

Rapid Climate Change Research Packet 4

Topic: Consequences of Rapid Climate Change

Directions: Read the following as a group. Create a newscast reporting on some of the consequences of rapid climate change. Include a “special report” using information from the *Special Report: Our Living Home* section in your newscast.



Hurricane Katrina

What happens when the average temperature of the atmosphere and oceans around the world rises and our climate starts to change rapidly?

Weather pattern changes:

Some places are getting much more rain or snow than usual and experience serious **flooding**. One example is the flooding that occurred after Hurricane Katrina in 2005.

Other places are getting a lot less rain than usual, so crops can't grow and fresh water is scarce – this is called **drought**. California experienced an ongoing drought from 2012 – 2016.



California Drought

Hurricanes and other storms are becoming stronger because very warm ocean waters carry more energy, such as Hurricane Sandy, one such “superstorm” that occurred in 2012.

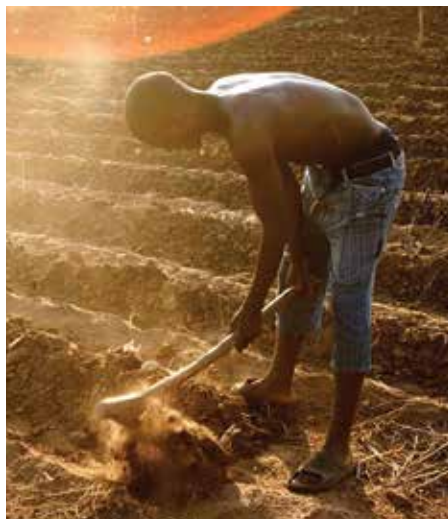


Hurricane Sandy

Plants and animals accustomed to an average temperature in their region can't grow or find their food because the new weather patterns don't fit their needs.



Polar bears are one of thousands of species threatened by climate change.



Dry fields: People suffer from food shortages due to climate change.

This can result in **food shortages** for people and **extinction** for vulnerable plants and wildlife.

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Huge areas of **frozen water (glaciers)** in the Arctic and the Antarctic regions, our North and South Poles, **are melting** because of the warmer air and warmer water surrounding them.

The added fresh water is **raising the sea levels** on all of our coast lines. Cities along the coast and all low-lying areas are flooded during storms more often. Contaminated by salt water, underground fresh water sources can become too salty to drink.



Hurricane Sandy



Bleached Coral from Acidic Warm Waters



Healthy Coral Reef

Oceans are absorbing a lot of the extra carbon dioxide from the atmosphere and are warming even more rapidly than global air temperatures. The higher levels of carbon dioxide are also making the ocean waters more acidic. **The combination of warmer water and greater acidity** is causing many ocean animal species, and even entire living ocean habitats like **coral reefs** (where more than one third of all marine fish species live for at least part of their lives) to **sicken and die**.

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Food Insecurity

Special Report: **Our Living Home: Food Insecurity and Social Unrest**

One of the consequences of rapid climate change that is already contributing to suffering in some parts of the world is an increase in food insecurity and resulting social unrest. Large regions of North Africa and the Middle East have experienced prolonged periods of drought in the last decade due to the changing climate; without sufficient rainfall, land that produced food there for thousands of years began to fail.

When communities can't support themselves through affordable and local food production, people need to leave their homes and small farms in search of jobs

in cities, or attempt to migrate from their home countries to other nations where they hope to find work. This happened in Syria, a country in Western Asia that has been devastated by war for many years. There are many complicated political reasons for the ongoing warfare, but experts cite a severe drought in the farming regions of the country from 2006-2011, that resulted in massive crop failures and loss of livestock, as a contributing factor. Hundreds of thousands of families left the rural farm regions of Syria during these years and moved into the cities to search for work, leading to overcrowding, poor living conditions, and serious water shortages. As life in the cities became increasingly desperate, anger at the government and violent political unrest spread rapidly.¹

In a 2016 report, U.S. military experts warned that climate change poses a major risk to national and international security as it disrupts global weather patterns and increases the likelihood of natural disasters.²

¹ The Center for Climate and Security Website, <https://climateandsecurity.org/2012/02/29/syria-climate-change-drought-and-social-unrest/>

² Scientific America Website, <https://www.scientificamerican.com/article/military-leaders-warn-that-climate-poses-security-threats/>