

Hurricane Frances Preliminary Storm Survey I

Disclaimer: Hurricane Frances track and intensity information from our surveys are preliminary. Final official intensity and track will be determined by the National Hurricane Center.

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Hurricane Frances was a typical Cape Verde storm. A tropical wave moved off the African coast, becoming organized enough to be declared a tropical depression on August 24th in the eastern Atlantic. As it moved westward on the 25th, its winds increased to 35 knots (40 mph) and was named Tropical Storm Frances. It continued to strengthen as it moved west northwestward on the 26th, developing a small eye. Winds were upgraded to 70 knots (80 mph) and the 4th hurricane of the 2004 Atlantic tropical season had arrived.



Over the next 2 days, Frances turned slightly to the right of its previous course and traveled northwestward through the central Atlantic, gathering strength with time. By August 28th, Frances intensified to a category 4 hurricane on the Saffir-Simpson scale with maximum sustained winds of 115 knots. At that point the hurricane was roughly 600 miles east of the northernmost lesser Antilles. At that time, high pressure at mid levels strengthened to the north of Frances and turned the track back to the west. As it continued westward on the 29th, tropical storm warnings and hurricane watches were posted for the northeastern Caribbean. The hurricane weakened slightly due to some upper level shear, but remained a category 3 hurricane through the 30th, passing about 100 miles north of the lesser Antilles.

On August 31st, Frances regained category 4 status, and hurricane watches were posted for the southeastern Bahamas in the morning, which were upgraded to warnings that evening. The National

Hurricane Center was also ominously predicting the hurricane would make landfall near Vero Beach over the Labor Day weekend.

Throughout September 1st, Frances was moving into the southeastern Bahamas with 120 knot sustained winds and hurricane warnings had been extended to cover the entire chain of the Bahamas. At 11 pm, hurricane watches were posted for most of the east coast of Florida. The hurricane continued to move west northwest through the Bahamas on the 2nd, and the hurricane watches on the east coast of Florida were upgraded to warnings late that morning.

By the morning of September 3rd, Frances forward motion had slowed to 8 knots (9 mph), and it had again lost a little strength, but was still a major hurricane as it moved into the northwestern Bahamas, pounding Eleuthra. That evening, Frances slowed further as it moved across Great Abaco Island. Tropical storm watches were issued for the west coast of the Florida peninsula, and inland hurricane wind watches were issued for the interior west central Florida counties.

On September 4th, Frances slowed further as it drifted northwestward across Grand Bahama Island. It also lost a little more strength, but remained a category 2 hurricane. Wind gusts in excess of hurricane strength were felt in the Bahamas for more than 12 hours. The hurricane also modified its organization as some dry air wrapped into the system, creating a very large eye, almost 70 miles across (the typical eye width is about 20 miles). Because of the large eye, there was an expansive area of lighter winds near the center of Frances, while the strongest winds were 70 to 125 miles removed from the center. All watches for west central and southwest Florida were upgraded to warnings during the day.

Frances finally made landfall just after midnight on September 5th near Vero Beach as a category 2 storm. The hurricane continued to move slowly west northwestward across central Florida to near Bartow by 2 pm, and just northeast of Tampa by 8 pm, when it was downgraded to a tropical storm. It then emerged back into the Gulf of Mexico near Hudson shortly before midnight, meaning it took almost 24 hours to move through the peninsula.

Frances continued northwestward through the northern gulf of Mexico, making a second landfall on the afternoon of September 6th in the Florida big bend near Tallahassee as a tropical storm.