



Launch Mission Execution Forecast

Mission: Falcon Heavy ViaSat-3.1

Issued: 25 Apr 2023 / 0845L (1245Z)

Valid: 26 Apr 2023 / 1924 – 2031L (2324 – 27/0031Z)



Forecast Discussion: Significant shifts in the models over the past 24 hours have led to a quieter forecast for the primary and backup launch windows. Today, the area will be in between upper-level systems, resulting in slightly lower storm chances than yesterday. However, nevertheless expect at least scattered showers and storms to develop by late morning across the Spaceport aided by the sea breeze and weak front stalled just to the north. This activity will shift south of the area by this evening as the front sags south. The next upper-level disturbance is still forecast to swing through the state on Wednesday, however with the boundary potentially a little further south and an inverted surface trough along the coast, the Spaceport looks to see stronger east-northeast steering flow during the day. This will shift coverage of afternoon and evening showers and storms much further inland as compared to previous forecasts, necessitating the lower POV. The main weather concerns for a Wednesday evening launch have shifted to anvil clouds associated with ongoing convection to the west as well as any lingering cumulus clouds.

The approach of the next upper-level trough continues to be delayed more into Friday, with the old boundary retreating to the north of the area. Thursday will look closer to a typical summer day with warm and breezy southeasterly flow and late morning to early afternoon storm development along the sea breeze. Activity will once again shift well inland by the backup launch window Thursday evening, with trailing anvil clouds and lingering cumulus the main concerns.

Launch Day	Probability of Violating Weather Constraints ¹					
	40%	Primary Concerns: Anvil Cloud Rules, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: None / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Temp/Humidity: 75°F / 85%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: N/A
Liftoff Winds (200'): 060° 12 - 17 mph	Cumulus	Scattered	2,500	10,000	Solar Activity: Low	
	Cirrostratus	Broken	18,000	24,000		

24-Hour Delay	Probability of Violating Weather Constraints					
	40%	Primary Concerns: Anvil Cloud Rules, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Temp/Humidity: 76°F / 88%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: N/A
Liftoff Winds (200'): 110° 12 - 17 mph	Cumulus	Scattered	3,500	12,000	Solar Activity: Low	
	Cirrostratus	Broken	24,000	34,000		

Notes

- The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring any random time 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