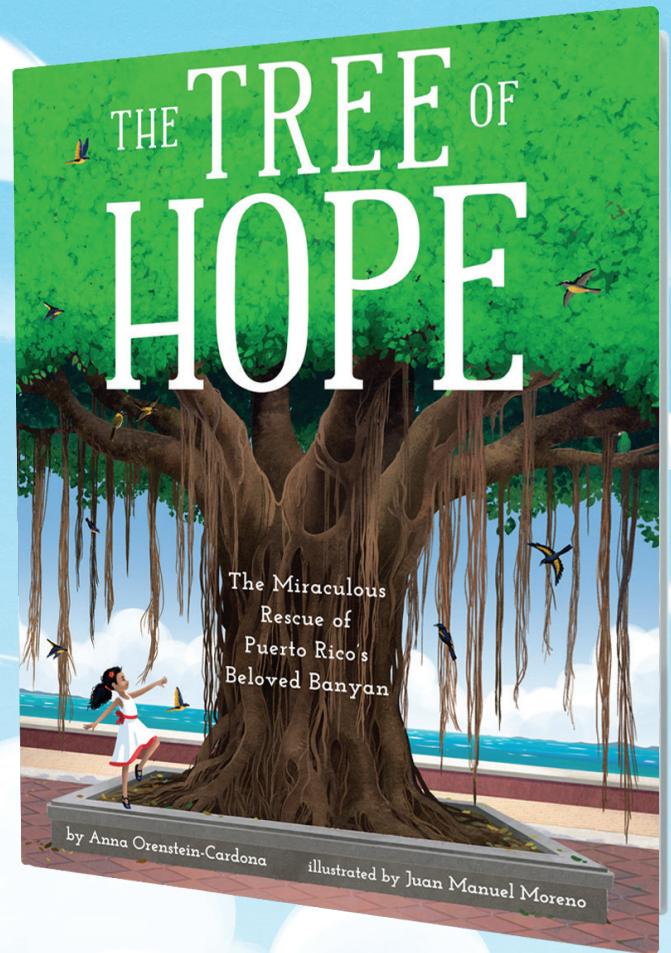


THE TREE OF HOPE

The Miraculous Rescue of
Puerto Rico's Beloved Banyan

by Anna Orenstein-Cardona
illustrated by Juan Manuel Moreno

EDUCATOR'S GUIDE



Introduction

Dear Readers,

Having witnessed natural disasters firsthand, I understand how heartbreaking such events can be and how deep the emotional scars can run, especially for children.

Although this book focuses on the events surrounding Hurricane Maria, its story is universal, as sadly, events like wildfires, harsh winters, storms, floods, and hurricanes have increased in frequency all around the world.

According to a study by the International Federation of Red Cross and Red Crescent Societies, there has been a 35 percent increase in climate disasters since the 1990s. Many of these are driven by factors such as climate change and an increase of extreme weather in many regions.

As such, it is important to teach our children about such events, what we can do to prepare, how to recover from them, and most importantly, why we must unite and hold on to hope during times of extreme turmoil.

Finally, I believe it is vital to ensure that our future generations learn about the intrinsic bond between humans and nature and what we can do to protect one another. After all, just like the roots of the banyan tree in the story, we must deepen our bonds within our communities and with the world around us. After all, we are all in this together.

Anna Orenstein-Cardona

About the Book

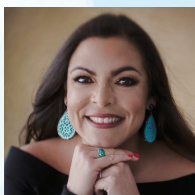
When Hurricane Maria devastated the Caribbean island of Puerto Rico, el jagüey blanco, the banyan tree that had stood guard by the historic San Juan Gate, was uprooted and fell into the sea. For locals, the ancient tree, which weighed over 30,000 pounds and measured over 50 feet in height, symbolized the indomitable spirit of the Puerto Rican people, and its fall was a shattering blow. *The Tree of Hope* is inspired by the tree's miraculous rescue and regrowth, a reminder of the power of community and the importance of never giving up.

About This Guide

This guide offers activities to help teachers integrate *The Tree of Hope* into the classroom.

KEY TOPICS: Discussion and activities have been created to help children grasp the importance of trees and of protecting nature, develop knowledge about hurricanes, and understand the importance of community and finding hope during difficult times.

About The Author and Illustrator



ANNA ORENSTEIN-CARDONA was born and raised in Puerto Rico. After attending the Massachusetts Institute of Technology, she worked for over two decades in finance in the United States and Europe, before turning to writing for children. Anna is an alumna of Faber Academy and an active member of the Society of Children's Book Writers and Illustrators (SCBWI).



JUAN MANUEL MORENO is an illustrator based in Buenos Aires, Argentina. He spent most of his childhood living in the countryside and cultivating his passion for painting. After studying graphic design, he lectured at the university and worked as an in-house illustrator for different studios. He has illustrated several picture books for international publishers.

PRE-READING DISCUSSION GUIDE

THE BOOK COVER

Show students the cover and ask:

1. Where do you think this tree is located?
2. What do you think the weather is like?
3. What is the girl doing on the cover?
4. Can you tell what kind of flower she has in her hair?
5. How many birds can you spot?
6. What colors are they?
7. What kind of relationship do you think exists between the girl, the birds, and the tree?
8. What does the word hope make you think about?
9. What do you think this book is about?
10. What is different about this tree versus other trees?

Answers (in order)

1. Old San Juan, Puerto Rico by the ocean.
2. Warm, sunny, tropical.
3. Dancing (some may also say singing)
4. Amapola, which is the Spanish word for the hibiscus in English. The scientific name is *Hibiscus rosa-sinensis*. It is the Puerto Rican state flower. The Puerto Rican hibiscus grows wild throughout the island. Its flowers have five petals, which are heart-shaped. The color is usually red, but they can also come in pink, orange, and even white.
5. Nine birds.
6. Yellow, black, and blue.
7. Interpretation will be different for each child.
8. Answer will be different for each child. I'd love to hear them too.
9. Answers will vary, but the book is mainly about what happens to the tree on the cover (the banyan tree = el jagüey blanco) and the power of hope.
10. The trunk is very large but grows in a contained space near the sea. It has aerial roots that hang from the branches.

BUILDING BACKGROUND KNOWLEDGE

**For all hurricane-related questions, please refer to "All about Hurricanes," below.*

- What do you love about trees?
- What do trees provide to us?
- How can we better look after trees? How about nature as a whole?
- Do you know the main characteristics of a hurricane?
- Have you ever experienced a hurricane?
- Do you know what are the typical months for hurricanes in the Caribbean?
- How many categories can a hurricane have? Which is the weakest category, and which is the strongest?
- What are the most important things you need to prepare for before a hurricane?
- What do you think are the consequences of a hurricane?
- How would you feel if you didn't have water or electricity for one month? How about three to six months?

- What would having no running water for so long mean to you?
- How would you be able to cook without electricity?
- What does the word community mean to you?
- Why is it important to have hope during difficult times?

VOCABULARY

Vocabulary needed to help understand the concepts in this story:

- **BANYAN TREE (JAGÜEY BLANCO)** – Can be known by various names depending on its origin. The banyan tree of Old San Juan is a *Ficus citrifolia*. Banyan trees are known to have long aerial roots that hang down and look to take root on the ground.
- **COMMUNITY** – Refers to a group of people who live in a particular area and/or share similar characteristics, such as culture and heritage.
- **HOPE** – A feeling of optimism and trust.
- **HURRICANES** – Naturally occurring phenomena in the tropical region that are caused by a combination of factors such as warm sea surface temperatures, light winds in the upper atmosphere, and moisture. Hurricanes are defined by having a wind force equal to 74 mph or higher. They cause great devastation due to strong winds, heavy rains, and extremely high waves and storm surge.
- **PUERTO RICO** – A Caribbean island and unincorporated territory of the United States. Both Spanish and English are the official languages on the island. All Puerto Rican citizens are US citizens, and the currency is the US dollar. Puerto Rico is 100 miles long and 35 miles wide. Its capital is San Juan. The population on the island is around 3.2 million, and approximately 5.8 million Puerto Ricans live in the United States.

INTERESTING FACTS ABOUT BANYAN TREES

- Banyan trees are also known to be fig trees.
- There are over 750 species of fig trees.
- The jagüey blanco (banyan tree) in the book is a *Ficus citrifolia*. They are native to the Caribbean islands, Central America, South America, and south Florida.
- Banyans are the world's biggest trees in terms of the area they cover.
- The aerial roots that hang from a banyan tree's branches look to take root in the soil to become new trunks! That is why its trunk appears to be a tangle of roots and trunks.
- The aerial roots are key to a banyan tree's survival, as the underlying soil root system is not enough to support the heavy and massive tree.
- The oldest known banyan tree is 250 years old and is in India.

BIRDS IN THE STORY

Different Puerto Rican birds that appear in the book: Puerto Rican spindalis (commonly known as reina mora), Antillean euphonia (commonly known as jilguero), Puerto Rican oriole (*Icterus portoricensis*), oriole, zorzal patirrojo (red-legged thrush).

LET'S LEARN SOME SPANISH!

TREE-RELATED WORDS:

banyan tree = jagüey blanco
branches = ramos
leaves = hojas
roots = raíces
tree = árbol
trunk = tronco

PUERTO RICO AND STORY-RELATED WORDS:

boat = barco
book = libro
Caribbean = caribe
flag = bandera
food = comida
girl = niña
house = casa
hurricane = huracán
island = isla
light = luz
ocean = mar
Old San Juan = Viejo San Juan
sun = sol
water = agua

ANIMALS IN THE BOOK:

bird = pájaro
cat = gato
dog = perro
parrot = cotorra
pigeon = paloma

SPANISH EXPRESSIONS IN THE BOOK:

amigo = friend
¡Ay, bendito! = Oh, dear!
¡Estás vivo! = You are alive!
uno, dos, y tres = one, two, and three

WORDS TO DESCRIBE THE TREE AND PEOPLE:

centennial = centenario
courage = valentía
determination = determinación
hope = esperanza
majestic = majestuoso
strength = fuerza

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PICTURE WALK

Before reading the story, look at each page and introduce students to the concepts and vocabulary needed to understand the story. Ask students:

Page(s):

- 2–3 – How big is the tree in proportion to the Old San Juan wall? What are hanging from the tree's branches?
- 4–5 – How has the style of clothing changed through the last hundred years? What else do you think has changed during this time? What has remained the same?
- 6–7 – What do you think is happening in this picture? Can you describe what the different people are doing?
- 8–9 – How have the skies and seas changed vs. the first image in the book? What do you believe the man is thinking? *Little hidden message – Can you recognize the letters on the boat and who they are honoring? Answer: Roberto Clemente, a Puerto Rican professional baseball player who played for the Pittsburgh Pirates. His shirt number was 21.
- 10–11 – What do you see people doing, and why?
- 12–13 – Describe what you see in this scene.
- 14–15 – How does this image make you feel? Why?
- 16–17 – What do you believe the different people are thinking in this picture?
- 18–19 – What do you think it means to drift between this world and the next?
- 20–21 – How does this image make you feel? What do you think the young girl feels in this image?
- 22–23 – Can you describe what is happening in this picture? What do you think the birds are doing in this scene?
- 24–25 – How are the people helping the tree? What different types of animals can you spot?
- 26–27 – What do you think the family is doing in this image?
- 28–29 – What time of day do you think this image shows? What colors does the sky turn then?
- 30–31 – How do you think the man feels here vs. how he did on pages 8–9?
- 32–33 – What are people doing in this image?
- 34–35 – Why do you think trees and nature are important?
- 36–37 – Why do you think there's a "Behind the Story" in the book?
- 38–39 – What do you believe the tree means to the author, according to the Author's Note?

POST-READING DISCUSSION

**For all hurricane-related questions, please refer to "All about Hurricanes," below.*

STORY DISCUSSION:

- What causes hurricanes?
- Why are hurricanes dangerous?
- How can you prepare for a hurricane?
- What are ways you can store water?
- What kinds of food can you prepare without electricity?
- What are the essential items you would put together to prepare for a hurricane?
- How would you feel if you had to flee your home because of a natural disaster, like a hurricane? What would you take with you, and why?
- What do trees provide for us?
- What can we do to look after trees?
- What do the roots of a banyan tree look like?

- What different animals did you spot in the story?
- What musical instrument did you see the man in the story play?
- What can we do to conserve water?
- How can we protect the nature around us?
- Why is it so powerful when a community comes together?
- What do you think we can do to help one another during difficult times?
- How can a young child impact their local community?
- Why do you think the giant tree represents the Puerto Rican spirit?
- What are the similarities in how the tree recovered and how the Puerto Rican people recovered from Hurricane Maria?
- Why is having hope during challenging times important?

ALL ABOUT HURRICANES

Q&A with José (Jay) Álamo, lead meteorologist at the National Weather Service in Puerto Rico:

1. What causes hurricanes?

Answer: Hurricanes are naturally occurring phenomena in the tropical region that are caused by a combination of factors such as warm sea surface temperatures, light winds in the upper atmosphere, and moisture. The warm, moist air rises and condenses to form clouds and thunderstorms. Then, due to the rotation of the earth, the clouds start circulating and gathering into a cluster, eventually becoming a tropical cyclone. Once the one-minute maximum sustained winds within the tropical cyclone reaches 74 mph, the storm becomes a hurricane.

Further Details: Hurricanes are affected by the earth's rotation, which causes the *Coriolis effect*. The Coriolis effect causes the air to circulate to the right in the northern hemisphere and to the left in the southern hemisphere. This effect causes hurricanes in the northern hemisphere to spin in a counterclockwise direction. Hurricanes in the southern hemisphere spin in a clockwise direction.

2. Is the term hurricane used everywhere?

Answer: No. The term *hurricane* is used for storms in the northern-hemisphere Atlantic and the eastern Pacific, the Caribbean Sea, and the Gulf of Mexico. In the northern-hemisphere western Pacific, they are referred to as typhoons, and in the southern-hemisphere Pacific and across the Indian Ocean, they are called cyclones.

3. What are tropical cyclones?

Answer: A tropical cyclone is the actual rotating low-pressure system that develops in the tropics. The term *tropical cyclone* is used to encompass all hurricanes, typhoons, cyclones, tropical storms, and tropical depressions.

Further Details: The main development areas of hurricanes that affect the Caribbean and the USA are in the northern Atlantic, the Caribbean, and the Gulf of Mexico.

4. What are the most common months for hurricanes to occur in the Caribbean?

Answer: For Puerto Rico and much of the Caribbean, the peak months are from August 15th to October 15th.

That is when the eastern Caribbean is at most risk of tropical cyclones, given that the moisture increases during that time and the tropical waves coming off Africa have a better environment for development into a tropical cyclone. It is also the time of year when the upper-atmosphere winds are lighter and there is less Saharan dust (this dust helps dry up the air).

However, hurricane season officially starts on May 15th for the eastern Pacific and June 1st for the Atlantic and the Caribbean. It ends on November 30th.

5. Can you describe a hurricane?

Answer: A hurricane is a tropical cyclone with one-minute maximum sustained winds of at least 74 mph. Hurricanes also usually have very heavy rain, but what categorizes a tropical cyclone as a hurricane is the sustained wind speeds, not the amount of rain.

Hurricanes are then categorized from category 1 through 5 depending on the wind speed. Category 1 is the weakest hurricane, and 5 is the strongest.

6. What impact does a hurricane have?

Answer: A hurricane (tropical cyclone) can cause widespread flooding, catastrophic wind damage, storm surges (waves that go inland), and heavy rain. Also, because there is usually *so* much standing water after a hurricane (or after tropical cyclones in general), mosquitoes can become a real problem.

7. Why was Hurricane Maria so devastating?

Answer: Hurricane Maria, unfortunately, combined all the right ingredients to make it a devastating tropical cyclone with strong intensification: warm water, light upper-atmospheric winds, and plenty of moisture.

It also was a slow-moving hurricane that stayed over Puerto Rico for a long time. You see, Hurricane Maria moved at around 10–12 mph over PR, which is slow compared to other hurricanes we've had in the past that moved at around 18–20 mph, as was the case with Hurricane Georges in 1998, for example.

Because it moved more slowly, the rain was torrential and extended over a longer period of time. This in turn caused much damage, like widespread flooding, mudslides, rivers flooding out of their banks, and extensive damage to some of the main dams (such as the Guajataca dam).

If Hurricane Maria had moved more quickly, the damage could have been less because there would have been less rain, though Maria was such a strong storm that the damage would have probably still been catastrophic.

Further Details: How fast a storm moves across the area is not equivalent to how strong the winds are. Hurricane Maria moved at around 10–12 mph over Puerto Rico; however, its maximum sustained winds were 155 mph right before landfall, making it a strong category 4 (out of 5) hurricane. A hurricane's category is judged by the wind speed, not amount of rain.

8. How much time do people have to prepare for a hurricane?

Answer: Once the National Hurricane Center (NHC) forecasts that there is a potential of a tropical storm (winds of 39+ mph) affecting an area within forty-eight hours, they issue a watch.

Once it becomes within thirty-six hours, then it becomes a warning. However, through the hurricane season, there are tropical weather outlooks, which describe the potential for tropical cyclone development within five days.

Jay's role is not to issue the watches or warnings, but instead to coordinate with the National Hurricane Center the issuance of such watches and warnings, and then to focus on the potential impacts and threats that the storms might have over Puerto Rico and the US Virgin Islands—threats of flooding, wind damage, tornadoes, and storm surge—in an effort to save lives and property across Puerto Rico and the US Virgin Islands.

Process: Tropical weather outlooks (five days out), then watches (within forty-eight hours), then warnings (within thirty-six hours).

Further details from the Centers for Disease Control & Prevention (CDC) regarding alerts:

There are two kinds of alerts:

1. **Hurricane Watch** – Means the hurricane conditions (sustained winds of 74 mph or higher) are possible in a stated area. The experts announce hurricane watches forty-eight hours before they expect tropical-storm-force winds (39–73 mph) to start.
2. **Hurricane Warning** – Serious. It is given if hurricane-force winds are expected in a stated area. Experts issue these warnings thirty-six hours before tropical-storm-force winds are expected in the area.

9. How can people prepare for a hurricane?

Answer: Have a household plan! Each plan depends on each individual and/or family. For instance, if they live in a flood-prone area, they must know where they will go for safety. If there are illnesses in the family, they must have medication and supplies ready to take along.

10. Can land areas affect the strength of a hurricane?

Answer: Yes. They can weaken a hurricane slightly, but it is an urban myth that they can shield the island from hurricanes. For example, a lot of people think that the Yunque National Forest (Puerto Rico's national rain forest) pushes the hurricanes to the north. This isn't true. However, hurricanes thrive over warm water, and land areas weaken them.

Further Details: What really helps hurricanes dissipate is a "hostile" environment: cold sea surface temperatures, dry air, and strong winds in the upper atmosphere.

EXTRA MATERIAL

CDC recommendations (summary of key points from their website):

1. **Gather emergency supplies** – Gather things like food, water, medicines, power sources (flashlights, batteries), safety and personal items (fire extinguishers), important documents (passports, wills, personal ID).
2. **Make a plan** – Have emergency numbers and contacts written down, prepare an emergency supply kit, locate the nearest shelters and different routes you can take to get there. If you have pets, identify shelter and hotel-friendly places.
3. **Prepare your car** – Make sure to fill up your tank, move cars and vehicles to areas where they are covered, and have an emergency kit in your car.

4. **Get your home ready** – Clear your yard: move bikes, lawn furniture, building materials. Cover up windows and doors. Be ready to turn off your power (especially if you see flooding). Fill clean water containers. Check your carbon monoxide (CO) detector's batteries. Unplug your appliances. Turn off the gas, electricity, and water.
5. **Get ready to evacuate** – Follow the plan and roads that emergency workers recommend. Grab all necessary emergency supplies and equipment that you really need. Top needs: cell phones, chargers, medicines, IDs, cash.
6. **If you stay at home** – Listen to the radio/TV, stay inside, stay away from windows, keep an emergency supply kit in an easily accessible place.

HURRICANE CATEGORIZATIONS (Saffir-Simpson Hurricane Wind Scale):

- Category 1 = 74–95 mph
- Category 2 = 96–110 mph
- Category 3 = 111–129 mph
- Category 4 = 130–156 mph
- Category 5 = 157+ mph

Links and Additional Resources

- **National Hurricane Center and Central Pacific Hurricane Center website:** <https://www.nhc.noaa.gov/>
- **How to prepare before a hurricane:** <https://www.cdc.gov/disasters/hurricanes/before.html>
- **Help with Housing:** <https://www.fema.gov/assistance/individual/housing>
- **Keeping Pets Safe in Emergencies:** https://www.cdc.gov/healthypets/keeping-pets-and-people-healthy/emergencies.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fhealthypets%2Femergencies%2Fin-dex.html
- **Stay Safe after a Hurricane:** https://www.cdc.gov/disasters/hurricanes/be-safe-after.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fdisasters%2Fhurricanes%2Fafter.html

FAMOUS POEMS ABOUT TREES

TREES

by Joyce Kilmer

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;

A tree that looks at God all day,
And lifts her leafy arms to pray;

A tree that may in Summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

Stopping by Woods on a Snowy Evening

by Robert Frost

Whose woods these are I think I know.
His house is in the village though;
He will not see me stopping here
To watch his woods fill up with snow.

My little horse must think it queer
To stop without a farmhouse near
Between the woods and frozen lake
The darkest evening of the year.

He gives his harness bells a shake
To ask if there is some mistake.
The only other sound's the sweep
Of easy wind and downy flake.

The woods are lovely, dark and deep,
But I have promises to keep,
And miles to go before I sleep,
And miles to go before I sleep.