



# Launch Mission Execution Forecast

**Mission:** Space Launch System Artemis - I

**Issued:** 1 Sep 2022 / 0900L (1300Z)

**Valid:** 3 Sep 2022 / 1417 – 1617L (1817 – 2217Z)



**Forecast Discussion:** Light offshore flow continues today as a weak trough lingers across the Deep South and mid-level ridging remains positioned to our southeast. A gradual transition back to onshore flow is expected Friday as the ridge expands westward, and the trough lifts northward. This weekend, easterly flow becomes deeper through the atmospheric column while moisture levels remain near seasonal levels. This should allow the east-coast sea breeze to form scattered showers in the early afternoon Saturday, but gradually push the activity westward during the late afternoon hours, away from the Spaceport. The timing of the launch window will be during this transition. As a result, the main weather concerns during the primary launch window will be the Cumulus Cloud Rule and Surface Electric Fields Rule.

For the backup launch window on Monday, light but steady easterly flow through the mid-levels will remain intact. As a result, the east-coast sea breeze will remain the focus for our weather late afternoon. The later timing of the launch window Monday should allow a decent period of favorable weather as the Spaceport basks in the subsidence behind the departed sea-breeze boundary. However, the Cumulus Cloud Rule and Surface Electric Fields Rule will remain primary concerns should any unexpected showers linger behind the boundary, or move onshore from the Atlantic.

Launch Day	Probability of Violating Weather Constraints <sup>1</sup>				
	<b>40%</b>	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule			
	Weather Conditions				Additional Risk Criteria <sup>2</sup>
	<b>Weather/Visibility:</b>	Sct Showers / 7 mi.	Clouds		Upper-Level Winds: Low Solar Activity: Low
	Type	Coverage	Base (ft)    Tops (ft)		
<b>Temp/Humidity:</b>	86°F / 70%	Cumulus	Scattered    2,500    10,000		
<b>Liftoff Winds (132'):</b>	100° 8 - 12 knots				
48-Hour Delay	Probability of Violating Weather Constraints				
	<b>30%</b>	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule			
	Weather Conditions				Additional Risk Criteria
	<b>Weather/Visibility:</b>	Iso Showers / 7 mi.	Clouds		Upper-Level Winds: Low Solar Activity: Low
	Type	Coverage	Base (ft)    Tops (ft)		
<b>Temp/Humidity:</b>	85°F / 80%	Cumulus	Scattered    3,000    8,000		
<b>Liftoff Winds (132'):</b>	90° 8 - 12 knots				
Notes	<ol style="list-style-type: none"> <li>The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window.</li> <li>Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.</li> </ol> <p>See <a href="https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf">https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf</a> for more information.</p>				
<b>Next Forecast Will Be Issued</b>	2 Sep 2022				