



Launch Mission Execution Forecast



Mission: Falcon Heavy GOES-U

Issued: 24 Jun 2024 / 1145L (1545Z)

Valid: 25 Jun 2024 / 1701 – 1931L (2101 – 2331Z)

Forecast Discussion: No significant changes to today’s forecast update. Deep tropical moisture will remain over the Florida peninsula through this week as the Atlantic ridge axis slowly slides southwards. By tomorrow, the ridge axis will be just south of the Spaceport as a surface boundary digs into the Southeastern US, bringing high levels of moisture and light offshore low-level winds before the afternoon sea breeze develops. This set-up will increase afternoon shower and storm chances through most of this week. Both tomorrow and Wednesday, the east coast sea breeze will form and trigger showers/storms in the early to mid-afternoon, before the evening launch window opens. Due to the offshore flow being light, the sea breeze front will likely be able to migrate inland as the afternoon progresses. However, with the westerly mid to upper-level flow, the storms and their associated anvil clouds will slowly push eastward back towards the coast, leading to several Lightning Launch Commit Criteria concerns related to these convective clouds. Given the evening launch window, the probability of violation is elevated for both the launch and back-up days, with the primary concerns being the Cumulus Cloud, Anvil Cloud, and Surface Electric Fields Rules. The best opportunity for “GO” weather conditions will be if the storm activity pushes far enough inland and before there is significant anvil cloud development off the top of the storm cells.

		Probability of Violating Weather Constraints ¹				
Launch Day	70%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules, Surface Electric Fields Rule				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: Sct Storms / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Temp/Humidity: 83°F / 85%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200’): 130° 12 - 17 mph	Cumulus	Scattered	3,000	22,000	Solar Activity: Low	
	Cirrostratus	Broken	24,000	32,000		
		Probability of Violating Weather Constraints				
24-Hour Delay	70%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules, Surface Electric Fields Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: Sct Storms / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Temp/Humidity: 83°F / 85%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low
Liftoff Winds (200’): 150° 10 - 15 mph	Cumulus	Scattered	3,000	22,000	Solar Activity: Low	
	Cirrostratus	Broken	24,000	32,000		
Notes	<ol style="list-style-type: none"> 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 Required				