Adapting to Hazards

How do people and communities adapt and prepare for hazards?

First, what is a hazard?

A hazard is a danger or risk.

So what types of hazards can occur in our physical environment?

- severe thunderstorms
- tornadoes
- earthquakes
- hurricanes
- floods
- wildfires
- droughts
- extreme cold or heat

Are examples of hazardous weather and climate conditions that can affect how and where people live.

Can you think of any hazards in the physical environment you live in?

States like Florida and Louisiana are at a greater risk for hurricanes.

Warm, tropical air that rises and mixes with cooler air can form rotating storm clouds.

Hurricane Katrina was a category 5 hurricane that made landfall on Florida and Louisiana in 2005.

Because the flood protection system in place was not designed properly to protect the city and people of New Orleans, Louisiana, the hurricane created catastrophic damage and death.

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It cost $125 billion dollars in damage and is the fourth-most intense Atlantic hurricane to hit the United States in our history.

California and Alaska are areas prone to earthquakes due to where the fault lines lie under the Earth's surface.

The San Francisco earthquake of 1906 is still known as one of the most significant earthquakes in US history.

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The “Great Quake” reached a 7.8 magnitude and destroyed 80% of the city.

It toppled buildings and caused thousands of fires to break out.

Tornado Alley is the name given to the area of the United States where most tornadoes occur.

The cold, dry air from Canada meets the warm, moist air from the Gulf of Mexico to that can cause rotating high speed winds.

Tornadoes occur more in Tornado Alley because the land is flat. There are no mountains to block to rotating air to prevent it from strengthening.

Oklahoma lies in tornado alley is has had many damaging tornadoes throughout the years.

In May of 2013, an EF5 tornado struck land in Oklahoma for 50 minutes, demolishing buildings, homes, schools and complete neighborhoods.

The United States spends billions of dollars each year repairing areas that have been affected by hazardous weather and climate conditions.

With climate and weather being unpredictable, the amount and type of hazards can change each year.

So how do people adapt to these changes in the physical environment?

You may ask yourself, why live in an area that is prone to a hazard?

If you want to live in a warm climate, near an ocean. You risk encountering a hurricane. But the likelihood of one happening strong enough to cause severe damage could be every 5-20 years. It is simply unknown.

People who live near the ocean, or in areas prone to hurricanes, like Florida, New Orleans, and other any coastal state prepare in different ways.

Buying extra supplies, boarding up windows and doors, putting sandbags around the border of their home are all ways people prepare for a hurricane.

Some people may evacuate to areas more inland and less threatened by the storm if it comes, while others will stay and ride it out.

People who live in areas prone to tornadoes, like Oklahoma, Kansas, and Nebraska can prepare for the hazard in similar ways.

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Boarding up windows, buying extra supplies, and seeking underground shelter are ways people adapt and prepare for the storm.

Earthquakes are much less predictable so to prepare for such a disaster, homes, roads, and buildings are built to be earthquake-proof to withstand the potential impact it can cause.

That doesn't mean there still cannot be damage, or injuries in result of an earthquake. It just means people made extra precautions to prepare for it and lessen the impact.

Heavy rains can cause severe flooding, and in some areas like California, mudslides, due to the mountains and hills in the area.

These mudslides are dangerous. They can destroy and take away homes, cars, businesses, and people.

People are taking efforts in finding ways to help prepare better for these heavy rains and potential mudslides.

One way is the idea of building a chain-like fence to block and hold back the large amounts of mud and rock from falling down the cliffs onto people's homes.

The fence would allow some material to go through, but would hold enough rock and sediment back that it could prevent catastrophic damage.

People who live in areas more prone to hazardous conditions will continue to find new innovations to protect themselves and be better prepared for any events that take place.

It's about finding ways to adapt to the physical environment, not leaving it.