



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-2

Issued: 9 Sep 2022 / 0830L (1230Z)

Valid: 10 Sep 2022 / 2110 – 2120L (11/0110-0120Z)



Forecast Discussion: An upper-level disturbance over the Central Gulf of Mexico will continue to push a very moist and unstable environment into the state, leading to a stormy pattern for the Spaceport over the next few days. The Gulf breeze will remain dominant, with numerous showers and storms pushing eastwards across the state in the late afternoon and evening. The primary weather concerns for a Saturday attempt are the Cumulus Cloud Rule, the Anvil Cloud Rules, as well as the Surface Electric Fields Rule associated with the evening convection and storm interactions.

On Sunday, the breakdown of this upper-level feature will bring a little drier air and lower coverage, as well as allow the east coast sea breeze to move further inland before thunderstorms develop early afternoon. Upper-level winds will remain from the southwest however, bringing any thunderstorm blow off back towards the Spaceport into the evening. Most activity should be winding down by the launch window, but lingering anvils or a few outflow showers reaching the coast cannot be ruled out. The concerns for a Sunday attempt are the Anvil Cloud Rules and the Cumulus Cloud Rule.

Launch Day	Probability of Violating Weather Constraints ¹					
	40%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Anvil Cloud Rules				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: Isold Showers / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 82°F / 80%	Cumulus	Scattered	3,000	18,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 180° 8 - 13 mph	Cirrostratus	Broken	30,000	33,000	Solar Activity: Low	

24-Hour Delay	Probability of Violating Weather Constraints					
	30%	Primary Concerns: Anvil Cloud Rules, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds		Upper-Level Wind Shear: Low		
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 80°F / 80%	Cumulus	Scattered	3,000	15,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 160° 8 - 13 mph	Cirrostratus	Broken	30,000	35,000	Solar Activity: Low	

Notes

- 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 Required