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MENU

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TEMPEST NEWS | JANUARY 2025



Each winter, as temperatures plummet, the Outer Banks face a unique conservation challenge: rescuing cold-stunned sea turtles. This phenomenon occurs when sea turtles, unable to adapt to sudden drops in water temperature, are stranded and left

vulnerable. A team of volunteers has set up a monitoring and response system that allows them to go in and rescue the turtles when necessary. With the addition of weather technology like the Tempest Weather System, the team of volunteers can respond swiftly and efficiently to these emergencies, ensuring the safety of hundreds of juvenile turtles each season.

What happens to the sea turtles during cold snaps is a condition biologists call "cold stunning." As cold-blooded animals, sea turtles are unable to regulate their body temperature. When the water temperature drops below approximately 50 degrees Fahrenheit, their metabolism slows, and they become lethargic, losing the ability to swim. Fortunately, on North Carolina's Outer Banks, most cold winds blow from the north or northwest, pushing the turtles ashore.

"That's where our volunteer group comes in," says Frank Welles, a member of the volunteer group. "We hike along the shoreline, collect the stranded turtles, and transport them to safety. This rescue work primarily takes place on the sound side of the island."

Welles goes on to explain that monitoring wind and water temperature is critical for determining when to mobilize our volunteers. "For years, we've relied on water temperature sensors in Rodanthe and Hatteras, but this fall, we added a sensor in Frisco Woods. Now, I can track real-time water temperatures across the entire area we patrol, as well as access current wind data and wind archives. This data is invaluable in deciding when to send our dedicated team out into the cold."

The group's efforts focus on rescuing three species of juvenile sea turtles: primarily green turtles, but also a few loggerheads and Kemp's Ridley turtles. After rescue, the turtles are taken to the North Carolina Aquarium on Roanoke Island, which serves as their rehabilitation facility. If the turtles are only cold-stunned, the recovery process is relatively quick. Once rehabilitated, the turtles are transported to the Gulf Stream, where the water temperature remains a balmy 70 degrees throughout the winter—the perfect environment for their release. From there, the Coast Guard and local charter boats help ferry the turtles to their rightful home.

During the last cold-stun event, over 570 turtles were rescued, marking the largest event since 2016, and the season isn't over yet. Rescue efforts like these highlight the critical role of conservation initiatives and demonstrate how advanced technology can enhance their effectiveness.

° WEATHER NEWS °



POLAR VOTEX GRIPS MUCH OF UNITED STATES

A major polar vortex that hit much of the U.S over the past weekend brought bone-chilling cold, heavy snow, and treacherous ice, affecting areas typically spared from extreme winter weather. States like Kentucky and Virginia faced power outages, school closures, and travel advisories due to dangerous roads, with icy conditions even reported in places like Dallas and Florida. The storm led to hundreds of flight cancellations, stranded motorists, and winter accidents, while also causing significant disruption in both the Midwest and East Coast as low temperatures continued throughout the week.

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MANY U.S. CITIES SAW RECORD TEMPERATURES IN 2024

Despite the currently frigid temperatures that grip much of the country, many cities across the United States saw record high temperatures in 2024. For instance, Phoenix averaged 90.5°F and endured 70 days with temperatures at or above 110°F, exceeding its prior record of 55 such days. Greater Cincinnati saw its hottest year ever, aligning

with global trends. These extreme temperatures have been linked to the warming climate and other factors, leading to more frequent and intense heatwaves across country.



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NOAA'S JANUARY 2025 OUTLOOK

NOAA's weather and climate outlook for January 2025 highlights colder-than-normal conditions across much of the Eastern United States, including the Northern Plains, Ohio Valley, and Southeast, while warmer-than-average temperatures are expected in the West and South-Central U.S. The precipitation forecast calls for wetter conditions in the Pacific Northwest, Northern Plains, and Northeast, with drier weather likely in the Southwest and Southern Plains.

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WINTER WILDFIRES ARE NOW A THING

Southern California's wildfire season is slowly stretching longer, with dry conditions and high winds starting to now fuel fires well into winter. **The Franklin Fire** scorched more than 4,000 acres over 9 days in mid-December, following a similar pattern to the devastating Mountain Fire in Ventura County a month prior. Experts pointed to delayed rainy seasons and parched vegetation as key factors that increased fire risks during windy conditions. Without rain to dampen the landscape, Southern California remained vulnerable to fast-moving wildfires, even as winter approached.

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