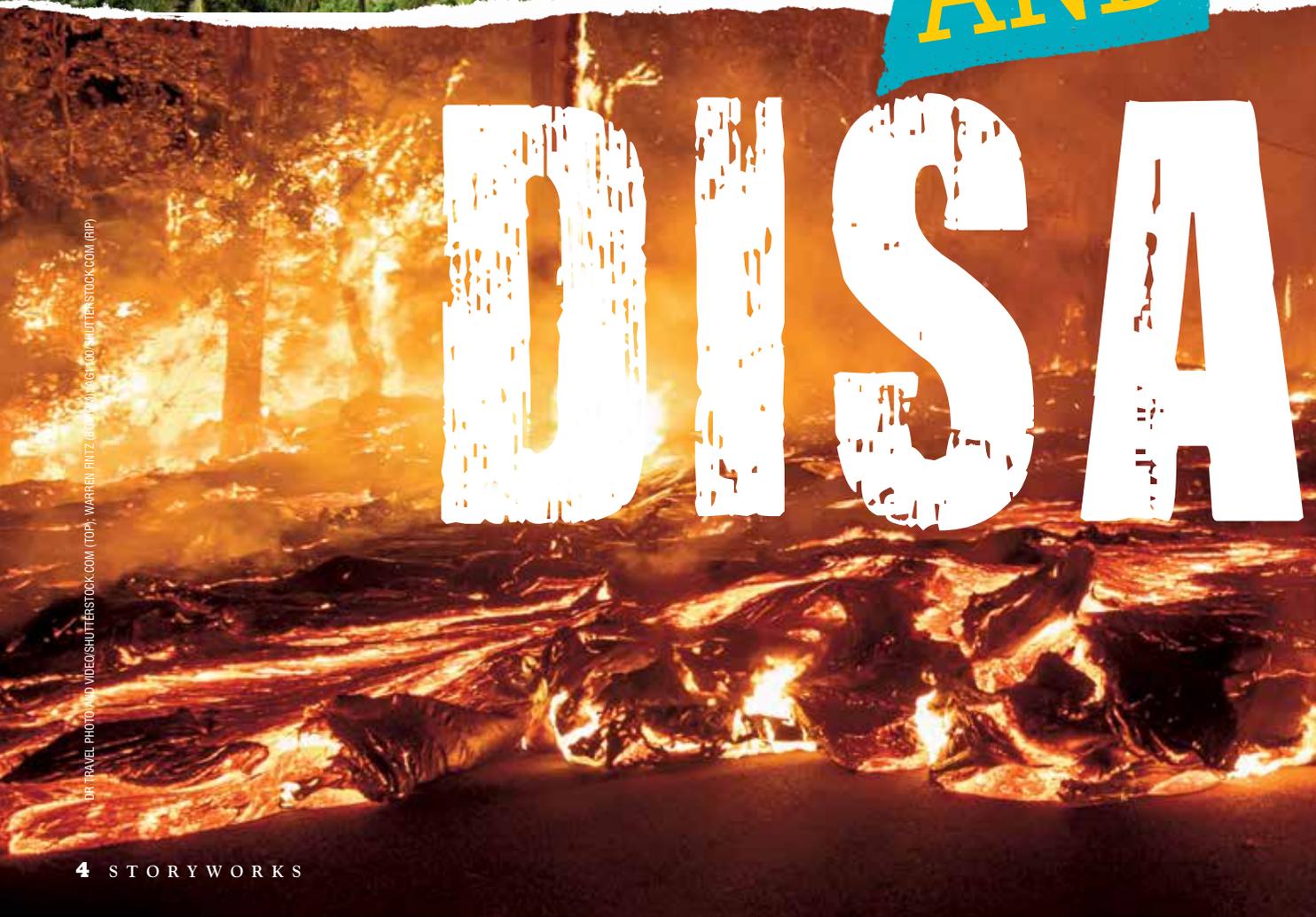


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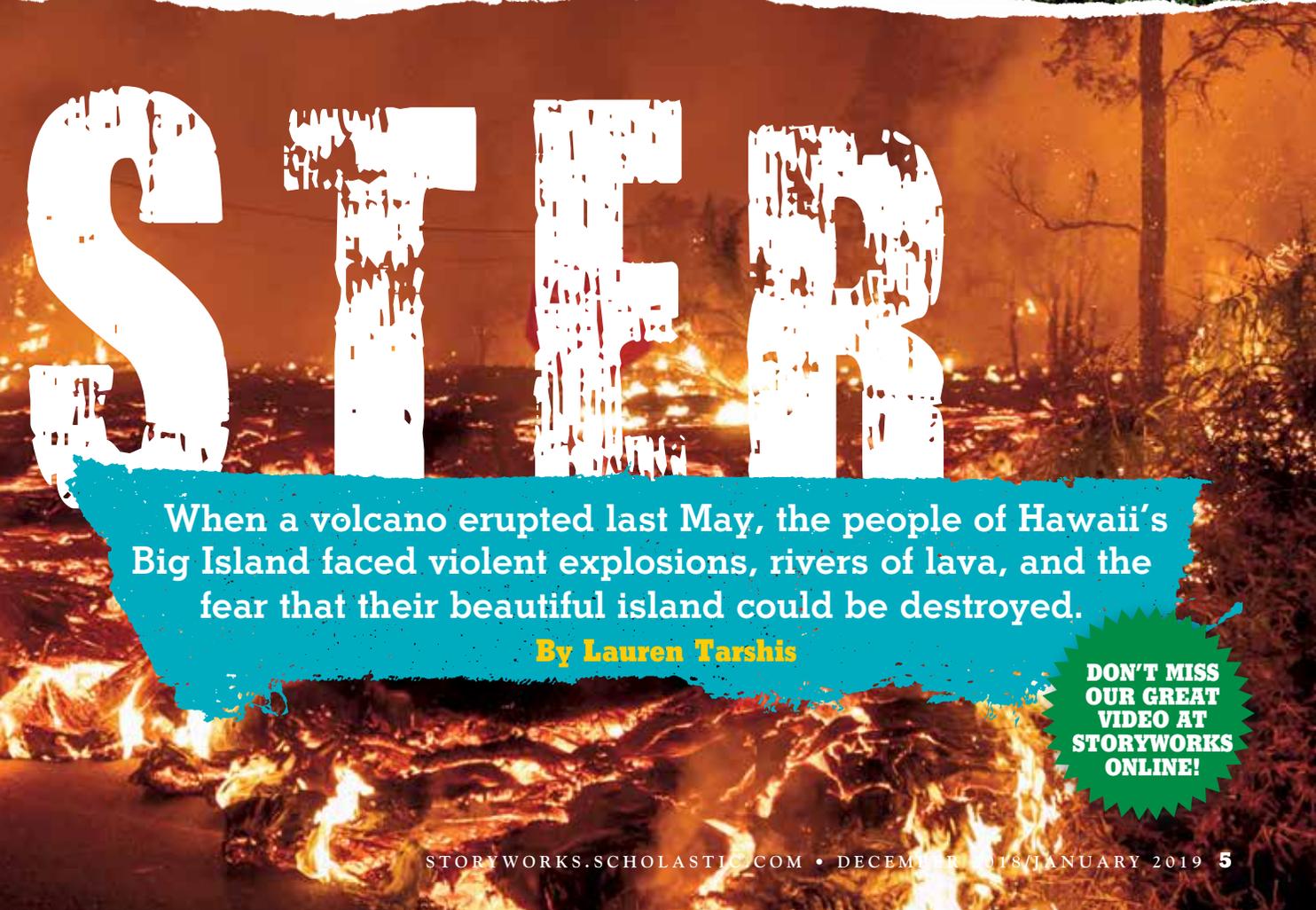


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TOP: TRAVEL PHOTO AND VIDEO/SHUTTERSTOCK.COM (TOP); WARREN FINZ (TOP); GETTY IMAGES/SHUTTERSTOCK.COM (B&P)



# 4 UTY



# STER

When a volcano erupted last May, the people of Hawaii's Big Island faced violent explosions, rivers of lava, and the fear that their beautiful island could be destroyed.

**By Lauren Tarshis**

**DON'T MISS  
OUR GREAT  
VIDEO AT  
STORYWORKS  
ONLINE!**



**Text Features** As you read, look for what the map, photos, diagram, and other text features add to the article.

**LOOK FOR WORD NERD'S 8 WORDS IN BOLD**



**I**magine you're at recess. Basketballs are bouncing. Kickballs sail through the air. Kids are swinging from the jungle gym and trading Pokémon cards on the blacktop.

And then suddenly, **BOOM!**

An explosion shatters the peaceful afternoon. The ground shakes. Your heart stops. You stare in amazement as a massive gray cloud rises up into the sky.

You instantly realize: It's a volcano erupting, just 2 miles from your school.

That is what happened this past May to 12-year-old Joshua Gula and his friends. Josh lives on the Big Island of Hawaii, home to Earth's most active volcano: Kilauea.



For years, Kilauea had seemed tame. "We were never scared of it," Josh says.

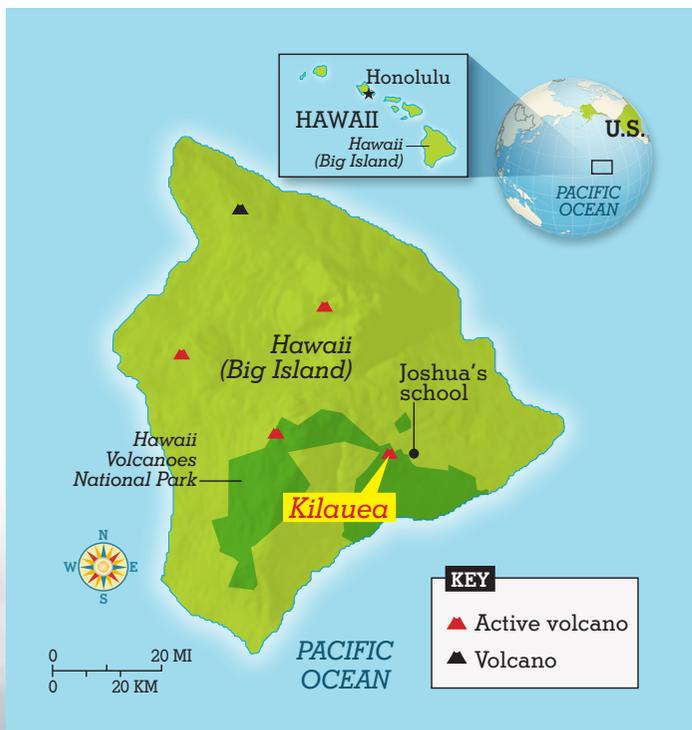
But like a purring cat that transforms into a roaring lion, this volcano had changed.

Was Kilauea turning into a killer?

### Hawaii Is Born

Volcanoes are a part of life in Hawaii. It is because of volcanoes, in fact, that Hawaii exists. Millions of years ago, under the Pacific Ocean, melted rock—**magma**—oozed up through cracks in the ocean floor.

When magma reaches Earth's surface, it is known as lava. Like gooey melted chocolate that hardens in the fridge, this **lava** turned rock-solid when it hit the cold seawater. As more and more seeped up from under the ground, the



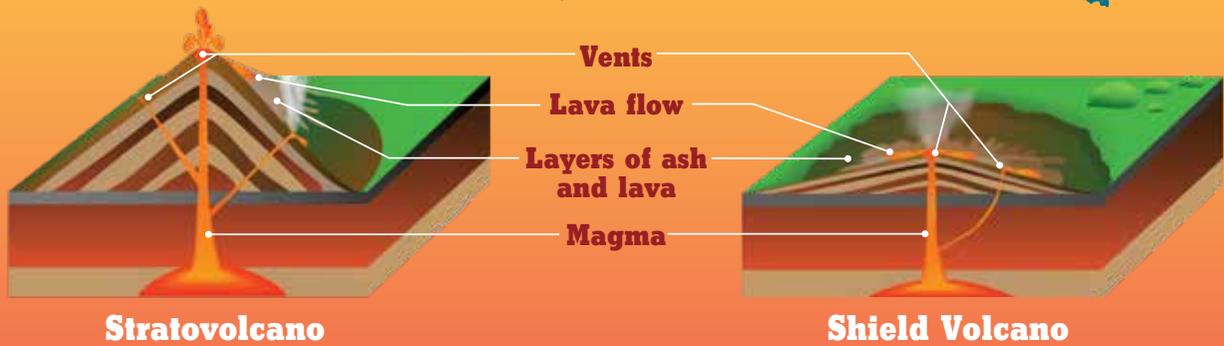
### A Sleeping Beast

Before the eruption last spring, Kilauea was known for its fiery yet gentle beauty. More than 1.5 million tourists visit each year to marvel at the glowing lava streaming down its sides.



HIMANSHU SHAH/SHUTTERSTOCK.COM (BACKGROUND); JIM McMAHON/MAPMAN.IG (MAP); JIM WILTSCHKO/EVEVE/GETTY IMAGES (KILAUEA)

# STRATOVOLCANOES vs. SHIELD VOLCANOES



mounds of hardened lava got taller and wider. Over millions of years, they rose up out of the sea to form islands.

Today, these hardened lava blobs are the state of Hawaii, which joined the United States in 1959—making it our newest state. It includes eight main islands. The largest are Hawaii (also known as the “Big Island”), Maui, Oahu, Kauai, and Molokai.

Hawaii is **remote**, a thousand miles away from any other land. It’s also one of the most beautiful spots on Earth, a paradise of swaying palm trees, glittering ocean views, and lush forests bursting with flowers. More than 1.4 million people make their home in Hawaii. Another 9 million visit every year. Lying on a beach breathing in flowery breezes or surfing monster waves, a person can easily forget the islands’ volcanic beginnings.

## A Famous Mountain

But Hawaii’s volcanic forces are still hard at work. Six volcanoes on the islands of Hawaii are active, which means they can erupt at any moment. Kilauea is the most active in the world.

So why do people live near it?

To understand, you first need to realize that there are different kinds of

Stratovolcanoes have a tall, cone-like shape. When they erupt, lava bursts violently and dramatically through vents at the top. Shield volcanoes are shaped more like domes, low and spread out. Lava oozes out of their vents and slides slowly down their gentle slopes during eruptions.

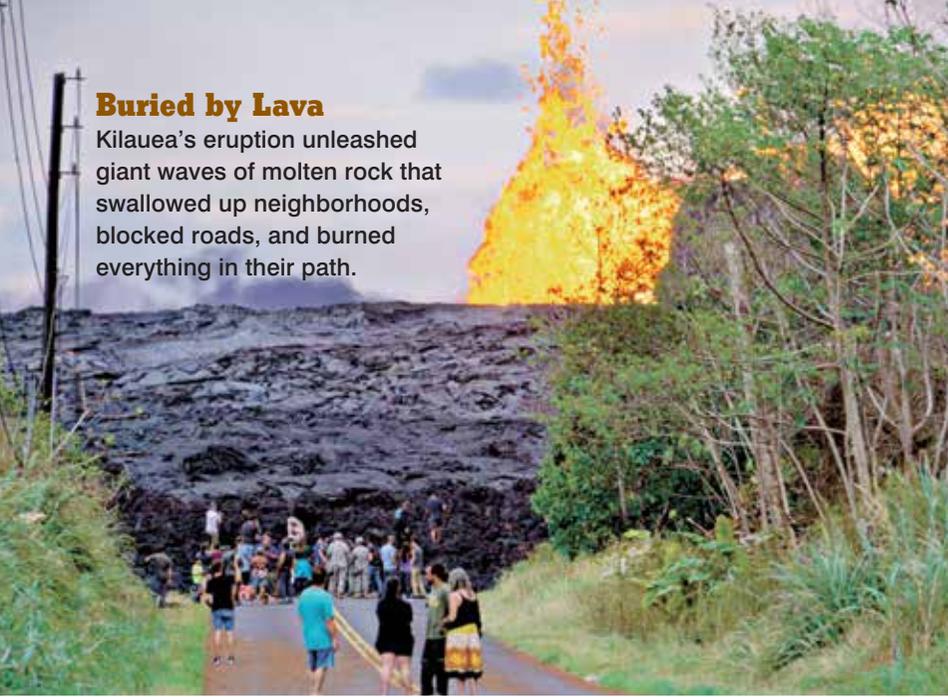
volcanoes. The most famous—and violent—are known as stratovolcanoes. These are the fiery mountains that blow their tops with explosive fury, releasing super-hot gases and many tons of ash and rock.

Throughout history, stratovolcanoes have unleashed death and destruction onto everything in their paths. There’s Mount Vesuvius, in Italy, which erupted 1,500 years ago. It killed thousands and buried the city of Pompeii under 20 feet of ash and rock. Then there’s Krakatau, in Indonesia, which erupted in 1883 with a crack heard 3,000 miles away. And closer to home, there’s Mount St. Helens in Washington State, which killed 57 people when it erupted in 1980.

Kilauea is not this kind of disaster-movie volcano. It’s what is known as a shield volcano. Shield volcanoes look less like towering mountains and more like humps rising from the ground. Shields aren’t as likely to erupt with sudden violence. Rather, they ooze and hiss and rumble. Lava spurts in lazy fountains. It moves across the land slowly, at

## Buried by Lava

Kilauea's eruption unleashed giant waves of molten rock that swallowed up neighborhoods, blocked roads, and burned everything in their path.



right in his backyard!

He wasn't afraid of it. Kilauea was a favorite spot for family hikes and school trips. Josh felt lucky to be able to hike up to its **summit** and peer inside—to watch in amazement as blazing lava streams plunged off cliffs and into the ocean.

And that day, when it exploded during recess? “Nobody was scared,” Josh says. “It was exciting. We knew right then it would be a historic event.”

Historic, yes. And very dangerous.

## Death and Disaster

What Josh—and most people living nearby—didn't realize is that shield volcanoes can turn violent. And Kilauea has a deadly past. In 1790, the volcano exploded without warning, unleashing a churning river of lava and killing as many as 400 people. It erupted violently again in 1924 before mostly quieting down.

Scientists had been warning that Kilauea was likely to turn deadly again. And in April 2018, scientists at the Hawaiian Volcano Observatory detected signs that the volcano was changing. Magma was building up under the volcano. Small earthquakes were rumbling under the ground.

Wendy Stovall is one of those scientists. “We knew that the system would bust open,” she says. “But we didn't know where.”

That big explosion Josh and his friends witnessed was the first of several. And in the days that followed, Josh's excitement turned to dread. One side of the volcano cracked open,

grandma-walking speeds.

Kilauea has been oozing and spraying like this almost constantly since 1983. But nobody has been killed. Its fiery sprays made the volcano famous, the Beyoncé of mountains. Millions have traveled to the Big Island just to see it.

At the same time, neighborhoods grew all around Kilauea. Thousands of people moved in, including Josh and his family.

Josh fell in love with the beauty of the island, with the blue sky and turquoise Pacific, with the pink and purple and orange flowers that grow like weeds. And Kilauea! A volcano,



and lava gushed out. Earthquakes—thousands per week—became more frequent and stronger. “I worried my school would collapse,” he says.

Most frightening was the lava. Red-hot rivers of the glowing **molten** rock poured into neighborhoods, devouring houses and cars. More than 1,000 people fled their homes. By July, about 700 houses had been destroyed.

Josh’s family lived 20 miles from the worst lava flows, so their house was safe. But Josh worried that the roads would become blocked, making it impossible for his family to escape if a more powerful eruption occurred. He was fearful of the **toxic** gases that were seeping out of the volcano. His parents gave him a gas mask to carry with him to protect his lungs from damage.

What would happen? When would the eruptions stop? Was a **catastrophic** eruption coming soon?

## Destruction and Creation

The entire state of Hawaii remained on high alert throughout most of the summer. But fortunately, by August, Kilauea had calmed down. Today, it is back to its quiet, oozing self.

But those violent weeks shattered lives and left behind a changed land. Hundreds of people were left homeless. Many lost everything they owned. Like the ancient city of Pompeii, entire neighborhoods were buried. Hawaii’s largest lake turned into a steaming pit of lava. Kapoho Bay, a popular swimming spot, is now a river of molten rock.

Josh knows his family was lucky. Their home was spared, and so was Josh’s school.

He knows another eruption is possible. But Josh doesn’t **dwell** on the danger of living in this fiery land. He understands that volcanoes can destroy. But they can create too.

“Right now, the newest land on Earth is forming,” Josh says. “None of us would be living in this beautiful place if it weren’t for volcanoes.” ■

—With reporting by Anna Starecheski



### Poisonous Plume

Giant clouds of ash and poisonous gas rose from the top of Kilauea when it exploded. People living nearby wore special masks to protect themselves from breathing it in.

## WRITE TO WIN

Pretend you were on Kilauea in May 2018. Write a blog post about what you saw and why it happened. Draw from the article and text features. Send it to “Volcano Contest” by Feb. 1. Ten winners will receive *I Survived the Eruption of Mount St. Helens, 1980* by Lauren Tarshis. See page 2 for details.



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