

Weathering Natural Disasters with a Net of Safety

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Faster and more efficient coverage on television and the Internet is increasingly exposing children to traumatic images of natural devastation both at home and abroad. Natural disasters, such as the wildfires in California or the trauma caused by Hurricane Katrina in New Orleans, have become commonplace. Moreover, catastrophic events, like the San Francisco earthquake of 1906, the blizzard of 1888, and the Dust Bowl of the 1930s, have played a historical role in shaping disaster response procedures. In Thailand, we have witnessed tsunamis, and Bangladesh was devastated by cyclones. These events serve as reminders that nowhere in the world is immune from these incidents. Each event may prompt us to reflect on past experiences with natural disasters and ponder the present and future risk to ourselves.

Whereas some disasters result in great stress due to physical injury, death, property damage, displacement, and the depletion of support resources, others may cause less extensive damage and affect a relatively small number of people. Moreover, preparation and advance warning about potential damage may mediate a disaster's intensity. Understanding the characteristics of a natural disaster can help children manage their distress and empower them to engage in disaster prevention activities that may mediate future physical and psychological harm.



Three-year-old Kindra Groff stands in line with her parents and other wildfire evacuees at the Red Cross evacuation center on October 24, 2007, in San Bernardino, California. (AP Photo/Michael A. Mariant)

Natural Disasters and the Social Studies Curriculum

The study of natural disasters has many connections to the social studies curriculum. Instruction in disaster preparedness and crisis problem solving are important components of students' civic competency. Students may learn empathy for victims of these events and appreciate how citizens assist others through volunteer efforts. Examination of past catastrophes provides valuable lessons about local support services, resources, and community care systems. Natural disasters are often specific to certain geographic areas, and they can facilitate an understanding of the interrelationship between climate and physical topography. As students investigate catastrophes around the world, they may also delve into the social, political, and economic impact of these events. Students may explore culturally specific responses and examine how spiritual belief systems affect interpretations of the events. Moreover, each of these components of disaster study creates a context for introducing mechanisms for children to cope with traumatic events.

Teachers can serve as a resource for support and information that facilitate a child's ability to manage disasters. They may model strategies for coping and instruct children and their families how to remain safe, thus reducing the trauma caused by these crises. They can create a classroom environment that provides a safe haven for children to express fears and ideas with assurance that their teachers will protect them and teach them to understand the world in which they live. Disaster preparedness and response to devastating events are an integral part of an educator's role in advocating for students' well being and protection. Online resources may be especially valuable to educators for enhancing children's natural disaster learning experiences in an engaging way.

Internet Resources

Easily accessible resources are needed

to support children who experience and survive catastrophe firsthand, as well as those who witness it from a distance. Increasingly, technology has become an indispensable tool in helping people mediate risk from natural disasters. Advanced technology has facilitated communication about impending danger, and mass notification systems via cell phones and email have proved useful for keeping parents and students updated during a natural disaster about the status of school closings.¹

The Internet also continues to provide a plethora of resources that can help children explore environmental issues worldwide as well as learn about natural disasters. If children are confronting the reality of an approaching storm in their area, online resources offer access to updated reports that may aid students in tracking the impact of the catastrophe. Students may also use these resources to learn about the responses of other children to disasters. This process may assist children in normalizing their own fears. This also helps children understand that most people, both young and old, have strong reactions to potential natural disasters, and these responses serve as a cue to initiate behaviors and activities to protect themselves. Educators may facilitate the development of children's coping strategies as they demonstrate methods to access information about weather and engage in advance storm preparation.

Teachers can use web resources to inform themselves, access lesson plans, locate curriculum materials, and identify web-based interactive learning activities for their students. Throughout history, catastrophic natural events have mobilized citizens to support one another, and online resources may assist educators in teaching children about the occurrence of natural disasters and their life-changing impact. Moreover, teachers can use web resources to enhance their skill in guiding children to respect the natural world and foster their relationship with the Earth. Several of these sites are listed in this article.

Educational Resources

The following resources may aid students in understanding and respecting the planet and all its forces of nature.

Teaching the Levees (www.teachingthelevees.org/) is an online resource that includes educational curriculum developed to accompany Spike Lee's movie, *When the Levees Broke: A Requiem in Four Acts*, from HBO Documentary Films (www.hbo.com/docs/programs/whentheleveesbroke/). The lessons in the curriculum encourage democratic dialogue about the issues of race and class in America that arose during Hurricane Katrina.

The Federal Emergency Management Agency (FEMA) is the national organization that assists communities and individuals following a disaster. FEMA has created a homepage for children (www.fema.gov/kids) that provides information about actions to take during a disaster, suggests procedures for advance preparation, discusses the causes of disasters, and presents stories written by young people who have survived these events. Children can also have fun while learning with online games that teach them about weather and safety, such as *Hurricane House*, where players identify loose objects in their yards that need to be secured, and *Canine Heroes*, a trading card game.

James Madison University in Virginia has designed a disaster-intervention website, "Disaster Stuff for Kids" (www.jmu.edu/psychologydept/4kids.htm), which contains illustrated reading materials for children that can be printed out, and links to other relevant websites. The crafters of this site have also developed an online forum for children to share their thoughts and experiences about disasters.

The American Red Cross has a long tradition of providing free assistance to families affected by disaster. Their services include medical care and emergency housing and food. They have developed an informative website (www.redcross.org) that explains Red Cross services, provides detailed information on disaster safety, and provides updated information on the latest crises. Particularly

notable are curricula on disaster preparedness for elementary school children, which users can download. The “Be Ready 1-2-3” and Masters of Disaster programs (www.redcross.org/disaster/masters/) provide detailed lessons that teach students about the threat of home fires, winter storms, and earthquakes. The site also provides information about the Red Cross “Notagains” Disaster Preparedness and Response CD-ROM for Children. This program, which can be purchased from the American Red Cross, is an interactive learning tool that assists children in learning life-saving skills and problem solving in disaster situations.

The Eye on the World—Violent Planet Page (www.iwaynet.net/~kwroejr/violent.html) is organized into the categories of geographic regions and natural disasters. Each category includes links to many official data sources that provide late-breaking news stories, photos, maps, and references. A unique aspect of the site is its facilitation of the Internet as an alternative communication channel in disaster areas.

Volcano World (volcano.und.nodak.edu), which was developed by a group of volcanologists, geologists, and computer scientists at the University of North Dakota, is brimming with information on volcanoes of the world and current eruptions. It features a search engine that allows the user to filter by world region, country/area, and volcano name. Volcano World also contains a glossary, a “what’s new” category, images and clips of volcanoes, and pictures of volcanoes in outer space. Students can also contact a volcanologist who answers questions. Teachers can find lesson plans, examples of school projects, volcano legends, virtual field trips, eruption simulations, handouts, maps, and links to research sites.

The National Lightning Safety Institute (www.lightningsafety.com) teaches users about personal lightning safety. The website’s creators also explore the history and myths of lightning. Beginning with the early Greeks’ belief in lightning as the weapon of Zeus, the site details the powers of healing and destruction that have been attributed to lightning. Users also have access to lightning-related activities, free reading materials, links to suggested books on amazon.com, and instructional videos for sale.

Splish Splash Flush (www.wateraid.org/uk/learn_zone/video/5233.asp) is an online video that takes children on an engaging exploration of the importance of sanitation, clean water, and hygiene education to avoid the spread of catastrophic disease. The resource focuses on the integration of science, technology, and society throughout history to improve health and safeguard lives.

United Nations International Strategy for Disaster Reduction (ISDR) (www.unisdr.org/) promotes a global approach to disaster reduction to reduce the loss of life, socioeconomic setbacks, and environmental damages caused by natural hazards. Based on the premise that prevention begins with information, the site disseminates scientific studies about the causes and consequences of natural hazards and related strategies for risk reduction.

A Guide for the Inclusion of Children in Emergency Operations Plans (www.savethechildren.org/publications/emergencies/Children-in-Emergencies-Planning-Guide.pdf) is a resource from Save the Children to foster emergency planning that addresses the special needs of children. Child victims may suffer disproportionately, especially when they are separated from their primary caregivers and supports. This disruption of routines intensifies the fear and anxiety of children. Since children have limited experience and skills to cope with adversity, focused efforts are needed to meet children’s needs during emergency situations. Safe Spaces (www.savethechildren.org/programs/us-literacy-and-nutrition/safe-spaces-us.html) is a disaster preparedness program of Save the Children that works with communities to provide children with safe areas where they can play, socialize, express themselves, and begin to recover through a variety of games and activities.

Natural Disasters throughout History are detailed in numerous online resources. Students can explore the causes of the Great Chicago Fire at Did the Cow Do It? (www.thechicagofire.com/index.php), America’s Story from America’s Library (www.americaslibrary.gov/cgi-bin/page.cgi/jb/recon/chicago_1), or the O’Leary Legend (www.chicagohistory.org/fire/oleary/). The Library of Congress has developed a list of books

and online resources that explore historical accounts of natural disasters (memory.loc.gov/learn/lessons/00/nature/resource.html), and National Public Radio has researched and compiled “An American History of Disaster and Response” (www.npr.org/templates/story/story.php?storyId=4839530).

Games and Online Books

Games and online books have been developed as an engaging way to help children learn more about natural disasters and their effects.

Stop Disasters Game (www.stopdisastersgame.org/en/) is a single-player game that can be adapted for play by small, collaborative groups of students. It is designed for children ages 9-16 years old. Five scenarios of different natural disasters are presented, and players need to determine the best course of action to minimize harm. Play time is between 10-20 minutes, and the difficulty level of the scenarios can be modified. Additional learning materials for students and teachers are provided in the “Information” section of this website.

Volcanoes of the United States Matching Game (volcano.und.nodak.edu/vwdocs/kids/fun/usa_matching/Matching.html) introduces children to Rocky, who wants to go on a trip and see some of the volcanoes of the USA. In order to see those volcanoes, he has to know which states they are in. Children can help Rocky plan his trip by showing him the location of each volcano on his list.

In the **Hawaiian Interactive Adventure** (library.thinkquest.org/J003007/themepark/InteractiveG/frame.html), children can join Maile on a journey as she encounters several disasters on the island of Hawaii. Players must answer questions on volcanoes, earthquakes, tsunamis, and hurricanes to make their way through the disasters to safety on the island.

FEMA has created several online books that explore natural disasters, including *Tsunami Warning: An Online Book* (www.fema.gov/kids/tsunami), *The River Rises* (www.fema.gov/kids/twins/flood/flood.htm), *Becoming a*

Disaster Action Kid (www.fema.gov/kids/diz-kid1.htm), and *The Winter Blizzard* (www.fema.gov/kids/twins/blizzard/blizzard.htm).

Resources to Help Children Cope

Exposure to a natural disaster often results in psychological distress for children, who may exhibit a range of traumatic reactions. Resources can guide teachers in understanding children's responses and fostering a safe and supportive environment to help children cope with the devastation and threat of harm.

Helping Children Cope in the Wake of Tragedy or Disaster (www.oh-pin.org/articles/pex-05-helping-children-cope-in.pdf) is an online article by Karen Stephens that outlines constructive strategies to assist children in confronting adversity. She identifies symptoms of children who are overstressed by crises and suggests literature to

assist caregivers in helping children cope.

What Happened to My World: Helping Children Cope with Natural Disaster and Catastrophe (www.brighthorizons.com/talk-tochildren) is a guide for parents, teachers, and caregivers that provides a framework for supporting children who are experiencing the stress, anxiety, and destruction resulting from a catastrophic event. It is also available for free download through Bright Horizons Centers.

Substance Abuse and Mental Health Services Administration maintains a comprehensive list of online resources to help children cope with disasters (www.family.samhsa.gov/talk/helpingchildcope_resources.aspx). Related links offer specific guidance on children's reactions to natural disasters (www.family.samhsa.gov/talk/katrinaseffects.aspx) and strategies for talking with children about tragedies (www.family.samhsa.gov/talk/helpyourkids.aspx).

National Association for the Education of Young Children (www.naeyc.org/families/disaster.asp) has compiled strategies to help families and other adults give young children emotional support and show them that they are safe in the care of teachers. Young children are particularly vulnerable following exposure to a natural disaster due to their limited capacity to cope with adverse events. Children's emotional responses may not be easily recognizable due to their limited ability to verbalize their experiences and feelings. During and subsequent to a natural disaster, disruptions in young children's relationships with family members and critical caregivers may contribute to fearfulness, sadness, and aggression. The resource emphasizes the importance of re-establishing routines and fostering comfort, safety, and stability in young children's lives.

American Psychiatric Association (www.psych.org/disasterpsych/wildfire.cfm), **American Psychological Association** (www.apa.org/topics/topicdisasters.html), and **National Association of School Psychologists** (www.nasponline.org/resources/crisis_safety/naturaldisaster_teams_ho.aspx) offer tips and other mental health resources on how to minimize possible mental and emotional effects of trauma caused by destruction and loss of life dur-

ing and following catastrophic events. Tips for talking with children about tragedy are provided.

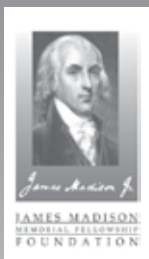
National Child Traumatic Stress Network (www.nctsnet.org/nccts/nav.do?pid=typ_nd) provides resources on earthquakes, epidemics, hurricanes, tornadoes, fires, floods, and tsunamis. A video on disaster planning for children in schools may be viewed on the site. Guidelines for school personnel to manage crises are available (www.nctsnet.org/nccts/nav.do?pid=ctr_aud_schl).

Children, Stress, and Natural Disasters from the University of Illinois Cooperative Extension Service (web.extension.uiuc.edu/disaster/teacher/teacher.html) is a set of resources for teachers and other child-care or youth workers that help prepare them for working with children who have been through a disaster. These resources include a guide for teachers on children's reactions to a disaster, strategies to assist students during the recovery period, school activities that teachers can use in their classrooms after a disaster, lists of curriculum guides on disaster-related topics, a bibliography of children's literature on floods and natural disasters, and a list of resource materials that are available from the American Red Cross. 🇺🇸

Notes

1. eSchool News staff and wire service reports, "Tech Keeps Parents Abreast of Wildfires: Half a Million People Flee Their Homes as Wildfires Rage in California," *eSchool News* (October 25, 2007): www.eschoolnews.com/news/top-news/related-top-news/index.cfm?i=50236&page=1.

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