



Launch Mission Execution Forecast

Mission: Falcon 9 Arabsat BADR-8

Issued: 20 May 2023 / 1330L (1730Z)

Valid: 23 May 2023 / 2320-24/0127L (24/0320-0527Z)



Forecast Discussion: A very active weather pattern will emerge next week due to the combination of a remnant surface boundary, a series of mid-level disturbances, and plentiful moisture as East Central Florida enters the summer wet season. After a relatively lower coverage of showers and storms over the weekend, a slow-moving surface boundary will approach from the north, increasing moisture across the area heading into the start of next week. On Tuesday, numerous showers and storms will develop across the peninsula and linger into the evening and overnight hours. These storms will be enhanced beyond typical surface heating by a mid-level disturbance, allowing activity to continue in the overnight hours. Because of these factors, the probability of violation is elevated with the main concerns being the Cumulus Cloud Rule, Surface Electric Fields Rule, and Anvil Cloud Rules, all related to the convection and associated cloud cover in the area.

At this point model guidance does not show any significant change to the messy pattern on Wednesday into Wednesday night, so the probability of violation and primary concerns are the same for the backup day.

Launch Day		Probability of Violating Weather Constraints ¹					
Launch Day	70%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Anvil Cloud Rules					
	Weather Conditions				Additional Risk Criteria ²		
	Weather/Visibility: Sct Showers / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
		Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather:	Low
Temp/Humidity: 75°F / 85%	Cumulus	Broken	3,000	15,000	Solar Activity:	Low	
Liftoff Winds (200'): 100° 7 - 12 mph	Cirrostratus	Broken	25,000	30,000			
24-Hour Delay		Probability of Violating Weather Constraints					
24-Hour Delay	70%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule, Anvil Cloud Rules					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Sct Showers / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
		Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather:	Low
Temp/Humidity: 73°F / 90%	Cumulus	Broken	3,000	15,000	Solar Activity:	Low	
Liftoff Winds (200'): 050° 12 - 17 mph	Cirrostratus	Broken	25,000	30,000			
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		21 May 2023					