



# Launch Mission Execution Forecast

**Mission:** Falcon 9 NASA Crew-8

**Issued:** 28 Feb 2024 / 1200L (1700Z)

**Valid:** 29 Feb 2024 / 2359-1/0010L (1/0459-0510Z)



**Forecast Discussion:** A pattern shift will take place tomorrow across Central Florida as a weak surface boundary is expected to arrive, bringing clouds, isolated rain showers, and gusty winds. This pattern will remain in place over the Space Coast for several days. The primary launch weather concern for the initial launch attempt will be isolated showers and gusty winds associated with the stalled boundary.

On both back up days, the base of the upper-level clouds will lower beneath the -20°C level, adding a thick cloud concern to the isolated showers. The ascent corridor weather will also deteriorate over the weekend, with precipitation and unfavorable winds continuing for several days.

| Launch Day                                    | Probability of Violating Weather Constraints <sup>1</sup> |  |           |           |  |  |
|---|---|--|-----------|-----------|--|--|
|   | <b>15%</b>  | Primary Concerns: Flight Through Precipitation, Liftoff Winds                              |           |           |  |  |
|   | Weather Conditions  |  |           |           | Additional Risk Criteria <sup>2</sup>    |  |
|   | <b>Weather/Visibility:</b> Isold Showers / 7 mi.          | <b>Clouds</b>  |           |           | <b>Upper-Level Wind Shear:</b> Low       |  |
|   | Type  | Coverage   | Base (ft) | Tops (ft) |  |  |
| <b>Temp/Humidity:</b> 64°F / 95%              | Stratocumulus   | Few  | 2,500     | 6,000     | <b>Ascent Corridor Weather:</b> Mod-High |  |
| <b>Liftoff Winds (200'):</b> 090° 12 - 17 mph | Cirrostratus  | Broken   | 30,000    | 35,000    | <b>Solar Activity:</b> Low               |  |
| 24-Hour Delay                                 | Probability of Violating Weather Constraints              |  |           |           |  |  |
|   | <b>35%</b>  | Primary Concerns: Thick Cloud Layer Rule, Flight Through Precipitation, Cumulus Cloud Rule |           |           |  |  |
|   | Weather Conditions  |  |           |           | Additional Risk Criteria                 |  |
|   | <b>Weather/Visibility:</b> None / 7 mi.                   | <b>Clouds</b>  |           |           | <b>Upper-Level Wind Shear:</b> Low       |  |
|   | Type  | Coverage   | Base (ft) | Tops (ft) |  |  |
| <b>Temp/Humidity:</b> 66°F / 90%              | Cumulus   | Scattered  | 3,000     | 8,000     | <b>Ascent Corridor Weather:</b> High     |  |
| <b>Liftoff Winds (200'):</b> 170° 10 - 15 mph | Cirrostratus  | Broken   | 20,000    | 30,000    | <b>Solar Activity:</b> Low               |  |
| 48-Hour Delay                                 | Probability of Violating Weather Constraints              |  |           |           |  |  |
|   | <b>60%</b>  | Primary Concerns: Thick Cloud Layer Rule, Flight Through Precipitation, Cumulus Cloud Rule |           |           |  |  |
|   | Weather Conditions  |  |           |           | Additional Risk Criteria                 |  |
|   | <b>Weather/Visibility:</b> Showers / 7 mi.                | <b>Clouds</b>  |           |           | <b>Upper-Level Wind Shear:</b> Low       |  |
|   | Type  | Coverage   | Base (ft) | Tops (ft) |  |  |
| <b>Temp/Humidity:</b> 68°F / 90%              | Cumulus   | Scattered  | 3,000     | 10,000    | <b>Ascent Corridor Weather:</b> Mod-High |  |
| <b>Liftoff Winds (200'):</b> 150° 10 - 15 mph | Cirrostratus  | Broken   | 20,000    | 38,000    | <b>Solar Activity:</b> Low               |  |

**Notes**

- The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring any random time during the launch window.
- 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** As Required