

WALT understand floodplains.

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- WILF: - Define a floodplain.
- Understand the factors that cause rivers to flood.
 - Understand the impact of floods on the local environment.
 - Identify how people prepare for flooding.



What is a floodplain?

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A flood plain is an area surrounding a river that has been submerged (covered by) water because it has had overbank flow (water flow beyond it's banks - banks are the ground either side of a river).

The floods eventually absorb back into the soil around, or flow back into the river, which allows water to recede (go back) - here, it sometimes takes a new course, or stays in the same river continuing to be a flood risk.

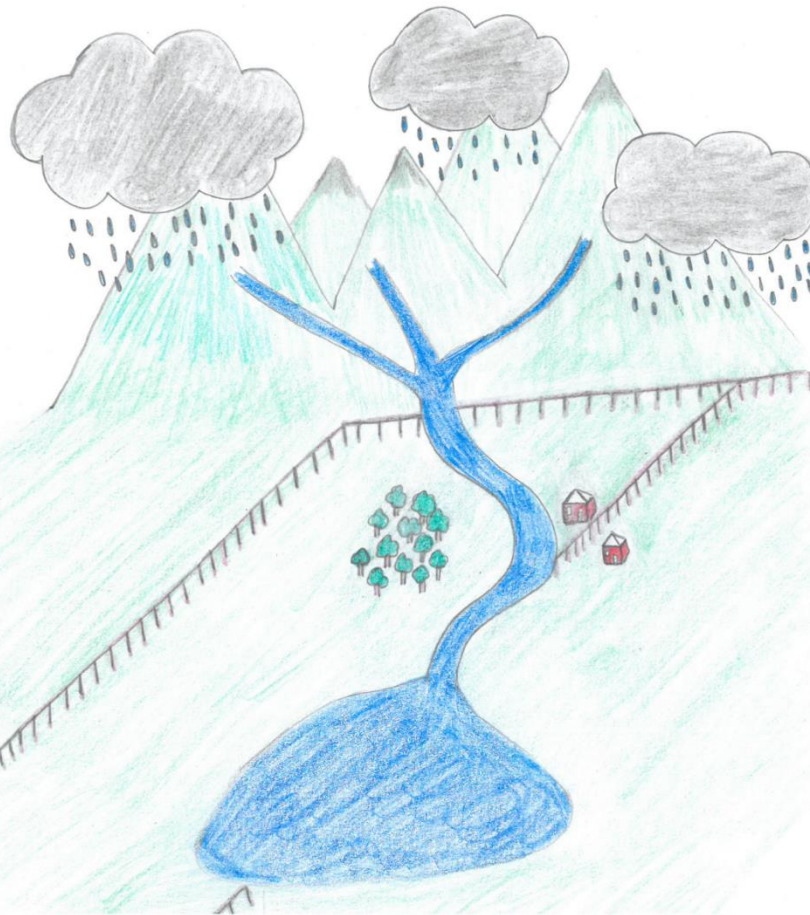
Once an area has flooded once, it continues to be a floodplain, because flooding is likely again.

So why does flooding happen?

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Precipitation in the Upper Course

In the upper course, the river is not as fast flowing as the middle and lower course of the river. This is because there is less contact with the river bed and banks, so the friction is less and the speed is greater. It is therefore more likely to erode materials and create new courses.

After precipitation stops in the upper course, there is a delay in time between the water reaching the main river. Therefore, after heavy rainfall, the water level can continue to rise even after the heavy rain has stopped.

This is because the tributaries, surface run off and throughflow continues to feed water to the river.

A shorter delay (lag time) increases the likelihood of flooding. A long lag time decreases the chance. The lag time depends on how absorbent the soil is, so how much water is absorbed and how much runs off.

Overbank flow



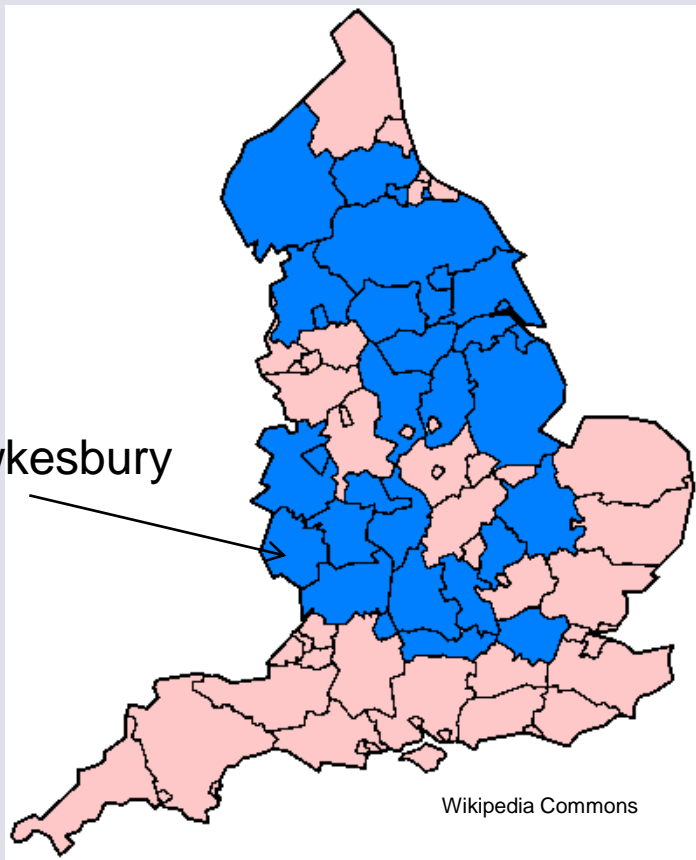
Flooding 2007 - in 2007, an exceptional amount of rainfall in the summer caused lots of flooding in England. Take a look at the graph and diagrams.

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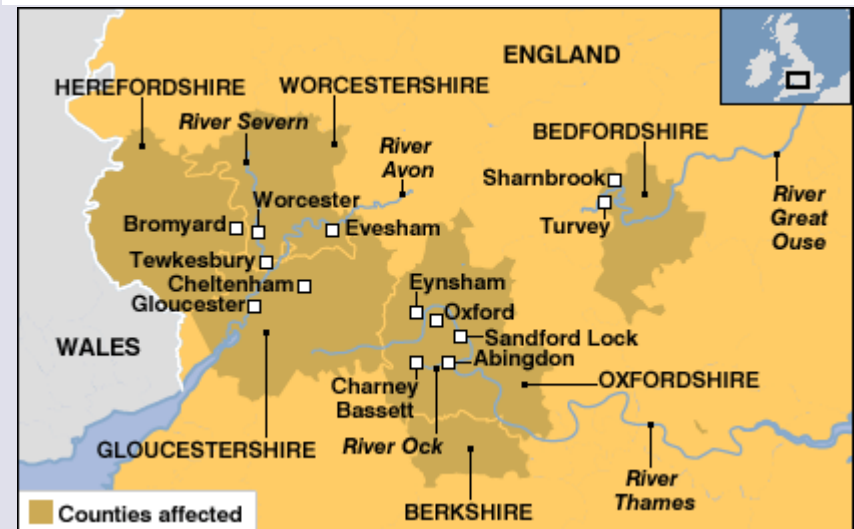
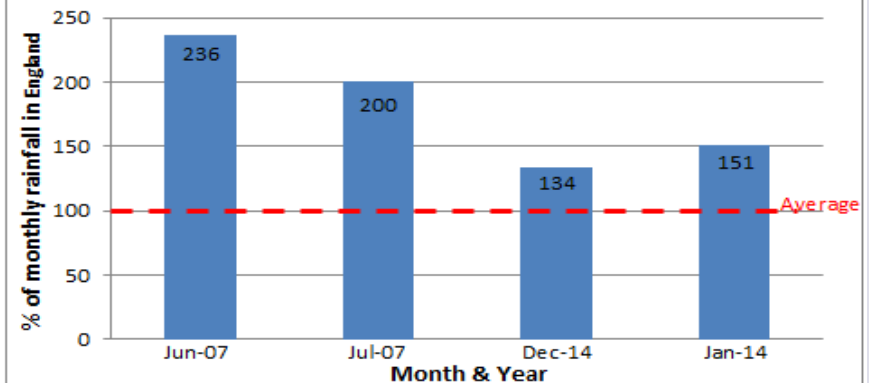
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Administrative counties in England affected in June and July 2007 floods (marked in blue).



Floods Compared

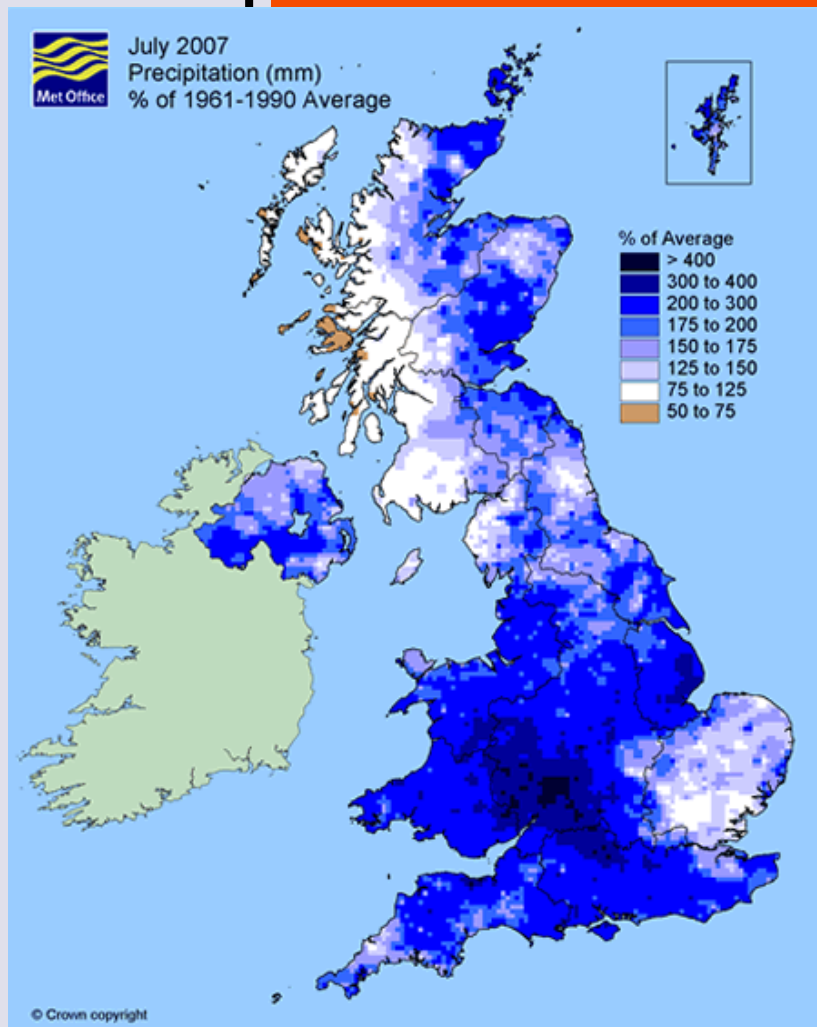


BBC News

Flooding July 2007

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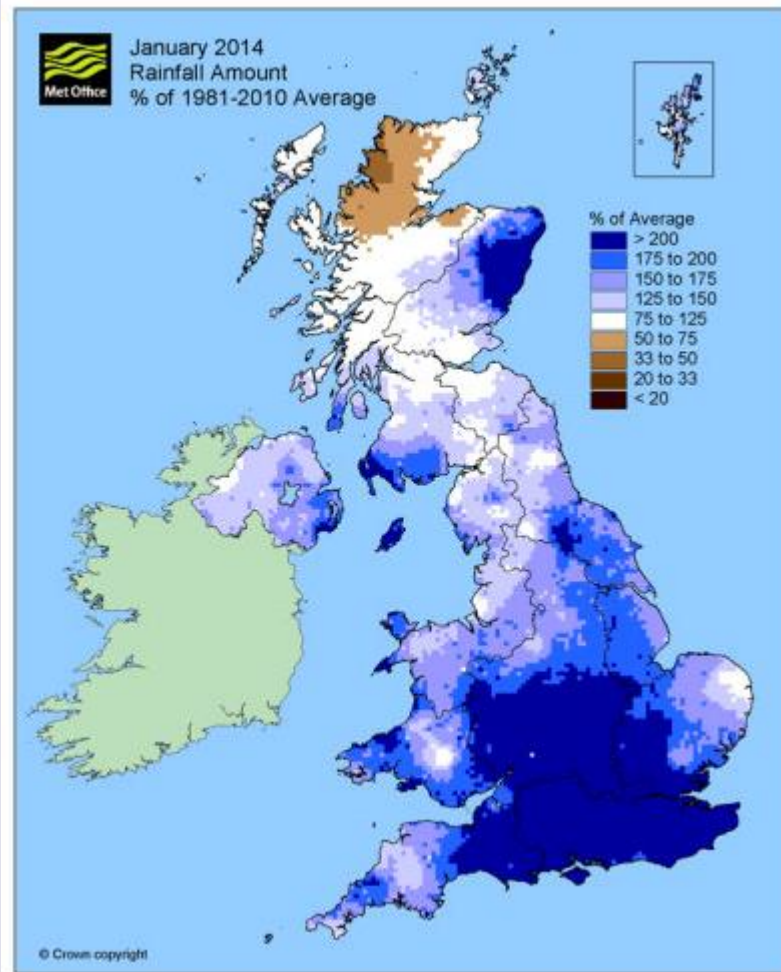


Source: Met Office

Flooding 2014 - in 2014, there was continuous wet weather, which caused rivers to burst their banks (overflow their banks) across England.

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Source: Met Office



River Parrett map © Wikipedia Commons

Go to the [Guardian](#) to view an article on the 2014 floods in Somerset and map showing the location of the rivers affected.



2014 floods.

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The Somerset Levels © Nick, Flickr



To prevent flooding...
We can apply flooding defences such as sandbags, to prevent the water passing the bags on the banks, like an artificial extension. There is also dredging which is bringing up mud from the river to help stop the flow.

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Other defences include having a warning system, to tell people when a flood is likely, and to stop building on floodplains. There are currently 20,000 new homes built on floodplains each year. The environmental agency warns people of floods.

There are 4 flood warning codes:



Severe flooding. Danger to life



Flooding is expected. Immediate action required.



Flooding is possible. Be prepared.



Flood warnings and flood alerts removed in the last 24 hours.

As we know, flooding isn't always the worst thing. In Ancient Egypt, they relied on flooding to enable farming in their usually hot, dry climate. This was caused by a yearly monsoon between May and August - this still causes an enormous amount of precipitation in the Ethiopian Highlands, with summits of up to 4,550m. The run off increases river volume: this caused the flooding in Ancient Egypt.

In the 1900s, dams (strong walls) and reservoirs (artificial lakes) were built to control the flooding and enable the population to access water through the year. This has allowed a large rise in the population of Egypt and minimal flooding. 😊



Today's Activity:

Please create a flow chart or a diagram to show how floods occur. Use the geographical vocabulary: **precipitation, run off, throughflow, absorb/ integrate, banks, overflow, burst, floodplain, retract, upper course, middle course, lag.**

See an example here:

T6. Week 4. Wednesday Geography Example

And a template here:

T6. Week 4. Wednesday Geography Template

