



Launch Mission Execution Forecast

Mission: Space Launch System - Artemis I

Issued: 15 Nov 2022 / 0830L (1330Z)

Valid: 16 Nov 2022 / 0104 – 0304L (0604 – 0804Z)



Forecast Discussion: A Gulf low near Louisiana this morning will progress rapidly northeast into the Deep South by the evening, dragging a decaying cold front drag behind it into Florida. The peninsula will be in the warm sector of the system today and tonight, causing temperatures and humidity values to rise. The front is expected to remain west of the area and too weak to otherwise impact local weather conditions across the Spaceport early Wednesday morning. As a result, excellent weather is expected during the primary launch window, with the Cumulus Cloud Rule being only a minor concern.

The cold front will pass through the Spaceport later on Wednesday, bringing a broken band of showers through in the afternoon or evening. While the thunderstorm potential with the frontal passage will be rather low, the airmass change behind the front will be rather significant. Highs will fall to the 60s/70s and lows will drop into the 50s through the remainder of the week as the front stalls across South Florida. Clouds will gradually thicken in the low and mid-levels of the atmosphere through early Saturday as a new frontal boundary begins to approach the Deep South. The primary concern for the backup launch window early Saturday morning will be the Cumulus Cloud Rule, Thick Cloud Layer Rule, and Flight Through Precipitation.

		Probability of Violating Weather Constraints ¹					
Launch Day	10%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions					Additional Risk Criteria²	
	Weather/Visibility:	None / 7 mi.	Clouds				Upper-Level Winds: Low Solar Activity: Low
			Type	Type	Type	Type	
Temp/Humidity:	70°F / 90%	Cumulus	Scattered	2,000	4,500		
Liftoff Winds (132'):	200° 8-12 knots	Cirrus	Scattered	12,000	15,000		
		Probability of Violating Weather Constraints					
72-Hour Delay	40%	Primary Concerns: Cumulus Cloud Rule, Thick Cloud Layer Rule, Flight Through Precipitation					
	Weather Conditions					Additional Risk Criteria	
	Weather/Visibility:	Isolated Showers / 7 mi.	Clouds				Upper-Level Winds: Moderate Solar Activity: Low
			Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity:	63°F / 80%	Cumulus	Scattered	2,500	8,000		
Liftoff Winds (132'):	030° 10 - 15 knots	Altostratus	Broken	16,000	20,000		
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 Required					