



Launch Mission Execution Forecast

Mission: Falcon 9 NASA CRS-28

Issued: 1 June 2023 / 0930L (1330Z)

Valid: 3 June 2023 / 1229-1240L (1629-1640Z)



Forecast Discussion: A complex pattern will be in place across the Florida peninsula to end the week with two areas of low pressure straddling the state in the eastern Gulf and Atlantic. Deep tropical moisture lifted into the state will bring numerous showers and storms each day. While the low in the Gulf has the potential for minimal tropical development, it is currently expected to drift south-southeast into the weekend with little change in impacts to the Spaceport. Northeasterly flow around the broader low will bring in periods of showers and storms that will continue into the primary launch window midday Saturday. The main concern for launch will be if any of this activity setup over the Spaceport during the window.

The areas of low pressure will be diminishing into a broader surface trough across the southern part of the state by the end of the weekend as high-pressure noses in from the north. Lingering deep moisture will continue to drive onshore moving showers into the backup window midday Sunday. The weather concerns will remain the same as Saturday. As the high center settles over the southeastern US on Monday, dry air will wrap into the state lowering rain chances. The tradeoff will be brisk northeast flow as it strengthens. The threat for onshore moving showers will remain, though lower.

| Launch Day | Probability of Violating Weather Constraints ¹ | | | | | |
|--|--|---|-----------|------------------------------------|---------------------------------------|--|
| | 70% | Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Disturbed Weather Rule | | | | |
| | Weather Conditions | | | | Additional Risk Criteria ² | |
| | Weather/Visibility: Sct Showers / 7 mi. | Clouds | | Upper-Level Wind Shear: Low | | |
| | Type | Coverage | Base (ft) | Tops (ft) | | |
| Temp/Humidity: 78°F / 85% | Cumulus | Scattered | 3,000 | 10,000 | Booster Recovery Weather: Low | |
| Liftoff Winds (200'): 030° 10 - 15 mph | Altostratus | Overcast | 13,000 | 18,000 | Solar Activity: Low | |
| 24-Hour Delay | Probability of Violating Weather Constraints | | | | | |
| | 60% | Primary Concerns: Cumulus Cloud Rule, Flight Through Precipitation, Disturbed Weather Rule | | | | |
| | Weather Conditions | | | | Additional Risk Criteria | |
| | Weather/Visibility: Sct Showers / 7 mi. | Clouds | | Upper-Level Wind Shear: Low | | |
| | Type | Coverage | Base (ft) | Tops (ft) | | |
| Temp/Humidity: 77°F / 75% | Cumulus | Broken | 2,500 | 12,000 | Booster Recovery Weather: Low | |
| Liftoff Winds (200'): 020° 10 - 15 mph | Altostratus | Overcast | 15,000 | 20,000 | Solar Activity: Low | |
| 48-Hour Delay | Probability of Violating Weather Constraints | | | | | |
| | 40% | Primary Concerns: Flight Through Precipitation, Cumulus Cloud Rule, Liftoff Winds | | | | |
| | Weather Conditions | | | | Additional Risk Criteria | |
| | Weather/Visibility: Isold Showers / 7 mi. | Clouds | | Upper-Level Wind Shear: Low | | |
| | Type | Coverage | Base (ft) | Tops (ft) | | |
| Temp/Humidity: 77°F / 77% | Cumulus | Scattered | 3,500 | 8,000 | Booster Recovery Weather: Low | |
| Liftoff Winds (200'): 050° 17 - 22 mph | Altostratus | Scattered | 16,000 | 20,000 | Solar Activity: Low | |
| Notes | 1. The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring any random time 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 2 June 2023