



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-16

Issued: 28 Apr 2022 / 0800L (1200Z)

Valid: 29 Apr 2022 / 1723 – 1744L (2123 – 2144Z)



Forecast Discussion: The weak frontal boundary that pushed through the region overnight will continue to sag south and stall in south Florida later today. While the focus for precipitation will accompany the front to the south, an isolated shower cannot be ruled out locally in the presence of increasing onshore flow. High pressure building across the western Atlantic tonight into tomorrow will support a continuation of low level moisture embedded in the easterly flow, yielding some clouds and potentially a light shower. Thus, the primary weather concern for launch day is the extent and depth of these clouds.

For a 24-hour delay, Atlantic high pressure retreats from the area, allowing the frontal boundary to the south and associated moisture fetch to lift somewhat closer to the region. The clouds and showers accompanying this feature continue to be the primary weather concern.

Launch Day		Probability of Violating Weather Constraints ¹					
Launch Day	20%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria ²		
	Weather/Visibility: Isol Showers / 7 mi.	Clouds Type Coverage Base (ft) Tops (ft)			Upper-Level Wind Shear: Low		
	Temp/Humidity: 76°F / 65%	Cumulus	Scattered	4,000	8,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 100° 15 - 20 mph				Solar Activity: Low			
24-Hour Delay		Probability of Violating Weather Constraints					
24-Hour Delay	20%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Isol Showers / 7 mi.	Clouds Type Coverage Base (ft) Tops (ft)			Upper-Level Wind Shear: Low		
	Temp/Humidity: 77°F / 70%	Cumulus	Scattered	3,500	10,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 130° 15 - 20 mph				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		As Required					