# Natural Disasters

**Aligned Lesson**  
Science Lesson 2 for Unit 1: Weather and Climate

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Grades 6-8

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## Related Unit: Weather and Climate Seasons

MS-ESS1-1. Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. (NGSS)

MS-ESS2-6. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. (NGSS)

6.SP.B.4. Summarize numerical data sets in relation to their context. (CCSS MA)

SS.IS.5.6-8.MdC: Identify evidence from multiple sources to support claims, noting its limitations. (IL-SS)

SS.G.1.6-8.LC: Use geographic representations (maps, photographs, satellite images, etc.) to explain the relationships between the locations (places and regions) and changes in their environment. (IL-SS)

**Lesson Length:** 3-4 Class Periods
<table>
<thead>
<tr>
<th>Library of Congress Primary Sources</th>
<th>Materials/Supplies/Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Flood" /></td>
<td>- Access to computers for a week</td>
</tr>
<tr>
<td><img src="image2" alt="Drought" /></td>
<td>- Books from school/local Library on the natural disasters (in addition or if technology accessibility is limited.</td>
</tr>
<tr>
<td><img src="image3" alt="Tornado" /></td>
<td><img src="image4" alt="Avalanche" /></td>
</tr>
<tr>
<td><img src="image5" alt="Tornado" /></td>
<td>- <a href="http://www.loc.gov/teachers/primary-source-analysis-tool/">http://www.loc.gov/teachers/primary-source-analysis-tool/</a> Access to “Primary Source Analysis Tool”</td>
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## Enduring Understandings

- Impact this event has had in the past
- Describe/Explain the event and how/why it occurs
- Evaluate why certain events only occur in specific areas
- Describe the impacts this event has on the environment and society
- Identify organizations that have been created to help due to these natural disasters
- Synthesize a solution that will help society in the future

## Essential Questions

- What impact has this event had in the past?
- Why does this weather phenomenon occur?
- Why do certain disasters only happen in specific areas?
- Explain how this event has impacted the environment and society.
- List what organizations have been created on a national and local level to help aid communities when these disasters occur.
- Create a solution that can help during these disastrous times.

## Transfer Goals

- Asking questions (for science) and defining problems (for engineering)
- Planning and carrying out investigations
- Analyzing and interpreting data
- Constructing explanations (for science) and designing solutions

## Learning Objective

*Students will be able to... OR I can...

- Organize given data that represent the type of natural hazard event and features associated with that type of event, including the location, magnitude, frequency, and any associated precursor event or geologic forces.
- Organize data in a way that facilitates analysis and interpretation.
Analyze data to identify and describe* patterns in the datasets, including:

- The location of natural hazard events relative to geographic and/or geologic features.
- Frequency of natural hazard events.
- Severity of natural hazard events.
- Types of damage caused by natural hazard events.

Use the analyzed data to describe*:

- Areas that are susceptible to the natural hazard events, including areas designated as at the greatest and least risk for severe events.
- How frequently areas, including areas experiencing the highest and lowest frequency of events, are at risk.
- What type of damage each area is at risk of during a given natural hazard event.
- What features, if any, occur before a given natural hazard event that can be used to predict the occurrence of the natural hazard event and when and where they can be observed.

Provide at least three examples of the technologies that engineers have developed to mitigate the effects of natural hazards (e.g., the design of buildings and bridges to resist earthquakes, warning sirens for tsunamis, storm shelters for tornados, levees along rivers to prevent flooding).

Use multiple valid and reliable sources of evidence.

Organizations and Inventions that have been created due to these natural disasters.

*This should be ongoing throughout the lesson.**Engage:** How can I get students interested in this?

Weather phenomenon research project

To begin the lesson on weather phenomenon, introduce the different natural disasters by doing a carousel in the class (or on a slide presentation) having the students go through each of the weather events (with the title covered or folded under) and have a piece of butcher paper with each event and a marker available for the students to make a guess as to what each event is.

For Carousel: (10 - 15 mins)

1. Divide number of students in class by 7. That will be the number of students in each group.
2. Explain the direction the students will be moving as they switch from station (event) to station. (i.e.- clockwise/counter clockwise) Each station will be numbered 1-7.

3. Have students write on the butcher paper that has the picture of the event attached to it so they can view it. They will write down what weather event it looks like with the provided marker.

4. Each group will move through the station/events. Allow 60 - 90 seconds for each station.

5. Once each group has moved through the stations, stop, have them return to their seats and review what the students predicted. Some will be very easy, some may be more difficult to guess.

Class discussion on how these events can affect the areas and the impact they may have.

**Explore:** What tasks/questions can I offer to help students puzzle through this?

The Primary source analysis tool would be a good starting point. [http://www.loc.gov/teachers/primary-source-analysis-tool/](http://www.loc.gov/teachers/primary-source-analysis-tool/)

The ultimate research project should take 1-2 weeks depending on class length.

**Explain:** How can I help students make sense of their observations?

Using the primary source analysis tool, [http://www.loc.gov/teachers/primary-source-analysis-tool/](http://www.loc.gov/teachers/primary-source-analysis-tool/), to analyze the natural disaster they chose, observing, reflecting and questioning what the event was like in the past from either the images provided or images they find from LOC in their own research (for students requiring more of a challenge).

In addition to researching the fundamentals of the natural disaster of their choice, they will look at how this natural disaster has affected different areas/communities in the past. Students should also explain some of the impacts this event has on recent history. Review organizations and inventions created due to these natural disasters.

**Extend/Elaborate:** How can my students apply their new knowledge to other situations?

Students may apply this knowledge by evaluating other catastrophic events that occur and compare and contrast the procedures and protocols that are in place.
Teachers may provide observations or personal experiences from their past with these natural disasters to peak the curiosity of the students to research more about how this event has changed society’s reaction to it.

This should be ongoing throughout the lesson.

**Evaluate:** How can I help my students self-evaluate and reflect on the learning?

A rubric may be included with the lesson so that the student and teacher have clear expectations on what is expected.

By researching each of the components in the pre made template, [https://drive.google.com/open?id=1pLHxv09yY2SeYSIXqf13xFIfROxITOzwJjuloVISk](https://drive.google.com/open?id=1pLHxv09yY2SeYSIXqf13xFIfROxITOzwJjuloVISk), the students will be able to demonstrate their ability to research, analyze, summarize and evaluate information and sources.

Student will use multiple sources to research the natural disaster and organize the information in a clear, concise, logical manner in the google slide presentation.

Student will explain why these weather events happen in particular areas and the reasons why they occur.

Students will research and explain the impacts these disasters have on communities, as well as, the far-reaching effects on society (regional, national and/or global).

Students will explain what local/regional/national agencies have been created in reaction to this disaster.

Student will provide suggestions for solutions to alleviate the impacts of this disaster on people and the environment.

This should be ongoing throughout the lesson.

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**From Unit 1: Weather and Climate**

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**Governors State University**