



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-27

Issued: 18 Aug 2022 / 0930L (1330Z)

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



Forecast Discussion: There will be little change in the pattern through the end of the week, before a pattern shift arrives for the weekend. A dying frontal boundary to the north will keep weather unsettled, with west-southwest flow holding back the east coast sea breeze and pushing storms towards the Spaceport in the afternoon and evening. This same pattern will continue into the primary launch day on Friday, with east coast sea breeze development not likely until early afternoon, just before the launch window. However, models have trended towards less coverage along this initial development, instead favoring eastward moving storms reaching the Spaceport just after the launch window. Given an otherwise unstable atmosphere, with sea breeze development it is expected that there will be some showers and storms in the area during the window, likely just inland of the launch site. The main threats will be cumulus clouds and lightning associated with showers and storms in the vicinity, some which may drift back towards the launch site.

The boundary to the north washes out on Saturday, allowing the ridge axis and drier air to lift north into the proximity of the Spaceport. Light and variable, or even easterly flow, will allow for a one to two hour head start on sea breeze development and inland movement as compared to Friday. While the threats for a backup launch window on Saturday will be similar to Friday, their overall chances will be lower.

		Probability of Violating Weather Constraints ¹				
Launch Day	50%	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	
	Temp/Humidity: 86°F / 65%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200'): 140° 7 - 12 mph	Cumulus	Scattered	3,500	20,000	Solar Activity: Low	
		Cirrus	Scattered	25,000	30,000	
		Probability of Violating Weather Constraints				
24-Hour Delay	30%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Field Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: Isold. Storms / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Temp/Humidity: 84°F / 70%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200'): 110° 10 - 15 mph	Cumulus	Scattered	3,500	15,000	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. 					
	See https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf for more information					
Next Forecast Will Be Issued		As Needed				