



Launch Mission Execution Forecast

Mission: Falcon 9 Mission Name

Issued: 27 Jan 2021/ 0900L (1400Z)

Valid: 30 Jan 2021/ 0714 – 0735L (1214 – 1235Z)



Forecast Discussion: Above normal temperatures will persist today across the Spaceport due to mid-level ridging and deep southwesterly winds. This will be short lived, however, as a powerful cold front is expected to blast through the Florida Peninsula late tonight. Only isolated to scattered shower activity is expected, but strong winds and stout cold air advection will occur. Sustained winds just off the surface will exceed 30 miles per hour, and temperatures will drop by 15 to 20 degrees on Thursday. High pressure will build across the Southeastern US behind the front Thursday, and will linger through Saturday, creating otherwise pleasant weather. Sustained wind speeds (up to 200 feet) will gradually decrease below 20 mph by Saturday morning, and weather conditions across the Spaceport will be quite favorable for launch. The primary concern, if any, will be the Cumulus Cloud Rule.

Conditions change a bit by Sunday morning as high pressure is pushed off the Carolina Coastline ahead of a new incoming cold front. Florida will find itself in the pre-frontal regime during the backup window, with increasing winds out of the south. A few showers of a convective nature may be found outlining the warm waters of the Gulf Stream, but conditions will be dry across the Spaceport for launch. The primary concern during the backup window will be the Cumulus Cloud Rule.

		Probability of Violating Weather Constraints															
Launch Day	10%	Primary Concern: 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>2,500</td> <td>3,500</td> </tr> </tbody> </table>			Clouds				Type	Coverage	Base (ft)	Tops (ft)	Stratocumulus	Scattered	2,500	3,500	Upper-Level Wind Shear: Low
	Clouds																
Type	Coverage	Base (ft)	Tops (ft)														
Stratocumulus	Scattered	2,500	3,500														
Temp/Humidity: 54°F / 80%				Booster Recovery Weather: Moderate													
Liftoff Winds (200'): 060° 10 - 15 mph				Solar Activity: Low													
		Probability of Violating Weather Constraints															
24-Hour Delay	20%	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>Cumulus</td> <td>Scattered</td> <td>3,500</td> <td>5,000</td> </tr> </tbody> </table>			Clouds				Type	Coverage	Base (ft)	Tops (ft)	Cumulus	Scattered	3,500	5,000	Upper-Level Wind Shear: Low
	Clouds																
Type	Coverage	Base (ft)	Tops (ft)														
Cumulus	Scattered	3,500	5,000														
Temp/Humidity: 60°F / 70%				Booster Recovery Weather: Moderate													
Liftoff Winds (200'): 190° 15 - 20 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		28 Jan 2021															