



# Launch Mission Execution Forecast

**Mission:** Falcon 9 Starlink 4-34

**Issued:** 10 Sept 2022 / 0745L (1145Z)

**Valid:** 11 Sept 2022 / 2243 – 2303L (12/0243 – 0303Z)



**Forecast Discussion:** Similar to the past few days, another unsettled day is expected for the Spaceport as a very moist and unstable environment continues to stream into the state from the southwest. Brief development will be possible along the east coast sea breeze early afternoon, but better storm chances are expected late afternoon and early evening as storms as ongoing Gulf storms push eastwards across the state. Sunday will be a brief lull in the pattern, with the east coast sea breeze moving inland a little more quickly. However, there will remain a chance of storms at the Spaceport through the afternoon as some move back. Most activity should be winding down by the initial launch window, but lingering anvils or a few outflow showers along the coast cannot be ruled out. The primary weather concerns for the primary launch attempt are the Anvil Cloud Rules and the Cumulus Cloud Rule.

The nearly stationary frontal boundary across the Deep South will be re-enforced from the north early week, allowing the boundary to make southward progress into the state. With the front likely overhead or nearby, and plenty of moisture around, the pattern will remain unsettled with a chaotic steering pattern. The east coast sea breeze looks to move far enough inland, with minimal eastward return of storms, that any lingering activity should be well west of the Spaceport for a Tuesday evening launch attempt. The main concerns will remain any anvils that linger through late evening. The primary weather concerns for the backup launch attempt are the Anvil Cloud Rules and Cumulus Cloud Rule.

Launch Day		Probability of Violating Weather Constraints <sup>1</sup>					
Launch Day	<b>20%</b>	Primary Concerns: Anvil Cloud Rules, Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria <sup>2</sup>		
	<b>Weather/Visibility:</b>	None / 7 mi.	Clouds			<b>Upper-Level Wind Shear:</b>	Low
			Type	Coverage	Base (ft)	Tops (ft)	
<b>Temp/Humidity:</b>	78°F / 90%	Cumulus	Scattered	3,000	15,000	<b>Booster Recovery Weather:</b>	Low
<b>Liftoff Winds (200'):</b>	160° 5 - 10 mph	Cirrostratus	Broken	30,000	35,000	<b>Solar Activity:</b>	Low
24-Hour Delay		Probability of Violating Weather Constraints					
24-Hour Delay	<b>30%</b>	Primary Concerns: Anvil Cloud Rules, Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria		
	<b>Weather/Visibility:</b>	None / 7 mi.	Clouds			<b>Upper-Level Wind Shear:</b>	Low
			Type	Coverage	Base (ft)	Tops (ft)	
<b>Temp/Humidity:</b>	78°F / 90%	Cumulus	Scattered	3,500	18,000	<b>Booster Recovery Weather:</b>	Low
<b>Liftoff Winds (200'):</b>	190° 5 - 10 mph	Cirrostratus	Broken	33,000	38,000	<b>Solar Activity:</b>	Low
Notes	<ol style="list-style-type: none"> <li>The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window.</li> <li>Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.</li> </ol>						
	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						

**Next Forecast Will Be Issued** 11 Sept 2022