

iCYCLONE CHASE REPORT

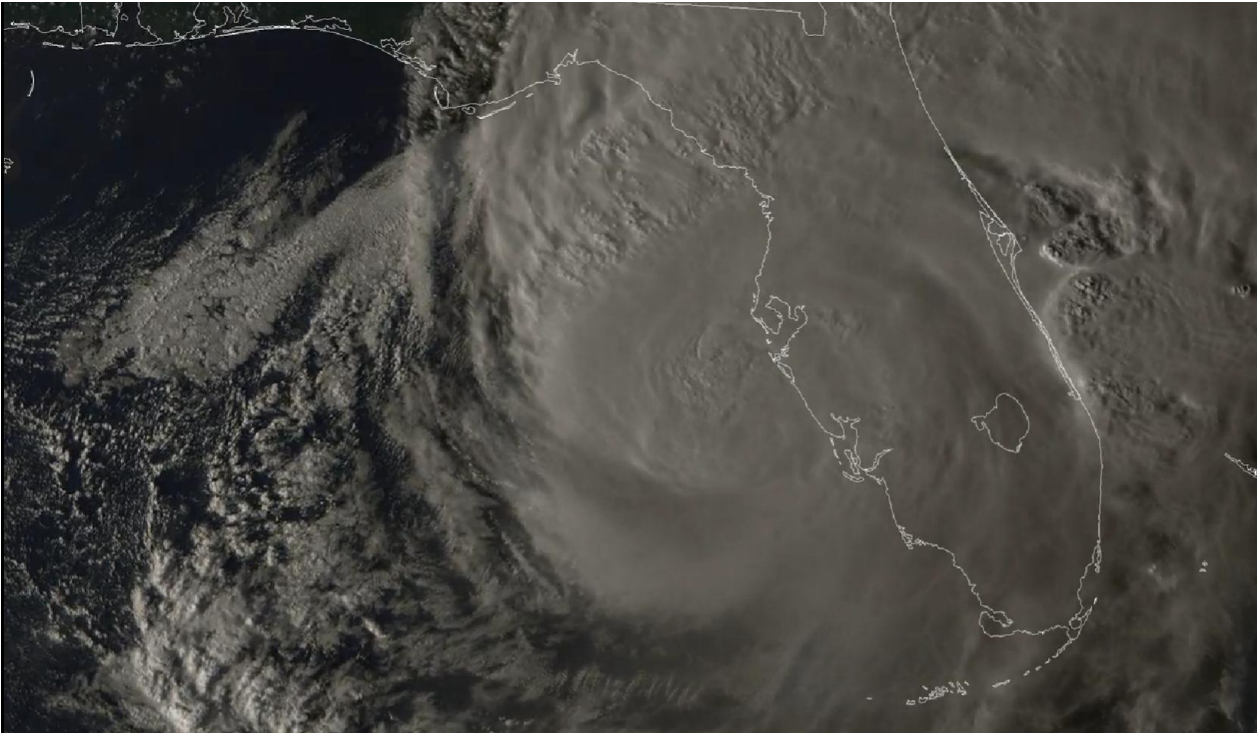
storm	Hurricane MILTON		
location	Sarasota & Tampa Bay, Florida, USA		
date	09 October 2024		
chasers	Josh Morgerman, Erik Fox	author	Josh Morgerman

Overview

Hurricane MILTON made landfall om the Gulf Coast of Florida, just S of Tampa Bay, on the evening of 09 October 2024. The author deployed sensors in four unique locations across the main impact zone, in and S of Tampa Bay.

Highlights:

- These **minimum sea-level pressures** were measured (all dates 09 October local time):
 - **Sarasota (27.3775N 82.5546W): 959.7 mb** at 8:21 pm EDT (0021Z 10 Oct)
 - **Near Lakewood Ranch (27.3865N 82.4452W): 960.4 mb** multiple times 8:25 - 8:39 pm EDT (0025Z - 0039Z 10 Oct)
 - **St. Petersburg (27.7944N 82.6725W): 977.6 mb** at 8:28 & 8:33 pm EDT (0028Z 10 Oct)
 - **Tampa (27.9518N 82.5247W): 980.4 mb** multiple times 8:58 - 9:06 pm EDT (0058Z - 0106Z 10 Oct)
- **Comment:** The hurricane’s eye reached Sarasota at ~8 pm EDT, bringing dead-calm conditions to the city until ~9 pm. Winds on the backside of the hurricane, after the eye passed, seemed stronger and more destructive, with fierce gusts smashing or tearing out many windows of a large office building in Downtown Sarasota.



Visible satellite image from late in the day on 09 October, showing Hurricane MILTON nearing landfall in Florida. (GOES-16 image from CIMSS/SSEC/University of Wisconsin – Madison)

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Locations

The author documented Hurricane MILTON's landfall in multiple locations.

Sensor Location A—Sarasota

The author deployed a sensor at **27.3775N 82.5546W**. This location is a first-floor room at the Days Inn by Wyndham Sarasota Bay on N Tamiami Trail. This location was almost exactly on the hurricane's operational track (within ~1 n mi), per NHC advisories, and it experienced the eye.

Sensor Location B—Near Lakewood Ranch

The author deployed a sensor at **27.3865N 82.4452W**. This is the lobby of the EVEN Hotel Sarasota-Lakewood Ranch—close to the hurricane's operational track (within a couple of miles) and in the eye.

Sensor Location C—St. Petersburg

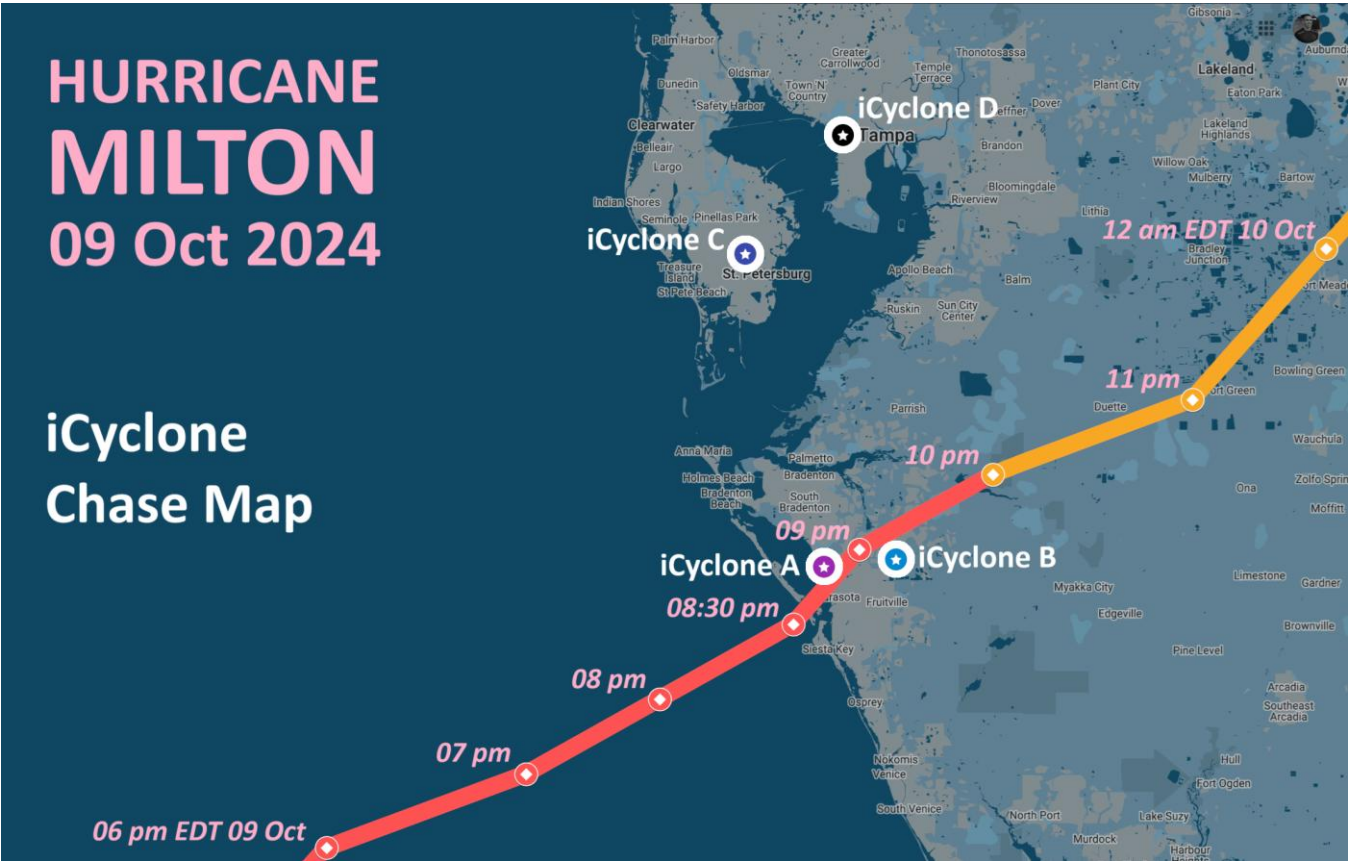
The author deployed a sensor at **27.7944N 82.6725W**. This is the garage of a private home, ~25 n mi NW of the hurricane's center at its closest approach, per the NHC operational track. (Big thanks is given to Mr. Tom Gartner for allowing access to his property for this data collection.)

Sensor Location D—Tampa

The author deployed a sensor at **27.9518N 82.5247W**. This is a hallway just off the lobby of the Holiday Inn Tampa Westshore—Airport Area, ~30 n mi NNW of the hurricane's center at its closest approach.

Figure 1 shows MILTON's track into Florida. **Figure 2** is a wider view. The **Sensor Locations A** (purple star), **B** (blue star), **C** (dark-blue star), and **D** (black star) are marked.

Figure 1: Chase Map



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Figure 2: Chase Map (Wide)



Air Pressure Data

As Hurricane MILTON struck Florida, the author collected quality-controlled air-pressure data using a Kestrel 5500 and multiple Kestrel DROP D3s.

These devices were deployed in relatively protected places in four unique locations. The sampling rate for all devices was one reading per 30 seconds (2/min).

Location A—Sarasota

Calibration

The ground elevation at the measuring location was estimated by geographer James Hyde to be **23 ft** above sea level. The device—a Kestrel 5500—was on a counter in a first-floor room of the hotel, ~3 ft above the ground, so it was calibrated with a reference altitude of 26 ft.

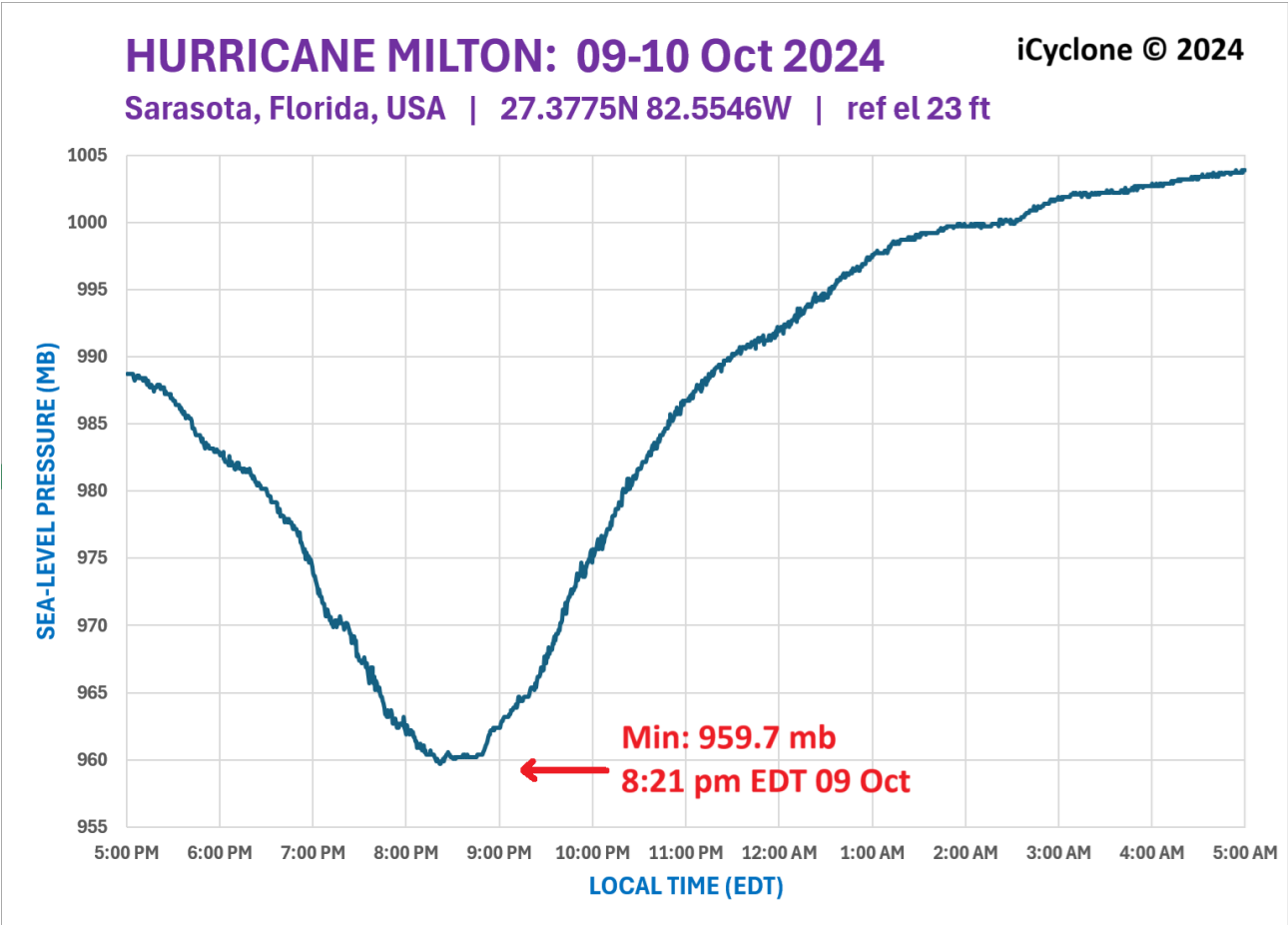
Device Bias & Correction

An early-season check of the device’s accuracy—using the Mesonet-grade station on the author’s property as a reference—revealed a high bias of +1.8 mb. Given this, 1.8 mb was subtracted from all pressure readings collected with this device. The data shown in this report reflect this correction.

Minimum

This device recorded a minimum sea-level pressure of **959.7 mb** at **8:21 pm EDT** on 09 October (0021Z on 10 October)—while this location was in the hurricane’s eye.

Figure 3: Barogram—Sarasota (Location A)



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Location B—Near Lakewood Ranch

Calibration

The ground elevation at the measuring location was estimated by geographer James Hyde to be **32 ft** above sea level. The device—a Kestrel DROP D3—was in a planter in the hotel’s lobby, ~3 ft above the ground, so it was calibrated with a reference altitude of 35 ft.

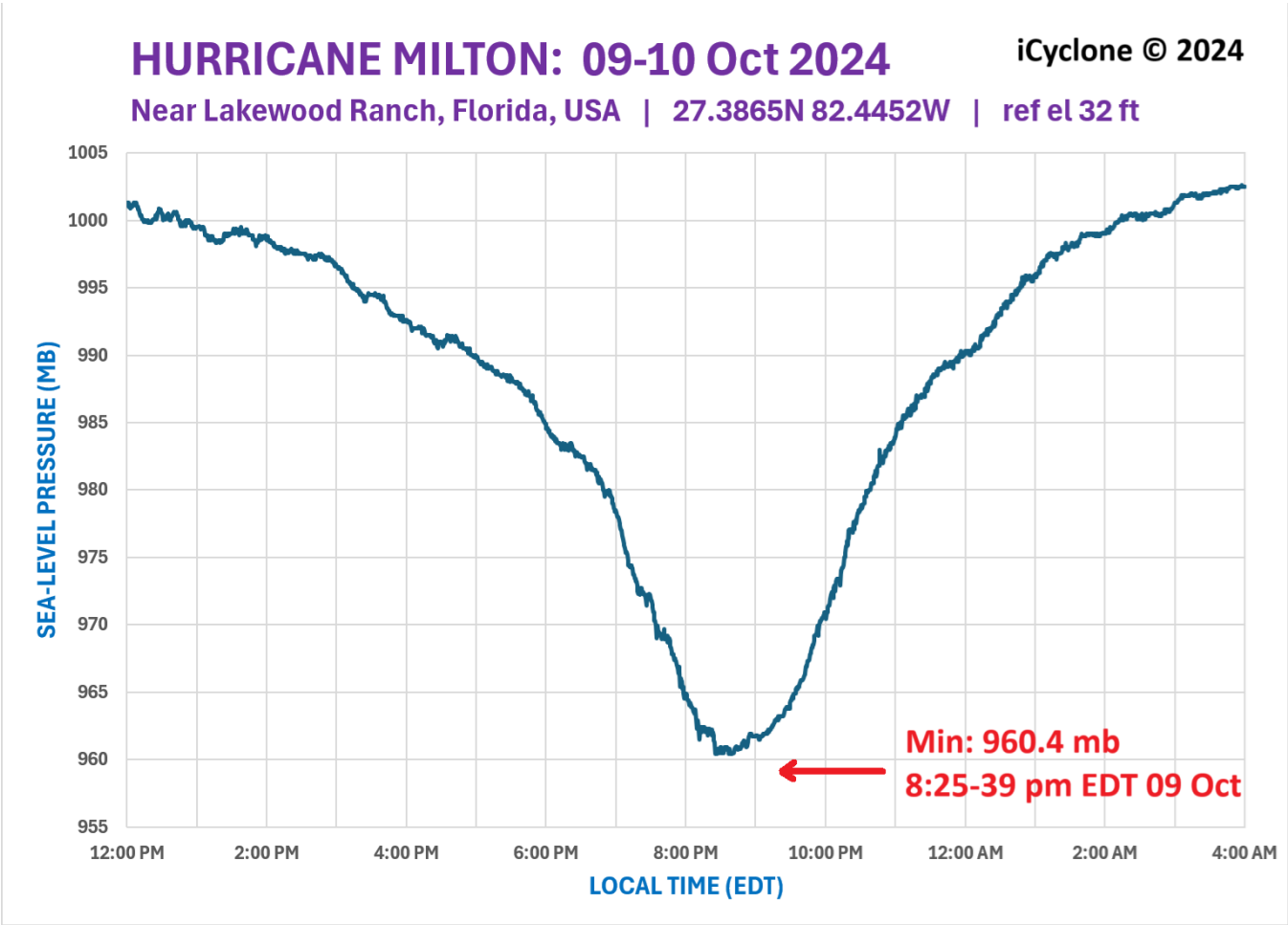
Device Bias & Correction

An early-season check of the device’s accuracy—using the Mesonet-grade station on the author’s property as a reference—revealed zero bias, so no corrections were made to the readings from this device.

Minimum

This device recorded a minimum sea-level pressure of **960.4 mb** multiple times—at **8:25 pm, 8:27 pm, and from 8:37 to 8:39 pm EDT** on 09 October (0025Z to 0039Z on 10 October). Per radar, this location was in the hurricane’s eye when these minimum values were recorded.

Figure 4: Barogram—Near Lakewood Ranch (Location B)



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Location C—St. Petersburg

Calibration

The ground elevation at the measuring location was estimated by geographer James Hyde to be **50 ft** above sea level. The device—a Kestrel DROP D3—was on a shelf in a house’s garage, ~3 ft above the ground, so it was calibrated with a reference altitude of 53 ft.

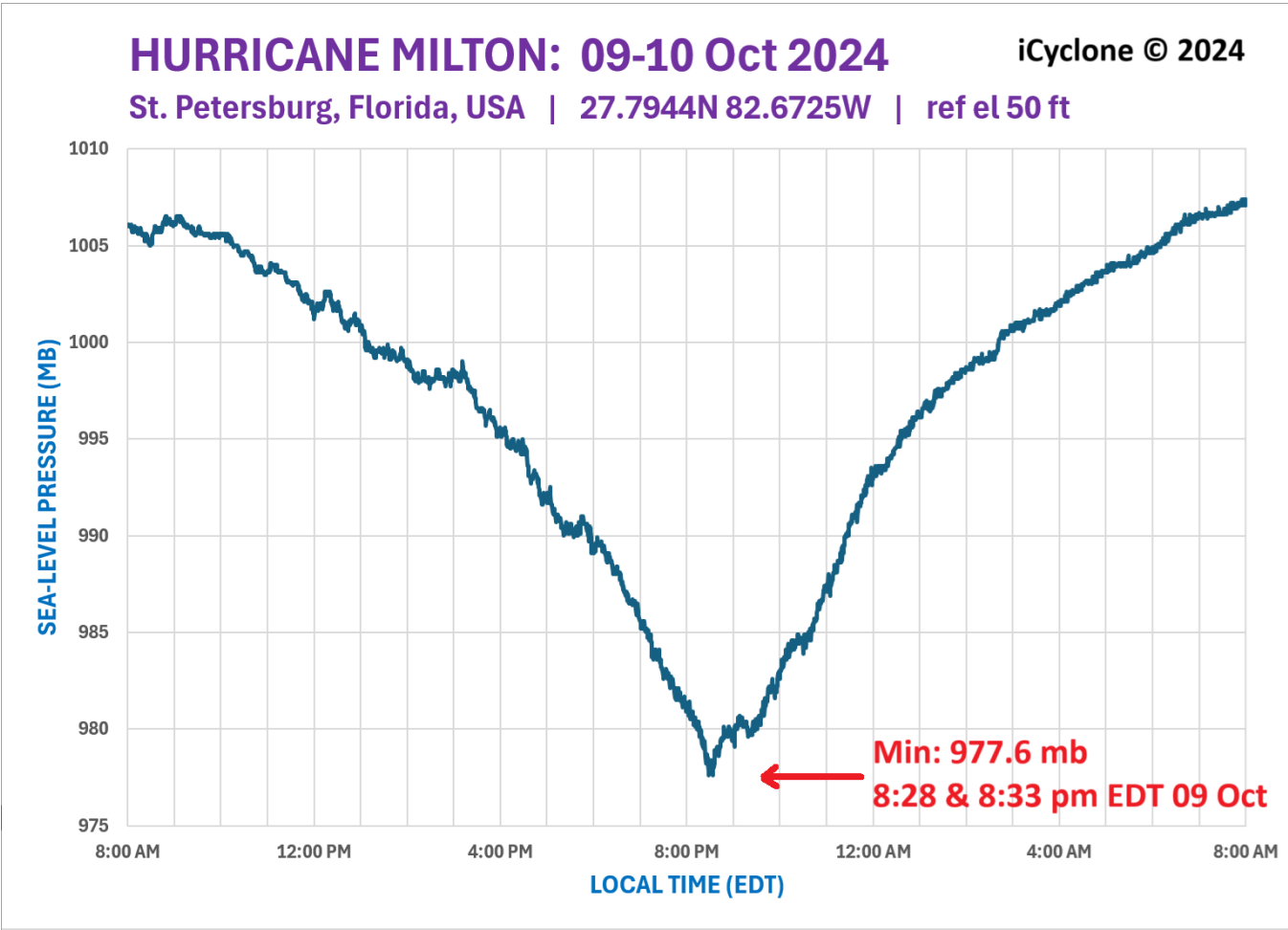
Device Bias & Correction

An early-season check of the device’s accuracy—using the Mesonet-grade station on the author’s property as a reference—revealed a high bias of +1.5 mb. Given this, 1.5 mb was subtracted from all pressure readings collected with this device. The data shown in this report reflect this correction.

Minimum

This device recorded a minimum sea-level pressure of **977.6 mb** at **8:28 pm and 8:33 pm EDT** on 09 October (0028Z and 0033Z on 10 October).

Figure 5: Barogram—St. Petersburg (Location C)



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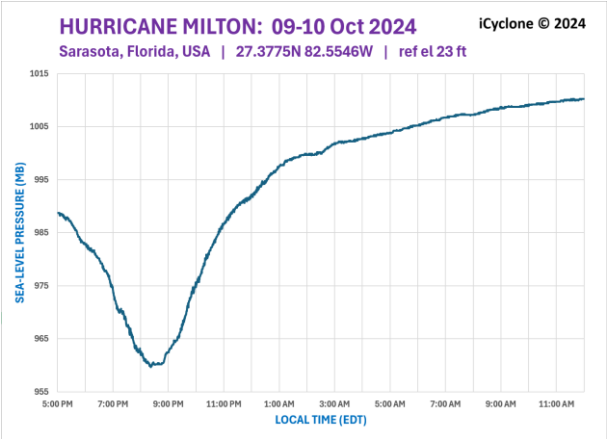
Figures 7, 8, 9, & 10: All Barograms—Comparison

Below are barograms from all four locations—A, B, C, and D—this time with the same x axis (5 am 09 Oct to 12 noon 10 Oct EDT) and y axis (955 to 1015 mb).

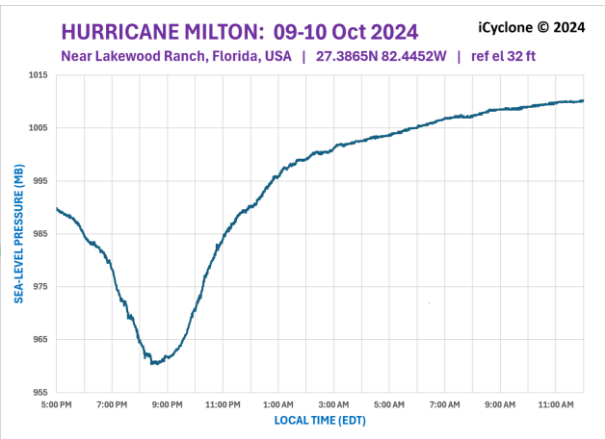
The sensors in Sarasota (A) and near Lakewood Ranch (B) were quite close to each other—less than 6 n mi apart—so they had very similar minimums, timings, and pressure traces. Both of these sensors were in MILTON’s eye and very close to the exact center, so their minimum values (959.7 and 960.4 mb) are probably representative of the hurricane’s central pressure at that time.

The sensors in St. Petersburg (C) and Tampa (D) were much further from MILTON’s center (25 and 30 n mi, respectively) and therefore had much shallower minimum pressures (977.6 and 980.4 mb).

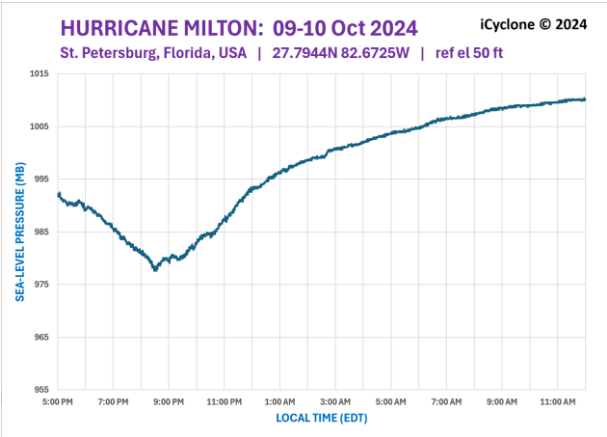
Sarasota (Location A)



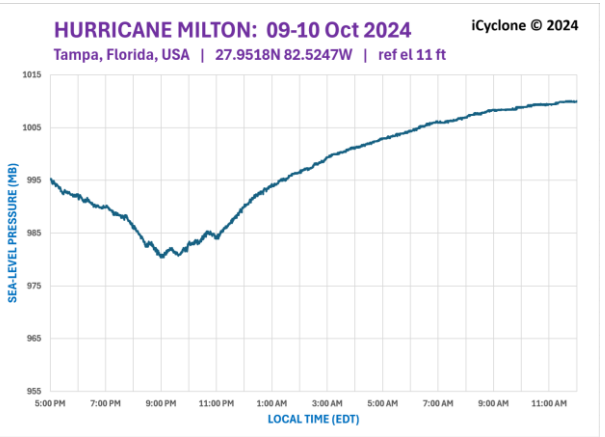
Near Lakewood Ranch (Location B)



St. Petersburg (Location C)



Tampa (Location D)



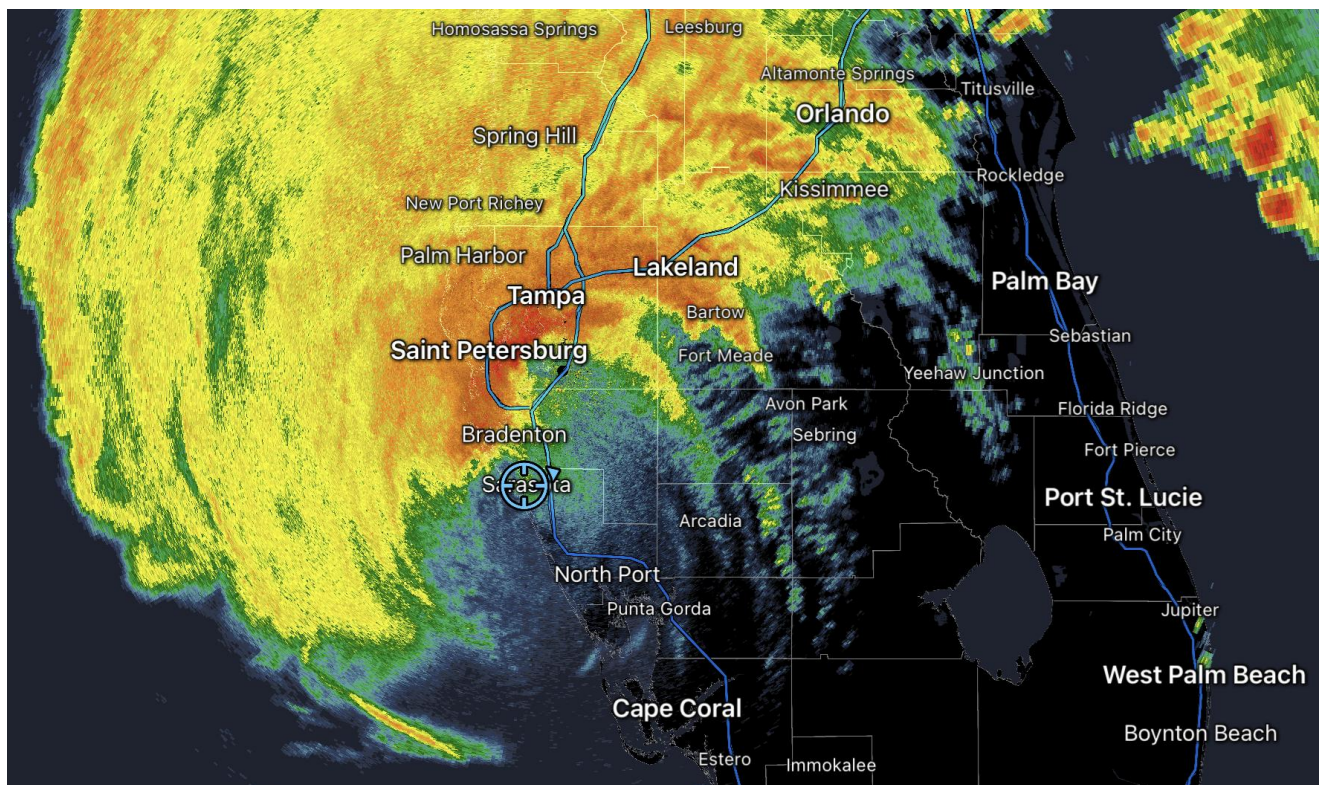
Observations & Imagery

Following are observations regarding Hurricane MILTON's impact in and around Sarasota:

- **The hurricane had a distinct, sharply defined eye as it made landfall in Sarasota and passed over the city.** The lull started in Downtown at around 8 pm EDT, becoming a dead calm by the bottom of the hour or before, and remaining completely, strikingly calm until at least 8:52 pm. Wind and rain picked up suddenly at about 9:03 pm, as the backside of the hurricane reached the city.
 - The author caught this dead calm in Downtown Sarasota on camera. This clip was filmed at 8:45 pm EDT:
https://fb.watch/wDkdRsQ_KH/
<https://x.com/iCyclone/status/1844177919972893020>
- **The backside of the hurricane seemed stronger.** While destructive winds both preceded and followed the calm eye, they were apparently stronger **after** the eye. Radar images (like **Figure 11**) seem to support this impression, showing deeper convection on the backside. As the hurricane's back eyewall moved into Sarasota, the author drove N, up I-75, into the hurricane's vigorous NW eyewall, encountering extremely heavy rain and very stormy conditions in Apollo Beach and near Ruskin.
- **Wind damage around Sarasota was streaky.** In most places wind damage was light, but there were pockets of significant damage. Winds in the hurricane's backside, after the eye, smashed or tore out many windows of a large Downtown office building (**Figure 12**). Heavy signage was torn from the roof of a hotel near Downtown (**Figure 13-15**). A nearby mobile home park had widespread damage (**Figures 19-27**).

Figure 11: Radar Image—8:34 pm EDT: Eye Over Sarasota

Radar image showing the eye of Hurricane MILTON over Sarasota. The author's location is marked by the blue symbol. The hurricane was losing its structure and becoming asymmetric, but the eye remained distinct, bringing a perfect, dead calm to Sarasota. (Image: RadarScope)



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Figure 12: Damage in Downtown Sarasota

Powerful winds on the backside of Hurricane MILTON smashed or tore out many windows of this large office building in Downtown Sarasota. Nearby buildings did not have this degree of damage, suggesting perhaps this damage was caused by a localized funneling effect.



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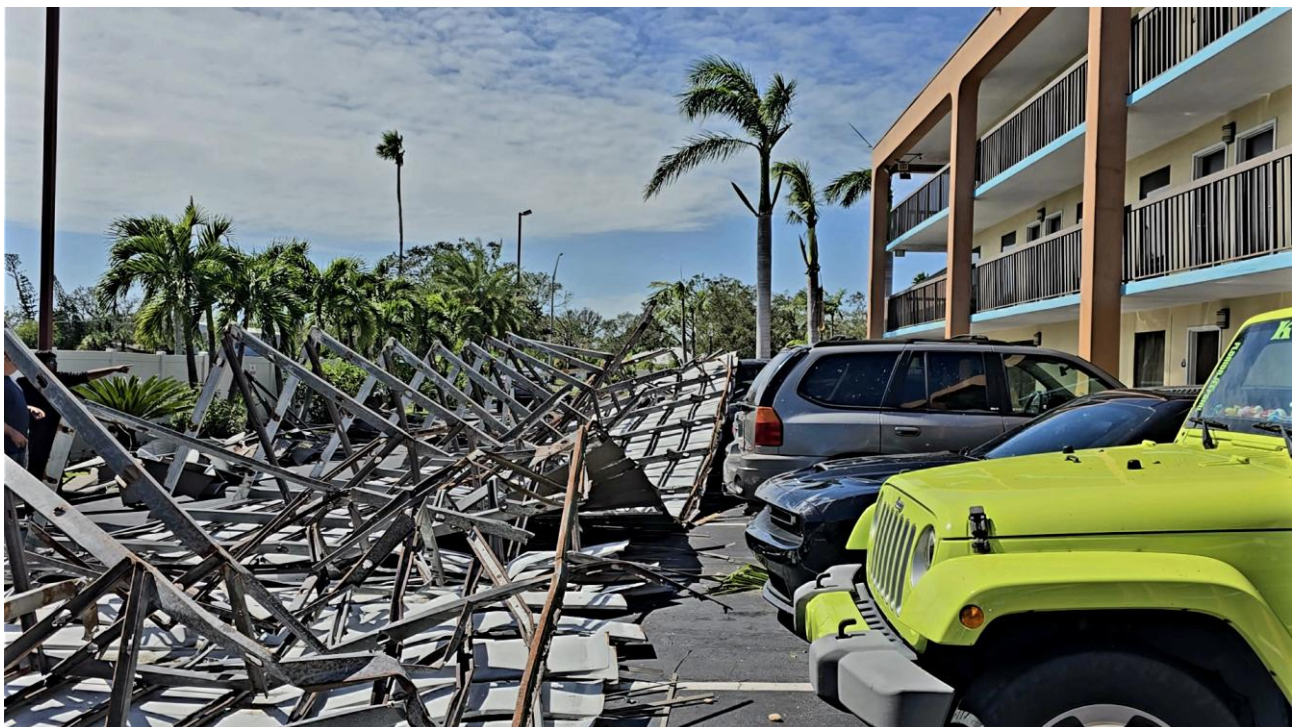
Figure 13: Damage to a Hotel Near Downtown Sarasota

Hurricane MILTON's winds tore large metal signage from the roof of this hotel near Downtown Sarasota. The debris fell into the parking lot, damaging several cars.



Figure 14: Damage to a Hotel Near Downtown Sarasota

Another shot of the damage to the hotel signage near Downtown Sarasota. Several cars were damaged.



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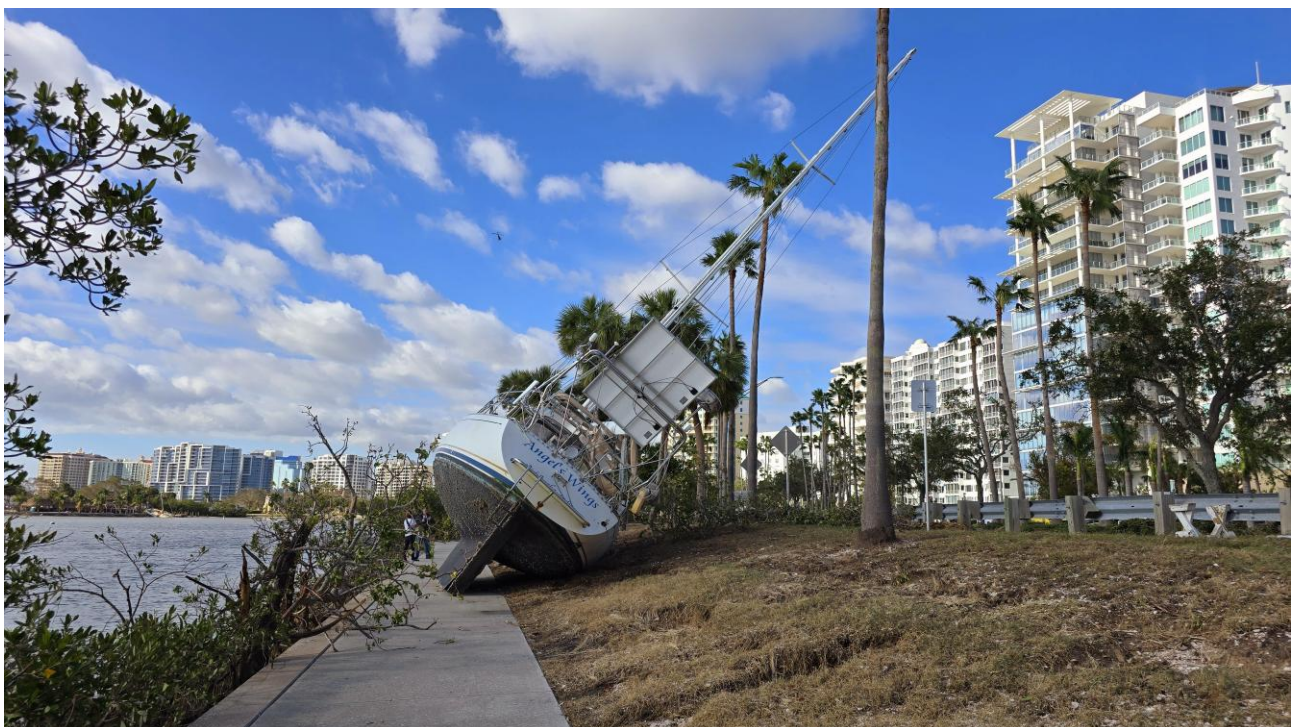
Figure 15: Damage to a Hotel Near Downtown Sarasota

Another shot of the damage to the hotel signage near Downtown Sarasota. Cars that weren't damaged were blocked in by the large debris.



Figure 16: Grounded Boat in Downtown Sarasota

A grounded boat in Downtown Sarasota. Despite this striking visual, the author did not see evidence of major storm-surge inundation in the city.



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Figure 17: Large Felled Trees in Downtown Sarasota

Wind damage in Downtown Sarasota was streaky, perhaps due to localized funneling of the winds in key locations. Here, a couple of large trees were felled.



Figure 18: Damage from Falling Tree in Sarasota

Falling trees in residential areas in and around Sarasota caused significant damage to homes.



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Figure 19: Mobile Home Park in Sarasota

Mobile home parks are vulnerable to hurricane winds. This one in Sarasota saw widespread moderate wind damage in Hurricane MILTON, with debris scattered across the neighborhood.



Figure 20: Mobile Home Park in Sarasota

Damage to the screened porch of a mobile home.



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Figure 21: Mobile Home Park in Sarasota

Snapped palm trees.



Figure 22: Mobile Home Park in Sarasota

This carport collapsed, damaging the car it had been sheltering.



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Figure 23: Mobile Home Park in Sarasota

Felled palm tree blocking a street.



Figure 24: Mobile Home Park in Sarasota

While there were no catastrophic building failures in this mobile home park, damage was widespread, and the neighborhood was littered with debris.



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Figure 25: Mobile Home Park in Sarasota

Damage to the screened porch of another mobile home.



Figure 26: Mobile Home Park in Sarasota

Debris littering the neighborhood.



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Figure 27: Mobile Home Park in Sarasota

Significant damage to a mobile home.



Questions or Feedback?

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