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For ages 10+



The World Disasters Series

Weather Related Disasters

Floods, Fires, Famine and Cyclones

Book 2

Revised and Updated

Written and revised by Jane Bourke.

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P.O. Box 276 Greenwood Perth W.A. 6024

Email: info@readyed.com.au



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Background Information:



Floods Around The World

A flood occurs when land that is normally dry is covered with water. Floods can cause large amounts of damage, and so are commonly regarded as disasters. However, in ancient times, floods were often appreciated, as they brought water and fertile soil to agricultural fields. The ancient Egyptian pharaohs would raise taxes after a flood to capitalise on the increased wealth of the farmers.

Floods can be categorised into two general groups – coastal floods and river floods. Coastal floods are the most feared floods, because a large proportion of the population live in coastal areas. However, the land around rivers is often the most fertile, and therefore the most farmed. Farms on flood plains can experience regular flooding.

Coastal floods can be caused by unusual patterns in the ocean, such as exceedingly high waves, tsunamis or very high tides, or by a subsidence in the coastline. The coastline and height can often subside because of human activities. The most common example of this is oil drilling – if oil is removed from a cavity beneath the ocean floor and not replaced with a similar liquid, the coastline can collapse inward, making it easier to flood.

River floods can also be the result of natural or human actions. The most common cause of river flooding is heavy rainfall. During a long period of rainfall, the soil becomes waterlogged, and absorbs water less effectively. Water which is not absorbed runs off into stream channels. During extremely heavy rainfalls the streams overflow, causing flooding.

Intense rainfall can also cause floods. If a large amount of rain falls in a short period, a flash flood can result. Flash floods usually come without warning and are over within a couple of hours. They are more likely to occur in mountainous areas where the floodwaters build up a high speed when travelling down the slopes of a mountain.

River floods can also be caused by snow melting. Rain falling on snow can cause it to

melt enough to form a stream of ice and water. The flood can grow quickly if the ground is too frozen to absorb any moisture. Snowmelts are complicated by the fact that blocks of unmelted ice can obstruct streams, or block bridge or sewer openings.

Human construction can increase the likelihood of floods. Pollution or landfill can constrict rivers, causing the river to overflow quickly. Clearing land can also encourage flooding, as the runoff water is not obstructed by vegetation. Roads decrease the land's ability to absorb water and provide an unobstructed path for floodwaters.

Floods can also be caused by the collapse of human structures intended to contain water, such as dams, weirs or aqueducts. Their structures can collapse because of faults in design or building, or due to old age.

Locations

Some areas of the world are prone to regular flooding, due to their location or climate. Japan, Bangladesh and the Netherlands are particularly vulnerable to floods.

Japan has been the victim of a number of tidal waves (tsunamis), which occur most frequently in the Pacific Ocean. Tsunamis can reach heights of up to 30 metres.

The agricultural regions of Bangladesh are situated on a vast, low-lying plain. Heavy monsoonal rain or the onset of a cyclone results in large-scale flooding.

Much of the Netherlands has a low elevation above sea level. Without dikes to keep back the tides, and pumping programs, one third of the country would be below sea-level every high tide and another twenty five percent would be subject to flooding in storm conditions.

Check Out:

Types of Floods

▶ library.thinkquest.org/03oct/02054/floodtype.htm

Floods Around The World

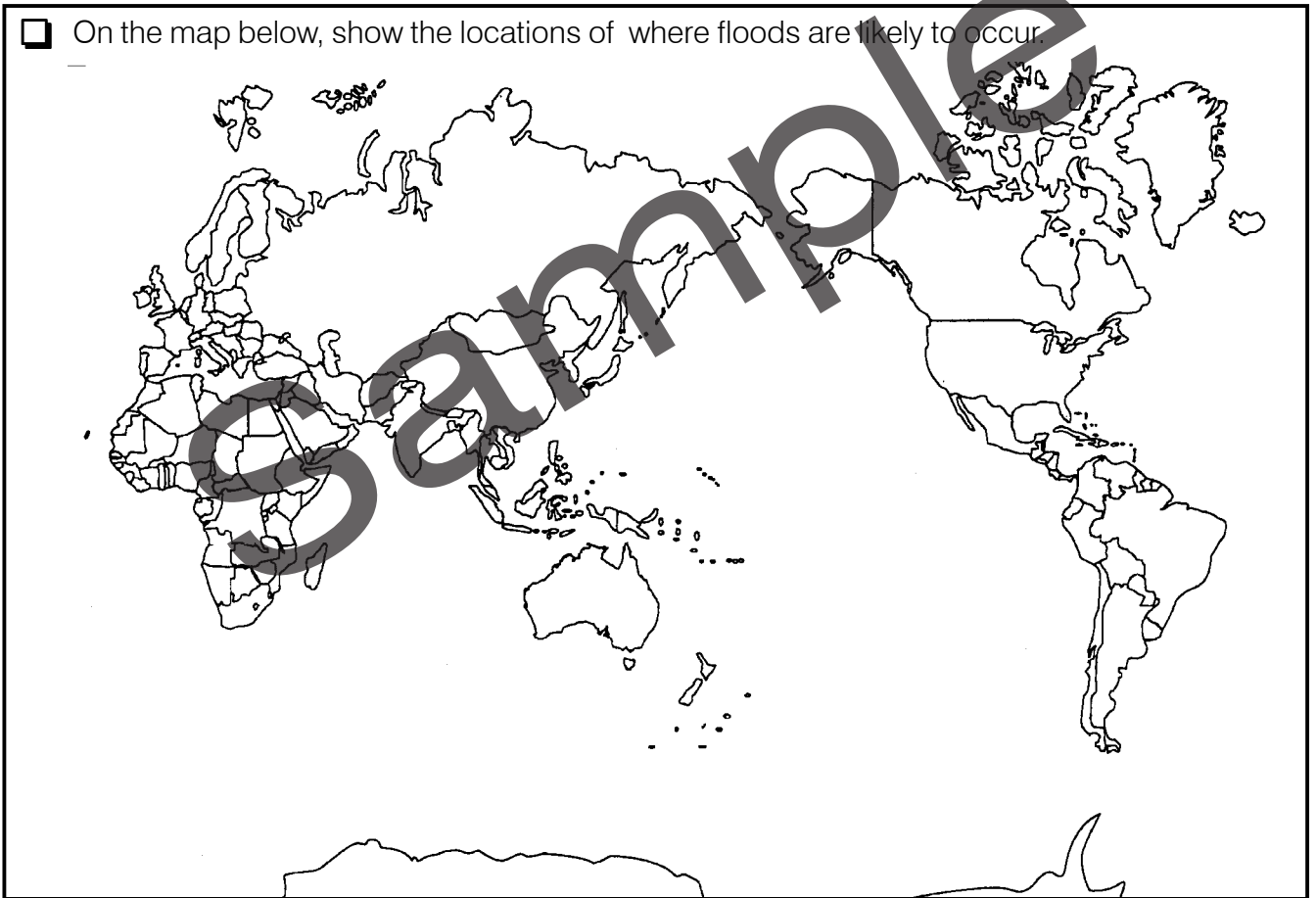
▶ Floods occur in flat, low-lying land. At different times most countries in the world have suffered flooding.

Research:

- Research to find areas of the world where floods have occurred. Make a record of some reports of floods in the table below.

Date	Location	Cause	Damage	Deaths

- On the map below, show the locations of where floods are likely to occur.



- Look for any patterns.

Make general statements about places likely to experience flooding from the viewpoint of:

○ Location: _____

○ Causes: _____



Background Information:



Floods in Australia



Many of the after effects of flooding are related to loss of personal property and ultimately money. The example of farms shows a more long term effect because of the changes in the nature of the land.

Flooding on Farms

Farms can often be the victims of river flooding, as the land near rivers is usually very fertile, and therefore sought after for agriculture. Much of this fertility can result from periodic flooding, as floods deposit alluvial soils.

Farming also changes the land as the natural habitat is altered to better suit agricultural needs. This alteration can encourage flooding, or increase the severity of floods.

Many types of farming involve the clearing of land so crops can be grown, or livestock raised. Vegetation which previously slowed stream run-off is removed. Stream overflows can therefore travel at greater speeds.

Livestock can also destroy river banks while drinking from streams or rivers. Heavy waterflows are no longer contained and channelled by the banks, but allowed to spread outwards.

Check Out:

About Floods

- ▶ library.advanced.org/10136/floods/floodq.htm

In Focus – Floods

- ▶ www.pbs.org/newshour/infocus/floods.html

FEMA: Floods

- ▶ www.fema.gov/kids/floods.htm

Floods in Australia

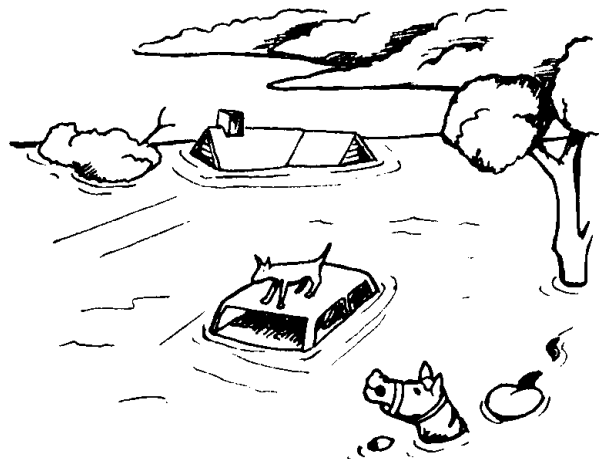
- ▶ www.bom.gov.au/climate/c20thc/flood.shtml

Queensland Flood History

- ▶ www.bom.gov.au/hydro/flood/qld/fld_history/index.shtml

Flooding in Australia

- ▶ www.ga.gov.au/urban/factsheets/floods_australia.jsp



Floods In Australia

Information

In Australia floods can occur in any season. Severe flooding affected a widespread area of Australia in April and again in July of 1990. Parts of Queensland and New South Wales were declared disaster areas. The towns of Nyngan and Forbes were two of the worst affected. People were evacuated from their homes. In 1995, a cyclone caused flooding that blocked off the Eyre Highway on the Nullarbor Plain.

- Complete the table below to show the overall effects of flooding on areas such as these:

<i>Immediate</i>	<i>Short Term</i> <i>i.e. after water recedes</i>	<i>Long Term</i>

- If your family experienced a flood what do you think would be the most difficult part to face?



- Check out some of the websites on Page 6. Give brief details of two recent floods in your region.
