



# Launch Mission Execution Forecast

**Mission:** Falcon Heavy ViaSat-3.1

**Issued:** 27 Apr 2023 / 0830L (1230Z)

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



**Forecast Discussion:** The forecast of a less convectively active day has evaporated as all models now point to much faster timing with the next feature in the series of upper-level disturbances aiding the complex interactions. This increase has brought a dramatic shift in the forecast for today. In the low levels, southeasterly flow will still allow the east coast seabreeze to develop and move inland by mid-afternoon. However, with increasing west-southwest steering flow, don't expect the seabreeze to move very far inland. The influence of the approaching system, and what is expected to be a squall line over the Gulf of Mexico, will give a boost to the Gulf coast breeze, bringing numerous storms eastwards across the peninsula and towards the Spaceport through the late afternoon. As with the past few days, strong to severe storms with hail are not out of the question. Timing currently suggests this activity colliding with the east coast seabreeze just to the west of the Spaceport just before the opening of the primary launch window this evening and affecting the area for several hours in the late evening thereafter. These ongoing storms will be the primary weather concern this evening.

The threat for showers and storms will continue well into the overnight hours as what's left of the Gulf complex tracks across the state. Friday will be another active day as an area of low pressure tracking across the Mid-South pulls a frontal boundary into Florida. The boundary will bring activity moving from west to east towards the Spaceport by midday and continuing through the afternoon. Most activity may be just south or offshore of the Spaceport by the start of the backup window but given current uncertainty would expect at least lingering debris clouds and anvils through the window.

Launch Day	Probability of Violating Weather Constraints <sup>1</sup>					
	<b>80%</b>	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Lightning Rule				
	Weather Conditions				Additional Risk Criteria <sup>2</sup>	
	<b>Weather/Visibility:</b> Thunderstorms / 6 mi.	<b>Clouds</b>		<b>Upper-Level Wind Shear:</b> Low		
	Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b> N/A	
<b>Temp/Humidity:</b> 75°F / 85%	Cumulus	Scattered	2,500	14,000	<b>Solar Activity:</b> Low	
<b>Liftoff Winds (200'):</b> 140° 12 - 17 mph	Altostratus	Overcast	15,000	24,000		

24-Hour Delay	Probability of Violating Weather Constraints					
	<b>70%</b>	Primary Concerns: Anvil Cloud Rules, Debris Cloud Rule, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	<b>Weather/Visibility:</b> Isold Storms / 7 mi.	<b>Clouds</b>		<b>Upper-Level Wind Shear:</b> Low		
	Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b> N/A	
<b>Temp/Humidity:</b> 72°F / 85%	Cumulus	Scattered	3,000	10,000	<b>Solar Activity:</b> Low	
<b>Liftoff Winds (200'):</b> 200° 10 - 15 mph	Cirrostratus	Overcast	18,000	26,000		

**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