

Skill 4 – Impact of Flooding in the Hawkesbury-Nepean Valley

Syllabus

Natural hazard

- investigate ONE contemporary atmospheric hazard or hydrologic hazard including causes, impacts and responses (ACHGK042)

Outcomes

- GE4-3** explains how interactions and connections between people, places and environments result in change
- GE4-7** acquires and processes geographical information by selecting and using geographical tools

Geographical Tools

Graphs and Statistics

- distribution graphs

Visual Representations

- use of photographs

Introduction

The Hawkesbury-Nepean Valley covers 425 square kilometres of floodplain. It is prone to rapid and deep flooding, with a long history of damaging and sometimes disastrous floods. Large floods don't happen often, but when they do occur these natural hazards can have a very significant impact on the community and the economy.

In this lesson students use distribution graphs to identify the size and dates of floods occurring in the Hawkesbury-Nepean Valley. Additionally, students interpret historic photos of flooding in the Valley and make observations of the impact.

Geographical Concept - Environment

The concept of environment is about the significance of the environment in human life, and the important interrelationships between humans and their environment.

Activity 1 – Graph Interpretation

Refer to Graph 1

1. What is the height of the normal river level at Windsor?
2. What is the height of a moderate flood level?
3. What is the height of a major flood level?
4. What is the height of the 1 in 100 chance per year flood?
5. How many floods have occurred at Windsor that have been over the 1 in 100 chance floods?
6. In which decade did the biggest flood occur?
7. How many floods have occurred at Windsor that have been over major flood level?
8. What is the height difference between the normal river level and the 1 in 100 chance per year flood?
9. What is the height difference between the normal river level and the major flood level?
10. In what decade did the last major flood occur?
11. Use the following information from the NSW Bureau of Meteorology to interpret actual current river height data.

http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDN60143.html

Current river height at Windsor: _____

Refer to Graph 2

1. What do the highlighted sections of the graph indicate?
2. What are the year ranges of each of the highlighted sections?
3. Is it possible to draw conclusions about flood patterns from this graph? If so, what?

Activity 2 – Photograph Interpretation

Historical Flooding in Hawkesbury-Nepean Valley

Refer to Photos 1-5

Create the following table or use the worksheet provided and fill in the information for each photo in space allocated

	Photo 1	Photo 2	Photo 3	Photo 4	Photo 5
Geographical Concept – Place <ul style="list-style-type: none"> How high is the floodwater? What damage has been created by the floods? 					
Geographical Concept – Space <ul style="list-style-type: none"> How are people being impacted by the floods? How is the environment being impacted? 					

Extension Activity

Use the graphs from Activity 1 and photographs from Activity 2 to complete the question below:

*Which of the floods do you think would have had the most impact across the Hawkesbury Nepean Valley?
 Use data from the graphs and observations from the photographs to support your reasoning.*