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<th>Week</th>
<th>Syllabus outline</th>
<th>Teaching skills and strategies</th>
<th>Resources</th>
<th>Assessments</th>
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<td>1</td>
<td><strong>Course introduction</strong>&lt;br&gt;ATAR 11</td>
<td>1. <strong>Welcome</strong>&lt;br&gt; Brief introduction to ‘What is Geography?’ In this discussion, it is essential to include reference to the ‘spatial concepts’ - ensure to use this terminology throughout the delivery of the unit.</td>
<td>(i) Curriculum Council Course Doc: The Geography Course&lt;br&gt;(ii) Semester Program—Std version&lt;br&gt;(iii) Assessment Outline—review</td>
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Introductory unit content

The concept of hazard geography.

2. Introduction to Natural Geography

Website investigation: Students to examine definitions of natural hazards.

Group work: investigation on natural disasters. Students to research the definition of a natural disaster (significance of the hazard); and that such a definition refers to the following terms:

- threshold
- magnitude
- duration.

- Use examples of natural disasters such as earthquakes, as in the context of this program, to illustrate how the aforementioned terms relate to a natural disaster.

- The use of images, statistics, illustrations and footage etc. to assist in this discussion.

- Students to look at particular pre-selected case studies (e.g. Northern Peru 1970) to allow for a solid comparison and contrast discussion.

Group Activity on Hazard Geography e.g. Mind Maps etc.

FOCUS QUESTIONS:

a) What is hazard geography?
b) What are natural hazards?
c) What are natural disasters?
d) How do natural disasters relate to the concept of natural hazards?

Websites:

Use Internet search engines to find sites relating to natural disasters such as:

- http://www.naturalhazards.org/
- http://www.oas.org/dsd/publications/Unit/oea54e/ch05.htm
- http://library.thinkquest.org/C003603/cgi-bin/print.cgi?english+earthquakes+tenworst.shtml
- http://www.naturalhazards.org/
- http://www.usgs.gov/

Program:


National Geographic.
<table>
<thead>
<tr>
<th>Geographical thinking, skills and processes (GTSaP)</th>
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<tbody>
<tr>
<td>• Hazards can be classified as atmospheric, hydrologic, geologic, biologic or technologic.</td>
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</table>

**Jigsaw activity:** students to examine the characteristics of a selected natural hazard using the following criteria:
- the areal extent (size/distribution)
- intense/diffuse (energy/time)
- duration (length of time)
- rate of onset (sequence of events)
- probability (occurrence and frequency).

**Brainstorm hazard events**

Classification exercise: students to group hazards according to similar causative characteristics e.g. cyclones, tornadoes—atmospheric, volcanoes, earthquakes—geomorphic.

- Generate a list of characteristics that natural hazards have in common and characteristics that are different, identifying the most challenging hazard(s) to study and why.
- Order/rank these on a table and clearly identify the positioning of earthquakes and droughts – this will help students to contextualise where their studies will be.

**FOCUS QUESTIONS:**

a) *What criteria can be used to determine the characteristics of natural hazards?*
b) *What are the different types of hazards?*
c) *Which hazards are deemed the most challenging? Why?*

**Websites:**
<table>
<thead>
<tr>
<th></th>
<th>Human influence on sustainability (HloS)</th>
<th>Students to examine the terms of ‘risk’ and ‘loss’ (of human life, human property and biodiversity/biomass) in association with hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Risk assessment</td>
<td>• In particular, students to examine how the short-term (rescue and relief measures) and long-term responses (reconstruction and restoration) from local, state and federal government and local individuals and people from other communities modified the loss burden e.g. who paid for the loss?</td>
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<td></td>
<td>• The stakeholders affected by a natural hazard.</td>
<td>• human vulnerability e.g. who needs to be protected from future drought events and how?</td>
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<td></td>
<td></td>
<td>• Students to focus on water management e.g. use of water resources within the Murray-Darling Basin for agriculture, irrigation restrictions, allowances, establishment of water market and effect of pricing, effect on economic rent of agriculture, cost effect upon produce and effect upon economy.</td>
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<td></td>
<td>• Students to explain the factors that have affected modifications to the loss burden and human vulnerability is based upon risk</td>
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<td>FOCUS QUESTIONS:</td>
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<tr>
<td>2</td>
<td>a) Why do hazards involve risk and loss?</td>
<td></td>
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<tr>
<td></td>
<td>b) Describe aspects of a natural event that pose a threat to humans</td>
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<tr>
<td></td>
<td>c) Describe impacts of natural hazards on people</td>
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</tbody>
</table>

|   | PaC: Spatial interaction | |
| 3 | • Longer term reconstruction and restoration measures taken by individuals, communities and governments in response to the atmospheric hazard. | |
|   | HloS: Factors that impact on decisions about sustainability | |
|   | • Risk assessment in terms of: | |
|   | For both hazards | |
|   | Students to examine the terms of ‘risk’ and ‘loss’ (of human life, human property and biodiversity/biomass) in association with hazards. | |

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**FOCUS QUESTIONS:**

a) Why do hazards involve risk and loss?

b) Describe aspects of a natural event that pose a threat to humans

c) Describe impacts of natural hazards on people
loss: potential loss of life, property and biodiversity
vulnerability: measure of an inability to cope with the hazard
resilience: capacity to recover from a hazard event
adaptation: changes that minimise future loss.

assessment and loss mitigation i.e. how do humans prevent future loss of life and property. The factors to be discussed are:
- potential loss of life and property i.e. probability that this hazard will happen again.
- vulnerability i.e. which groups of people are at more risk than others?
- resilience i.e. what is the capacity of communities to recover from a future hazard event?
- adaptation i.e. what changes have taken place to reduce future losses?

Students to comment on how these loss mitigation actions can increase the sustainability of the hazard affected area.

**FOCUS QUESTIONS:**

a) What were the long-term responses to the drought event? What restoration and reconstruction measures were enacted to recover and prevent future losses?

b) What factors affected the restoration and reconstruction phases of the hazard event (disaster)?

c) How did these factors affect what was being done to recover and reduce future losses?

d) How have long-term recovery practices contributed to the sustainability of drought areas?
<table>
<thead>
<tr>
<th>HloS: Values and viewpoints in people’s use of places</th>
<th>Drought—Who stands to gain and who stands to lose?</th>
</tr>
</thead>
<tbody>
<tr>
<td>For both hazards Stakeholders affected by the hazard e.g. tsunamis would affect farmers, fishermen, settlements, tourist resorts, governments, relief agencies Views of stakeholders on recovery and adaptation (i.e. loss mitigation) to future hazard events in terms of modifying the: human vulnerability i.e. identify which groups of people are more susceptible to future loss e.g. coastal settlements along Sumatra’s west coast and tsunamis loss burden i.e. the cost of loss mitigation e.g. international aid projects.</td>
<td>Students to identify investigate and examine views of stakeholders on disaster recovery and adaptation to future hazard events. Students to identify and list the stakeholders views on modifying: loss burden human vulnerability Students can construct a chart comparing views, conduct a debate or conduct a role play exercise arguing the views of individuals or vested interest groups. These can include farmers, local politicians, federal ministers, local town businesses and family members.</td>
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<tr>
<td>Focus Questions:</td>
<td>b) Who were affected by the drought? c) What were their views on recovery from the drought event? d) What were the views of these stakeholders towards recovery and adaptation practices? e) Did they agree with the distribution of the burden amongst those affected? Why?</td>
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<tr>
<th>PaC: Spatial association</th>
<th>Earthquakes and the effect on the biophysical environment</th>
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<tbody>
<tr>
<td>For both hazards natural and human environments affected by the hazard.</td>
<td>Students examine cultural maps i.e. population/settlement maps and earthquake zones and create an overlay – basic GIS – note relationships between the two maps. Students to write a brief overview indicating the broad spatial associations between the maps and the variations.</td>
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</table>

| Task 1 |
| Skills test |
| Short and extended responses including broadsheets |
**For both hazards**

Impact of the hazard upon natural and human environments i.e. loss in terms of life, property and biodiversity.

Students to hypothesize the effect earthquakes would have upon these areas.

Students to investigate the degree of impact on the biophysical landscape (relationship between the magnitude and duration of earthquake events and the impact on susceptible areas within the natural landscape).

Structured overview or concept map – to list changes caused by earthquakes upon the biophysical environment.

Students to pick an element of the ecosystem and describe the impact of earthquakes on:

- **flora**
- **fauna** i.e. Physiological and behavioural adaptation in response to an earthquake event
- **topography** e.g. Mass wasting, faulting and folding.

**FOCUS QUESTIONS:**

- a) What cultural landscapes (both urban and rural) are affected by earthquakes?
- b) How do earthquakes affect the natural environment?

<table>
<thead>
<tr>
<th>PaC: Spatial association</th>
<th>A Japanese Earthquake (A Case Study)</th>
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<tbody>
<tr>
<td>Importance of the region/area affected by the hazard in social, environmental and economic terms</td>
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<tr>
<td>Relationship between the degrees of loss (i.e. life, property and biodiversity) and the proximity to the hazard i.e. spatial variations</td>
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<tr>
<td>Case Study: Study impact of the Kobe earthquake of 1995</td>
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<tr>
<td>Atlas—map interpretation and web site investigation—students to explain the importance of the region impacted by the hazard event—Kobe, Japan i.e. areas which are economically, environmentally and culturally significant e.g. large urban areas, industrial/port areas, tourist areas. Paragraphing—importance Kobe region to</td>
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</table>
|   | in relation to loss and distance to the hazard. | Japan and world economies. Impact of the earthquake upon Kobe—explosion chart. Students to indicate the damage and then classify the damage—primary or secondary. Students to examine the following areas for loss i.e. loss of human life and property Rural Landscapes: agriculture Urban Landscapes: households, tourism. Students to be able to clearly identify short-term and long-term losses as a result of the quake. Map interpretation—location of Kobe and associated land use. Variation in impact; relationship to proximity to hazard. Diagram/mapping; map damage to the area; look for relationship between proximity of the quake and damage to the area. Paragraphing—study variations to damage within the Kobe area; why the differences? What factors affected the strength and magnitude of the quake? i.e. distance to epicentre, local geology, building standards.  

**FOCUS QUESTIONS:**  
a) *To what extent is Kobe socially and economically significant?*  
b) *What was the long-term loss experienced from the earthquake?*  
c) *How did these losses vary over distance throughout the Kobe region?*

| 7 | Hlos: Factors that impact on decisions about sustainability  
Short-term and long-term responses | An Earthquake Fought—Resilience despite the odds  
Students to use resources to outline the short-term and long-term responses to the earthquake (disaster recovery, resilience and adaptation). | Field Trip to FESA Perth  
Natural Disaster response (full Day) |
<table>
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<tr>
<th>Page</th>
<th>HloS: Factors that impact on decisions about sustainability</th>
<th>FOCUS QUESTIONS:</th>
<th>Playing it safe—Earthquake risk assessment</th>
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<tbody>
<tr>
<td>8</td>
<td>Longer term reconstruction and restoration measures taken by individuals, communities and governments in response to the earthquake (geomorphic hazard).</td>
<td>a) What were the long-term responses to the quake? b) What restorative and restoration practices were taken to recover and prevent future losses?</td>
<td>Students to explain the factors that have affected modifications to the loss burden and human vulnerability are based upon risk assessment and loss mitigation i.e. how do humans prevent future loss of life and property. The factors to be discussed are: potential loss of life and property i.e. probability that this hazard will happen again vulnerability i.e. which groups of people are</td>
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<td>9-10</td>
<td>Concept of risk assessment: <strong>Loss</strong> i.e. potential loss of life, property and biodiversity <strong>Vulnerability</strong> i.e. measure of an inability to cope with the hazard <strong>Resilience</strong> i.e. capacity to recover from a hazard event</td>
<td>a) What were the short-term responses to the earthquake? b) What rescue and relief measures were taken to reduce loss?</td>
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<tr>
<td><strong>Adaptation</strong> i.e. change in behaviour to minimise future loss.</td>
<td>at more risk than others? resilience i.e. what is the capacity of communities to recover from a future hazard event? adaptation i.e. what changes have taken place to reduce future losses? Students to comment on how these loss mitigation actions can increase the sustainability of the hazard affected area.</td>
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<tr>
<td><strong>FOCUS QUESTIONS:</strong> a) What was the capacity of the people to recover from the quake? (how resilient were they?) b) How did the people of Kobe react and adapt to change as a result of the quake? (how adaptable were the people of Kobe?) c) What factors affected the restoration and recovery phases of the quake? d) How did these factors affect what was being done to reduce future losses?</td>
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<td>HloS: Values and viewpoints in people’s use of places</td>
<td>Earthquake aftermath – Planning for a better tomorrow</td>
<td>Short and extended response on Tectonic plate movements</td>
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<td>Stakeholders affected by the earthquake e.g. for a tsunami would affect farmers, fishermen, settlements, tourist resorts, governments, relief agencies</td>
<td>Students to use web site resources to identify and list the views of stakeholders on disaster recovery and adaptation to future hazard events.</td>
<td>Task 3 Report</td>
<td></td>
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<tr>
<td>Views of stakeholders on recovery and adaptation (i.e. loss mitigation) to future hazard events in terms of modifying the: human vulnerability i.e. identify which groups of people are more susceptible to future loss e.g. coastal settlements along Sumatra’s west coast and tsunamis loss burden i.e. the cost of loss mitigation e.g. international aid projects.</td>
<td>Their views on modifying: loss burden e.g. who pays for the restoration and reconstruction, who pays for protection from future quake events? hazard event e.g. what is being done to predict and warn people of impending quakes? human vulnerability e.g. what is being done to buildings and other infrastructure so they don’t collapse? Are there any groups identified as being vulnerable to a future quake event? How will they be protected? Students can construct a chart comparing views, conduct a debate or conduct a role play exercise arguing the views of individuals or vested interest groups. These can include farmers, local and federal politicians, industry representatives, tourist operators, local town businesses and city residents</td>
<td>Field trip to the Perth City FESA for emergency response to Natural Disaster</td>
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FOCUS QUESTIONS:

a) Which groups of people were affected by the earthquake?
b) What were their respective views on how the city of Kobe and its people should recover from the quake?
c) What future loss mitigation programs have been introduced so as reduce the loss from future quakes?
| 9 | **HloS:**  
**Care of places**  
For both hazards  
How current practices reduce loss and maintain sustainability in the region  
Positive and negative impacts of loss mitigation practices in terms of the effects on the natural and cultural environment.  
| **Caring for places after natural hazards**  
Students to examine the restoration and reconstruction policy and practices of the Kobe area. Students to list the advantages and disadvantages of these and how they may affect the natural and cultural environment. Students to discuss how current practices and restorative practices aim to reduce loss and maintain the sustainability of the region. | **Task 2:** Human response to the Kobe earthquake of 1995 |
|---|---|---|
| 10 | **Change topic to Ecological Geography**  
Introduction to Infectious diseases  
Quiz on History of Infectious diseases  
Human Well Being  
Discuss differences between contagious diseases terms  
- Epidemic  
- Pandemic  
Fear, people who do not understand the needs of individuals | Historical Look at various diseases that have impacted the globe in the past 1000 years  
http://www.diseasedetectives.org/timeline  
| 11 | **This section of the Course is still under construction. Awaiting Text book release and additional information from SCSA.** | **Case Study HIV-Aids**  
History and global spread of disease.  
- Cultural problems  
- Economic problems  
- Social issues and prejudices  
Work on Assessment | **Introduce assessment on Infectious diseases**  
[http://plaza.ufl.edu/tmalcolm/HIVpowerpoint.ppt](http://plaza.ufl.edu/tmalcolm/HIVpowerpoint.ppt)  
[http://www.theaidsinstitute.org/node/259](http://www.theaidsinstitute.org/node/259)  
[http://www.bibliotecapleyades.net/ciencia/supressed_inventions/suppressed_inventions06.htm](http://www.bibliotecapleyades.net/ciencia/supressed_inventions/suppressed_inventions06.htm) | **Show portion of the movie Philadelphia** |
| 12-13 | **Case Study- Ebola**  
- Cultural problems  
- Economic problems  
- Social issues and prejudices  
Continue to work on assessment task  
Who are the stakeholders in this problem? | **Watch the movie take notes and compare with various reliable sources.**  
http://www.livescience.com/47946-where-did-ebola-come-from.html  
http://www.who.int/mediacentre/factsheets/fs103/en/  
https://web.stanford.edu/group/virus/filo/history.html  
http://www.who.int/mediacentre/factsheets/fs103/en/  
**Task 4**  
**Infectious diseases Report** |
| 14 | **Global impact of these events.**  
**Focus questions**  
Whose problem is it?  
Human cost, will we ever really know?  
Humanitarian Aid, who pays?  
Financial cost?  
How does work in our world of Globalisation?  
What if we can't find a cure?  
What are governments doing?  
What is the role of the NGO’s? |
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<th>Revision for exams</th>
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<td>Exams Task 5</td>
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