



## Weather and Climate Lessons

### Websites

#### [Emergency Preparedness](#)

A website with information on emergency preparedness.

(<http://www.sesamestreet.org/parents/topicsandactivities/toolkits/ready>)

#### [Preparation for Severe Weather](#)

This website includes information on being prepared for drought, extreme heat, floods, thunder and lightning, hurricanes, tornadoes, winter storms and extreme cold.

(<http://www.ready.gov/kids/know-the-facts>)

#### [Severe Weather Safety](#)

A website with information on severe weather safety.

(<http://www.nssl.noaa.gov/education/students/>)

#### [Google Earth™ Tutorials](#)

Whether you're learning to use Google Earth™ for the first time or you're already an expert user, the following tutorials offered on this site will help you explore all that Google Earth™ offers.

(<http://www.google.com/earth/learn/> )

#### [Google Earth™ Outreach Tutorials](#)

Whether you're learning to use Google Earth™ for the first time or you're already an expert user, the following tutorials offered on this site will help you explore all that Google Earth™ offers.

(<http://www.google.com/earth/outreach/tutorials/all.html#earth> )

#### [Google Maps™ Tutorials](#)

Learn about how to use Google Maps™ in your classroom by viewing one of the many following online tutorials offered by Google at this site.

(<http://www.google.com/earth/outreach/tutorials/all.html#maps> )

#### [Climate Time Machine](#)

This NASA/JPL/CalTech visualization focuses on average global temperatures with a color-coded map showing a progression of changing global surface temperatures from 1884 to 2012.

([http://climate.nasa.gov/interactives/climate\\_time\\_machine](http://climate.nasa.gov/interactives/climate_time_machine))



### [NASA Earth Observatory](#)

In addition to its oft-stunning Image of the Day, NASA's Earth Observatory site contains numerous resources to interest children in the further study of weather and climate. Many of the archived images will enhance the teaching of weather and severe weather lessons. Click the "Images" tab to see categories of images and to lose yourself in the dramatic beauty of our planet.

(<http://earthobservatory.nasa.gov>)

### [NASA Earth Observatory Global Maps](#)

NASA satellites give us a global view of what's happening on our planet. While some of the images at the Global Maps page of NASA's Earth Observatory site are unrelated to the Weather and Climate topic, several provide useful visualizations of global data: Land Surface Temperature, Snow Cover, Total Rainfall, and Cloud Fraction.

(<http://earthobservatory.nasa.gov/GlobalMaps/>)

### [Global Warming & Climate Change Questions](#)

Although global climate change is not part of the Weather and Climate topic, children may raise questions when they study weather and climate. The University Corporation for Atmospheric Research has created an excellent frequently asked questions (FAQ) page that teachers may want to investigate.

(<http://www2.ucar.edu/climate/faq>)

### [Tree House Weather Kids](#)

The University of Illinois Extension has created an engaging website for children with a variety of media to reinforce basic concepts about weather. Some material here extends topics beyond those covered in the Weather and Climate topic.

(<http://urbanext.illinois.edu/treehouse/index.cfm>)

### [Looking Inside Clouds](#)

This video from the Jet Propulsion Laboratory explains how NASA satellites allow scientists to see clouds in 3-D. Use this video after the Where Does Weather Happen lesson to extend children's interest in clouds and show them how scientists use sophisticated tools to study weather.

(<http://www.jpl.nasa.gov/video/index.php?id=484>)



**[SciJinks: It's all about weather!](http://scijinks.jpl.nasa.gov/)**

This joint NOAA and NASA education website “puts fun and adventure into learning about weather, satellite meteorology, and Earth science.” Geared towards middle and high school aged students, this site will provide fun background information for teachers who want to more deeply explore concepts in the Weather and Climate topic.

(<http://scijinks.jpl.nasa.gov/>)

**[Online Cloud Guide](http://www.uen.org/weather/clouds/index.shtml)**

Hosted by the Utah Education Network, this collection of images is perfect for children who want to explore the many variety of cloud types.

(<http://www.uen.org/weather/clouds/index.shtml>)



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### Books

#### **Blizzards (Wild Weather)**

By Jenny Vaughan. (2008, QEB Publishing)

The author discusses many aspects of blizzards including what they are, their dangers, and what to do in case of a blizzard. There are also interesting sections about how people who live in very cold climates survive the extreme weather conditions.

#### **Forecasting the Weather (Measuring the Weather)**

By Alan Rogers and Angella Streluk. (2003, Heinemann Library)

Some of the text is above grade 3, but this book is still a good resource for anyone who wants to know good ways to forecast the weather and collect weather data.

#### **Heat Waves and Droughts (Extreme Weather)**

By Liza N. Burby. (1999, PowerKids Press)

The author discusses a variety of information related to heat waves and droughts such as when and where they occur, how they start, ways they can be harmful, and their historical impact. Stunning photography.

#### **How Do Tornadoes Form? (Tell Me Why, Tell Me How)**

By Renee C. Rebman. (2011, Marshall Cavendish Benchmark)

Describes what tornadoes are, how they form, the damage they can do, as well as the scale that is used to rate their strength.

#### **Hurricane**

By Celia Godkin. (2008, Fitzhenry & Whiteside)

In this captivating, fictional story, the author describes what happens to wildlife and people before and after a hurricane hits.



### **Hurricane Hunters! Riders on the Storm**

By Chris L. Demarest. (2006, Margaret K. McElderry Books)

With large, life-like illustration, this book describes the heroics and science involved as hurricane hunters track a hurricane off the gulf coast.

### **Hurricane Katrina (A True Book)**

By Peter Benoit. (2012, Children's Press, an imprint of Scholastic)

Discusses what Katrina did before it hit the gulf coast as well as the places that were affected most by the hurricane. The book also describes some challenges the people of the city of New Orleans faced after Katrina.

### **Hurricanes (Disasters Up Close)**

By Michael Woods and Mary B. Woods. (2007, Lerner Publications Company)

The author discusses many aspects of hurricanes including what they are, what causes them, and where they occur. The book also describes how people measure hurricanes and has a chapter on how people help each other in the aftermath of a hurricane.

### **Natural Disasters (Eyewitness Books)**

Edited by Jackie Fortey and Carey Scott (2012, Dorling Kindersley Limited)

This text and photograph rich book discusses a variety of natural disasters such as hurricanes, tornadoes, drought, and floods.

### **Storms (Science Matters)**

By Christine Webster. (2007, Weigl Publishers)

Simple text and photographs describe a variety of storms including thunderstorms, tornadoes, water spouts, hurricanes, and blizzards. Also, the book discusses technology used to monitor the weather.

### **Tap Tap Boom Boom**

By Elizabeth Bluemle; illustrated by G. Brian Kass. (2014, Candlewick Press)

This simply written story with wonderful illustrations shows how kids who live in the city can stay dry and safe during a thunderstorm.



**The Whirlwind World of Hurricanes with Max Axiom, Super Scientist**

By Katherine Krohn; illustrated by Cynthia Martin and Al Milgrom. (2011, Capstone Press)

This graphic novel describes how hurricanes form, the damage they can do, how scientists and hurricane hunters study the storm, and some infamous hurricanes throughout history.

**Thunder and Lightning (Weather Watch)**

By Alice K. Flanagan. (2010, The Child's World)

A simply written book describes what thunder and lightning are and where they can be seen and heard.

**Thunderstorms (Our Wonderful Weather)**

By Valerie Bodden. (2012, Creative Education)

A simply worded book that describes thunderstorms, how they form, and some famous thunderstorms.

**Tornado: The Story Behind These Twisting, Turning, Spinning, and Spiraling Storms**

By Judith Bloom Fradin and Dennis Brindell Fradin. (2011, National Geographic Kids)

This book has fairly detailed prose and photographs of tornadoes as well as the damage they can do.

**Tornadoes!**

By Gail Gibbons. (2009, Holiday House)

With interesting, easy to understand prose, and beautiful illustrations, this book describes what tornadoes are, how they form, the damage they can do, and the scale that is used to rate their strength.

**Tornadoes and Hurricanes! (TIME for Kids Nonfiction Readers)**

By Cy Armour. (2011, Teacher Created Materials)

Provides clear and simple descriptions of tornadoes and hurricanes as well as how they are formed.



**Violent Weather: Thunderstorms, Tornadoes, and Hurricanes (National Geographic Science Chapters)**

By Andrew Collins. (2006, National Geographic Society)

This very small book is packed with interesting information and clear illustrations about the formation of thunderstorms, tornadoes, and hurricanes. It also includes valuable information about how to stay safe during these potentially dangerous storms.

**Voices of the Dust Bowl**

By Sherry Garland; illustrated by Judith Hierstein. (2012, Pelican Publishing Company)

The author uses characters, some real and some fictional, to tell the story of the dust bowl years in poetic form.

**Weather Forecasting**

By Gail Gibbons. (1987, Four Winds Press)

This heavily illustrated book discusses the tools and technology used by meteorologists to forecast the weather throughout the year.

**Wind (Science Secrets Series)**

By Jason Cooper. (2003, The Rourke Book Company)

Includes a simple discussion of the causes of air movement, uses of wind power, and such phenomena as hurricanes and tornadoes.