



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 4-37

Issued: 13 Dec 2022 / 0900L (1400Z)

Valid: 16 Dec 2022 / 1639 – 1739L (2139 – 2239Z)



Forecast Discussion: Launch conditions look to be favorable at the end of the week after a strong cold front pushes through the area on Thursday. Over the next few days, the front will trek across the southeast, triggering severe storms from West Texas to the Florida panhandle. It will begin to weaken by the time it gets to Central Florida on Thursday afternoon as it loses upper-level support, but there should still be enough energy for strong to a few severe storms. After the front pushes through, drier and cooler air will begin to filter into the area by Friday afternoon. The only concern for Friday's attempt is the small risk of a Thick Cloud Layers Rule violation from any lingering mid-level cloud cover.

By Saturday, even though the front will remain to our south, a mid-level disturbance will bring in some additional moisture from the Gulf and increase cloud cover in the area. Therefore, launch weather looks marginally less favorable on Saturday with the main concern remaining the Thick Cloud Layers Rule.

| Launch Day | | Probability of Violating Weather Constraints ¹ | | | | | |
|--|--|---|---|----------|-----------|---------------------------------------|--|
| | | 10% | Primary Concerns: Thick Cloud Layers Rule | | | | |
| | | Weather Conditions | | | | Additional Risk Criteria ² | |
| | | Weather/Visibility: None / 7 mi. | Clouds | | | | Upper-Level Wind Shear: Low |
| | | | Type | Coverage | Base (ft) | Tops (ft) | Booster Recovery Weather: Low-Mod |
| | | Temp/Humidity: 67°F / 70% | Altostratus | Few | 10,000 | 12,000 | Solar Activity: Low |
| | | Liftoff Winds (200'): 360° 12 - 17 mph | | | | | |
| 24-Hour Delay | | Probability of Violating Weather Constraints | | | | | |
| | | 30% | Primary Concerns: Thick Cloud Layers Rule | | | | |
| | | Weather Conditions | | | | Additional Risk Criteria | |
| | | Weather/Visibility: None / 7 mi. | Clouds | | | | Upper-Level Wind Shear: Low |
| | | | Type | Coverage | Base (ft) | Tops (ft) | Booster Recovery Weather: Low-Mod |
| | | Temp/Humidity: 70°F / 60% | Altostratus | Broken | 10,000 | 14,000 | Solar Activity: Low |
| | | Liftoff Winds (200'): 020° 10 - 15 mph | Cirrostratus | Broken | 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 | | 14 Dec 2022 | | | | | |