



Launch Mission Execution Forecast

Mission: Falcon 9 CRS-27

Issued: 13 March 2023 / 0800L (1200Z)

Valid: 14 March 2023 / 2025 - 2036L (15/0025 - 0036Z)



Forecast Discussion: A strong cold front is moving into North Florida this morning accompanied by showers and storms. This activity will continue to move into the Spaceport through the afternoon, with a chance for a few stronger storms into the late afternoon. Behind the front, high pressure spilling out of the Midwest will be the dominant surface feature, but an upper-level disturbance moving across the Gulf of Mexico will bring enhanced mid and upper-level cloud cover Tuesday afternoon and evening. This will pose a Thick Cloud Layer Rule concern for the primary launch window Tuesday evening.

The upper-level feature will move east of the area on Wednesday, clearing skies as the surface high center moves into the eastern US. No significant weather is expected, with favorable weather for the backup window Wednesday evening. The Spaceport will be on the western end of high pressure by Friday evening, with the next front still well to the west. The increasing pressure gradient ahead of this system however will bring gusty southeasterly winds that will pose a Liftoff Wind concern for a 72-hour delay.

Launch Day	Probability of Violating Weather Constraints ¹					
	50%	Primary Concerns: Thick Cloud Layer Rule				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: None / 7 mi.	Clouds Type Coverage Base (ft) Tops (ft)			Upper-Level Wind Shear: Moderate	
Temp/Humidity: 62°F / 55%	Cumulus	Few	2,500	4,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 010° 12 - 17 mph	AltoCumulus	Broken	18,000	25,000	Solar Activity: Low	
24-Hour Delay	Probability of Violating Weather Constraints					
	5%	Primary Concerns: Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds Type Coverage Base (ft) Tops (ft)			Upper-Level Wind Shear: Low	
Temp/Humidity: 60°F / 59%	Cumulus	Scattered	3,500	6,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 020° 10 - 15 mph					Solar Activity: Low	
72-Hour Delay	Probability of Violating Weather Constraints					
	10%	Primary Concerns: Liftoff Winds				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds Type Coverage Base (ft) Tops (ft)			Upper-Level Wind Shear: Low	
Temp/Humidity: 72°F / 65%	Cumulus	Scattered	3,500	7,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 150° 17 - 22 mph	Cirrus	Scattered	30,000	35,000	Solar Activity: Low	
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 Needed				