



Launch Mission Execution Forecast

Mission: Atlas V SILENTBARKER (NROL-107)

Issued: 27 Aug 2023 / 0800L (1200Z)

Valid: 29 Aug 2023 / During Window



Forecast Discussion: After generally quiet weather over the weekend, the pattern will become quite active next week as Tropical Depression Ten moves into the Gulf of Mexico. Moisture will begin to increase today, and as a result there is a better chance of coastal showers compared to the last couple days. Tropical Depression Ten is currently developing in the northwest Caribbean Sea and will slowly push northwards into the Gulf of Mexico late Monday into Tuesday. Models have come into better agreement over the last 24 hours with regards to the storm's track, with the most likely landfall is the Big Bend region of Florida early Wednesday morning. The National Hurricane Center is forecasting a Category 1 hurricane at landfall. On Tuesday morning, the system is expected to be well to our southwest in the southeastern Gulf. The main concerns will be any showers that develop from outer bands, and anvil clouds blowing off from the main area of convection in the Gulf. There is still uncertainty for Wednesday, but the storm's center will be closer to the Spaceport, likely near the Big Bend region of Florida. Thus, the POV is higher for the backup day, with the main concerns being the Cumulus Cloud Rule, Anvil Cloud Rules, Thick Cloud Layers Rule, and Ground Winds all associated with the storm.

Launch Day	Probability of Violating Weather Constraints ¹					
	30%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules				
	Weather Conditions				Additional Risk Criteria ²	
	Weather/Visibility:	Isold Showers / 7 mi.	Clouds			
		Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity:	82°F / 85%	Cumulus	Scattered	2,500	14,000	
Ground Winds (230'):	190° 10 - 15 knots	Cirrostratus	Scattered	30,000	35,000	

24-Hour Delay	Probability of Violating Weather Constraints					
	65%	Primary Concerns: Cumulus Cloud Rule, Anvil Cloud Rules, Thick Cloud Layers Rule, Ground Winds				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility:	Sct Showers / 7 mi.	Clouds			
		Type	Coverage	Base (ft)	Tops (ft)	
Temp/Humidity:	83°F / 90%	Cumulus	Scattered	2,500	18,000	
Ground Winds (230'):	180° 24 – 30 knots	Cirrostratus	Broken	26,000	34,000	

Notes

- The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime 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 28 Aug 2023