



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 10-21

Issued: 25 Oct 2025 / 0900L (1300Z)

Valid: 26 Oct 2025 / 1005 – 1405L (1405 – 1805Z)



Forecast Discussion: A stationary boundary remains draped across south Florida as high pressure shifts east across the eastern seaboard. As this high shifts east, we can expect a persistently tightened pressure gradient bringing gustier winds through the weekend. By tonight, a low-pressure system will spin up along this stationary boundary in South Florida and will start to move north along Florida's coast, injecting significantly more moisture into our area and increasing our chances of rain showers and possible late afternoon thunderstorms with daytime heating. With a morning/early afternoon launch, however, the main concern will be cumulus clouds that develop across the Spaceport. By Sunday morning, the low off the coast lifts just north of the Spaceport, further unsettling the atmosphere. Additionally, a separate low-pressure system with associated frontal boundaries currently over south-central CONUS will move across the southeast further unsettling the atmosphere and injecting additional moisture into the area. Given this setup, increased rain and thunderstorm chances are expected on Monday, and exact timing of the storms will depend on the movement of these systems. Therefore, the primary concern for the backup launch day will be cumulus clouds, lightning, and surface electric fields.

Launch Day	Probability of Violating Weather Constraints ¹							
	15% → 30%		Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions					Additional Risk Criteria ²		
	Weather/Visibility: None / 7 mi.		Clouds				Upper-Level Wind Shear: Low	
	Temp/Humidity: 80°F / 79%		Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	
	Liftoff Winds (200'): 090° 20 - 25 mph		Cumulus	Scattered	4,000	10,000	Solar Activity: Low	
24-Hour Delay	Probability of Violating Weather Constraints							
	20% → 40%		Primary Concerns: Cumulus Cloud Rule, Lightning Rule, Surface Electric Field Rule					
	Weather Conditions					Additional Risk Criteria		
	Weather/Visibility: Isolated Thunderstorms / 7 mi.		Clouds				Upper-Level Wind Shear: Low	
	Temp/Humidity: 81°F / 77%		Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	
	Liftoff Winds (200'): 110° 10 - 15 mph		Cumulus	Scattered	2,000	25,000	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 Launch FAQ https://45thweathersquadron.nebula.spaceforce.mil/pages/launchForecastSupport.html for more information							
Next Forecast Will Be Issued			As Required					