



Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-9

Issued: 27 Sep 2024 / 0945L (1345Z)

Valid: 28 Sep 2024 / 1312 - 1323L (1712 - 1723Z)



Forecast Discussion: No significant changes to today's forecast update. Helene made landfall late last night in the Big Bend region of Florida as a powerful Category 4 hurricane and has now tracked well to the north of Florida. In Helene's wake, wind speeds will continue to decrease as the day progresses today, but a frontal boundary will stall out and concentrate moisture over Central Florida through the weekend. This feature, combined with deep southwesterly flow and diurnal heating, will increase shower and storm chances at the Spaceport on Saturday afternoon. While the highest rain/lightning chances are likely later in the afternoon, scattered showers are likely to develop over the Florida peninsula and track eastwards towards the coast around T-0. This will introduce the risk of a Cumulus Cloud Rule, Flight Through Precipitation, and Surface Electric Fields Rule violations. Overall weather conditions look very similar for both backup days as the front remains stagnant over the area, but the launch window shifting earlier will slightly improve the POV each day.

		Probability of Violating Weather Constraints ¹					
Launch Day	45%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Surface Electric Fields Rule					
	Weather Conditions				Additional Risk Criteria ²		
	Weather:	Scattered Showers	Clouds				Upper-Level Wind Shear: Low
			Type	Coverage	Base (ft)	Tops (ft)	Ascent Corridor Weather: Moderate
	Visibility:	7 miles	Cumulus	Scattered	2,500	18,000	Booster Recovery Weather: Low
Temp/Humidity:	86°F / 70%	Cirrostratus	Scattered	34,000	38,000	Solar Activity: Low	
Liftoff Winds (200'):	190° 12 - 17 mph						
		Probability of Violating Weather Constraints					
24-Hour Delay	40%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Surface Electric Fields Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather:	Scattered Showers	Clouds				Upper-Level Wind Shear: Low
			Type	Coverage	Base (ft)	Tops (ft)	Ascent Corridor Weather: Moderate
	Visibility:	7 miles	Cumulus	Scattered	2,500	16,000	Booster Recovery Weather: Low
Temp/Humidity:	86°F / 70%	Cirrus	Scattered	35,000	38,000	Solar Activity: Low	
Liftoff Winds (200'):	210° 7 - 12 mph						
		Probability of Violating Weather Constraints					
48-Hour Delay	35%	Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Surface Electric Fields Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather:	Isolated Showers	Clouds				Upper-Level Wind Shear: Low
			Type	Coverage	Base (ft)	Tops (ft)	Ascent Corridor Weather: Moderate
	Visibility:	7 miles	Cumulus	Scattered	2,500	14,000	Booster Recovery Weather: Low
Temp/Humidity:	86°F / 70%					Solar Activity: Low	
Liftoff Winds (200'):	170° 7 - 12 mph						
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