

RESOURCE LIBRARY  
ACTIVITY : 50 MINS

## Mapping Extreme Natural Events

Students use an interactive natural hazards map to construct their own maps of extreme natural events by United States region. Then they identify patterns.

### GRADES

4, 5

### SUBJECTS

*Earth Science, Geography, Physical Geography*

### CONTENTS

2 PDFs, 1 Link

## OVERVIEW

Students use an interactive natural hazards map to construct their own maps of extreme natural events by United States region. Then they identify patterns.

For the complete activity with media resources, visit:

<http://www.nationalgeographic.org/activity/mapping-extreme-natural-events/>

## DIRECTIONS

### 1. Review extreme natural events locally and in other regions of the United States.

Shows students a wall map of the United States and invite a volunteer to find your location. Have students brainstorm extreme natural events in your area. Ask students if they know of other regions where the same extreme natural events happen. Then ask students to locate on the map where in the U.S. the following events are most likely to happen as you read each aloud:

- snowstorms (northern and mountain states)

- blizzards (Great Plains)
- avalanches (mountain areas of the West)
- tornadoes (the Midwest)
- hurricanes (the Southeast)
- earthquakes (along the Pacific coast)
- volcanoes (the Pacific Northwest)
- severe thunderstorms (the Southeast, Midwest, Great Plains, and Rocky Mountain states)

Point out to students where each is most likely to occur. Tell students that extreme natural events are called natural disasters when they occur where people live.

## 2. Have students create maps of extreme natural events.

As a whole class, create a map key by assigning one color to each type of disaster. Then tell students they will work in groups to create maps of extreme natural events by region. Divide students into five small groups. Give each group colored pencils or markers, an outline map of the United States divided into five major regions, and a copy of the worksheet United States Regions and States. Assign one region from the worksheet to each group. Have each group go to the [NOAA: Billion-Dollar Weather and Climate Disasters](#) interactive map and find the extreme events for each of the states in their region. Next, have students place colored dots indicating the types of disasters in the correct states in their region. Have groups title their maps and write their names on the back.

## 3. Compare lists and maps of extreme natural events.

Ask each group to lightly shade the state in their region that had the most disasters in red, and the state that had the least disasters in green. Have students tape the maps side-by-side to the wall, and ask them to look at the shaded states. Ask: *Can you see any patterns? Why do you think some types of natural events happen only in certain regions or states?* Provide students with possible reasons, such as:

- The West has earthquakes because cracks on the Earth's surface sometimes make the ground move.
- The Southeast region has hurricanes because large storms begin on another continent and get stronger as they move across the ocean.

# Tip

Use Step 1 as an opportunity to check student understanding of United States regions. If students have difficulty locating regions within the United States or identifying states within regions, reinforce those during the mapping task in Step 2.

## Informal Assessment

Ask students to write answers to the following questions:

- *Which extreme natural events happen in many different states? Why do you think that is?*
- *What regions or states have extreme natural events that are like those in our state?*

## Extending the Learning

- Have a whole-class discussion. Ask: *Which is a better way to map natural events—by state boundaries or regional boundaries? Why?*
- As a class, explore the population density data layer on the [MapMaker Interactive](#). Discuss where populations are concentrated and how disasters might affect people in those areas.

## OBJECTIVES

## Subjects & Disciplines

Earth Science

Geography

- [Physical Geography](#)

## Learning Objectives

Students will:

- locate where extreme natural events are most likely to occur in the United States
- identify patterns in the locations of extreme natural events in regions and states of the United States

## Teaching Approach

- Learning-for-use

# Teaching Methods

- Discussions
- Hands-on learning
- Multimedia instruction

# Skills Summary

This activity targets the following skills:

- Critical Thinking Skills
  - Applying
  - Remembering
  - Understanding
- Geographic Skills
  - Acquiring Geographic Information
  - Analyzing Geographic Information
  - Organizing Geographic Information

# National Standards, Principles, and Practices

## NATIONAL COUNCIL FOR SOCIAL STUDIES CURRICULUM STANDARDS

- Theme 3:

People, Places, and Environments

## NATIONAL GEOGRAPHY STANDARDS

- Standard 4:

The physical and human characteristics of places

- Standard 7:

The physical processes that shape the patterns of Earth's surface

## NATIONAL SCIENCE EDUCATION STANDARDS

- (K-4) Standard F-4:

Changes in environments

## **Preparation**

### **What You'll Need**

#### **MATERIALS YOU PROVIDE**

- Colored pencils
- Paper
- Pencils
- Pens
- Transparent tape
- Wall map of the United States

#### **REQUIRED TECHNOLOGY**

- Internet Access: Required
- Tech Setup: 1 computer per small group

#### **PHYSICAL SPACE**

- Classroom

#### **GROUPING**

- Large-group instruction

## **BACKGROUND & VOCABULARY**

### **Background Information**

Extreme natural events like hurricanes, floods, and wildfires can cause damage and harm to people, animals, and environments. Humans are better able to prepare for and recover from extreme natural events if they understand where extreme natural events are likely to occur and the dangers of each.

### **Prior Knowledge**

["types of extreme natural events"]

# Recommended Prior Activities

- [Extreme Natural Events](#)
- [Preparing for Extreme Natural Events](#)

## Vocabulary

Term	Part of Speech	Definition
extreme natural event	<i>noun</i>	short-term changes in the weather or environment that can have long-term effects, like a storm or earthquake.
natural disaster	<i>noun</i>	an event occurring naturally that has large-scale effects on the environment and people, such as a volcano, earthquake, or hurricane.
region	<i>noun</i>	any area on Earth with one or more common characteristics. Regions are the basic units of geography.

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### For Further Exploration

#### Websites

- [Ready.gov: Know the Facts](#)
- [National Geographic Environment: Natural Disasters](#)

