To what extent did people cause the 2012 UK Floods?

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| Impacts |
|  |
| Causes |
|  |
| Questions |
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| Impacts |
|  | damagediseaseinfrastructurelandslidelongest lastingprecipitationrainfallsanitationsewage |
| Causes |
|  | 11th April7 trillion gallonscondensationevaporationexothermicheavy rainfallsaturated groundwettest on recordwarm air vs cold air |
| Questions |
|  | What?Where?When?Who?WhyHow?WhichWhat if? |

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| *2012 was the wettest on record in England since records began in 1910.* | *8000 houses were seriously damaged by flooding across the UK in 2012.* |
| *£600 million worth of food crops were lost due to the floods in UK.* | *There was more than 1000mm rainfall on average all over the UK.* |
| *On many occasions during 2012 warm moist air from the Atlantic met cooler air over the UK.* | *The UK crop of apples was the worst in 15 years because of the level of rainfall in 2012.* |
| *The cost of the 2012 floods in the UK is estimated to be a minimum of £1 billion.* | *Global warming has increased temperatures all over the world by 0.75oC.* |
| *People have been building more and more homes next to rivers. 5 million people in the UK now live on floodplains.* | *The jet stream shifted southwards in 2012 which brought more warm moist air over the UK during the Spring and Summer months.* |
| *Rainfall causes erosion and landslides – there were 3 times more landslides than usual.* | *Warmer temperatures means there is more energy in the atmosphere causing higher levels of evaporation and so the potential for more rainfall.* |
| *Warmer temperatures mean there is more energy in the atmosphere which results in more extreme weather.*  | *9 people are known to have been killed by the floods in the UK in 2012.* |
| *There were 8000 calls from motorists to emergency services during 2012 resulting from flooding.* | *People have enhanced the greenhouse effect by releasing more CO2 and CH4 (methane) into the atmosphere.* |
| *This created the perfect conditions for strong storms and high levels of rainfall.* | *Warm moist air rises over more dense cooler air, leading to condensation and the build up of storm clouds.* |
| *Burning fossil fuels, removing forests, as well as the spread of cattle and rice farming (which release methane) are increasing levels of greenhouse gases in the atmosphere.* | *Methane (CH4) is more a more powerful greenhouse gas than CO2 – it absorbs 23 times more heat than CO2.* |

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| *The East Coast and West Coast Mainline railways were blocked by landslides caused by the floods in November 2012.* | *The floods in 2012 caused massive disruption to emergency services all over the UK.* |
| *The UK floods in 2012 caused massive problems for farmers. There was a 15% drop in wheat (corn) production.* | *The UK transport network was severely disrupted by the floods in 2012.* |
| *Home owners experienced many of the negative effects of the floods. 570 houses were evacuated in September 2012 across the UK, and 300 in November 2012.* | *Experts have estimated the 53 000 houses would have been flooded in 2012 due to flooding had flood defenses not been improved.* |
| *In North Allerton in Yorkshire the hospital closed down its operating theatres in November because of the rising flood waters.* | *In SW England a significant number of the major roads were closed in November 2012.* |
| *There were so many calls to the National Flood Information Line in 2012 that 80% of the phone calls were not answered or the person hung up.* | *People living in Cockermouth in Cumbria were largely saved from flooding due to the self-raising flood gates that were installed following the floods in 2010.* |
| *In November 2012 the M25 at Dartford was closed due to flooding. The same happened to the M50 at Gloucester, and the A1 at Catterick.* | *The Fire and Ambulance service found it difficult to move around in flood affected areas, as the level of water prevented them from driving to those people who needed rescue or First Aid.* |
| *By 2035, 600 000 more homes will be a risk from flooding unless the government spends more money on flood defenses.* | *Due to high levels of rainfall during Spring and Summer 2012 the production of ‘tea’ in Cornwall rose. Tea is a plant which enjoys hot, wet and humid conditions.* |
| *Lots of crops are used to feed farm animals. Farmers lost a significant amount of their crops in 2012 which increased the price of food for cattle, sheep and other livestock.* | *The UK Government faces a big problem. It has to negotiate with Insurance companies to support people whose homes are at risk from flooding in getting home insurance.* |
| *The total cost of the flooding in 2012 to the UK insurance industry was £1.3 billion.* | *Since 2002 40 00 homes have been built in areas at risk of flooding but without any flood defenses.* |
| *Government spending on flood defenses is down 12% in 2012, from what it was 2005-2010.* | *Due to the 2012 floods insurance premiums on houses near rivers are expected to rise between 10 and 50%. Some insurance companies are refusing to provide insurance in high flood risk areas.* |

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| 2012 was the **wettest year on record** in England since records began in 1910. | **8000 houses were seriously damaged** by flooding across the UK in 2012. |
| **£600 million** worth of **food crops were lost** due to the floods in UK. | There was **more than 1000mm rainfall** on average all over the UK. |
| On many occasions during 2012 **warm moist air from the Atlantic met cooler air over the UK**. | The **UK crop of apples was the worst in 15 years** because of the level of rainfall in 2012. |
| The **cost** of the 2012 floods in the UK is estimated to be **a minimum of £1 billion**. | Global warming has **increased temperatures** all over the world by 0.75oC. |
| People have been **building more and more homes next to rivers**. 5 million people in the UK now live on floodplains. | **Warmer temperatures** mean there is more energy in the atmosphere which results in more extreme weather. |
| Rainfall causes erosion and **landslides**. | **Warmer temperatures** means there is more energy in the atmosphere causing higher levels of **evaporation** and so more rainfall. |
| Warm moist air rises over more dense cooler air, leading to condensation and the **build up of storm clouds**. | **9 people were killed** by the floods in the UK in 2012. |
| There were **8000 calls from motorists to emergency services** during 2012 resulting from flooding. | People have **made the greenhouse effect bigger** by releasing more greenhouse gases like CO2 into the air. |
| This created the **perfect conditions for strong storms and high levels of rainfall**. | Burning fossil fuels and removing forests are **increasing levels of greenhouse gases** in the atmosphere. |

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| In November 2012 the **M25** at Dartford was **closed** due to flooding. The same happened to the M50 at Gloucester, and the A1 at Catterick. | The floods in 2012 caused lots of **problems for emergency services** all over the UK. |
| The UK floods in 2012 caused **lots of problems for farmers**. There was a 15% less wheat (corn) produced in the UK than normal. | The UK **transport network was disrupted** by the floods in 2012. |
| **570 houses were evacuated in September 2012** across the UK, and 300 in November 2012, because of the floods. | There were so many calls to the National Flood Information Line in 2012 that 80% of the phone calls were not answered or the person hung up. |
| In North Allerton in Yorkshire the **hospital closed down its operating theatres** in November because of the rising flood waters. | In SW England a significant number of the **major roads were closed** in November 2012. |
| Due to high levels of rainfall during Spring and Summer 2012 **the production of ‘tea’ in Cornwall went up**. Tea is a plant which enjoys hot, wet and humid conditions. | People living in Cockermouth in Cumbria were largely saved from flooding due to the self-raising **flood gates that were installed following the floods in 2010**. |
| The **total cost** of the flooding in 2012 to the UK insurance industry was **£1.3 billion**. | The **Fire and Ambulance service found it difficult to move around** in flood affected areas, as the level of water prevented them from driving to those people who needed rescue or First Aid. |
| By 2035, **600 000 more homes will be a risk from flooding** unless the government spends more money on flood defenses. | Lots of crops are used to feed farm animals. Farmers lost a significant amount of their crops in 2012 which **increased the price of food for cattle, sheep and other livestock**. |
| **Government spending on flood management is down 12% in 2012**, from what it was 2005-2010. | Due to the 2012 floods **insurance costs** for houses near rivers are **expected to rise between 10 and 50%**. Some insurance companies are refusing to provide insurance in high flood risk areas. |

To what extent did people cause the 2012 UK Floods?

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| First thoughts |
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| Further thoughts |
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| Conclusion |
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Causes and Effects of Flooding – UK Floods 2012

I can …

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| --- | --- |
| A | * Explain the impacts of flooding.
* Explain the causes of flooding .
* Explain how human and natural causes work together.
* Evaluate whether human or natural factors are more important
* Refer to real places and provide detailed evidence.
 |
| B | * Explain the impacts of flooding.
* Explain the causes of flooding.
* Explain how the causes and effects are linked together.
* Refer to real places and provide detailed evidence.
 |
| C | * Describe and explain the impacts of flooding
* Describe and explain the causes of flooding.
* Refer to real places and provides evidence in some detail.
 |
| D | * Describe some of the effects of flooding backed up by evidence.
* Describe some of the causes of flooding backed up by evidence.
* Refer to some examples and real evidence
 |

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**To what extent did people cause the 2012 UK Floods?**

**Introduction**

- background factual information about the flooding in the UK 2012.

- explain your goal

**Paragraph 1**

- natural causes of the flooding in the UK 2012: rainfall; run-off; saturated ground.

**Paragraph 2**

* human causes of the flooding in the UK 2012: global warming and extreme weather: more people living in flood plains.

**Conclusion**

* Your opinion – was it people, nature or a combination of the two?
* What questions does this raise for the future?

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**Introduction**

- background factual information about the flooding in the UK 2012.

- explain your goal

*The flooding in the UK in 2012 meant that …*

*This was …*

*The aim of this answer is to …*

**Paragraph 1**

- natural causes of the flooding in the UK 2012: rainfall; run-off; saturated ground.

*High levels of rainfall meant that …*

*This meant that …*

*The heavy rain was caused by …*

*This meant the ground …*

*2012 was the wettest …*

**Paragraph 2**

* human causes of the flooding in the UK 2012: global warming and extreme weather: more people living in flood plains.

*People also contributed to this because …*

*A warmer atmosphere means that …*

*Consequently, …*

*With more people living on floods plains …*

**Conclusion**

* Your opinion – was it people, nature or a combination of the two? What questions does this raise for the future?

*Therefore in conclusion I believe that …*

*Overall, the floods were caused by …*