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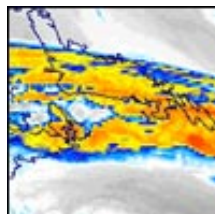
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PERFECTLY DEADLY

Donald Smith
for National Geographic News
June 9, 2000

The terror begins with a gentle swell and a certain feeling in the air. For ships, the best advice is to bear away with all speed. But sometimes a storm at sea is like an excited mother hen, rushing up with wings flapping, sweeping into her heaving breast everything in her path. Leaving may not an option.

Anyone unlucky enough to be caught gets to see one of nature's most violent moods up close. Seas become avalanches. Vessels careen up and down walls of water sometimes three or four time their own size. The wind plays on rigging like a demon harpist and drives spray along with the force of bullets, the air sometimes so thick with moisture that it is actually possible to drown by breathing it.



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Those were some of the conditions encountered by the crew of the *Andrea Gail*, a commercial swordfish boat out of Gloucester, Massachusetts, as recounted in Sebastian Junger's 1997 book, *The Perfect Storm*. The movie version premieres in the United States on June 30. The tempest that hit in late October, 1991, was a combination of three storms. Witnesses reported waves of more than 100 feet (30 meters)-as high as a ten-story building.

A HECK OF A HURRICANE

"We called it the Halloween Hurricane," said Coast Guard Lt. Rick Wester. "But it's a good bet that if you were in the Coast Guard in that area during those 72 hours, chances are you weren't out with the kids trick-or-treating." Because the storm did not start in the tropics-it was a classic "nor'easter"-it was not assigned a name. But in all other aspects, it was a heck of a hurricane.

Coast Guard Comdr. Lawrence Brudnicki, captain of one of the vessels that assisted in rescue operations, reported 50-degree rolls of his 205-foot (62-meter) ship, the cutter *Tamara*. He clocked winds up to 80 mph (129 kph) before the anemometer flew off the mast. Top wind speeds of 120

More Information

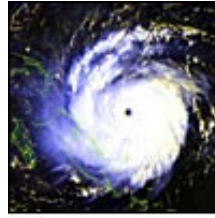
- Since it did not originate in the tropics, the 1991 maelstrom chronicled in Sebastian Junger's book had no official name. The National Weather Service dubbed it "The Perfect Storm."
- With water weighing more than 60 pounds (27 kilograms) per cubic foot, a breaking storm wave can dump more than 20,000 pounds (9,000 kilograms) of water on a boat at a speed of 30 mph (48 kph).
- A tropical depression becomes a storm if sustained winds reach 40 mph (64 kph). If top sustained winds hit 74 mph (119 kph), a tropical storm becomes a hurricane. Major hurricanes are those with winds above 110 mph (177 kph).
- Hurricane names ordinarily are recycled every six years. Like famous sports jerseys,

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mph (193 kph) were later reported.

In such storms, big ships tend to fare better than small ones. But a fundamental law of fluid dynamics is that any object floating in water tends to behave like the water. A breaking wave, if it's big enough, can turn a ship upside down. Other possibilities are falling off the top of a breaking wave with such force that the hull shatters; and "pitch-poling"-surfing down a wave at such a steep angle that when it reaches the bottom, the bow digs into the water and the boat is flipped stern-over-stem.



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"We've had cases where cargo ships have had all their containers just ripped right off," says Coast Guard spokesman Dan Dewell. "We've had to airlift whole crews off giant freighters."

Strong, well-maintained vessels with proper safety gear aboard obviously lessen the risk of being out on the water, as does increasingly better storm forecasting and communications devices such as weather faxes for delivering warnings.

DOWN WITH THEIR SHIPS

But nothing can completely eliminate peril on the sea. The Coast Guard reports that last year in the U.S. commercial fishing industry profiled in Junger's book, 145 vessels and 86 lives were lost. In the area where the Andrea Gail went down, four fishing vessels sank, with the loss of 11 lives, during a three-week period in the winter of 1998-99.

As described in the Junger book, for many a mariner the measured voice of a Coast Guard marine radio operator, or the arrival of a ship or airplane emblazoned with the service's distinctive red-orange slash, is literally the answer to prayer. The service plucks people off the decks of heaving ships by helicopter, deploys inflatable boats to pick up survivors, and even drops swimmers into raging seas to assist those in trouble.

The Coast Guard estimates it saves an average of ten lives every day, along with U.S. \$2.5 million in property per year-about seven times the operating budget for its search-and-rescue mission.

Because of unexpected expenses this year, including spikes in fuel costs due to production cutbacks by oil-producing countries, the Coast Guard has had to trim some of its operations. But Dewell says that all the belt-tightening has come in the areas of drug interdiction and fisheries and migrant patrols: Safety and rescue capabilities have not been affected.

SEVERE HURRICANE SEASON FORECAST

"We will help vessels in distress in any way possible," says Wester. "Rescue stations dot the United States and the Great Lakes shorelines. If they're not too far off the coast, we'll send

though, the names of notable hurricanes like Andrew and Mitch are retired.

More Information

THE REALLY BIG ONE

- For sheer violence and loss of property and life, few storms in history can equal the one that meteorologists call simply "The Great Storm of 1913."

- It moved into the Great Lakes area in November, sweeping down on Port Huron on a Sunday afternoon. By evening had developed into a full blizzard. A newspaper reported that "as darkness enveloped the city, streetcars were stopped in their tracks by huge snow drifts. As the evening wore on, the fury of the wind seemed to carry everything before it. Pedestrians caught in the blinding snow turned into the nearest houses for shelters."

- It was far worse on the sea. Property losses were estimated at U.S. \$5 million. Giant steamers were reported "tossed about like egg shells." Many went aground or were tossed up onto the shore. By the time it was over, 14 vessels had sunk to the bottom with a loss of 250 lives. Only 48 bodies were ever recovered.

out a 41-foot (12-meter) utility boat. Farther out, Coast Guard cutters are continually on patrol."

With meteorologists predicting a severe hurricane season this year, the rescuers are likely to have their hands full.

This week, respected atmospheric scientist William Gray and his team at Colorado State University in Fort Collins increased earlier predictions. He now foresees 12 named storms, eight hurricanes, and four major hurricanes. Gray blames La Niña, a cooling weather pattern over the Pacific Ocean near the Equator.

A trend to more and worse hurricanes began about five years ago and, according to forecasters, should last an additional 20 years. The previous bad-weather stretch, which lasted from the 1940s through the 1960s, saw 18 major hurricanes hitting the United States. Since 1981 only 10 major hurricanes have struck.

They all begin as tropical depressions, like the one that formed on Wednesday about 470 miles (750 kilometers) southeast of Brownsville, Texas.

If "Tropical Depression One" gathers strength, it could become "Tropical Storm Alberto." And the year 2000 would be off and blowing.

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Related Websites

- [United States Coast Guard](#)
- [Costliest Hurricanes in History](#)
- [Federal Emergency Management Agency](#)
- [National Hurricane Center](#)
- [The Perfect Storm](#) (movie)
- [The Perfect Storm: October 1991](#)
- [Red Cross Disaster Guide](#)

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