



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-17

Issued: 03 May 2022 / 0900L (1300Z)

Valid: 06 May 2022 / 0521 – 0621L (0921 – 1021Z)



Forecast Discussion: High pressure will remain parked off the western Atlantic through the week, creating prolonged southwesterly flow. This will inspire most afternoon storm activity to focus west of the Spaceport, though a shower or two cannot be ruled out prior to sea-breeze initiation. By Friday morning, a mid-latitude storm system will move through the Mississippi Valley and push the high pressure ridge farther to our east. This will cause our winds to shift to the south-southwest and offshore, which will lower the probability of morning showers impacting the Spaceport during the primary launch window. Aside from possible wind shear aloft, the weather looks excellent for a launch attempt Friday morning, with the Cumulus Cloud Rule being the only concern.

Conditions change for the backup window Saturday morning as a cold front begins to approach and dig into the Florida panhandle. Local wind flow becomes more westerly in nature and increases to near 20 mph, and moisture will rise across the spaceport. Higher cloud coverage and isolated showers will be in the forecast for Saturday, but the weather looks decent for the backup launch window, with the Cumulus Cloud Rule and Thick Cloud Layer Rule being the main concerns.

		Probability of Violating Weather Constraints ¹					
Launch Day	10%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria ²		
	Weather/Visibility: None / 7 mi.	Clouds			Upper-Level Wind Shear:	Moderate	
	Temp/Humidity: 71°F / 90%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	
Liftoff Winds (200'): 190° 10 - 15 mph	Cumulus	Scattered	1,500	4,000	Solar Activity: Low		
		Probability of Violating Weather Constraints					
24-Hour Delay	20%	Primary Concerns: Cumulus Cloud Rule, Thick Cloud Layer Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Iso Showers / 7 mi.	Clouds			Upper-Level Wind Shear:	Low	
	Temp/Humidity: 72°F / 90%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Moderate	
Liftoff Winds (200'): 260° 17 - 22 mph	Altostratus	Scattered	15,000	18,000	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							
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.							
Next Forecast Will Be Issued		04 MAY 2022					