Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-22
Issued: 14 Jul 2022 / 0830L (1230Z)
Valid: 17 Jul 2022 / 1020 – 1220L (1420 – 1620Z)

Forecast Discussion: A pattern shift will occur to end the week, as the subtropical ridge axis relocates north of the Spaceport for the next few days. Overall, this will bring the best shower and storm chances around midday and early afternoon at the Spaceport, with the focus of activity farther west as the east coast sea breeze pushes inland more quickly in the afternoons and evenings. An upper level low will cross the state from the southeast Friday and Saturday, potentially bringing more unsettled weather. This feature will be out of the area by late Saturday, but in its wake it will bring an influx of tropical moisture across the state. For the primary launch attempt late Sunday morning, expect abundant mid and upper level clouds as a result of this moisture increase along with showers in the vicinity. The primary weather concerns will be the Thick Cloud Rule associated with these clouds and the Cumulus Cloud Rule with any nearby showers.

The deepest moisture moves out on Monday as flow returns back out of the southwest. This will focus afternoon activity back towards the Spaceport, but also help bring drier weather in the morning. The main concern for the backup launch day late Monday morning will be the Cumulus Cloud Rule with any early developing showers.

Launch Day

Probability of Violating Weather Constraints[1]

40% — **Primary Concerns**: Thick Cloud Layer Rule, Cumulus Cloud Rule

Weather Conditions		Additional Risk Criteria[2]	
Weather/Visibility:	Isold Showers / 7 mi.	**Upper-Level Wind Shear**:	Low
Temp/Humidity:	81°F / 83%	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	160° 10 - 15 mph	**Solar Activity**:	Low

Clouds

Type	Coverage	Base (ft)	Tops (ft)
Cumulus	Scattered	3,500	10,000
Altostratus	Broken	14,000	19,000

24-Hour Delay

Probability of Violating Weather Constraints

20% — **Primary Concerns**: Cumulus Cloud Rule

Weather Conditions		Additional Risk Criteria	
Weather/Visibility:	None / 7 mi.	**Upper-Level Wind Shear**:	Low
Temp/Humidity:	84°F / 70%	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	190° 5 - 10 mph	**Solar Activity**:	Low

Clouds

Type	Coverage	Base (ft)	Tops (ft)
Cumulus	Scattered	3,500	8,000
Cirrostratus	Scattered	30,000	35,000

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 | 15 Jul 2022