Launch Mission Execution Forecast

Mission: Falcon 9 Transporter-5
Issued: 22 May 2022 / 1000L (1400Z)
Valid: 25 May 2022 / 1425 – 1524L (1825 – 1924Z)

Forecast Discussion: Local area of high pressure over the western Atlantic just to the northeast of Florida will bring prevailing low level southeasterly flow to start the week, with a re-enforcing mid-level ridge also building across the state and into the Atlantic. This flow will tap into the drier air to the southeast as a result of the ongoing Saharan Dust event, bringing lower rain chances to the Spaceport into mid-week. The best rain and storm chances each day will likely favor the late morning hours as the east coast sea breeze develops and moves inland. For the primary launch time early Wednesday afternoon, most activity is expected to be inland of the Spaceport, with just a few lingering cumulus clouds and the potential for anvils from activity further west the primary launch concerns.

A broad mid-level trough will move into the eastern half of the US by late Wednesday into Thursday, helping to veer low level flow out of the south-southeast and steering flow out of the south-southwest. The result will be an east coast sea breeze that is slower to move inland, bringing a better chances for showers and storms near the area during the backup launch opportunity early Thursday afternoon. Similar to Wednesday, cumulus clouds from nearby activity along with anvils from any ongoing storms will be the main launch concerns.

Launch Day

Probability of Violating Weather Constraints[1]

20% — **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.					**Upper-Level Wind Shear**:	Low
Temp/Humidity:	85°F / 60%	Cumulus	Scattered	3,000	8,000	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	110° 12 - 17 mph	Cirrus	Scattered	25,000	30,000	**Solar Activity**:	Low

24-Hour Delay

Probability of Violating Weather Constraints

40% — **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.					**Upper-Level Wind Shear**:	Low
Temp/Humidity:	83°F / 65%	Cumulus	Scattered	3,000	10,000	**Booster Recovery Weather**:	Low
Liftoff Winds (200'):	150° 15 - 20 mph	Cirrocumulus	Broken	25,000	30,000	**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 | 23 May 2022