

Geography Investigation

Investigating Hurricane Harvey and flooding in Texas in 2017

The problem:

On 24th August 2017 Hurricane Harvey crossed the Gulf of Mexico and approached the coast of the State of Texas in USA (see **Map A**).

When it made landfall it became a tropical storm. The storm brought record rainfall (1245mm) and dangerous flooding to the Texas. Why was this tropical storm so severe?

Flooding due to extreme weather has brought many consequences e.g. to cities such as Houston. Texas. How can the effects of flooding be managed?

Map A: The Path of Hurricane Harvey, August 2017



SOURCE: By OverlordQ [Public domain], via Wikimedia Commons

Your challenge:

Weather Disaster.com examines extreme weather events across the world and their possible links to climate change. It publishes information on their web site to inform and interest members of the public.

They have asked you to investigate:

- the causes of Hurricane Harvey and the effects of the flooding in Texas in August 2017;
- why this hurricane was so extreme and
- ways to manage the impact of flooding.

Prepare an illustrated report for their next publication to inform and interest their readers.

You will be using your geography and literacy skills to find, organise and use information to create your report.

You can present your report:

- as a magazine article in written or digital form OR
- as a PowerPoint presentation.


What do you need to investigate?

Answer the following questions in your report:

1. What happened when Hurricane Harvey hit Texas?
2. Simply explain why hurricanes affect this climate zone or part of the world.
3. Why was Hurricane Harvey so extreme? Could it have been linked to climate change?
4. How did the flooding affect the people and the landscape in the city of Houston in Texas?
5. What could be done in Houston, Texas to reduce the impact of the issue of flooding?

Finding and collecting your Information

L3

- Look at the targets opposite. 
- Use them to help you find and collect information.
- Make use of a variety of sources e.g.
 - a. an atlas;
 - b. resources in class and
 - c. web sites on the Internet

Try to make use of primary data - survey people who were affected by Hurricane Harvey. Conduct an interview with someone who lived through it. Collect personal photos and artifacts to help your research.

- Find, select and sort essential information from a variety of sources.
- Use your own words to make and organise your notes.
- Draw together key information.
- Summarise key points from your sources.

To get you started:

1. Below are links to Internet sources about hurricanes, the floods in Texas and climate change.
2. Use them and other sources to make notes and gather facts. The guidance on Page 3 will help you.
Remember that this event happened in the past.

<http://www.bbc.co.uk/news/world-us-canada-41045079>

Hurricane Harvey – Texas braces for massive storm, 25th August 2017

<http://www.bbc.co.uk/education/clips/zcfncdm>

How hurricanes are formed by Earth's rotation

<http://www.bbc.co.uk/news/av/world-us-canada-41088004/why-is-tropical-storm-harvey-so-extreme>

Why is Hurricane Harvey so extreme? 29th August 2017

<http://www.bbc.co.uk/newsround/41071347>

Pictures: Huge floods hit US city of Houston, 28th August 2017

<http://www.bbc.co.uk/news/world-us-canada-41083210>

Hurricane Harvey: Four Key Effects of Houston Floods, 30th August 2017

<https://news.nationalgeographic.com/2017/08/hurricane-harvey-climate-change-global-warming-weather/>

How Climate Change Likely Strengthened Recent Hurricanes, 20th September 2017

3. Search for some more information for your investigation on the Internet. Note it and your sources.

Beware! Not all of the information on the Internet is true.

When searching for information on the Internet always ask the **RAP** questions:




1. Is it a **Reliable** website? Who wrote it? Are they an expert? Is it from a reputable source?
2. Is it **Accurate**? Is the information likely to be true? Is it up to date? Are sources given?
3. What is its **Purpose**? Does it inform? Does it try to persuade? Is it biased or one sided?

Use headings and the key questions from Page 1 to help you gather information e.g.

- Hurricane Harvey – details of weather/tracking
- Causes of the Hurricane linked to the climate of the area
- Reasons for extreme weather from the Hurricane – links to climate change
- Effects of the flooding in Texas
- Managing flooding in Houston, Texas

Organising your information to create your text

- Look at the targets opposite. 
- Use them to help you organise your information.

- Plan and present the maps and graphics that you will include e.g.
 1. A location map of Texas and Houston
 2. A map to show the path of Hurricane Harvey
 3. Rainfall graphs of Texas
 4. Labelled photographs or diagrams

- Use your notes and a variety of sources.
- Select relevant ideas, information including some supporting detail or evidence.
- Use your sources appropriately and acknowledge (give credit to) them.
- Organise and structure key ideas and information in a logical order.
- Select ways to layout and present your work to suit its purpose.

Present your Illustrations with:


A reference number to refer to in your text

A relevant title

Your own labels and notes

A source to show where it came from e.g. the Internet

Photo 1:
Rescues in Houston Texas, August 2017




Flooded roads

SOURCE: By U.S. Army photo by 1st Lt. Zachary West [Public domain], via Wikimedia Commons

Now create your report using the guidance on Page 4

Creating your geography report

L3

- Look at the targets opposite. 
- Use them and the guide below to write your report.

Independently present your report with:

- a **title**;
- an **introduction** that states its purpose and what it is about;
- **paragraph or sections**;
- a **range of graphics** including maps, graphs, labelled diagrams or photos;
- **conclusion(s)** to sum up your findings.

Title:

Map 1 Title.....

Introduction:

Purpose of the report
What happened?..... When?.....
Where?.....
(Map 1 shows.....)



Source: By TUBS [CC BY-SA 3.0 (<https://creativecommons.org/licenses/by-sa/3.0/>)], via Wikimedia Commons

Paragraphs or sections under headings e.g.

Details of Hurricane Harvey

(See Map 2)

Map 2



Causes of the hurricane and how it links to local climate

(See Diagram 1- it shows.....)

Diagram 1



Reasons why the storm was so extreme

The effects of the flooding in Texas brought by the storm

(See Photo 1 – it shows....)

Photo 1



Was it linked to climate change?

Managing flooding in Houston, Texas

Conclusion that sums up your findings

When writing your report:

- use a formal style and tone suited to its purpose/reader;
- use a range of suitable words linked to this subject;
- use your own words correctly;
- describe relevant information with some supporting detail or evidence;
- give simple explanations with some supporting evidence;
- convey a valid viewpoint with some relevant supporting detail or evidence;
- suggest ways to solve problems and predict their likely success;
- organise information and ideas in a logical order;
- refer to maps and graphics and interpret them to form a conclusion.