

# Flooding Boscastle, August 2004



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# Learning Objective

To understand the cause and effect of the Boscastle flood of 2004.

## Success Criteria

- To identify the effects of the flood.
- To understand the responses to the flood.
- To evaluate how human and physical processes interact during and after a flood.



# Boscastle Flood

Who? On Monday 16<sup>th</sup> August  
What? 2004, the small town of  
When? Boscastle on the north  
Where? Cornwall coast was hit  
Why? by a sudden flood. It is  
considered to be among  
the most extreme to  
have occurred in  
Britain.



What circumstances combined to bring about such a destructive and sudden event?

How did the flood affect the town and its residents?





# Causes of Flooding



There are many causes of flooding.

- How many can you name?  
Which are **human** and which are **physical** (natural) causes?





## Flooding at Boscastle

# 1. Prolonged Rainfall

Prolonged heavy rain results in the saturation of soil.

Further rainfall will reach streams quickly as surface runoff.

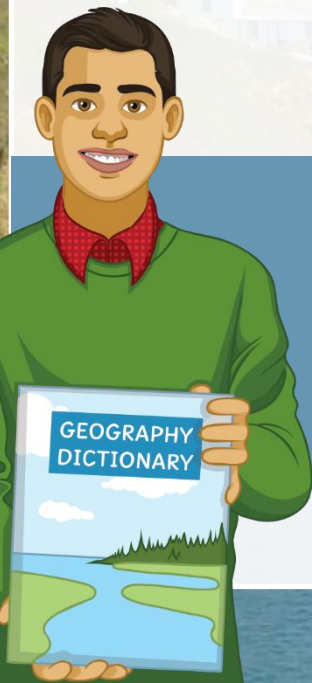


### **Saturation:**

When the soil become filled with water, so that no more water can be absorbed.

### **Surface runoff:**

This is when water runs over the ground.



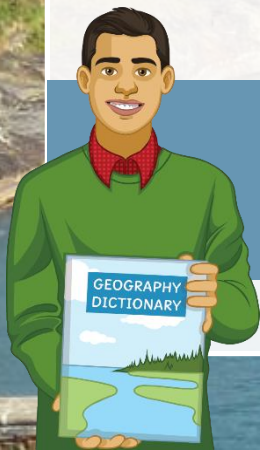
## Flooding at Boscastle

# 2. Intense Rainfall

Sudden intense rainfall means that water does not have time to infiltrate and instead reaches streams quickly as surface runoff.

On 16th August, unusual weather conditions resulted in 10km tall clouds.

Around 75mm of rain fell in Boscastle in two hours.



### Infiltration:

When water soaks into the ground.

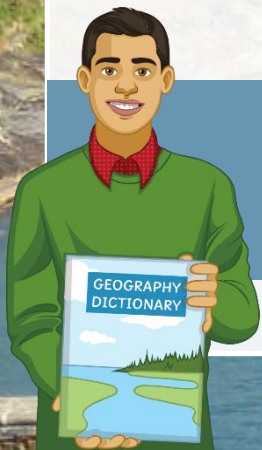
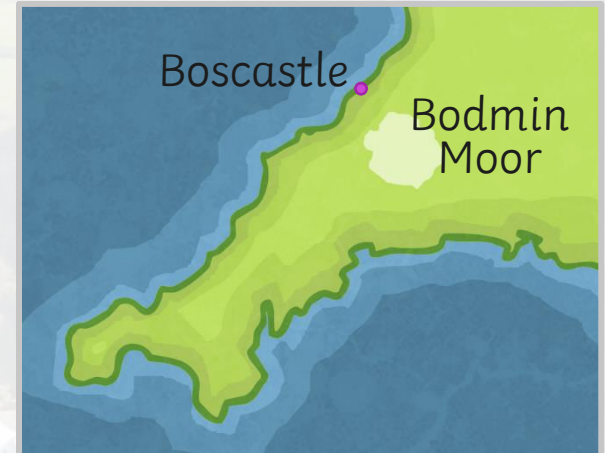


## Flooding at Boscastle

### 3. Surrounding Area

Bodmin Moor is above Boscastle. Rainwater is likely to run straight over the surface of Bodmin Moor because:

- Granite (an impermeable rock) is found under Bodmin Moor.
- Steep slopes mean that there is no time for water to infiltrate into the ground.
- Thin peat soil on Bodmin Moor would not allow much rain water to infiltrate.



#### **Impermeable rock:**

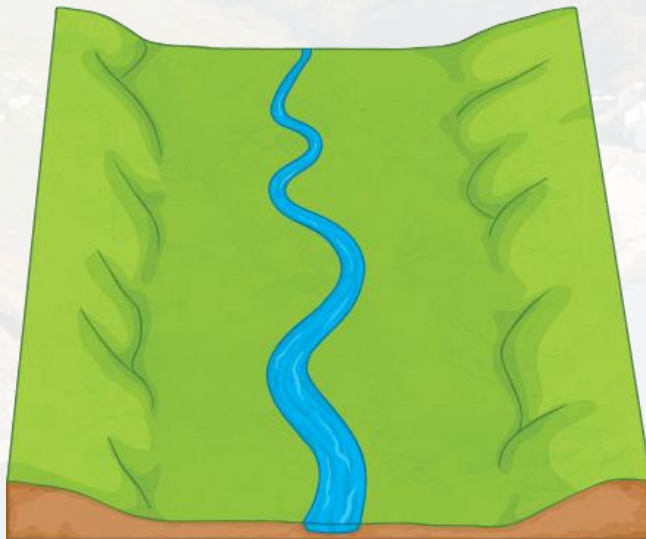
This is rock which will not allow water to soak into.

## Flooding at Boscastle

### 3. Built-Up Areas

Boscastle is built on a flood plain.

Boscastle is at the confluence of the River Valancy and River Jordan.



Urbanisation increases the amount of impermeable, man-made surfaces such as concrete and tarmac which speed up surface run-off.

Drains also encourage water to reach the river more quickly.



Flooding at Boscastle

## 4. Deforestation



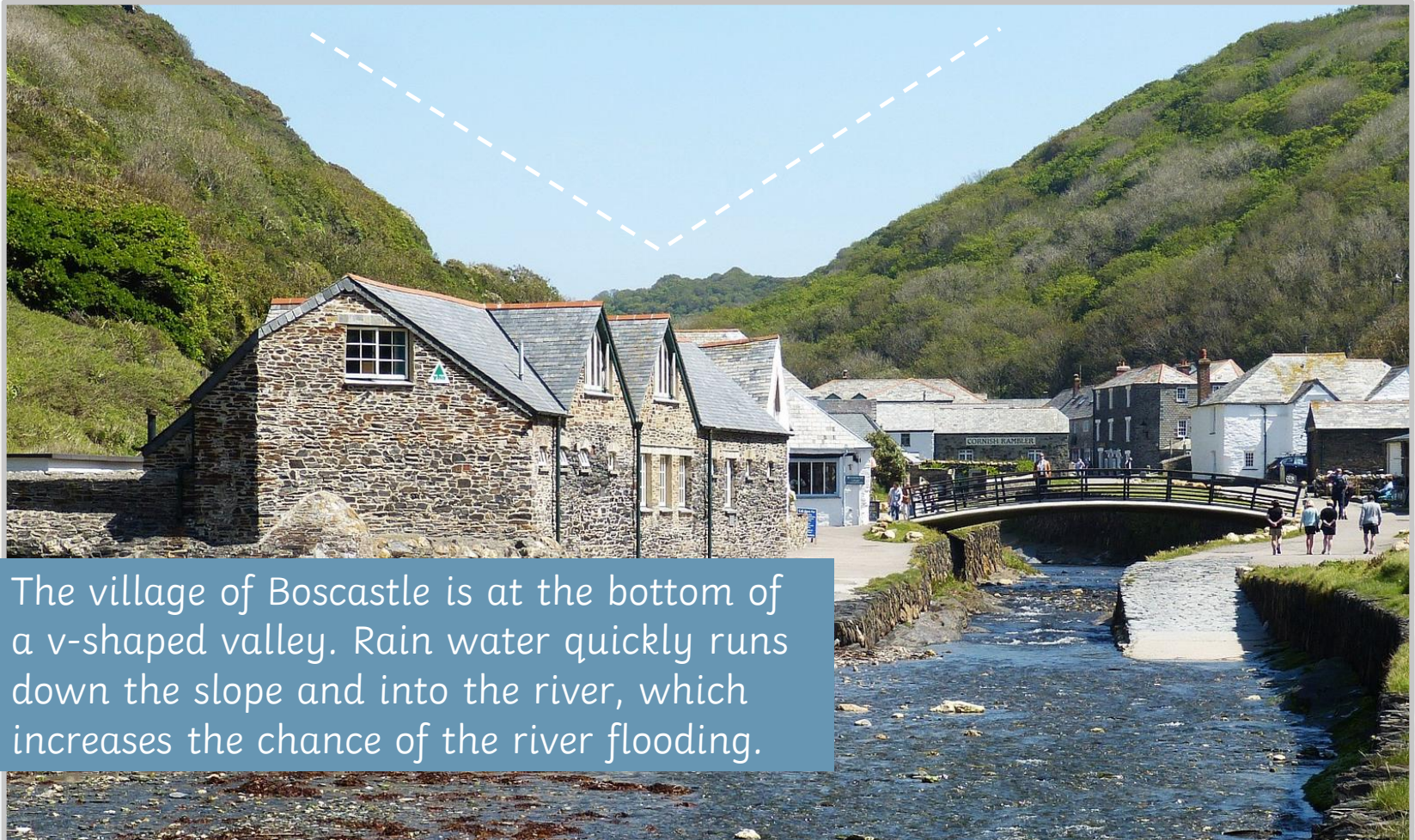
Trees help to reduce flood risk by increasing the time it takes for water to reach a river by encouraging infiltration, intercepting water with the canopy and taking up water in their roots.

Cutting down trees and replacing them with buildings will lead to more flooding.



Flooding at Boscastle

## 5. V-Shaped Valley



The village of Boscastle is at the bottom of a v-shaped valley. Rain water quickly runs down the slope and into the river, which increases the chance of the river flooding.



Flooding at Boscastle

## 6. Narrowing the River Channel

Building the village of Boscastle narrowed the river channel so that it could hold less water.





## Flooding at Boscastle

# 7. Bridges Blocked with Debris



Boulders and trees were swept down the river during the flood. These blocked bridges and stopped the water flowing out to sea, which made the flood worse.

After the flood, the river beds were dug deeper and the bridges cleared to prevent flooding in the future.



# Responses to the Boscastle Flood



- 60 people evacuated
- RAF and Navy helicopters evacuated people
- Fire and rescue service searched buildings for trapped people



- Town cleaned: soil, cars, damaged buildings and trees removed
- £4.5 million flood defence scheme put in place
- Banks of river reinforced with higher walls



- Insurance companies had to pay out millions

Think: Which of these are immediate responses and which are longer term responses?



## Responses to the Boscastle Flood

# How Would You Feel?



Think about how the following people might feel **before**, **during** and **after** the floods in Boscastle. Use the character sheet to see how they were involved, then use the recording sheet to write down your ideas.







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