



Launch Mission Execution Forecast

Mission: Falcon 9 Commercial GTO 1

Issued: 11 Jul 2025 / 1030L (1430Z)

Valid: 13 Jul 2025 / 0031 – 0431L (0431 – 0831Z)



Forecast Discussion: A weak trough will build across the Central Florida peninsula this weekend as the Bermuda ridge retreats southward. Synoptic flow will remain light enough to allow the sea breeze circulation to dominate each afternoon. Overnight, land-based convection will likely diminish before the launch windows, but near and offshore marine-based convection, which tends to be poorly captured by high-resolution models, may send anvils toward the cape with the northeasterly flow aloft. Primary concerns for both launch windows will be for the Cumulus Cloud Rule and Anvil Cloud Rules, though POV is a little higher for the back-up launch window due to increased moisture expected in the mid-levels.

		Probability of Violating Weather Constraints ¹				
Launch Day	20%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules				
	Weather Conditions			Additional Risk Criteria ²		
	Weather/Visibility: Iso Showers / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Temp/Humidity: 77°F / 90%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200'): 220° 8 - 12 mph	Cumulus	Few	2,500	8,000	Solar Activity: Low	
	Altostratus	Scattered	15,000	20,000		
		Probability of Violating Weather Constraints				
24-Hour Delay	30%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules				
	Weather Conditions			Additional Risk Criteria		
	Weather/Visibility: Sct Showers / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Temp/Humidity: 77°F / 90%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200'): 240° 8 - 12 mph	Cumulus	Scattered	2,500	8,000	Solar Activity: Low	
	Altostratus	Scattered	15,000	20,000		
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 Launch FAQ https://45thweathersquadron.nebula.spaceforce.mil/pages/launchForecastSupport.html for more information					
Next Forecast Will Be Issued		12 July 2025				