



Launch Mission Execution Forecast

Mission: Falcon Heavy PSYCHE

Issued: 12 Oct 2023 / 0930L (1330Z)

Valid: 13 Oct 2023 / 1014 - 1024L (1414Z - 1424Z)



Forecast Discussion: A complex system is sitting across the state this morning with a very sheared area of low pressure stretching across North Florida and the panhandle along with its associated quasi-stationary front. Out of this, a dominant low is expected to emerge out over the Atlantic later today, giving momentum to the boundary to move in back into Central Florida. As it does so, the Spaceport will see an increase in showers and storms into the afternoon with periods of heavy rainfall and stronger activity not out of the question. Activity is expected to become more limited overnight, though this will depend on exactly where the boundary ends up. As of now, models show it either overhead or just to the south, helping to kick off additional showers and storms for the mid-morning launch window on Friday.

Another weak low is likely to ripple along the boundary into the Atlantic late Friday before it merges with the system moving across the northern US early Saturday. Models are now in agreement that this will pull the boundary south of the area, effectively a weak frontal passage, with enough drier air to significantly limit the threat for showers and storms during the backup launch window Saturday morning.

The new merged storm system will deepen rapidly as it moves up the east coast Saturday night into Sunday, with a strong cold front arriving Sunday morning. The boundary may bring a few sprinkles/light showers as it moves through, however currently these do not look deep enough to pose a significant launch weather risk.

Launch Day	Probability of Violating Weather Constraints ¹					
	60%	Primary Concerns: Anvil Cloud Rules, Thick Cloud Layers Rule, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility: Isold Storms / 7 mi.	Clouds				Upper-Level Wind Shear: Low
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 82°F / 80%	Cumulus	Scattered	2,500	12,000	Solar Activity: Low	
Liftoff Winds (200'): 260° 5 - 10 mph	Altostratus	Broken	14,000	19,000		
24-Hour Delay	Probability of Violating Weather Constraints					
	30%	Primary Concerns: 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: 78°F / 80%	Cumulus	Scattered	3,000	16,000	Solar Activity: Low	
Liftoff Winds (200'): 280° 10 - 15 mph	Cirrostratus	Scattered	25,000	30,000		
48-Hour Delay	Probability of Violating Weather Constraints					
	5%	Primary Concerns: 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: 75°F / 65%	Stratocumulus	Broken	2,000	6,000	Solar Activity: Low	
Liftoff Winds (200'): 300° 15 - 20 mph	Cirrostratus	Broken	25,000	30,000		
Notes	1. The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime 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 https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf for more information						
Next Forecast Will Be Issued		As Needed				

