



Launch Mission Execution Forecast

Mission: Falcon 9 CRS-21

Issued: 02 Dec 2020 / 0800L (1300Z)

Valid: 05 Dec 2020 / 1134 – 1145L (1634 – 1645Z)



Forecast Discussion: High pressure will dominate the weather across the Spaceport through Thursday, with temperatures gradually warming each day as winds veer to the east. In the meantime, to our west, a wave of low pressure will lift north out of the Gulf of Mexico and organize over Texas. This storm complex will drift eastward and reach the deep south Friday, with its associated cold front passing through Central Florida Saturday morning, near or during the launch window. At a minimum, scattered showers can be expected, but instability thresholds may be high enough to produce isolated thunderstorms as well. Primary weather concerns during the launch window will be Flight Thru Precipitation, Cumulus Cloud Rule, and the Thick Cloud Layer Rule.

Behind the departing front, an upper level trough will begin to dive from the upper Midwest down to the southeast throughout the day Sunday, before pushing another cold front through Florida on Monday. During the backup launch window, conditions will likely be dry with few clouds, but strong upper level winds will remain. Primary weather concerns during the launch window will be the Cumulus Cloud Rule.

Probability of Violating Weather Constraints	
60%	Primary Concerns: Flight Thru Precipitation, Cumulus Cloud Rule, Thick Cloud Layer Rule
Weather Conditions	
Weather/Visibility: Showers / 3 mi.	Clouds
Temp/Humidity: 68°F / 70%	Type Coverage Base (ft) Tops (ft)
Liftoff Winds (200'): 190° 12 - 17 mph	Cumulus Broken 2,500 4,000
	Altostratus Overcast 12,000 19,000
Additional Risk Criteria	
Upper-Level Wind Shear: Moderate	
Booster Recovery Weather: High	
Solar Activity: Low	

Probability of Violating Weather Constraints	
20%	Primary Concerns: Cumulus Cloud Rule
Weather Conditions	
Weather/Visibility: None / 7 mi.	Clouds
Temp/Humidity: 60°F / 60%	Type Coverage Base (ft) Tops (ft)
Liftoff Winds (200'): 330° 12 - 17 mph	Cumulus Few 2,500 3,500
	Cirrus Scattered 21,000 25,000
Additional Risk Criteria	
Upper-Level Wind Shear: Moderate	
Booster Recovery Weather: Low	
Solar Activity: Low	

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.

Next Forecast Will Be Issued 03 Dec 2020