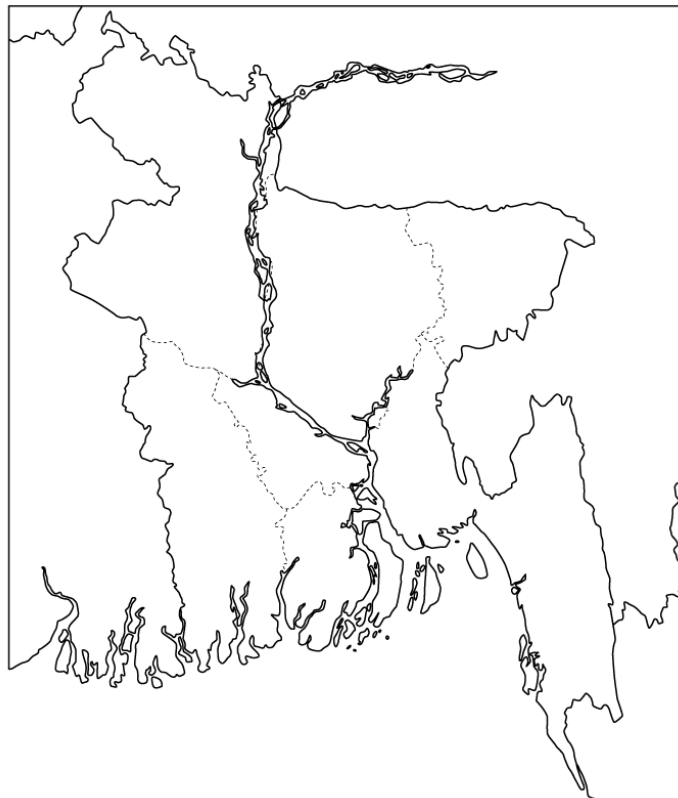


Bangladesh is a densely populated LEDC/LIC in South East Asia, located on the flood plain and delta of the River Ganges. Seventy five percent of the country is less than 10 metres above sea level and flooding is an annual occurrence during the monsoon.

These floods cause deaths and destroy infrastructure each year in Bangladesh. Severe flooding occurred in 2004 lasting from July to September and, at its peak, covered more than 50% of the country.

Student tasks

1. Locate and label Bangladesh, India, Nepal and Burma (Myanmar) on the outline map below.
2. Locate and label the Bay of Bengal on the map.
3. Locate and label Dhaka, the capital of Bangladesh, on the map.
4. Add and label the Brahmaputra, Ganges and Meghna rivers and their channels on the map.
5. Calculate and add a scale bar to the map.
6. Add a north arrow and title to the map.



Map used courtesy of Sankakuhei. <http://english.freemap.jp/item/asia/bangladesh.html>

The Bangladesh floods of 2004 – Cause, effect and response

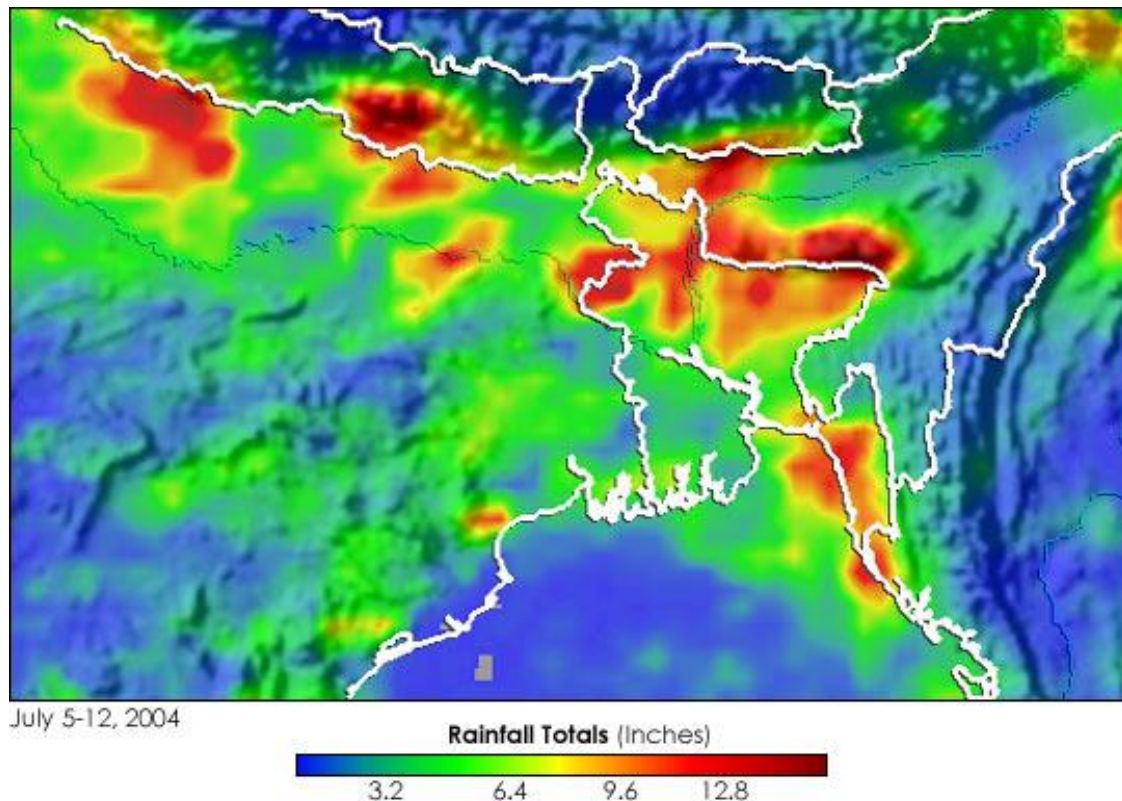
The annual average rainfall in Dhaka is approximately 2,000 mm and nearly 80% usually falls between June and September. In 2004, a total of 8,308 mm of rain was recorded between June and September with a record-breaking 341 mm of rain in Dhaka in one 24 hour period!

7. Construct a graph to show the average monthly rainfall for Dhaka.

Dhaka	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	8	20	58	117	267	358	399	318	257	163	30	5

The 2004 monsoon floods also affected neighbouring countries causing death and destruction in both Nepal and India.

8. Using the satellite image, describe the pattern of rainfall in Bangladesh between the 5th and 12th of July 2004.



Rainfall map used courtesy of NASA
http://earthobservatory.nasa.gov/IOTD/view.php?id=4642&eocrn=image&eoci=related_image

The Bangladesh floods of 2004 – Cause, effect and response

9. Sort the following statements into causes, effects or responses for the Bangladesh 2004 floods.



Diarrhoea from drinking contaminated water affected 100,000 people in Dhaka.	The United Nations launched an appeal for \$74 million in aid.	Seventy five percent of Bangladesh is at, or below 10 metres above sea level.
Food shelters and early warning systems were installed.	Houses were rebuilt.	Thirty million people were made homeless.
The monsoon rainfall was the highest since 1952.	The Bangladesh Air Force helped to distribute food supplies, medicines, clothing and blankets.	Damage costing at least \$7 billion was caused by the floods.
Records show that a major flood could be expected every seven years and a catastrophic one every 33-50 years.	The UK provided £21 million in aid.	There were at least 600 deaths.
A request was made to neighbouring countries to stop deforestation in the catchment.	Bridges and main roads were destroyed. The airport runways were under water.	Water purification tablets were issued by the charity, Water Aid.
The World Bank made a loan to Bangladesh to pay for repairs to its infrastructure.	Abnormally high tides in the Bay of Bengal prevented the floodwaters from running off the land.	Two thirds of Bangladesh was under water.
The government said further embankments (levées) would be built.	The rice crop was devastated. Other cash crops e.g. jute and sugar were washed away.	Flood protection shelters were built.

The Bangladesh floods of 2004 – Cause, effect and response

10. Research three additional causes of the floods of 2004 in Bangladesh
11. Research an additional three effects of the floods.
12. Label the effects as either **Primary** or **Secondary** effects.

Flooding causes significant difficulties with moving people and goods/produce around both the countryside and towns and cities. The photograph below shows cycle rickshaw taxis transporting people and a hand-pulled rickshaw carrying sacks of rice.

13. Imagine you are one of the people in this photograph below. Write a diary extract of your day.



Flooding in Dhaka, the capital of Bangladesh
© Masud Ananda 2005 <https://flic.kr/p/6JEnp6>

14. How and why did flooding at Dhaka airport cause problems?
15. What benefits might the floods have brought?
16. Write a letter from the government of Bangladesh to the Prime Minister of Nepal explaining why deforestation has to be stopped in the headwaters of the River Ganges.
17. Research an additional three responses to the floods.
18. Separate the responses into either immediate/short term or long term.

19. Use the Diamond 9 template below to rank the responses to the Bangladesh floods of 2004.

1.		
2.	3.	
4.	5.	6.
7.		8.
9.		

20. Design a poster for Water Aid to try to raise money to buy and supply water purification tablets.

21. A United Nations report warned that Dhaka is at considerable risk from climate change. How might climate change affect flooding in Bangladesh in the future?

22. Construct a mind map for this case study/example.

23. Which effects and responses in this case study would only occur with a flood in an LEDC/LIC?

24. Contrast the Bangladesh 2004 floods with the Boscastle floods of the same year.