



# Launch Mission Execution Forecast

**Mission:** Falcon 9 NASA Crew-1

**Issued:** 15 Nov 2020 / 0900L (1400Z)

**Valid:** 15 Nov 2020 / 1922 – 1932L (16/0022 – 0032Z)



**Forecast Discussion:** Diffuse frontal boundary that had been stalled across South Florida is lifting north across the state this morning, with some disagreement in the short-range models as to if it will reach back to the Spaceport. However, it will be close enough to lend its instability and kick off more showers through this afternoon. The disruption of the large scale wind pattern by the boundary will allow an Atlantic sea breeze to develop. This would initially shift most precipitation inland, but steering flow would push activity back towards the coast late evening. The primary launch weather concerns will be cumulus clouds and precipitation associated with the showers in the vicinity, along with electric fields from any more robust showers.

The next system moving over the southeastern US will leave another front stuck across the Florida peninsula to start the upcoming week, with a strong area of high pressure pushing across the eastern third of the country clearing it through Central Florida by Tuesday. This will setup a relatively stable atmosphere that will be in place for the remainder of the week with gusty northeasterly winds. The primary weather concern for the delay launch window mid-week will be the gusty winds and scattered cumulus clouds.

		Probability of Violating Weather Constraints					
<b>Launch Day</b>	<b>50%</b>	<b>Primary Concerns:</b> Cumulus Cloud Rule, Flight Through Precipitation, Surface Electric Field Rule					
	<b>Weather Conditions</b>				<b>Additional Risk Criteria</b>		
	<b>Weather/Visibility:</b> Sct. Showers / 7 mi.	<b>Clouds</b>			<b>Upper-Level Wind Shear:</b> Low		
	<b>Temp/Humidity:</b> 77°F / 85%	Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b> Low	
<b>Liftoff Winds (200'):</b> VRB 5 mph	Cumulus	Broken	3,000	14,000	<b>Solar Activity:</b> Low		
		Probability of Violating Weather Constraints					
<b>72-Hour Delay</b>	<b>20%</b>	<b>Primary Concerns:</b> Liftoff Winds, Cumulus Cloud Rule					
	<b>Weather Conditions</b>				<b>Additional Risk Criteria</b>		
	<b>Weather/Visibility:</b> None / 7 mi.	<b>Clouds</b>			<b>Upper-Level Wind Shear:</b> Low		
	<b>Temp/Humidity:</b> 68°F / 68%	Type	Coverage	Base (ft)	Tops (ft)	<b>Booster Recovery Weather:</b> Moderate	
<b>Liftoff Winds (200'):</b> 050° 20 - 25 mph	Cumulus	Scattered	3,500	6,000	<b>Solar Activity:</b> Low		
<p><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></p>							
<b>Next Forecast Will Be Issued</b>		As Needed					