Hurricane Mitch gained its hurricane status on the 24th of October 1998 and dissipated on the 5th of November 1998 leaving many devastating effects behind.

**Areas that were affected by the Hurricane**

Central America, specifically in Honduras and Nicaragua.

**The causes of Hurricane Mitch**

Hurricanes occur in areas between 5 - 20 north and south of the equator were the sea water has a surface temperature of 27 °C or more and which has a water depth of at least 60 metres. They start to form when the air pressure drops and the hot moist air rises with a humidity of 60% or more.

As the hot air rises, the air begins to spiral due to the Coriolis Effect of the earth’s rotation. This hot air then begins to cool and the water vapour condenses to for Cumulo Nimbus clouds, producing rain.

The air high in the atmosphere then spreads out causing more warm air to be drawn in at great speeds, therefore causing the high winds associated with hurricanes. This is a continuous circulation which can last for several days after landfall, until it dissipates due to the lack of warm air which it requires to maintain or gain strength.
Timeline of events - Formation of Hurricane Mitch

10th October  Low pressure tropical wave moved off the coast of Africa, across the shear-ridden Atlantic Ocean.

18th October  The wave then entered the Caribbean Sea where convection increased.

22nd October  Tropical waves formed a tropical depression 415 miles south of Kingston in Jamaica.

24th October  Winds strengthened. Gained hurricane status and was named ‘Mitch’ while 295 miles south of Jamaica.

25th October  Pressure dropped dramatically, reaching 905mbar at its peak.

26th October  Intensity peaked with winds reaching 180 mph. Category 5 Hurricane.

Predictions of Hurricane Mitch

The hurricane was predicted through the use of satellite images from space while it was still at sea. This would allow predictions to be made as to what route it may take within the next 3-5 days ahead. Predictions of heavy rainfall and flooding were also made. This also proposed a risk for mudslides.

Were the predictions accurate?

Before the hurricane reached land the predictions made were not very accurate as its direction changed, however the predictions of the hurricane’s path became more accurate whilst on land.

Effectiveness of the predictions - did everyone survive?

These precautions allowed time for places to take action and were enough to save the lives of hundreds of thousands of people, however; the death toll was still rather large as there was initially thought to be about 11,000 deaths and about the same number of people missing. This was later confirmed as 19,325 deaths in 2008. It was also estimated that 2.7 million people were left homeless as a result of the hurricane.

Steps taken to reduce the impact of the hazard

The predictions allowed many places to plan ahead prior to being hit by the hurricane, therefore limiting the possible number of deaths. The government of Honduras evacuated 45,000 people from the Bay Islands while also preparing all of their air and naval resources for action. Several Islanders were encouraged to come inland under a red alert was issued in Belize where Mitch was predicted to hit whilst rated at an intensive Category of 4. Other red alerts also suggested that boats were to stay in their ports and that people should seek shelter and be prepared. Flood warnings were also in place so sand bags were issued in an attempt to reduce the flooding impact on houses and several other buildings. Thousands of residents along the Caribbean coastline were also evacuated after Mitch made landfall: 100,000 from Honduras; 10,000 from Gautemala and 20,000 from Quintana Roo.
The main effects of the Hurricane

People:
- 19,325 people were killed (many of which were the result of severe flooding and mudslides).
- 2.7 million people were left homeless
- People had a lack of basic supplies such as food, water, electricity, medicine and sanitation.
- The contaminated flood water resulted in an increased number of malaria and cholera cases, 34 people died of cholera out of the 2328 people who caught it.
- Jobs in agriculture were lost due to the destruction of farm land.

Environment/landscape
- Heavy rainfall, some areas received as much as 18 inches in one day.
- Rivers overflowed causing flooding.
- Flooding caused several mudslides which wiped out several villages.
- Winds reached 180 mph.
- Trees were brought down making mountainsides bare.
- Farm land was destroyed which affected 29% of Honduras’ arable land.
- 70% of Honduras’ crops were destroyed by flooding.
- Waves by the coast were also reaching heights of 12 feet.
- An estimated 50,000 cattle were also killed.
- The landscape had altered so much that current maps were rendered obsolete.

Buildings:
- 33,000 houses in Honduras alone were destroyed.
- 50,000 houses in Honduras were damaged.
- 25 small villages were thought to have been entirely destroyed.

Infrastructure:
- An estimated 70-80% of transportation infrastructure in Honduras was wiped out.
- Almost all bridges and secondary roads were out of use.

Aid

Short term:
- MEXICO donated:
  - 700 tons of food
  - 11 tons of medicine
  - 4 rescue planes
  - Rescue personnel
  - Trained search dogs

- HONDURAN GOVERNMENT distributed:
  - Food
  - Clean water
  - Medical services to victims

Long term:
- Countries from around the world donated a total of $6.3 billion (1998 USD)
- US administration donated only $2 million which was a shock to many; this was later increased to $70 million. The money was used in the long run to help the economy recover and so that houses could be rebuilt to withstand other hurricanes.