



Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-2

Issued: 22 April 2021 / 0700L (1100Z)

Valid: 23 April 2021 / 0544-0555L (0944-0955Z)



Forecast Discussion: A large area of high pressure is centered near Arkansas, creating gusty northerly winds along the Space Coast due to the pressure gradient between the high and the departing boundary. By Friday morning, the high center will move over the Carolinas, allowing winds to diminish and turn easterly at the Spaceport. The primary concern will be Flight Through Precipitation from isolated, low-topped coastal showers and onshore flow.

As the high pressure area continues to slide east, a new frontal system makes its way into the southern states on Saturday, pushing off the coast Sunday. This will bring another front through Central Florida with isolated showers and thunderstorms over the weekend. High pressure will build into the area on Monday the 26th, pushing the unsettled weather south of the Spaceport as dry air filters in. The primary weather concerns for a Monday morning attempt are Flight Through Precipitation and the Cumulus Cloud Rule in the event the boundary lingers in the area.

On Tuesday, high pressure continues to move east, positioning itself just off the South Carolina coast. This position will make easterly winds along at the Spaceport and keep conditions favorable. The primary launch weather concerns remain Flight Through Precipitation and the Cumulus Cloud Rule.

Launch Day	Probability of Violating Weather Constraints					
	10%	Primary Concerns: Flight Through Precipitation				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 70°F / 78%	Cumulus	Few	2,500	5,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 070° 15-20 mph	Cirrostratus	Scattered	28,000	30,000	Solar Activity: Low	
First Back-up	Probability of Violating Weather Constraints					
	20%	Primary Concerns: Flight Through Precipitation, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 68°F / 82%	Cumulus	Few	3,000	6,000	Booster Recovery Weather: Moderate	
Liftoff Winds (200'): 030° 15-20 mph					Solar Activity: Low	
Second Back-up	Probability of Violating Weather Constraints					
	20%	Primary Concerns: Flight Through Precipitation, Cumulus Cloud Rule				
	Weather Conditions				Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Clouds			Upper-Level Wind Shear: Low	
	Type	Coverage	Base (ft)	Tops (ft)		
Temp/Humidity: 70°F / 78%	Cumulus	Scattered	3,000	8,000	Booster Recovery Weather: Low	
Liftoff Winds (200'): 080° 17-22 mph	Cirrostratus	Scattered	28,000	30,000	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 | As Required