Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-4
Issued: 26 Apr 2022 / 0700L (1100Z)
Valid: 27 Apr 2022 / 0347 - 0357L (0747 - 0757Z)

Forecast Discussion: Persistent high pressure over the Western Atlantic will break down as a frontal system moves through the southeastern US and into North Florida by late day. Ahead of it, there will be enough moisture for at least isolated showers to develop with a late day sea breeze collision across the interior of the state. Flow veering south-southwest will bring some of these back towards the Spaceport late this evening, but they are expected to dissipate by the launch window early Wednesday morning. The main weather concerns will be the Cumulus Cloud Rule and Flight Through Precipitation.

The boundary moves through Central Florida on Wednesday, with increased cloud cover and scattered showers through the day. The boundary may be just south of the region by the backup launch window early Thursday morning, but still close enough that the cloud cover and showers will be a concern. The boundary is expected to be south of the area for Friday morning launch attempt, as high pressure builds in bringing drier air.

Launch Day

Probability of Violating Weather Constraints [1]

10% — **Primary Concerns**: Cumulus Cloud Rule, Flight Through Precipitation

Weather Conditions

Weather:	None
Visibility:	7 miles
Temp/Humidity:	70°F / 90%
Liftoff Winds (200'):	200° 12 - 17 mph

Clouds

Type	Coverage	Base (ft)	Tops (ft)
Cumulus	Scattered	3,500	8,000
Cirrostratus	Scattered	35,000	40,000

Additional Risk Criteria [2]

Upper-Level Wind Shear:	Low
Ascent Corridor Recovery:	Low-Mod
Booster Recovery Weather:	Low
Solar Activity:	Low

24-Hour Delay

Probability of Violating Weather Constraints

60% — **Primary Concerns**: Cumulus Cloud Rule, Flight Through Precipitation

Weather Conditions

Weather:	Scattered Showers
Visibility:	7 miles
Temp/Humidity:	71°F / 78%
Liftoff Winds (200'):	040° 12 - 17 mph

Clouds

Type	Coverage	Base (ft)	Tops (ft)
Cumulus	Scattered	3,000	7,000
Altostratus	Broken	8,000	11,000

Additional Risk Criteria

Upper-Level Wind Shear:	Low
Ascent Corridor Recovery:	Low-Mod
Booster Recovery Weather:	Low
Solar Activity:	Low

48-Hour Delay

Probability of Violating Weather Constraints

10% — **Primary Concerns**: Cumulus Cloud Rule

Weather Conditions

Weather:	None
Visibility:	7 miles
Temp/Humidity:	68°F / 65%
Liftoff Winds (200'):	080° 12 - 17 mph

Clouds

Type	Coverage	Base (ft)	Tops (ft)
Cumulus	Scattered	3,500	8,000

Additional Risk Criteria

Upper-Level Wind Shear:	Low
Ascent Corridor Recovery:	Moderate
Booster Recovery Weather:	Low
Solar Activity:	Low

Notes

1. *The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime 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 Needed