



# Launch Mission Execution Forecast

**Mission:** Falcon Heavy ViaSat-3.1

**Issued:** 29 Apr 2023 / 0800L (1200Z)

**Valid:** 30 Apr 2023 / 1924 – 2031L (2324 – 27/0031Z)



**Forecast Discussion:** A two-pronged severe weather threat is expected over the next 24 hours or so. Later today, expect storms to fire up first along the east coast seabreeze early in the afternoon, then with an upper-level disturbance aided west coast sea breeze and squall line combo roll west to east across the peninsula late afternoon. Expect numerous showers and storms across the Spaceport into the early evening hours, with severe storms not out of the question as this activity interacts with the east coast sea breeze. There will be a lull in activity for a few hours overnight before the cold front sweeps through with a line of storms late tonight. Conditions look favorable for another round of strong to severe storms as the front arrives around sunrise. Showers and storms should clear the area just after midday with drier air and quieter weather filtering in by the evening. The only weather concern for the primary launch window early Sunday evening will be Liftoff Winds due to the tightening pressure gradient.

The quiet post-frontal weather continues into Monday. Tight gradient between a weak high over the Gulf and massive storm system over the Great Lakes and New England continues the breezy west-southwest flow. The weather concern for the backup launch window Monday evening will remain Liftoff Winds.

Launch Day		Probability of Violating Weather Constraints <sup>1</sup>					
		<b>20%</b>	Primary Concerns: Liftoff Winds				
		Weather Conditions				Additional Risk Criteria <sup>2</sup>	
		<b>Weather/Visibility:</b> None / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b> Low-Mod
			Type	Coverage	Base (ft)	Tops (ft)	
		<b>Temp/Humidity:</b> 73°F / 63%	Cumulus	Few	3,500	6,000	<b>Booster Recovery Weather:</b> N/A
		<b>Liftoff Winds (200'):</b> 260° 20 - 25 mph					<b>Solar Activity:</b> Low
24-Hour Delay		Probability of Violating Weather Constraints					
		<b>5%</b>	Primary Concerns: Liftoff Winds				
		Weather Conditions				Additional Risk Criteria	
		<b>Weather/Visibility:</b> None / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b> Low-Mod
			Type	Coverage	Base (ft)	Tops (ft)	
		<b>Temp/Humidity:</b> 75°F / 50%	Cumulus	Few	3,000	5,000	<b>Booster Recovery Weather:</b> N/A
		<b>Liftoff Winds (200'):</b> 250° 17 - 22 mph					<b>Solar Activity:</b> 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 <a href="https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf">https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf</a> for more information							
<b>Next Forecast Will Be Issued</b>		As Needed					