade, 5th Grade..)

Teacher then moves all shared student folders to the appropriate class subfolder.

In this example: Teacher has moved all the shared folders by 5th graders into her 5th Grade Tech subfolder.

4 Teacher Creates a Shared Folder to Share Materials with Students



In this example: Teacher has shared the Tech Assignments folder with her students. Folder permissions are set to allow students to view but not edit the documents.

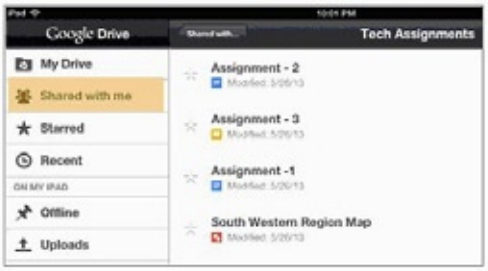
How it Works

Distribute, Submit, Collect, Grade, and Return

1 Distribute Assignment

Teacher places her lesson plan assignment in her shared Tech Assignment folder. She has shared this folder with students names she specified.

Students login to Google Drive on their iPad, tap "Shared with me" and then choose the assignment they wish to view.

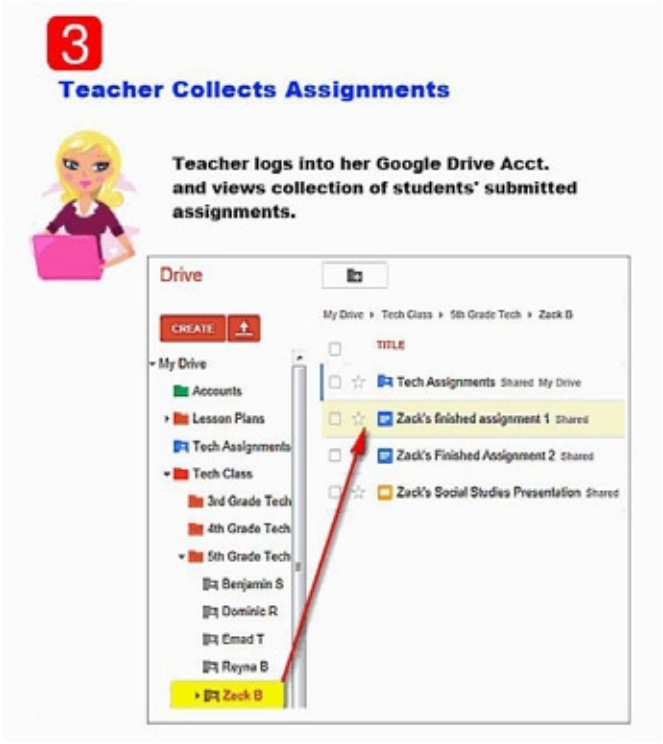


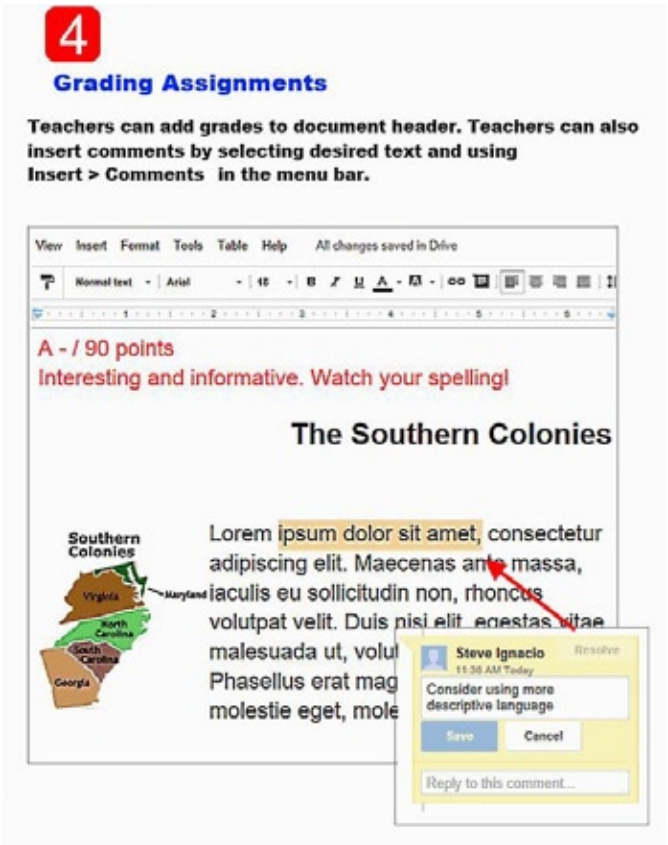
2 Students Submit Assignments

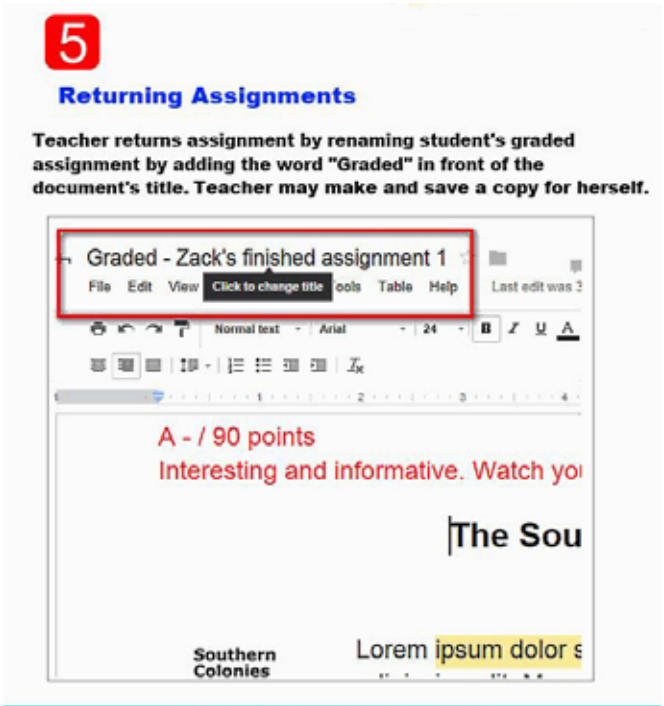
Apps such as iWork allow students to open Google Drive and upload their assignment.

Students can also go directly to the Google Drive App to create a new document, new spreadsheet, new folder, and upload photos or videos.

After uploading, students use the Google Drive app to move their assignment to the folder they shared with the teacher. This gives the Teacher the access she needs to grade and return the assignment.







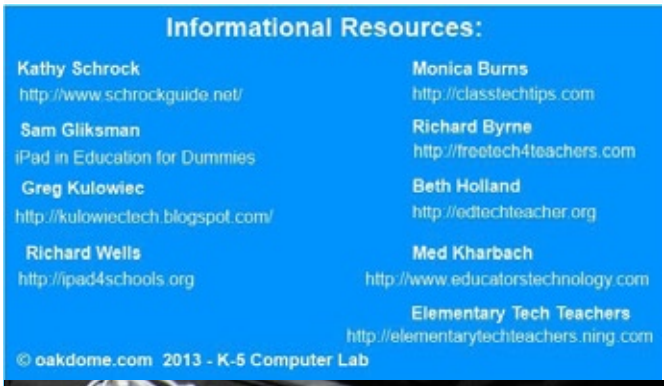


Image (right): http://upload.wikimedia.org/wikipedia/commons/0/02/US_Navy_110419-N-8040H-150_Information_Systems_Technician_2nd_Class_Michael_Tolbert%2C_right%2C_and_Information_Systems_Technician_2nd_Class_An-Marie_L.jpg

FREE PROFESSIONAL DEVELOPMENT SEMINARS
Primary & Secondary Teachers
Register your interest NOW!!!

Learn more on how to adapt these exciting resources to:

Geography (Years 4-10)
Civics and Citizenship
Humanities
HSIE
Global Citizenship

FREE P.D. Seminar locations include:

SYDNEY
NEWCASTLE
HUNTER VALLEY
BLUE MOUNTAINS
CANBERRA
WAGGA WAGGA

Global Kidz Goals
"***Make a World of Difference: A Guide to the Global Citizen***"

NOW AVAILABLE FOR BOTH PRIMARY and SECONDARY

Mapped to new **Australia Curriculum**, covering **Cross Curriculum Priorities** (Asia and Australia's engagement with Asia) and **General Capabilities** (Literacy, Numeracy, ICT, Critical and Creative Thinking, Ethical Behaviour, Personal and Social Competence, Intercultural Understanding).

LESSON PLANS and **TEACHERS PROGRAMS also available.**

REGISTER YOUR INTEREST TO ATTEND…

Return e-mail to globalkidzgoals@bigpond.com **or Mark Eldridge on 0414 866 662**

…or PURCHASE RESOURCES for just $19.95…

www.globalkidzgoals.com.au

An invitation to secure your attendance now...

Australian Geography Teachers' Association

www.agta.asn.au

GEOGRAPHY TEACHERS
PROFESSIONAL DEVELOPMENT CONFERENCE

To support the Australian curriculum: Geography

Rotorua, New Zealand: 11 - 16 January 2015

WITH PRE AND POST CONFERENCE ADD-ON TOURS AVAILABLE

'Early bird' expression of interest Register now, pay later!

YOU COULD WIN A RETURN AIR TICKET* TO NEW ZEALAND!

***The Early Bird Prize draw will be drawn at AGTA conference HQ in SYDNEY by Conference Convenor, Nick Hutchinson Friday 28 February 2014.**
There is no cash value and the ticket is only available for travel by the person who wins the prize and attends the conference. People eligible to enter this conference opportunity is anyone who wishes to attend and registers. i.e. Teacher, partner or family member. All should declare interest and will have paid their registration by 28 February 2014 to be in the draw.

Save up to $1,500 - Fly Air New Zealand - the further you fly the more you save!

Easy time line for payments:

1. Expression of Interest	***NOW***
2. Early bird registration $990 (see over page)	*28 February 2014*
3. Airfare deposit $200 (non-refundable)	*20 June 2014*
4. Pre and Post Tours deposit $200 (non-refundable)	*20 June 2014*
5. Final payment air, conference and land package	*22 September2014*

***Please note:** It is important all air bookings be made through the registration office. All transport arrangements will be made in conjunction with the various flight reservations for your airport transfers and the journey from Auckland to Rotorua and return.These will be allocated on the listed flights.*

The sponsoring airline:

AIR NEW ZEALAND

Flying with Air New Zealand you get 'The Works"

Air New Zealand is a full service airline and includes food, beverages and full screen videos in the back of the seats in front of you. They are frequent winners of Airline industry Awards and their service is renowned.

Seats will be pre-booked to gain the best pricing based on L Class economy seating.
In the case of flights being with Virgin Airlines "The Works" service would be substituted for their equivalent in-flight services.

Conference transport package included in your registration:

The Conference Coach / Airport transfer "Package" covers all transport for delegates, partners and families from Auckland to Rotorua to Auckland and transfers to all field day venues and attractions.

See the three suggested hotels of a high standard at varying prices. Two will have transfers to and from the conference hotel to coincide with the daily events. Partners and family members transport and touring during conference are also included in the partners price.

*Coach transfers will be provided by **Oceania Coachlines**, well known for their high quality coaches and commentary coach captains. (coach use for pre and post tours are not included in the conference costs but are included in the pre and post conference tours to provide one-price extended touring)*

Why we want you to register as an 'early bird' now...

The AGTA Committee is seeking an early indication of interest to help establish the break-even cost of this important geograher's conference.

We want to know your interest in taking part in the pre and post conference tours. Anticipating good numbers, we are holding many hotel rooms around New Zealand. With your early indication of interest we will have a better idea of how many will actually be required.

Tax invoices and receipts will be available to all participants and the cost of the conference and accompanying study tours may be tax deductible.

Conference accommodation:

You have a choice of three excellent hotels:

***1. Distinction Hotel Rotorua 4 Star** - the host conference hotel and conference head quarters. The conference meetings and functions will all be held in the excellent facilities available in this hotel. Many of the evening functions are held in this hotel as are the 16 trade sponsors stands and the 'Happy Hour' on the last night.*

***2. Copthorne Hotel Rotorua 4 Star** - 300 metres away from the Conference Hotel.*

***3. Star Sudima Hotel Rotorua** - approx. 1km from the conference hotel and closer to central Rotorua.*

BENEFITS OF GTA NSW MEMBERSHIP

The Geography Teachers' Association of New South Wales (GTA) is a not-for-profit, incorporated body that represents the professional interests of Geography teachers in NSW and Geographical Education more generally. The objectives of the Association are to promote the study and teaching of geography in schools by:

- providing professional learning opportunities for teachers of Geography;
- advocating the interests of Geography teachers on matters in the State and National interest;
- providing forums where teachers of Geography and the wider community can exchange views;
- supporting Geographical Education through the development and dissemination of geographical resources; and
- promoting geographical research and fieldwork.

The GTA seeks to address its objectives via a yearly program of activities and events, which include:

- online publication of the quarterly Geography Bulletin a quality, peer-reviewed journal designed to serve the contemporary interests of Geography teachers and students.
- delivering Teacher Professional Learning Workshops and in metropolitan and regional locations, focussing on current issues, including in Global Education, the use of technology in the classroom, research and fieldwork skills.
- conducting an Annual Conference with keynote addresses from leading geographers on contemporary and emerging geographical issues as well as more practical sessions by geographical practitioners.
- hosting School Certificate and Higher School Certificate Reviews for teachers of Geography. These reviews are held in a number of regional areas across the state.

For further information about GTA NSW activities and events go to: www.gtansw.org.au

MEMBERSHIP RENEWAL/APPLICATION FORM 2014

The Geography Teachers' Association of New South Wales Inc.

ABN 59 246 850 128 – This form will become a tax invoice when completed, GST included.

*Please select **ONE** of the following membership options and complete the details*

☐ **Personal membership $90.00**

Title – please tick: ☐ Dr ☐ Mr ☐ Mrs ☐ Ms ☐ Miss Other: .....

Surame: ..... Given Name(s): .....

Home address: ..... Postcode: .....

Phone: ..... (Mob) ..... (Home) ..... (Work)

Fax: ..... Email: .....

☐ **Corporate membership $180.00**

Title – please tick: ☐ Head of HSIE ☐ Head Teacher of Social Science ☐ Head Teacher of Geography ☐ Co-ordinator of Geography ☐ Senior Geography Teacher ☐ Librarian

School: .....

School address: ..... Postcode: .....

School phone: ..... School fax: .....

☐ **Concessional membership $40.00** ☐ Retiree ☐ Part-time teacher ☐ Student (verification required)

Title – please tick: ☐ Dr ☐ Mr ☐ Mrs ☐ Ms ☐ Miss Other: .....

Surame: ..... Given Name(s): .....

Home address: ..... Postcode: .....

Phone: ..... (Mob) ..... (Home) ..... (Work)

Fax: ..... Email: .....

School: .....

PAYMENT:

Membership is for twelve months commencing in January. If payment is made later in the year all back copies of *Geography Bulletin* will be forwarded. A membership reminder will be sent in December.

Please make cheques payable to: Geography Teachers' Association of NSW Inc

OR

Charge $..... to my credit card: ☐ Mastercard ☐ Visa

Card Number: ..... /..... /..... /..... Expiry: ..... /.....

Name on card: ..... Signature:.....

Post this form and your payment to: GTA NSW, PO Box 577 Leichhardt, NSW 2040

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:

Mr John Lewis, Review Editor,
The GTA NSW Office
PO Box 577
Leichhardt NSW 2040

Deadlines for articles and advertising

Issue 1 – 1 December	Issue 2 – 1 March
Issue 3 – 1 May	Issue 4 – 1 August

Notice to Advertisers

'Geography Bulletin' welcomes advertisements concerning publications, resources, workshops, etc. relevant to geography education.

FULL PAGE (26 x 18cm) – $368.50
Special issues $649.00

HALF PAGE (18 x 13cm or 26 x 8.5cm) – $214.50
Special Issues $382.80

QUARTER PAGE (13 x 8.5cm or 18 x 6.5cm) – $132.00
Special issues $242.00

INSERTS (A4 supplied) – $374.00
All prices include GST

Advertising bookings should be directed to:

GTA NSW Office
Telephone: (02) 9716 0378
Fax: (02) 9564 2342
Email: gta.admin@ptc.nsw.edu.au

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 Editor at the following address:
   PO Box 577, Leichhardt, NSW, 2040
   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:*** Original in Word format on disk (or forwarded electronically via email attachment) plus one hard copy should be submitted. 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:*** A covering letter, with return forwarding address should accompany all submitted articles. If the manuscript has been submitted to another journal, this should be stated clearly.
6. ***Photo of Contributor:*** Contributors should enclose a passport-type photograph and a brief biographical statement.
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. ***Italics*** should be indicated by underlining.
9. ***Spelling*** should follow the Macquarie Dictionary, and Australian place names should follow the Geographical Place Names Board for the appropriate state.

The Geography Teachers' Association of New South Wales Inc.