

HISTORYMIAMI MUSEUM


Teacher Resource Guide

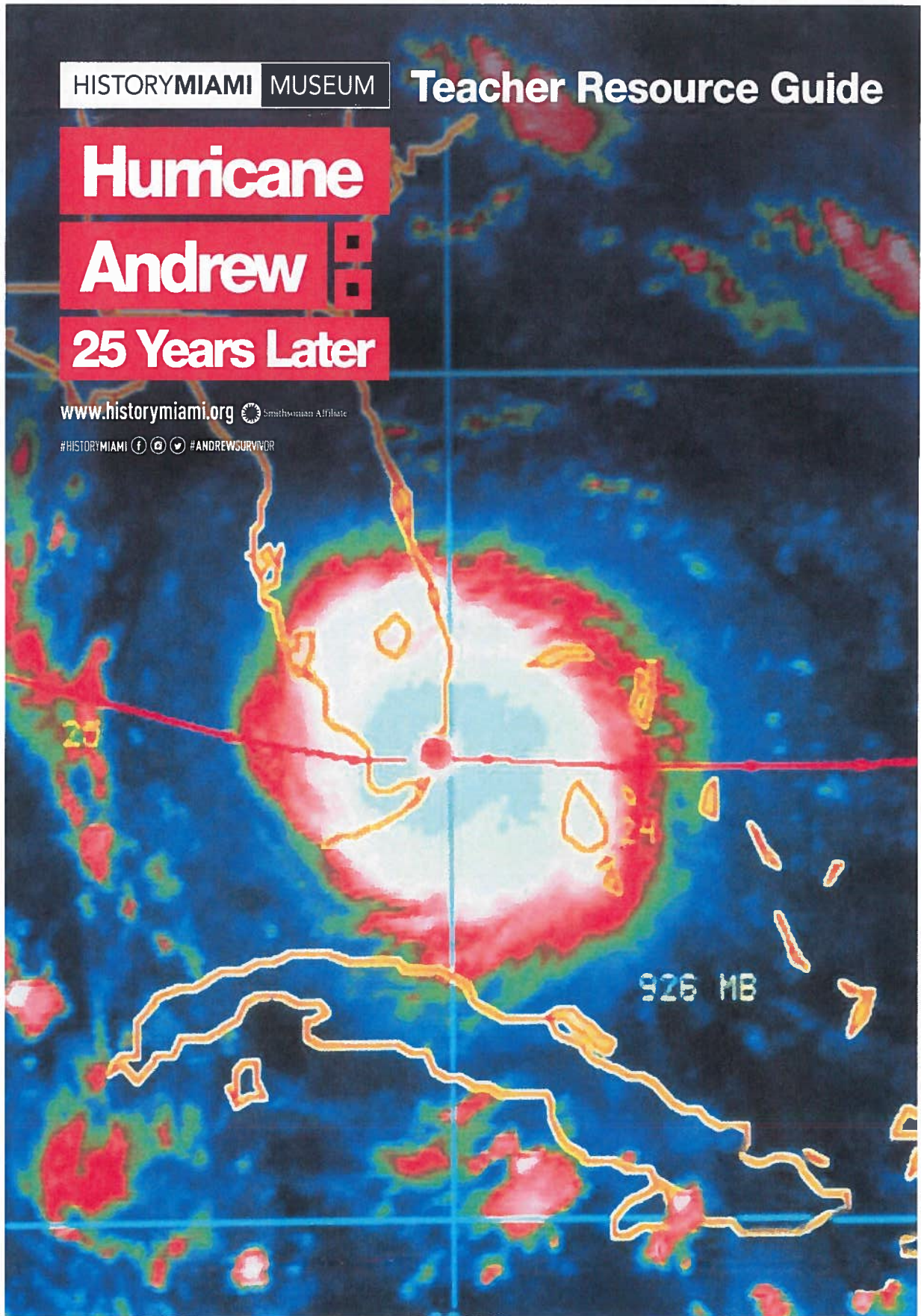
Hurricane

Andrew

25 Years Later

[www.historymiami.org](http://www.historymiami.org)  Smithsonian Affiliates

#HISTORYMIAMI    #ANDREWSURVIVOR



Source: Andrew Aug. 18, 1992 (NOAA, National Hurricane Center) (Walt Gonsky)

**About the Education Center:**

The HistoryMiami Museum Education Center's mission is to share and interpret Miami's stories through meaningful and engaging educational programs. The Center is committed to serving South Florida's students, teachers and adult learners through dynamic and innovative programs that promote critical thinking while creating an open environment to share and interpret our community's stories. Our goal is to foster an understanding of the key role each one of us has in our community while building an environment for lifelong learning. All programs correlate with the Next Generation Sunshine State Standards, as well as Language Arts, Social Studies and Fine Arts Standards.

**About HistoryMiami Museum:**

HistoryMiami Museum, a Smithsonian Affiliate, is a premier cultural institution committed to gathering, organizing, preserving and celebrating Miami's history as the unique crossroads of the Americas. We accomplish this through exhibitions, city tours, education, research, collections and publications. HistoryMiami advocates for helping everyone understand the importance of the past in shaping Miami's future. We are the largest non-profit private history museum in Florida.

## **School programs at a glance:**

*A Day at the Museum:* Immerse your class in a meaningful, hands-on, guided museum experience as you explore our collection and galleries. Students will engage with our teaching collection objects, while discovering, and in some cases re-enacting, the stories that shape Florida's past. Programs are two hours in length for grades 3-12 and one hour in length for grades PreK-2<sup>nd</sup>: *Little Stories* · *History Mysteries* · *We the People* · *Making Miami Home* · *Customize a Program* · *Self-guided Program*

*Museum on the GO!:* Let us come to you! Students will explore the history of our community, our region, and our world through interactive hands-on experiences. Build the connection between the past, present and future with these dynamic and portable programs: *Florida Map* · *Latin America Map* · *World Map* · *Miami Expressions*

*Around Town:* Explore your community and immerse yourself in the past. Enjoy the sights and sounds of our local history at one of the following historic sites: *Cape Florida Lighthouse, Key Biscayne* · *Miami-Dade County Courthouse, Downtown Miami* · *Virginia Key Beach, Key Biscayne*

*Teachers and Educators:* HistoryMiami Museum offers professional development workshops, online activities and resources as well as FREE membership benefits to help teachers achieve their goals in the classroom.

### ***For Teachers & Educators:***

*K-12 Educator Workshops:* HistoryMiami Museum offers year-round teacher workshops to enhance teaching and learning in and out of the classroom. Workshops are designed to make our community's history accessible to your specific learning environment. Workshops are available at the Museum and off-site. Topics may include: Primary sources in the classroom, object-based learning, visual literacy, folklife. To schedule email [education@historymiami.org](mailto:education@historymiami.org)

*Educator's Circle:* This membership\* is free for Miami-Dade and Broward County public, private and homeschool teachers for one year and offers you countless ways to explore and experience history. Join now and receive a full year of Basic Membership Benefits for one adult. The FREE Educator's Circle Membership gives you:

- *Free year-round admission to the Museum and Archives and Research Center*
- *Invitations to member exhibition opening receptions*
- *Discounted or free admission to special events and programs*
- *Member discount on City Tours*
- *Discounted admission to the Miami International Map Fair*
- *Electronic subscription to Tequesta, the scholarly journal of HistoryMiami Museum*

*Online Resources:* The museum website ([historymiami.org](http://historymiami.org)) includes an array of educational resources, which you can use for pre-and-post-visit activities, and in-class projects.

# Hurricane Andrew: 25 Years Later

Thursday Jun 1, 2017 - Monday Jan 15, 2018

On August 24, 1992, Hurricane Andrew made landfall in South Florida and devastated our community. At the time, “The Big One,” as the storm came to be known, was the most destructive hurricane in U.S. history. This year marks the 25th anniversary of the storm, and HistoryMiami Museum will recognize this seminal moment through a major 5,000 sq. ft. exhibition that chronicles the story of the hurricane from its formation to its legacy. Our guest curator is Meteorologist, Bryan Norcross.

The exhibition will explore the topic through eyewitness, first-person storytelling, historical footage, documentary photography, artifacts, and Hurricane Andrew-inspired art work, with the goal of connecting visitors to the emotion of the moment. The Museum will also offer educational programs for the general public and school audiences. Altogether, the exhibition and programming will engage visitors not only in learning about the storm’s impact on Miami, but also in remembering and commemorating this milestone in our community’s history.

## **Table of Contents:**

1. Hurricane Andrew – An Introduction
2. What is a hurricane?
3. Tracking a hurricane
4. Legacy
5. Visual Literacy
6. Impact of the storm
7. Bibliography

## **Lesson 1: Hurricane Andrew – An Introduction**

### **Florida State Standards:**

**LAFS.412.W.3.7:** Conduct short research projects that build knowledge through investigation of different aspects of a topic.

**LAFS.412.RI.1:** Key Ideas and Details

**SC.6.E.7.7:** Investigate how natural disasters have affected human life in Florida.

**SC.6.E.7.8:** Describe ways human beings protect themselves from hazardous weather and sun exposure.

**SC.912.E.7.8:** Explain how various atmospheric, oceanic, and hydrologic conditions in Florida have influenced and can influence human behavior, both individually and collectively.

**SS.4.A.1.1:** Analyze primary and secondary resources to identify significant individuals and events throughout Florida history

**SS.4.A.1.2:** Analyze primary and secondary resources to identify significant individuals and events throughout Florida history.

**SS.4.G.1.3:** Identify effects of weather in Florida, such as hurricanes, thunderstorms, drought, and mild climate

### **Essential Question(s):**

- What impact did Hurricane Andrew have on South Florida?

### **Materials:**

- Background on Hurricane Andrew
- Article: Before and After Hurricane Andrew-1992. Text by Noorina Mirza and Photographs by Masud Quraishy. Published by Kenya Photo Mural, Inc.
- Oral History Guides

The first-person accounts collected from people who experienced Hurricane Andrew are an important way of understanding the lasting impact of this storm. City Lore's oral history guide helps teachers and students prepare to speak with classroom guests and community members. It includes listening and note-taking

exercises and suggestions for conducting an excellent interview; a must for teachers interested in having their students conduct community-based fieldwork.

- [http://www.slideshare.net/citylore/city-lore-interviewing-guide?from=ss\\_embed](http://www.slideshare.net/citylore/city-lore-interviewing-guide?from=ss_embed)
- <http://locallearningnetwork.org/education-resources/local-learning-toolbox/interview-basics/>

### **Background Information:**

Hurricane Andrew made landfall in Homestead, Florida on the morning of August 24, 1992 as a Category 5 storm.

The **tropical wave** that would become Hurricane Andrew formed off the western coast of Africa on August 14, 1992. It traversed the Atlantic and developed into a **tropical depression** and then a named **tropical storm**. By the time the storm reached hurricane force winds on August 22, the Bahamas were a target. After passing over the southern tip of Florida, Andrew weakened to a Category 3 before entering the Gulf of Mexico. Ideal conditions led to Andrew re-intensifying to a Category 4 storm as it made its way towards Louisiana. On August 26 Hurricane Andrew made landfall in Louisiana and quickly lost energy, downgrading to a tropical depression.

Damage from Hurricane Andrew in South Florida was mostly due to the severe winds at landfall. In addition, a large **storm surge** was recorded in Biscayne Bay. Sensitive environmental areas like the Everglades sustained significant damage and poor construction led to devastation in several urban and rural areas.<sup>1</sup> Hurricane Andrew is blamed for 44 deaths in Florida, 15 directly and 29 indirectly.<sup>2, 3</sup>

The damage caused by Hurricane Andrew in Florida is estimated at \$22 billion. Over 125,000 homes were damaged and about 250,000 people were left homeless in southern Miami-Dade County.<sup>4,5</sup> Building codes changed after Hurricane Andrew because so much of the damage was linked to shoddy construction work.<sup>6</sup>

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<sup>1</sup> <http://www.hurricanescience.org/history/storms/1990s/andrew/>

<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pubmed/8671554>

<sup>3</sup> [http://www.huffingtonpost.com/2012/08/21/20-facts-hurricane-andrew-anniversary\\_n\\_1819405.html](http://www.huffingtonpost.com/2012/08/21/20-facts-hurricane-andrew-anniversary_n_1819405.html)

<sup>4</sup> [https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/1996%20Demog%20\(Hurr%20Andrew\).pdf](https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/1996%20Demog%20(Hurr%20Andrew).pdf)

Reporting on and tracking a storm has improved since the days of Hurricane Andrew. Improvements include forecasts that are 5 or more days out from the estimated date of impact, more tools for observing like satellites and more powerful computers for analyzing the data collected.<sup>7</sup>

**Key Vocabulary:**

Tropical Wave, Tropical Depression, Tropical Storm, Storm Surge, environmental impact, interview, first-person account.

**Educational Strategies/Instructional Procedures:**

- Read the article provided. This article documents the Hurricane Andrew experience of a family living in Southeast Dade.
  - Ask students to think about the kinds of questions the participants answered when being interviewed for this article.
- Conducting an interview allows students to learn about a person and their experiences first-hand.
  - Ask students to share what they know about interviews and to cite examples
  - Ask students to brainstorm in groups about who to interview, what questions to ask. They may choose to interview a family member, community member, school member, etc.
- Ask students to interview their chosen candidate and then share their work with their classmates.

**Additional Resources:**

To learn more about first person accounts and to read some examples, use this resource:

[http://memory.loc.gov/ammem/awhhtml/awgcl/first\\_person.html](http://memory.loc.gov/ammem/awhhtml/awgcl/first_person.html)

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<sup>5</sup> <http://www.insurancejournal.com/news/southeast/2007/05/18/79827.htm>

<sup>6</sup> <http://www.insurancejournal.com/news/southeast/2007/05/18/79827.htm>

<sup>7</sup> <http://www.livescience.com/21850-hurricane-forecast-improvements.html>



For a simple step-by-step plan for conducting a journalistic interview, check out this page: <https://www.scholastic.com/teachers/articles/teaching-content/how-conduct-journalistic-interview/>

To hear from an expert on conducting a good interview, watch this video of Katie Couric: <https://www.youtube.com/watch?v=4eOynrI2eTM>

**BEFORE and AFTER**  
**HURRICANE ANDREW**

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**1 9 9 2**

*Photographs by*  
**MASUD QURRAISHY**

*Text*  
**NOORINA MIRZA**

*Published by*  
**KENYA PHOTO MURAL Inc.**  
13730 S.W. 107 Ave.  
Miami, FL 33176

# A COMMUNITY'S STORY

## AUGUST 23, 1992. Hurricane Andrew bears down on South Broward and Dade.

**F**rom a tropical depression off the coast of Senegal, Africa, on August 17, Andrew swells to hurricane status by 6 a.m., August 22, its winds increasing to over seventy-five miles per hour. By August 23, Andrew has swelled in force from a Category 3 to a Category 4 hurricane. At 11 p.m. the same night, Andrew slams into the Bahamas, leaving massive damage and four people dead in its wake.

Andrew is now on a collision course with South Florida. Hurricane warnings have been issued to Broward and Dade Counties. Fifteen hundred troops of the Florida National Guard have been mobilized. There are long lines at grocery stores, but malls and streets are beginning to look deserted, and metal grills and hurricane shutters have already rolled down across most storefronts. Strong warnings have been issued to boat owners and mobile home dwellers, and the last foolhardy surfers have been ordered off the beaches by the police. The area east of I-95 has been declared an evacuation zone, and police with bullhorns cruise through these streets, urging people to evacuate immediately. Northbound I-95 is jammed with vehicles, sleek cars moving bumper to bumper with packed pickup trucks, dogs, cats, and even bird cages visible in the windows.

In the Kendall area of South Miami, the Quraishys—Masud and Nuzhat, their youngest son Najam and his wife Nausheen—are wary but not uneasy as they prepare for what they believe may be a somewhat disturbed night. Their home does not fall within the evacuation zone, and they have invited friends who do live east of I-95 to ride out the storm in the safety of their home. So they are joined that evening by retired Air Marshal Asghar Khan of Pakistan and his wife, their daughter and two teenage grandchildren. The Quraishys have also invited six-year-old Malika, daughter of their eldest son Najib, so they can have a little celebration for her birthday which falls the next day. The winds have already picked up speed, but are well within the normal range as the family and their guests retire to their bedrooms.

At four a.m. Nausheen is awakened by the persistent ringing of the telephone. Friends urgently warn that the Hurricane is now on a direct course towards South Miami, in particular the Cutler Ridge area, just minutes from the Quraishy home. A quick glance out of the window shows palms in the beautifully landscaped backyard bent almost to the ground with the force of the wind. Nausheen rushes from room to room waking everyone. They leave their bedrooms for the safety of the central hallway, and the first prickle of alarm now runs through the little group. Howling, forceful gusts of wind and rain can now be felt against the sides of the solidly-built house. Unbelievably, the massive front door begins to buckle inward with the force of the wind. Masud and Najam pitch themselves against it, attempting to barricade it with their combined strength. Nuzhat, devoutly religious, quietly prays amongst the tense little group of people. As the pressure of the wind steadily increases, Masud and Najam abandon their positions against the door and hurriedly rush everyone to the twin walk-in closets in the master bedroom. Almost immediately they hear the deafening crash of the front door as it is broken open, as if by a battering ram, and hurled against the side walls. What follows is a seemingly unending night of terror as loud thuds and clangs of objects hitting the roof, ear-splitting crashes and splintering noises within the house mingle with the manic howling of Andrew's winds. The entire area is now without

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power, and the hushed terror in the pitch-black closet is broken only by little Malika's terrified moaning for her mom and dad.

After interminably long hours, the Hurricane's fury subsides, and the Quraishts and their guests leave their cramped quarters. Najam and Nausheen, leading the shaken little group out of the bedroom, catch a glimpse of the house and attempt to rush Nuzhat back into the bedroom, trying desperately to keep her from seeing what is left of the once beautiful house and its sumptuous furnishings.

Andrew's brutal force, blasting open the front door and the adjacent octagonal bay of glass windows in the dining room, has shattered the entire forty-foot panel of French doors across the house that open onto the pool. Shattered glass, debris, mud and wet leaves cover every inch of the floor. Holes have been gouged out of the walls by objects borne missile-like along the Hurricane's path. Two cream silk-damask sofas have been blown out through the shattered French doors and lie submerged in the now blackened and muddied pool. Massive marble coffee tables have been hurled across the length of the house, driven into walls, or left lying on their sides amongst other crushed furniture, some obviously blown in from other homes. The huge dining table of carved mahogany seems to have been the butt of a cruel prank, its two central leaves pried out—one lying in splinters nearby, the other never found—the table, incredibly, pushed forcibly back together.

The screened pool enclosure has been crumpled against the house as if by a giant fist, its steel supports twisted at odd angles, some upwards towards the sky, trailing large ragged swaths of wire screen. More than fifty fish from the outdoor fishpond lie rotting amongst the heap of debris, wooden planks, ripped drapes, shattered china-hutches, on the reeking sodden grass. The turrets and gables of the half-million dollar home have been entirely shorn of their red tiles, some of which still dangle askew from the edges. Trees and shrubs have been whipped clean of their foliage, and now lie against the roof and sides of the house in a dense, messy, tangle of skeletal branches, metal sheeting from roofs wrapped around them like tinfoil, adding to the picture of complete, cruel, chaos that Andrew has left in its aftermath.

The Quraishts have been lucky. The community has not fared as well. Hurricane Andrew, its winds officially clocked at a hundred and sixty-four miles per hour, at which point the radar unit and its protective dome is ripped off the roof of the National Hurricane Center in Dade and carried off (though unofficial reports put wind gusts at up to two hundred and twelve miles an hour), has left behind it a thirty-mile wide sprawl of destruction across South Florida, radiating northward from the Homestead Air Force Base Canal where the eye of the

Hurricane hit. Homestead, Florida City, and Naranja have been wiped out. In other devastated areas, homes, shopping centers, concrete warehouses, have been flattened to heaps of rubble and splintered lumber. The fronts have been lifted off multi-story apartment complexes, and tier upon tier of living rooms and bedrooms stand exposed, upended furniture strewn about inside with torn-off chunks of concrete. Trailer parks are reduced to a jumble of garbled metal, crushed cars and furniture, mattresses, pots and pans, and toys, some flung up into the stripped trees. Roads have been completely obliterated by a dense mass of toppled trees and debris. Gravestones lie tumbled about among uprooted trees in cemeteries (graves, mercifully, left undisturbed). Broken power lines, some still attached to fallen poles, lie tangled and draped over the devastated area like carelessly unravelled twine.

Foliage has been lashed off trees to the very last tendril, and acre upon acre of wooded area, uprooted trees stripped to the bark, gives the appearance of matchsticks dumped out of a matchbox. In a sheared clump of trees between the Deering Estate and the Old Cutler Power Plant, a small aircraft, a Piper Cherokee that crashed two years ago and was never found, now lies exposed.

Hurricane Andrew has lifted the seas up and over land. A 16.9 foot sea surge is measured at the Burger King Headquarters eight miles south of where the eye of the Hurricane passed. At the Deering Bay development, a twenty-four-foot Boston Whaler is deposited on the fourteenth fairway by a 16.6 foot sea surge. At Matheson Hammock, a 12-foot sea surge tosses two thirty-eight-foot power boats across the parking lot to the road beyond. Like crumpled wads of paper, boats (and even a shark) are borne long the Hurricane-driven waves and pitched into swimming pools, into sculpted backyards, even into streets along posh waterfront developments.

South Florida's marinas, once picturesque retreats of row upon row of gleaming white craft against azure water, a haze of opulence hanging over all, have now become expensive junkyards for smashed boats tossed into heaps, impaled upon pilings, upended vertically against piers. At Dinner Key Marina, eighty percent of the six hundred of so boats have been completely destroyed. The one-hundred-and-ten-foot Seaward Explorer is swept from its anchorage at Dinner Key Marina into a backyard eight miles south on Old Cutler Road. A forty-foot sailboat lies keeled over, a dragmark snaking behind it on the grass, more than half a mile inland near the Bayfront Park Marina.

Andrew's brutal force is felt even under water off South Florida's coast. Powerful underwater currents twist and break apart the sunken wrecks and oil platforms that make up South Florida's artificial reefs. The Hurricane riles through sea fans, sponges, and coral formations causing extensive damage.

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Hurricane Andrew claims the lives of forty-four people in South Florida, ranging from the elderly to the unborn. Some die directly from the Hurricane, most crushed within their homes or hurt by debris; a man is found floating in a canal, presumably falling victim to Andrew's winds as he ventures outdoors to check on his boat; a seven-month-old fetus dies when his mother expires from cerebral hemorrhage, unable to get medical help during the storm. Others die of causes indirectly related to the Hurricane: some critically-ill people succumb when medical help is not available during the Hurricane; a woman dies after falling out of a window as she removes duct tape.

The Hurricane continues on its deadly path toward Louisiana. By the time it loses force, it will have claimed a total of fifty-six lives in the Bahamas, South Florida, and Louisiana.

Hurricane Andrew changes the appearance and the distinctive character of Miami and South Dade forever. In its aftermath, many of South Florida's key installations lie in ruins.

The Kendall-Tamiami Executive Airport seems to have been trod upon by a drunken, reeling giant. About three hundred aircraft, some of them worth well over a million dollars, lie with their tails or their noses crushed into the tarmac; some seem to have been sent crashing into other aircraft, into buildings, trees and canals by a violent kick. A twenty-eight-ton, twin-engine C-46 has apparently been lifted off the ground, carried several hundred yards without so much as a dragmark, flipped over and deposited on its back. All that remains of the glass-enclosed control tower and its sophisticated equipment is a circular structure of rickety wood-slats. Later, damage to the airport is estimated at thirty to fifty-million dollars.

At the Weeks Air Museum, the thirty-five antique, military, and classic aircraft, including the only airworthy Boeing 100 in the world, have all been mercilessly pummeled, and preliminary damage estimates amount to two and a half-million dollars.

A few miles south, Homestead Air Force Base, a mainstay of the area employing 8,700 people in civilian and military positions, also bears terrible testimony to the few never-to-be-forgotten hours of Andrew's passage. Not a single structure on the sprawling complex survives intact. Amongst the rubble of buildings and twisted hangars, the wreckage of two multi-million dollar F-16s lies like crushed insects, parts of the bodies or wings smashed, cockpits arched open, fuel spilling out in a dark stain over the debris around them.

At the Florida Power and Light Turkey Point power generating complex, one of the two four hundred foot tall smokestacks sustains severe damage, a vertical gash about two hundred feet long and almost a foot wide appearing along its side.

(The stack is later demolished because officials are apprehensive about how it would hold up during subsequent storms.) The complex also loses several other buildings, some housing an inventory worth several million dollars.

In the few hours of its brutal rampage, Hurricane Andrew also mars the lush tropical-American beauty of many of the landmarks of Miami's ninety-six-year history.

Venetian Pools, a Venetian lagoon cut from coral rock amongst whose cascades, caves, bridges and islands George Merrick wooed potential land buyers to Florida in the nineteen-twenties, now presents a vastly changed picture: the picturesque contrast of its turquoise pool gracefully rimmed by red-tiled roofs is cruelly obliterated by Andrew's lashing winds which scour the pool and whip off tiles and elaborate ornamentation.

Villa Vizcaya, the one-hundred-and-sixty-acre Italian Renaissance villa built by James Deering in 1916, often proudly referred to in guidebooks as 'Dade County's most impressive landmark', and considered to be the inspiration for the Italian Revival style of architecture so popular in South Florida, suffers extensive damage to its beautifully landscaped formal gardens and to the great stone barge that overlooks Biscayne Bay.

The mangled remains of Cauley Square, the picturesque complex of old settler's cottages built in the eighteen-nineties, and converted much later into collectible and antique shops, now lie buried under a pile of debris.

Andrew rumpages through the eighty-three serene acres of the Fairchild Tropical Gardens, destroying sixty to seventy percent of its lush foliage, exotic and rare plants collected worldwide over a period of fifty-eight years.

Another well-loved landmark, the Miami Metrozoo, loses ninety percent of its foliage. In the absence of shade trees, many of the zoo's animals have to be moved to more hospitable environments in other zoos. Although commendably quick action prior to the Hurricane saves the lives of almost all the animals, the emergency crew of eight, who, in the aftermath of the Hurricane pick their way through the debris and toppled trees to check on the animals, do find five innocent victims of the Hurricane: a baby gibbon lies dead at the bottom of a moat; an ostrich has apparently hurtled itself in terror against a chain link fence and straggled; an impala, an ibex, and an onager are also found dead. The much-admired one and a half acre aviary collapses, crushing fifteen birds, the remaining three hundred or so escaping during the storm. (However, many later return of their own accord—a tribute to the good life at the zoo, others are recaptured, bringing the total of retrieved birds to one hundred and seventy-six.)

Among other national parks and preserves, Everglades and Biscayne National Parks close down indefinitely to visitors after suffering major damage during the

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## Hurricane.

Late afternoon, August 24. Dazed and reeling from Andrew's blow, Miami and South Dade begin to struggle to their feet and look around in shock and disbelief—and the incredulous realization of having survived.

The Quraishtys avert their stunned glances from the shattered chaos around them, decide that the time for tears, assessment of damage, exclamations of grief can come later, and clear a little space amongst the debris. A surviving chair is found, on which they place a half-melted ice cream cake from a freezer long without power. Little Malika, the terrible ordeal of the night momentarily forgotten, beams shining-eyed as the family sings "Happy Birthday to you."

The Quraishtys' guests take their leave and return to their own home, which, with the exception of a few trees, has survived the storm unscathed.

To the Quraishtys the severe damage to the house seems a particularly bitter blow. Only a few months earlier, Masud and Nuzhat had decided to move to Nairobi, Kenya, and the house had been put up for sale. It had now been in the process of being sold, the buyer had put down a deposit, and the Quraishtys had returned less than a week ago for the closing. Hurricane Andrew had of course viciously put an end to their plans. (Later, however, seeing how solidly the actual structure of the house had withstood the storm, the buyer renewed his offer.)

The hurricane has also wiped out their business, Kenya Photo Mural Inc, a custom photolab. Andrew has pried up a large segment of the roof of the building entered, demolished and carried away hundreds of thousands of dollars worth of equipment. The business was seriously under-insured, and the Quraishtys have very little hope of recovering anything of it.

In the days that follow, through hours that turn into days and then into weeks, in a house without power in the hundred-degree heat, the Quraishtys go about with grim determination salvaging whatever possible, and disposing of the smashed remains of familiar, loved possessions—allowing themselves the occasional indulgence of sorrowfully holding for a moment some particularly treasured piece: a shard from a Wedgewood teacup, a scrap of the carving from the lacquered oriental buffet. Sometimes during this painful, unending, ritual, Nuzhat breaks down and weeps quietly.

Hurricane Andrew's survivors endure a sad plight. People used to comfortable, suburban living are now homeless, living in tents or other makeshift shelters erected upon driveways and in backyards. Many sleep in cars and pickups. Some continue to live in surviving parts of heavily damaged houses, which, with broken windows boarded up, have become stifling ovens. Most of the area is without power, and for the first few days after the Hurricane, grocery stores cannot function. Straggling lines for ice, gas, or for using the pay phone to call and

reassure relatives and loved ones; sometimes wind around entire blocks.

Andrew's survivors are sorely tested again when a torrential downpour begins in the Hurricane's wake and continues for days, the rain falling hard and relentlessly through gaping holes and missing planks in roofs, making a sodden mess of salvaged mattresses and clothes, and of make-shift shelters. There is simply no shelter from the downpour, people live, eat and sleep in the rain, some families even lying down to sleep on outdoor benches in the pouring rain, since the outdoors at least affords protection from the stifling indoors heat. Buckling ceiling collapse, and houses already shaky from the Hurricane cave in. There are now as many as thirty people crammed miserably into some of the few surviving homes in the hard-hit areas.

Added to that is the psychological trauma of living day after day, in the gutted, storm-blasted landscape that continues for miles. Along U.S. 1 in the Perrine and Old Cutler areas, for example, not a single store or business has survived intact. Mile upon mile continues with the indistinguishable ruins of once-thriving business chains stripped of roofs, windows, every scrap of identifying lettering or signature color. Twisted air-conditioning ducts thrust out through disembowelled structures. The collapsing, crumpled iron skeletons of furniture warehouses, many stories high, stand out starkly against the sky. Reeking garbage piles up on both sides of the road, it's odor mixing with the stench of food rotting in refrigerators.

Mosquitoes and roaches now make their presence felt with dogged persistence. Three hundred monkeys who escaped from the University of Miami's Perrine Primate Center during the Hurricane make startling appearances in ravaged communities.

Another more lethal presence is that of looters, who appear barely minutes after the storm passes, rifle through devastated stores, and descend upon the helplessly exposed victims of the Hurricane, robbing them of whatever meager possessions they have been left with. Many of Andrew's victims arm themselves and stand vigil in the daytime. Many sleep cradling a firearm. Signs proclaiming "You Loot, We Shoot" and "We Shoot Looters" are seen scrawled on walls and propped up against damaged houses.

However, very few profit from the suffering of others. What does survive intact in the aftermath of the Hurricane is the indomitable spirit of survival, and a sense of brotherhood. As Governor Lawton Chiles says during a statewide television address: "The trees and houses may be down, but the people are still standing." In the most difficult of circumstances, when their own suffering makes little sense, people reach out to friends, neighbors, complete strangers, and offer whatever help they can: comforting words, food or water from their own meager supply, a cooling dip in the battered bathtub in the backyard now filled with

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rainwater, accommodations in houses already bursting at the seams.

The Quraisyhs receive a heart-lifting glimpse of just such spirit. They call Abilio (Bill) Leon of A'Leon Business Systems to tell him that a seventy-nine-thousand-dollar Canon Laser Copier they had leased from his company, and upon which their work depends rather heavily, has been lost during the storm. Within three hours, a new copier is delivered to them.

Within twenty-four hours of President Bush's appeal for help, the American Red Cross receives thirty thousand calls and two and a half million dollars in donations.

Large numbers of people, strongly moved by the suffering of fellow men, drive in from surrounding areas, their cars, vans, pickup trucks loaded with food, water, diapers, first-aid kits, and flashlights. In fact, so many of these good Samaritans attempt to reach South Dade, adding to the chaos on the already jammed southbound highways that appeals are constantly broadcast to the public to bring their donations to their community hurricane relief centers.

People post themselves at intersections in heavily-hit areas, and hand bottled water to motorists.

More than two thousand doctors, nurses, and medical students, some from as far away as Hawaii, volunteer their services free of charge to help Hurricane victims.

A massive relief effort is coordinated by more than six thousand, three hundred members of the Florida National Guard, who arrive on the scene only hours after the eye of the Hurricane has passed. Armed guardsmen wearing camouflage, many of whom have lost all but the clothes on their back during the Hurricane, roam severely-hit neighborhoods offering on the spot medical help. They try to coax out illegal aliens in the poorer, worst-hit farming communities, and offer help, no questions asked. Guardsmen patrol residential and commercial areas, offering protection from looters, assisting the Metro-Dade police by rounding up looters so the police can make arrests (after two weeks, the number of storm-related arrests stands at over two thousand). National Guardsmen can also be seen directing traffic, distributing food, and otherwise helping devastated communities.

Workers from Florida Power and Light, some of whom have lost their own homes only hours before, report for duty, and begin the massive task of restoring power to the area, continuing to work even through the rains that make their work hazardous.

The American Red Cross sends trucks containing water, milk, fresh fruit and vegetables. No one takes advantage. People gratefully accept whatever is needed, then direct the trucks to areas where people may be in greater need. The Red

Cross Relief teams are aided by large numbers of volunteers from church groups, who bring much-needed provisions and building supplies to help Andrew's victims.

Messages of hope, even humor, now appear scrawled on walls amongst insurance policy numbers and warnings to looters. "No More Tears, Let Us Rebuild," proclaims one. Another quips: "Home is Where your Roof Landed!"

Then of Friday, August 28, the U.S. Army begins to pour into South Florida in a continuous caravan of trucks and planes, bringing a massive relief effort, and a sense of relief, to the thousands of homeless and hungry survivors of Hurricane Andrew. Within days, almost twenty thousand U.S. troops establish twenty battlefield kitchens able to feed seventy-two thousand people a day, two tent cities, each with a housing capacity of two thousand, five hundred, and a twenty-bed field hospital. Radio Recovery, a radio station offering survival tips to Hurricane victims and directing them where to get help, comes into being. The Army further ensures safety against looters, and begins a massive cleanup of the devastated, debris-ridden areas. Newspapers carry stories of soldiers interacting with children, delivering babies, even babysitting.

Gradually, as people begin to trickle into the two ten cities at Florida City and Homestead, a new kind of "normal life" begins for Andrew's survivors. The sight of men and women in uniform doling out meals, the sound of planes flying overhead spraying mosquito poison, the roar of Army trucks and helicopters, the hum of generators, all became part of the daily experience. Andrew's victims face a long struggle ahead, but this struggle becomes a little more bearable as the Army's relief effort helps fulfill the basic needs of food and shelter.

From his gutted photolab, Masud Quraisyh painstakingly retrieves aerial slides of Miami in its, lush, bygone, glory. Then, touring the devastated area in helicopter, he takes pictures of Miami ravaged, laid waste by Hurricane Andrew. He decides to publish the pictures side by side in a book entitled "Before and After Hurricane Andrew". This will be his attempt to express the almost inexpressible sense of loss felt by so many who witnessed what Andrew did to their city in the early hours of August 24, 1992.

Hurricane Andrew was the third strongest hurricane to hit the United States, and the costliest, incurring up to an estimated \$20 billion in public and private property losses. Andrew made an estimated 250,000 Floridians homeless, and swept away 86,000 jobs. A total of 1,07,879 dwellings were affected by the Hurricane in Dade, Broward, and Collier Counties. Of these, 19,282 were completely destroyed, 38,789 sustained major damage, and 49,808 received minor damage. A total of \$7.3 billion in insurance claims is expected to be filed.

# A COMMUNITY'S STORY

Local parks and mantras sustained a loss of \$67.6 million. 1,500 recreational boats, with an estimated value of \$500 million, were either damaged or destroyed. Hurricane Andrew virtually wiped out Dade County's \$1 billion agriculture industry. Almost all of Dade County, some 1.4 million of FPL's customers, lost power during the Hurricane. Some 2,200 street lights, and 100,000 traffic signals were knocked down. 1,618 traffic signals went out of operation. Efforts to recover from Andrew's devastation will continue into the first decade of the next century.

In her book, Miami U.S.A., Helen Muir describes the soul of Miami: "It is a soul

made up of survivors, those who did not flee to the hills when assaulted by crime and senseless violence, uprootings and displacement, irrational politicians or mere hurricanes that wiped them out but set them to forging new paths."

How aptly this describes the soul of South Florida in the aftermath of Hurricane Andrew. Even though normal lives, jobs, and in many cases hopes and dreams for the future have all blown away, even though many mourn the terrible devastation that Andrew left in its wake, and lament that South Florida will never be the same again, there are equally as many who say: "We will rebuild, and it will be even better than before."

## BIBLIOGRAPHY

Muir, Helen. Miami, USA. The Pickering Press, 1953

## NEWSPAPERS AND PERIODICALS

The Miami Herald  
Newsweek  
The Sun Sentinel  
Time



## Lesson 2: What is a hurricane?

### Florida State Standards:

**SC.4.N.3.1:** Explain that models can be three dimensional, two dimensional, an explanation in your mind, or a computer model.

**SC.6.N.3.4:** Identify the role of models in the context of the sixth grade science benchmarks.

**SC.7.N.3.2:** Identify the benefits and limitations of the use of scientific models.

**SC.912.N.3.5:** Describe the function of models in science, and identify the wide range of models used in science.

**SS.4.G.1.4:** Interpret political and physical maps using map elements (title, compass rose, cardinal directions, intermediate directions, symbols, legend, scale, longitude, latitude)

**SS.4.A.1.I:** Use primary and secondary resources to obtain information about important people and events from Florida history

### Essential Question(s):

- How are hurricanes formed and classified?
- What are the characteristics and dangers of a hurricane?

### Materials:

- Suggested arts and crafts supplies for a 3D model or diorama of a hurricane: paper, pencils, markers, cotton, glue, etc.
- Radar images of Hurricane Andrew
  - [http://www.geography.hunter.cuny.edu/tbw/wc.notes/11.hurricanes/h\\_andrew\\_radar.htm](http://www.geography.hunter.cuny.edu/tbw/wc.notes/11.hurricanes/h_andrew_radar.htm)
  - <https://www.weather.gov/images/mfl/events/andrew/andnewradar.JPG>
  - <http://www.photolib.noaa.gov/nws/andy1.html>
- Aerial views of Hurricane Andrew
  - [http://photos.state.gov/libraries/amgov/3234/week\\_2/04132012\\_goes7\\_andrew-600.jpg](http://photos.state.gov/libraries/amgov/3234/week_2/04132012_goes7_andrew-600.jpg)
  - [http://waves.marine.usf.edu/oceans\\_menu/satellites/3\\_StormSeaLevel/3a\\_hurricane-andrew.JPG](http://waves.marine.usf.edu/oceans_menu/satellites/3_StormSeaLevel/3a_hurricane-andrew.JPG)
- Library of Congress Photo Analysis Worksheets (attached)
- National Weather Center Color Codes Chart
  - <https://www.weather.gov/bro/mapcolors>

## Background Information:

A **hurricane** can form at any time of year, but the typical “season” runs from June 1<sup>st</sup> through November 30<sup>th</sup>. During this time, the conditions are ideal for the formation of a system that can develop into a hurricane. Usually, these **tropical cyclones** begin as **tropical waves** and, if the conditions are right, evolve into **tropical depressions**, **tropical storms** and then **hurricanes**.

Tropical cyclones depend on warm and moist air for fuel. These storms form over the ocean as warm air at the surface of the water rises. This leaves a low **pressure** area above the water’s surface. The air surrounding this area will have a higher pressure and pushes into the low pressure area and warms. The process begins again, creating a rotating column of air. As the air rises and cools, clouds form and continue spinning. As the system continues to rotate, an **eyewall** will form in the center. The **eye of a storm** is very calm with low pressure.<sup>8</sup> In addition to an eye and eyewall, tropical cyclones consist of **rain bands** that spiral out from the center of the storm. Storms can vary greatly in size. The largest storm on record was **Typhoon Tip** with a 675 mile **radius** and the smallest was Tropical Cyclone Tracy with a 30 mile radius.<sup>9</sup>

Storms are also categorized based on wind speed using the **Saffir/Simpson Scale**. A tropical storm will have **sustained winds** of 39mph or higher. When those sustained speeds reach 74mph, a hurricane has officially formed.<sup>10</sup> As the wind speeds increase, the intensity and severity of the storm also increases. A Category 1 storm has sustained winds between 74-95mph. Category 2 storms have speeds from 96-110mph. Major storms begin at Category 3 with sustained winds of 111-129mph. Category 4 and 5 storms have sustained wind speeds of 130-156mph and 157mph or higher, respectively.<sup>11</sup>

## Key Vocabulary:

Hurricane, tropical cyclone, tropical wave, tropical depression, tropical storm, pressure, eye of the storm, eye wall, rain band, typhoon, radius, diameter, Saffir/Simpson Scale, sustained winds, diagram.

## Educational Strategies/Instructional Procedures:

- Review the images and discuss. Some ideas for discussion:
  - Orient the images
    - Find north, south, east and west.
    - Locate features you can identify like cities, bodies of water, etc.
  - What do the different colors on radar images tell us? Can you use your prior knowledge of hurricanes to determine what the colors might mean? What structures and shapes are visible in the satellite images? What structures are not visible?

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<sup>8</sup> <https://spaceplace.nasa.gov/hurricanes/en/>

<sup>9</sup> [http://www.srh.noaa.gov/srh/jetstream/tropics/tc\\_structure.html](http://www.srh.noaa.gov/srh/jetstream/tropics/tc_structure.html)

<sup>10</sup> <https://spaceplace.nasa.gov/hurricanes/en/>

<sup>11</sup> <http://www.nhc.noaa.gov/aboutsshws.php>

- Use the National Weather Center Color Codes Chart to learn more about how colors are used to visualize weather events.
- Review the background information. Ask students to conduct more research about hurricanes. Their research should include information and images that will help them design, build and then share a 3D model or diorama
  - Optional format for group research:
    - Separate students into groups.
    - Assign each group to research a specific topic. These may include technologies used to track and study hurricanes, how are hurricanes formed, hazards such as storm surges, wind damage.
    - Each group then teaches the rest of the class.
    - Students should take notes during each presentation for use in designing and building their model.
- Ask students to create a diagram of a tropical cyclone and include labels of all the parts. To show the interior, create a cross-section diagram.
- Provide varied materials and ask students to build detailed 3D models or dioramas of a hurricane using their diagrams. They should include a cross section to show internal structures.

**Additional Resources:**

Simulating ideal conditions for a hurricane

<http://www.nhc.noaa.gov/outreach/games/canelab.htm>

Atmospheric or Barometric Pressure

<http://www.livescience.com/39315-atmospheric-pressure.html>

Naming protocols

<http://geology.com/hurricanes/hurricane-names.shtml>

Making a simple diorama

<http://www.stormthecastle.com/diorama/how-to-make-a-simple-diorama.htm>

“Wall of Wind”

<http://news.fiu.edu/2012/08/fiu-unveils-new-wall-of-wind-capable-of-simulating-category-5-hurricane-winds/43854>

Modeling a tornado

<http://www.iflscience.com/technology/this-incredible-video-lets-you-see-what-it-looks-like-inside-a-tornado/>

# TEACHER'S GUIDE ANALYZING PHOTOGRAPHS & PRINTS



Guide students with the sample questions as they respond to the primary source. Encourage them to go back and forth between the columns; there is no correct order.

## ANALYZE

### Have students identify and note details.

**Sample Question:**  
Describe what you see. • What do you notice first? • What people and objects are shown? • How are they arranged? • What is the physical setting? • What, if any, words do you see? • What other details can you see?

## REFLECT

### Encourage students to generate and test hypotheses about the image.

Why do you think this image was made? • What's happening in the image? • When do you think it was made? • Who do you think was the audience for this image? • What tools were used to create this? • What can you learn from examining this image? • What's missing from this image? • If someone made this today, what would be different? • What would be the same?

## QUESTION

### Have students ask questions to lead to more observations and reflections.

What do you wonder about...  
who? • what? • when? • where? • why? • how?

## FURTHER INVESTIGATION

**Help students to identify questions appropriate for further investigation, and to develop a research strategy for finding answers.**

**Sample Question:** What more do you want to know, and how can you find out?

**A few follow-up activity ideas:**  
**Beginning**  
Write a caption for the image.

**Intermediate**  
Select an image. Predict what will happen one minute after the scene shown in the image. One hour after? Explain the reasoning behind your predictions.

**Advanced**  
Have students expand or alter textbook or other printed explanations of history based on images they study.

For more tips on using primary sources, go to <http://www.loc.gov/teachers/>

## PRIMARY SOURCE ANALYSIS TOOL



[Redacted]	[Redacted]	[Redacted]
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### FURTHER INVESTIGATION

### Lesson 3: Tracking a hurricane

#### Florida State Standards:

**SS.4.G.1.4:** Interpret political and physical maps using map elements (title, compass rose, cardinal directions, intermediate directions, symbols, legend, scale, longitude, latitude).

**SS.5.G.1.2:** Use latitude and longitude to locate places.

**SS.6.G.1.1:** Use latitude and longitude coordinates to understand the relationship between people and places on the Earth.

#### Essential Question(s):

How do you track a hurricane?

#### Materials:

- Blank map of the Atlantic and Caribbean
- Hurricane data set including Date, Latitude and Longitude
- Graphic organizer

#### Background Information:

Lines of **latitude** are imaginary **horizontal** lines on the surface of the earth that help us to measure the **angular distance** north or south from the earth's **equator**.<sup>12</sup> Lines of **longitude** are imaginary **vertical** lines that extend from the **North pole** to the **South pole** across the surface of the earth. These lines are also used to measure angular distance, but the **prime meridian** is the designated starting point.<sup>13</sup>

Hurricanes travel across the surface of the earth and their position at any given time is described using latitude and longitude. Both are written using **degrees** and **minutes**. For Latitude, degrees run from 0° at the equator to 90° at the poles and distinguished by an N for North and an S for South. Each degree can be broken down into 60 minutes,

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<sup>12</sup> <https://www.merriam-webster.com/dictionary/latitude>

<sup>13</sup> <http://www.kidsgeo.com/geography-for-kids/0015-longitude.php>

symbolized by an apostrophe (') next to the number. Longitude is also measured in degrees and begins with 0° at the prime meridian. Heading east there are 180° E and heading West there are up to 180° W. These horizontal degrees can also be broken down into minutes and are symbolized by the same apostrophe ('). Finally, each minute can be broken down into seconds, symbolized using ("). As an example, HistoryMiami Museum is located at 25° 46' 28.5312" Latitude and 80° 11' 48.3792" W Longitude.<sup>14</sup>

**Key Vocabulary:**

Latitude, longitude, horizontal, vertical, angular distance, equator, North pole, South pole, prime meridian, degrees, minutes.

**Educational Strategies/Instructional Procedures:**

- Share the essential questions with your students
- Instruct the students to take notes with the graphic organizer to help them prepare for their discussions.
- Review Latitude and Longitude as well as how to plot on a 2-dimensional map. Use the one provided or create your own.
- Provide students with the Hurricane Andrew preliminary best track data set and plot one or two data points as a group. Ask them to continue plotting the points on their own or in groups.

**Additional Resources:**

- For younger students, try this resource all about hurricanes:
  - <http://weatherwizkids.com/weather-hurricane.htm>
- For information about some of the technology used to track hurricanes, try these resources:
  - <http://www.usatoday.com/story/weather/2016/02/22/supercomputer-reston-noaa-cray-ibm/80290546/>
  - <http://www.cbsnews.com/news/national-weather-service-noaa-two-supercomputers-upgrades-better-forecasting/>

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<sup>14</sup> <http://www.latlong.net/>

- <https://weather.com/safety/hurricane/news/tracking-hurricanes-20120330>
- Ocean currents affect the route and strength of hurricanes. To learn more, try some of these resources:
  - [http://oceanservice.noaa.gov/education/tutorial\\_currents/welcome.html](http://oceanservice.noaa.gov/education/tutorial_currents/welcome.html)
  - <http://geography.about.com/od/physicalgeography/fl/What-Are-the-Major-Surface-Ocean-Currents.htm>
- News reports often include the “Cone of Uncertainty” and various “Models” when discussing hurricanes. To learn more, try some of these resources:
  - <http://www.nhc.noaa.gov/aboutcone.shtml>
  - [http://www.nhc.noaa.gov/pdf/model\\_summary\\_20090724.pdf](http://www.nhc.noaa.gov/pdf/model_summary_20090724.pdf)



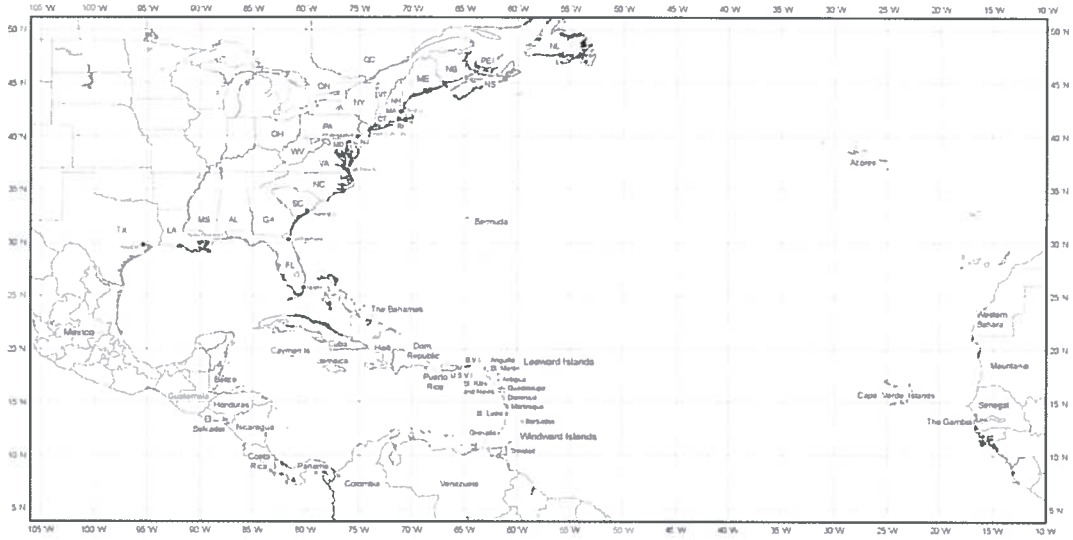
# Hurricane Andrew

Essential Question: How do you track a hurricane?

What I think I know	What I wonder	Facts learned & responses



**Atlantic Basin Hurricane Tracking Chart**  
National Hurricane Center, Miami, Florida



[http://www.nhc.noaa.gov/images/tracking\\_chart\\_atlantic.png](http://www.nhc.noaa.gov/images/tracking_chart_atlantic.png)

**Preliminary best track, Hurricane Andrew, 16-28 August, 1992.**

Date/Time (UTC)	Position		Pressure (mb)	Wind Speed (kt)	Stage
	Lat. (°N)	Lon. (°W)			
16/1800	10.8	35.5	1010	25	Tropical Depression
17/0000	11.2	37.4	1009	30	" "
0600	11.7	39.6	1008	30	" "
1200	12.3	42.0	1006	35	Tropical Storm
1800	13.1	44.2	1003	35	" "
18/0000	13.6	46.2	1002	40	" "
0600	14.1	48.0	1001	45	" "
1200	14.6	49.9	1000	45	" "
1800	15.4	51.8	1000	45	" "
19/0000	16.3	53.5	1001	45	" "
0600	17.2	55.3	1002	45	" "
1200	18.0	56.9	1005	45	" "
1800	18.8	58.3	1007	45	" "
20/0000	19.8	59.3	1011	40	" "
0600	20.7	60.0	1013	40	" "
1200	21.7	60.7	1015	40	" "
1800	22.5	61.5	1014	40	" "
21/0000	23.2	62.4	1014	45	" "
0600	23.9	63.3	1010	45	" "
1200	24.4	64.2	1007	50	" "
1800	24.8	64.9	1004	50	" "
22/0000	25.3	65.9	1000	55	" "
0600	25.6	67.0	994	60	" "
1200	25.8	68.3	981	70	Hurricane
1800	25.7	69.7	969	80	"
23/0000	25.6	71.1	961	90	"
0600	25.5	72.5	947	105	"

1200	25.4	74.2	933	120	"
1800	25.4	75.8	922	135	"
24/0000	25.4	77.5	930	125	"
0600	25.4	79.3	937	120	"
1200	25.6	81.2	951	110	"
1800	25.8	83.1	947	115	"
25/0000	26.2	85.0	943	115	"
0600	26.6	86.7	948	115	"
1200	27.2	88.2	946	115	"
1800	27.8	89.6	941	120	"
26/0000	28.5	90.5	937	120	"
0600	29.2	91.3	955	115	"
1200	30.1	91.7	973	80	"
1800	30.9	91.6	991	50	Tropical Storm
27/0000	31.5	91.1	995	35	" "
0600	32.1	90.5	997	30	Tropical Depression
1200	32.8	89.6	998	30	" "
1800	33.6	88.4	999	25	" "
28/0000	34.4	86.7	1000	20	" "
0600	35.4	84.0	1000	20	" "
1200					Merging with frontal system
23/1800	25.4	75.8	922	135	<b>Minimum Pressure</b>
24/0905	25.5	80.3	922	125	" "

## **Lesson 4: *Legacy***

### **Florida State Standards:**

**LAFS.K12.R.1** (Key Ideas and Details)

**LAFS.68.RST.1.1** (Cite specific textual evidence to support analysis of science and technical texts)

**LAFS.K12.R.3** (Integration of Knowledge and Ideas)

**LAFS.68.WHST.3.9** (Draw evidence from informational texts to support analysis reflection, and research)

**SC.6.E.7.7** (Investigate how natural disasters have affected human life in Florida)

**SC.6.E.7.8** (Describe ways human beings protect themselves from hazardous weather and sun exposure)

### **Essential Question(s):**

- What was the emotional and economical impact of the storm on South Florida residents?
- Did South Florida adjust the way it prepares its residents for a storm after Andrew? What was learned from Andrew?
- How did various communities react to the aftermath of the storm?

### **Materials:**

- Graphic Organizer
- <http://www.readwritethink.org/professional-development/strategy-guides/socratic-seminars-30600.html>
- Article: <http://www.npr.org/2012/08/23/159613339/hurricane-andrews-legacy-like-a-bomb-in-florida>
- Site: <http://www.miamiherald.com/news/weather/hurricane/article32006499.html>
- Site: <http://flashbackmiami.com/2016/08/23/hurricane-andrew/>

### **Oral History Guides**

City Lore’s oral history guide helps teachers and students prepare to speak with classroom guests and community members. It includes listening and note-taking exercises and suggestions for conducting an excellent interview; a must for teachers interested in having their students conduct community-based fieldwork.

[https://www.slideshare.net/citylore/city-lore-interviewing-guide?from=ss\\_embed](https://www.slideshare.net/citylore/city-lore-interviewing-guide?from=ss_embed)

### **Background Information:**

The article discusses the impact of the storm on the lives of Miamians. The author also explores cause and effect.

### **Key Vocabulary:**

Hurricane, Hurricane Andrew, meteorology, meteorologist, natural disaster, forecast, Florida, Miami, text complexity, informational text

### **Educational Strategies/Instructional Procedures:**

- Share the essential questions with your students
- Have students read the NPR article and explore the *Flashback Miami Hurricane Andrew* site
- Instruct the students to take notes with the graphic organizer to help them prepare for their discussions
- Effective text dependent questions encourage students to spend time lingering over a specific portion of the text looking for answers instead of just a cursory look to get the gist of what is meant.
- In groups, have students discuss the following:
  - Ask why the author chose the title “Like a Bomb in Florida”
  - Analyze how portions of the text relate to each other and the whole
  - Notice what’s missing or understated
  - Investigate beginnings and endings of texts
  - Have students answer/discuss the essential questions and utilize the various texts to support their answers

- Have students report and share out their findings/analysis
- Assign students the task of interviewing a family member, community member, school member, etc. that experienced Hurricane Andrew
  - What impact did the storm have on their lives?
  - How was their community impacted?
  - What should Miamians do differently to prepare for a storm?

**Additional Resources:**

<http://www.readwritethink.org/classroom-resources/lesson-plans/introducing-each-other-interviews-17.html>

<http://historymiamiarchives.org/guides/index.php?p=digitallibrary/thumbnails&q=hurricane+andrew>

# Hurricane Andrew

**Essential Question: What was the emotional and economical impact of the storm on South Florida residents?**

What I think I know	What I wonder	Facts learned & responses



## **Questions for Analyzing Primary Sources**

*Adapted from the Library of Congress*

### Process

1. Who created the source and why? How do you think it was created: spur of the moment act, routine transaction, or a thoughtful, deliberate process?
2. What is the author's intent in creating this document? What is its purpose? Did the author produce the document for personal use, for one or more persons, or for a large audience? Was the document meant to be public or private?
3. Was the information recorded during the event, immediately after the event, or after some lapse of time? How large a lapse of time?

### Bias, Perspective, Interpretation

4. Did the author have firsthand knowledge of the event or did the author report what others saw and heard?
5. Was the author a neutral party or did the author have opinions or interests that might have influenced what was recorded? Did the author wish to inform or persuade others? Did the author have reasons to be honest or dishonest?
6. What does this document tell us about the social and political climate of the particular period when it was produced?

### Cross-checking

7. How does this document support and/or conflict with what you've read in other sources? Was this document addressed in other sources, such as a textbook? If not, why do you think it wasn't included?
8. Briefly explain your response to this document. How do the issues addressed in this document relate to our current social/political environment?
9. Write a question to the author that is left unanswered by the document.

## **Lesson 5: *Visual Literacy***

### **Florida State Standards:**

**SS.4.C.2.1:** Discuss public issues in Florida that impact the daily lives of its citizens

**LAFS.K12.R.3.7:** Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words

**LAFS.K12.R.3.9:** Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take

**VA.3.C.3.2:** Describe the connections between visual art and other contexts through observation and art criticism

**VA.68.C.3.3:** Use analytical skills to understand meaning and explain connections with other contexts

**SS.4.A.1.1:** Use a primary and secondary resource to obtain information about a famous person or event from Florida history.

### **Essential Question(s):**

- What stories do the images tell? How is the impact of the storm documented? From whose perspective?
- How do photographs affect the stories they represent?

### **Materials:**

- Photographs from HMM Archives  
<http://historymiamiarchives.org/guides/index.php?p=digitallibrary/thumbnails&q=hurricane+andrew>
- <https://www.facinghistory.org/resource-library/teaching-strategies/fishbowl>
- Visual Literacy document/example
- Analyzing Photographs Tool
- Primary Source Analysis Tool
- <http://www.loc.gov/teachers/usingprimarysources/guides.html>

**Background Information:** Refer to Lesson 1

**Key Vocabulary:**

Perspective, Primary Source, Impact, Visual Literacy

**Educational Strategies/Instructional Procedures:**

- Teaching visual literacy through primary sources and photography.
- Introduce the Essential Questions to the students.
- Divide participants into groups and distribute photographs for the groups to examine and discuss.
- Share analysis tools with each participant to use as they analyze their photographs.
- In a large group discussion, have participants share observations and conclusions.
- Share photographs and analyze them as a group. What is the photograph documenting? How do you make meaning of the composition and photograph? What information is used?

**Additional Resources:**

<http://www.sun-sentinel.com/news/weather/hurricane/sfl-hurricaneandrew-photogallery.html>

[https://www.edutopia.org/pdfs/coop\\_math\\_bowman/bowman\\_fishbowl\\_method.pdf](https://www.edutopia.org/pdfs/coop_math_bowman/bowman_fishbowl_method.pdf)

<http://www.gettyimages.com/photos/hurricane-andrew?excludenudity=true&sort=mostpopular&mediatype=photography&phrase=hurricane%20andrew>

<https://www.archives.gov/education/lessons/worksheets/photo.html>

<https://learning.blogs.nytimes.com/2015/02/27/10-intriguing-photographs-to-teach-close-reading-and-visual-thinking-skills/>

<https://florida.pbslearningmedia.org/resource/visual-literacy/visual-thinking-strategies/#.WNSHkRjMySM>

Reset Form

### Photo Analysis Worksheet

Print Form

#### Step 1. Observation

A. Study the photograph for 2 minutes. Form an overall impression of the photograph and then examine individual items. Next, divide the photo into quadrants and study each section to see what new details become visible.

B. Use the chart below to list people, objects, and activities in the photograph.

People	Objects	Activities

#### Step 2. Inference

Limit response for each question to 5 lines of text

Based on what you have observed above, list three things you might infer from this photograph.

#### Step 3. Questions

A. What questions does this photograph raise in your mind?

B. Where could you find answers to them?

Reset Form

Designed and developed by the  
Education Staff, National Archives and Records Administration,  
Washington, DC 20408

Print Form

# TEACHER'S GUIDE ANALYZING PHOTOGRAPHS & PRINTS



Guide students with the sample questions as they respond to the primary source. Encourage them to go back and forth between the columns; there is no correct order.

## IDENTIFY

### Have students identify and note details.

Sample Question:

- Describe what you see. • What do you notice first? • What people and objects are shown? • How are they arranged? • What is the physical setting? • What, if any, words do you see? • What other details can you see?

## EVALUATE

### Encourage students to generate and test hypotheses about the image.

- Why do you think this image was made? • What's happening in the image? • When do you think it was made? • Who do you think was the audience for this image? • What tools were used to create this? • What can you learn from examining this image? • What's missing from this image? • If someone made this today, what would be different? • What would be the same?

## QUESTIONS

### Have students ask questions to lead to more observations and reflections.

- What do you wonder about... who? • what? • when? • where? • why? • how?

## FURTHER INVESTIGATION

### Help students to identify questions appropriate for further investigation, and to develop a research strategy for finding answers.

Sample Question: What more do you want to know, and how can you find out?

**A few follow-up activity ideas:** **Beginning** Write a caption for the image.

**Intermediate** Select an image. Predict what will happen one minute after the scene shown in the image. One hour after? Explain the reasoning behind your predictions.

**Advanced** Have students expand or alter textbook or other printed explanations of history based on images they study.

For more tips on using primary sources, go to <http://www.loc.gov/teachers>



**Title:** Hurricane damaged subdivision in South Dade

**Date:** 1992

**Description:** Shows aerial view of a subdivision that was severely damaged by Hurricane Andrew. Phys. Desc: 1 slides : col. ; 35mm.

**ID:** 2005-387-1-6-1

**Repository:** HistoryMiami Archives & Research Center

**Creators:** [Quraishy, Masud](#)

<http://historymiamiarchives.org/guides/>

## **Lesson 6: *Impact of the Storm***

### **Florida State Standards:**

**LAFS.K12.R.1** (Key Ideas and Details)

**LAFS.K12.R.3** (Integration of Knowledge and Ideas)

**LAFS.68.WHST.3.9** (Draw evidence from informational texts to support analysis reflection, and research)

**SC.6.E.7.7** (Investigate how natural disasters have affected human life in Florida)

**SS.4.A.1.1:** Use a primary and secondary resource to obtain information about a famous person or event from Florida history.

### **Essential Question(s):**

- What have we (Miamians/South Floridians) learned from Hurricane Andrew?
- What would we do differently?

### **Articles below:**

- [https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/1996%20Demog%20\(Hurr%20Andrew\).pdf](https://www.bebr.ufl.edu/sites/default/files/Research%20Reports/1996%20Demog%20(Hurr%20Andrew).pdf)
- <http://www.hurricanesience.org/history/storms/1990s/andrew/>
- <http://www.fireengineering.com/articles/print/volume-165/issue-2/features/the-evolution-of-federal-emergency-response-since-hurricane-andrew.html>
- [http://www.huffingtonpost.com/2012/08/21/20-facts-hurricane-andrew-anniversary\\_n\\_1819405.html](http://www.huffingtonpost.com/2012/08/21/20-facts-hurricane-andrew-anniversary_n_1819405.html)
- <http://www.miamiherald.com/news/weather/hurricane/article97542002.html>
- <http://www.miamiherald.com/news/special-reports/hurricane-andrew/article1940341.html>
- <http://www.photolib.noaa.gov/htmls/wea00579.htm>

**Background Information:**

See articles listed above and Lesson 1 of this Resource Guide.

**Key Vocabulary:**

Impact, demolished, property tax values, Public Service Announcement, persuasion

**Educational Strategies/Instructional Procedures (multiple days):**

- Review the essential questions with your students
- Choose one or two articles to read as a class and have students use the *Document Analysis Organizer* in pairs or small groups to prepare for a *Socratic Seminar*
- <https://www.edutopia.org/blog/socratic-seminars-culture-student-led-discussion-mary-davenport>
- Use the information gathered from the document analysis and the *Socratic Seminar* to work in small groups and/or as a class to create/produce a PSA to address community concerns, needs, and preparedness for a disaster

**Additional Resources:**

<https://www.teachingchannel.org/videos/bring-socratic-seminars-to-the-classroom>

<http://www.readwritethink.org/classroom-resources/lesson-plans/mytube-changing-world-with-1069.html?tab=1#tabs>

[http://cleanet.org/cced\\_media/your\\_classroom/activities/75638.html](http://cleanet.org/cced_media/your_classroom/activities/75638.html)

Destruction at dawn: What Hurricane Andrew did to South Florida 24 years ago

<http://www.miamiherald.com/news/weather/hurricane/article32006499.html#storylink=copy>

<http://www.rocktwp.org/cms/lib011/NJ01812899/Centricity/domain/425/socratic%20method/Socratic%20Seminar%20Handouts.pdf>



## Document Analysis Organizer

Article: \_\_\_\_\_

Detail/Concept	Impact	Notes
1.		
2.		
3.		

In reflecting on the article(s) and essential questions, what are some suggestions to support communities all over to address a natural disaster?

What are some tactics a community can utilize to affect social change and combat the negative impact of a natural disaster?

## Bibliography

- Gibson, K.B. (2006). *The fury of Hurricane Andrew, 1993*. Hockessin, DE: Mitchell Lane.
- Green, J. (2005). *Hurricane Andrew*. Milwaukee: Gareth Stevens Pub.
- Harper, K. (2005). *Hurricane Andrew*. New York: Facts on File.
- Lyskowski, R., & Rice, S. (1992). *The Big one: Hurricane Andrew*. Kansas City: Andrews and McMeel.
- Provenzo, E.F., & Baker, B.P. (2002). *In the eye of Hurricane Andrew*. Gainesville, FL: Univ. Press of Florida.
- Sheets, B., & Williams, J. (2001). *Hurricane watch: forecasting the deadliest storms on earth*. New York: Vintage.
- Simon, S. (2007). *Hurricanes*. New York, NY: Collins.