



Launch Mission Execution Forecast

Mission: Falcon 9 Sirius XM-7

Issued: 12 Dec 2020 / 0830L (1330Z)

Valid: 13 Dec 2020 / 1121 – 1322L (1621 – 1822Z)



Forecast Discussion: High pressure will be centered across the Western and Central Atlantic to start of the weekend as the next cold front moves into the Central Gulf of Mexico. The approaching system is not expected to have a direct impact on Saturday's weather, but increasing onshore flow will bring a weak low level disturbance across the region that will lead to periods of light showers across the Spaceport through the day.

The front in the Gulf is forecast to wash out across North Florida on Sunday, leaving unsettled conditions across the Spaceport for a late Sunday morning launch attempt. The primary concern will be cumulus clouds associated with showers in the vicinity of the Spaceport. Increasing high clouds are currently expected to be too cold for a Thick Cloud Layer concern.

A second and stronger system is forecast to move across the southeastern US late Sunday into Monday. Models are in better agreement today that the associated cold front will move into Central Florida just after the backup launch window on Monday. Enough uncertainty remains in the potential for mid-level clouds and showers during the window that there are no changes to the ongoing forecast. The consensus continues to suggest Cumulus Clouds associated with showers will be the main concern with a low potential for a mid-level Thick Cloud Layer during the window.

		Probability of Violating Weather Constraints					
Launch Day	40%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Isold. Showers / 7 mi.	Clouds			Upper-Level Wind Shear: Low		
	Temp/Humidity: 72°F / 75%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	
Liftoff Winds (200'): 150° 10 - 15 mph	Cumulus	Scattered	5,000	10,000	Solar Activity: Low		
	Cirrus	Broken	30,000	40,000			
		Probability of Violating Weather Constraints					
24-Hour Delay	40%	Primary Concerns: Cumulus Cloud Rule, Thick Cloud Layer Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Isold. Showers / 7 mi.	Clouds			Upper-Level Wind Shear: Low		
	Temp/Humidity: 75°F / 77%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	
Liftoff Winds (200'): 220° 12 - 17 mph	Altocumulus	Scattered	12,000	14,000	Solar Activity: Low		
<i>Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.</i>							
Next Forecast Will Be Issued		As Needed					