



# Launch Mission Execution Forecast

**Mission:** Falcon 9 Sirius XM-8

**Issued:** 5 Jun 2021 / 0815L (1215Z)

**Valid:** 6 Jun 2021 / 0025 – 0226L (0425 – 0626Z)



**Forecast Discussion:** The larger pattern across Florida continues to be dominated by the western Atlantic ridge this morning, with its axis located somewhere just north of the Cape. Light southerly flow is in place at the low levels, which will provide no impediment to the east coast sea breeze, and associated showers and storms, developing and moving inland early this afternoon. Ongoing showers and storms are expected to be well inland of the Spaceport before sunset, with mid and upper level winds bringing back convective debris clouds and anvil remnants back to the coast for the primary launch late night window. A few Atlantic showers and cumulus in the vicinity cannot be ruled out, but this no longer looks like the main concern.

The ridge axis lifts further north on Sunday, deepening the southeasterly flow and bringing in a slightly drier airmass. The east coast sea breeze will more quickly inland across the peninsula during the afternoon. Slightly lower rain chances will be on tap Sunday afternoon, leading to overall better conditions into the backup launch window late Sunday night. The primary concerns will be any convective debris from earlier activity, and a small threat for cumulus associated with a stray Atlantic shower.

		Probability of Violating Weather Constraints					
<b>Launch Day</b>	<b>30%</b>	<b>Primary Concerns:</b> Debris Cloud Rule, Anvil Cloud Rules					
	Weather Conditions				Additional Risk Criteria		
	<b>Weather/Visibility:</b> None / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b>	Low
		Type	Coverage	Base (ft)	Tops (ft)		
<b>Temp/Humidity:</b> 77°F / 86%	Cumulus	Scattered	2,500	8,000	<b>Booster Recovery Weather:</b>		Low
<b>Liftoff Winds (200'):</b> 160° 12 - 17 mph	Cirrus	Overcast	18,000	25,000	<b>Solar Activity:</b>		Low
		Probability of Violating Weather Constraints					
<b>24-Hour Delay</b>	<b>20%</b>	<b>Primary Concerns:</b> Cumulus Cloud Rule, Debris Cloud Rule					
	Weather Conditions				Additional Risk Criteria		
	<b>Weather/Visibility:</b> None / 7 mi.	<b>Clouds</b>				<b>Upper-Level Wind Shear:</b>	Low
		Type	Coverage	Base (ft)	Tops (ft)		
<b>Temp/Humidity:</b> 76°F / 82%	Cumulus	Scattered	3,000	9,000	<b>Booster Recovery Weather:</b>		Low
<b>Liftoff Winds (200'):</b> 130° 12 - 17 mph	Cirrus	Broken	18,000	25,000	<b>Solar Activity:</b>		Low
<b>Note:</b> 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.							
<b>Next Forecast Will Be Issued</b>		As needed					