

The Storm Surge Surprise

A Dunehopper Climate Story



Outer Banks, North Carolina

Forward

This storybook was created by the Outer Banks Coastal Conservation (OBCC), a nonprofit organization whose mission is to foster environmental stewardship and a deeper connection to the Outer Banks of North Carolina through outreach, education, and conservation efforts.

We believe that small stories can spark big change. That is why we have made this book available as a free resource for parents, teachers, and community members.

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To learn more, access additional resources at: www.theobcc.org.

It was September 30th on the Outer Banks, and the Dunehoppers knew exactly what that meant—the peak of hurricane season.

So far, the season had been quiet. The ocean looked calm, the dunes stood tall, and seabirds glided peacefully overhead. But Papa Dunehopper reminded the children, “Quiet doesn’t mean finished. This is when we must pay attention.”



That evening, after dinner, the Dunehoppers gathered around the television. Suddenly, the regular program stopped, and a special weather bulletin appeared.

“Attention: A hurricane is forecast to impact the Outer Banks, bringing strong winds, heavy rain, coastal flooding, and storm surge. Residents and visitors should prepare immediately.”

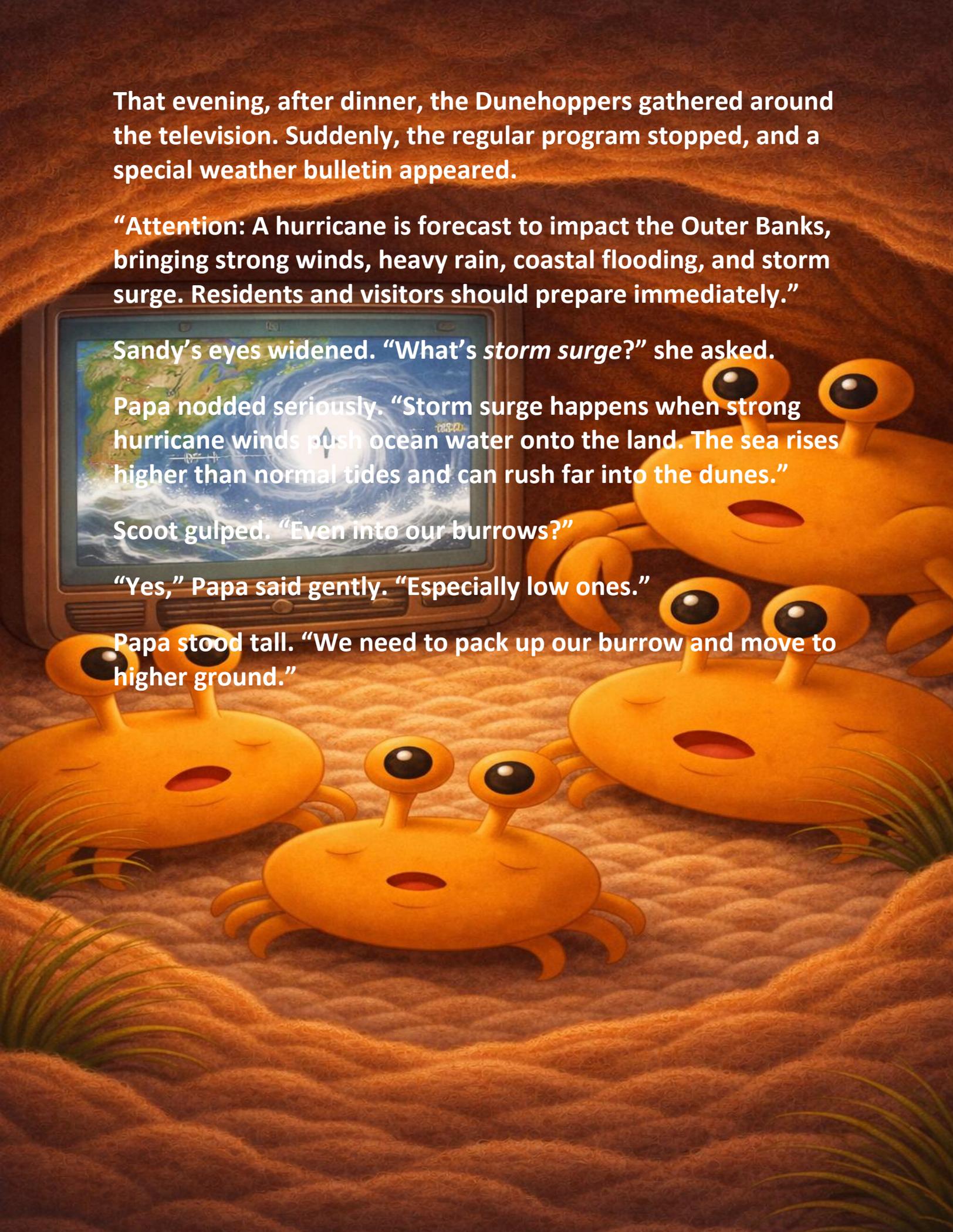
Sandy’s eyes widened. “What’s *storm surge*?” she asked.

Papa nodded seriously. “Storm surge happens when strong hurricane winds push ocean water onto the land. The sea rises higher than normal tides and can rush far into the dunes.”

Scout gulped. “Even into our burrows?”

“Yes,” Papa said gently. “Especially low ones.”

Papa stood tall. “We need to pack up our burrow and move to higher ground.”



He quickly scuttled across the beach, tapping on shells and clicking warnings to the entire ghost crab community of Hatteras Island.

“Storm coming!” he called. “Time to move inland and uphill!”



As they packed, Papa shared a memory.
“When I was a little crab,” he said, “a hurricane’s storm surge
flooded my family’s burrow. The water rose fast, and we barely
escaped. I don’t want any crab caught by surprise.”



The Dunehoppers loaded their supplies into their dune buggy—shell tools, food, and lanterns—and headed toward the highest sand dunes on the island.

Behind them came hundreds of ghost crabs, all moving together like a sandy parade. Ghost crabs depend on dunes for safety, and they know that higher dunes mean better protection from floods and waves.



After a long drive, they reached the tallest dune. The sand was firm, and sea oats waved gently, their deep roots holding the dune together.

“This is a good place,” Mama said.

Everyone began digging. First the Dunehoppers’ burrow—then their neighbors’. Big claws scooped sand. Small claws packed walls tight. No crab was left behind.



That night, the storm arrived.

Wind howled across the dunes. Rain drummed against the sand. Papa estimated wind gusts near 60 miles per hour. The ocean roared louder than ever before.

Deep inside the burrow, the Dunehopper family huddled together.

“Storms feel scarier than they used to,” Shellby whispered.

“That’s because many of them *are* stronger,” Mama said softly.



The children remembered their lesson from Sea Oats School.

Professor Driftclaw had explained that climate change is warming the ocean and the air.

Warmer water gives storms more energy, which can make hurricanes:

- Stronger
- Wetter
- More frequent
- More dangerous because of higher storm surge

“And rising seas mean storm surge can travel farther onto land,” Sandy added quietly.





By morning, the storm had passed.

Papa climbed out of the burrow into warm sunshine. The dunes below showed signs of flooding—flattened sand, scattered shells—but the high dune had stayed strong.

“Our dunes protected us,” Papa said gratefully.

He looked out at the ghost crab community, safe and together.

“But we must remember,” he said, “that climate change is making storms happen more often and with more power. That means protecting dunes, sea oats, and our coast is more important than ever.”

Scout smiled. "Even little crabs can help."

"Yes," Papa said. "By respecting the dunes, sharing what we know, and caring for our planet—we protect our homes, our neighbors, and our future."

And as the sun rose over the Outer Banks, the Dunehoppers knew that preparation, knowledge, and teamwork could help them weather any storm.



Did You Know?

Storm surge is often the most dangerous part of a hurricane. It happens when strong winds push ocean water onto land, flooding beaches, dunes, and even burrows.

- Sand dunes are natural storm shields! Tall dunes and healthy sea oats help block waves and keep flooding from reaching farther inland.
- Ghost crabs are smart planners. In real life, they dig burrows higher up in the dunes to stay safe during storms and high tides.
- Climate change can make storms stronger. Warmer ocean water gives hurricanes more energy, which can mean stronger winds, heavier rain, and higher storm surge.
- Protecting dunes helps everyone—crabs, birds, plants, and people too!

When we stay off dunes, protect sea oats, and care for our coast, we help nature protect us.

