



# Launch Mission Execution Forecast

**Mission:** Falcon 9 HERA

**Issued:** 6 October 2024 / 1230L (1630Z)

**Valid:** 7 October 2024 / 1047-1057L (1447-1457Z)



**Forecast Discussion:** Tropical Storm Milton currently situated in the Bay of Campeche is likely to become a major hurricane tomorrow according to the National Hurricane Center, with most guidance showing its movement across the Gulf of Mexico and into Florida Wednesday and Wednesday night. Deep moisture has already been siphoned into the state, with resultant extensive cloud cover and showers likely to continue for the primary launch day. Models suggest a subtle push of slightly drier air locally on Tuesday as moisture gets consolidated around the likely hurricane out across the Gulf, otherwise conditions deteriorate markedly Wednesday as this system reaches the state, bringing heavy rainfall and windy conditions. While conditions slowly improve later in the week as the system pushes off into the Atlantic, windy conditions accompanied by intermittent showers will continue into Thursday.

## Probability of Violating Weather Constraints<sup>1</sup>

**85%**

**Primary Concerns:** Thick Cloud Layers Rule, Cumulus Cloud Rule

### Weather Conditions

### Additional Risk Criteria<sup>2</sup>

**Weather/Visibility:** Nmrs Showers / 7 mi.

#### Clouds

Type Coverage Base (ft) Tops (ft)

**Temp/Humidity:** 80°F / 90%

Cumulus Broken 3,000 14,000

**Liftoff Winds (200'):** 090° 15 - 20 mph

Altostratus Broken 16,000 21,000

**Upper-Level Wind Shear:** Low

**Solar Activity:** Low

## Probability of Violating Weather Constraints

**75%**

**Primary Concerns:** Thick Cloud Layers Rule, Cumulus Cloud Rule

### Weather Conditions

### Additional Risk Criteria

**Weather/Visibility:** Sct Showers / 7 mi.

#### Clouds

Type Coverage Base (ft) Tops (ft)

**Temp/Humidity:** 83°F / 80%

Cumulus Scattered 3,000 12,000

**Liftoff Winds (200'):** 070° 15 - 20 mph

Altostratus Broken 16,000 20,000

**Upper-Level Wind Shear:** Low

**Solar Activity:** Low

## Probability of Violating Weather Constraints

**90%**

**Primary Concerns:** Thick Cloud Layers Rule, Cumulus Cloud Rule, Disturbed Weather Rule

### Weather Conditions

### Additional Risk Criteria

**Weather/Visibility:** Nmrs Showers / 7 mi.

#### Clouds

Type Coverage Base (ft) Tops (ft)

**Temp/Humidity:** 83°F / 80%

Cumulus Broken 3,000 15,000

**Liftoff Winds (200'):** 070° 25 - 35 mph

Altostratus Broken 16,000 21,000

**Upper-Level Wind Shear:** Moderate

**Solar Activity:** Low

24-Hour Delay

48-Hour Delay

Notes

1. The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring any random time during the launch window.
2. Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.

See <https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf> for more information

Next Forecast Will Be Issued

As Required