



Launch Mission Execution Forecast



Mission: Falcon 9 Starlink 4-27

Issued: 16 Aug 2022 / 0815L (1215Z)

Valid: 19 Aug 2022 / 1514 – 1534L (1914 – 1934Z)

Forecast Discussion: The broader pattern across the region will remain similar through Friday, with a weak frontal boundary to the north and the western Atlantic ridge axis south of the state. This will keep low to mid-level flow out of the west-southwest, favoring higher afternoon and evening shower and storm chances for the Spaceport. Coverage will remain lower today due to slightly drier air, but increase mid to late week as higher moisture moves back into the region.

For the primary launch day on Friday, the initial development of the sea breeze is expected to occur just before the launch window, jump starting afternoon showers and storms. Ongoing activity will likely be just inland, with the potential for some drifting back towards the launch site. The main threats will be cumulus clouds and lightning associated with any activity.

The boundary to the north washes out on Saturday, allowing the ridge axis to lift north into the vicinity of the Spaceport. This lighter flow may allow for a one to two hour head start on sea breeze development, but this will be countered by slower moving storms that may linger across the Spaceport. The threat for a backup launch window on Saturday will be the same as Friday.

Launch Day	Probability of Violating Weather Constraints ¹					
	60%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Field Rule, Lightning Rule				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: Sct. Storms / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 86°F / 65%	Cumulus	Scattered	3,500	20,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 140° 7 - 12 mph	Cirrus	Scattered	25,000	30,000	Solar Activity: Low	
24-Hour Delay	Probability of Violating Weather Constraints					
	40%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Field Rule, Lightning Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: Isold. Storms / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 84°F / 70%	Cumulus	Scattered	3,500	15,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 110° 10 - 15 mph					Solar Activity: Low	
Notes	<ol style="list-style-type: none"> The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window. Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor. <p>See https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf for more information</p>					

Next Forecast Will Be Issued 17 Aug 2022