Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-15
Issued: 12 May 2022 / 0830L (1230Z)
Valid: 14 May 2022 / 1628 – 1649L (2028 – 2049Z)

Forecast Discussion: The latest model guidance shows a weak area of low pressure just off the northeastern coast of South Carolina. This feature will continue to move to the southeast as it weakens. Throughout the remainder of the week, this low will dissipate and should be nothing more than a weak trough by Friday afternoon. This trough will continue southwestward into the weekend, but it does not appear there will be much in the way of precipitation associated with the trough over central Florida. During the day on Saturday, however, expect afternoon sea breeze convection to develop over inland areas of central Florida. Forecast soundings show the presence of deep southwesterly winds above the surface. This could help bring anvil clouds back over the Spaceport during the count. The primary weather concerns for the primary day will be the Cumulus Cloud Rule and the Anvil Cloud Rules.

In the event of a 24-hour delay, the synoptic weather pattern will be the same as on Saturday. The weak area of low pressure over northern/central Florida will persist. It is possible that this feature will help initiate afternoon convection. Southwesterly winds off the surface will keep the potential for anvil clouds or cumulus clouds over/near the launch pad. The primary weather concerns for the back-up day will be the Cumulus Cloud Rule and the Anvil Cloud Rules.

Launch Day

Probability of Violating Weather Constraints[1]

30% — **Primary Concerns**: Cumulus Cloud Rule, Anvil Cloud Rules

Weather Conditions		Clouds				Additional Risk Criteria[2]	
		Type	Coverage	Base (ft)	Tops (ft)		
Weather/Visibility:	None / 7 mi.	Cumulus	Scattered	2,500	40,000	**Upper-Level Wind Shear**:	Low
Temp/Humidity:	83°F / 59%					**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	110° 10 - 15 mph					**Solar Activity**:	Low

24-Hour Delay

Probability of Violating Weather Constraints

30% — **Primary Concerns:** Cumulus Cloud Rule, Anvil Cloud Rules

Weather Conditions		Clouds				Additional Risk Criteria	
		Type	Coverage	Base (ft)	Tops (ft)		
Weather/Visibility:	None / 7 mi.	Cumulus	Scattered	2,500	40,000	**Upper-Level Wind Shear**:	Low
Temp/Humidity:	84°F / 59%					**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	090° 12 - 17 mph					**Solar Activity**:	Low

Notes

1. *The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime during the launch window.*
2. *Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.*

See https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf for more information

Next Forecast Will Be Issued | 13 MAY 2022