



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink-L21

Issued: 11 March 2021 / 0830L (1330Z)

Valid: 14 March 2021 / 0444 - 0645L (0844 - 1045Z)



Forecast Discussion: Surface high pressure that has been dominant in the Space Coast's weather the past several days is expected to begin breaking down during the latter half of the weekend as an area of low pressure develops over the Central Plains. The associated cold front will move across the Lower Mississippi Valley and into the southeastern US by Monday. Winds on Sunday morning will be relatively light, and it is possible there will be a few stray showers over the water that move inland and quickly dissipate. The primary concern will be the Cumulus Cloud Rule.

In the event of a delay, the surface front will continue to move through the southeastern US, and as this happens, winds here on the Space Coast will veer out of the southeast. An increasing surface pressure gradient will also lead to stronger winds. The persistent onshore winds will lead to increasing low level moisture, bringing more low level clouds, but still not expected to pose a significant problem for launch. The primary concerns for the backup day are the Cumulus Cloud Rule and Liftoff Winds.

		Probability of Violating Weather Constraints															
Launch Day	10%	Primary Concerns: Cumulus Cloud Rule															
	Weather Conditions			Additional Risk Criteria													
	Weather/Visibility: None / 7 mi.	<table border="1"> <thead> <tr> <th colspan="4">Clouds</th> </tr> <tr> <th>Type</th> <th>Coverage</th> <th>Base (ft)</th> <th>Tops (ft)</th> </tr> </thead> <tbody> <tr> <td>Stratocumulus</td> <td>Scattered</td> <td>4,000</td> <td>5,500</td> </tr> </tbody> </table>			Clouds				Type	Coverage	Base (ft)	Tops (ft)	Stratocumulus	Scattered	4,000	5,500	Upper-Level Wind Shear: Low
	Clouds																
Type	Coverage	Base (ft)	Tops (ft)														
Stratocumulus	Scattered	4,000	5,500														
Temp/Humidity: 64°F / 90%				Booster Recovery Weather: Low													
Liftoff Winds (200'): 110° 10 – 15 mph				Solar Activity: Low													
		Probability of Violating Weather Constraints															
24-Hour Delay	20%	Primary Concerns: Cumulus Cloud Rule, Liftoff Winds															
	Weather Conditions			Additional Risk Criteria													
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	Clouds																
Type	Coverage	Base (ft)	Tops (ft)														
Cumulus	Scattered	4,000	5,000														
Temp/Humidity: 66°F / 90%				Booster Recovery Weather: Low													
Liftoff Winds (200'): 130° 12 - 17 mph				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		12 March 2021															