



# Launch Mission Execution Forecast



**Mission:** Falcon 9 Arabsat BADR-8

**Issued:** 24 May 2023 / 2145L (25/0145Z)

**Valid:** 26 May 2023 / 2325-27/0122L (27/0325-0522Z)

**Forecast Discussion:** The complex and active weather pattern will remain in place through the remainder of the work week due to a lingering surface boundary, upper-level troughing, and plentiful moisture. As of this evening, a broad area of low pressure has developed along the remnant boundary, and it will continue to deepen and push northwards along the Florida east coast over the next several days. By Friday, the center of low pressure will be off the coast, to the northeast of the Spaceport. The low's position will bring breezy northerly winds, along with bands of scattered coastal showers. As a result, the main concerns will be the Cumulus Cloud Rule and the Surface Electric Fields Rule associated with these showers.

Current model guidance shows us finally breaking out of the wet pattern by Saturday, as the low continues to push northwards, and drier air filters in from the north. Conditions look significantly more favorable, with the only concern being the Cumulus Cloud Rule.

| Launch Day                                    | Probability of Violating Weather Constraints <sup>1</sup>  |  |           |                                    |                                       |  |
|---|--|--|-----------|------------------------------------|---------------------------------------|--|
|   | <b>60%</b>   | Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule |           |                                    |                                       |  |
|   | Weather Conditions   |  |           |                                    | Additional Risk Criteria <sup>2</sup> |  |
|   | <b>Weather/Visibility:</b> Sct Showers / 7 mi.   | <b>Clouds</b>  |           | <b>Upper-Level Wind Shear:</b> Low |                                       |  |
| <b>Temp/Humidity:</b> 73°F / 85%              | Type   | Coverage   | Base (ft) | Tops (ft)                          | <b>Booster Recovery Weather:</b> Low  |  |
| <b>Liftoff Winds (200'):</b> 350° 17 - 22 mph | Cumulus  | Broken   | 3,000     | 15,000                             | <b>Solar Activity:</b> Low            |  |
| 24-Hour Delay                                 | Probability of Violating Weather Constraints   |  |           |                                    |                                       |  |
|   | <b>20%</b>   | Primary Concerns: 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 |                                       |  |
| <b>Temp/Humidity:</b> 72°F / 75%              | Type   | Coverage   | Base (ft) | Tops (ft)                          | <b>Booster Recovery Weather:</b> Low  |  |
| <b>Liftoff Winds (200'):</b> 020° 10 - 15 mph | Cumulus  | Scattered  | 3,000     | 8,000                              | <b>Solar Activity:</b> Low            |  |
| Notes   | <ol style="list-style-type: none"> <li>The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring any random time during the launch window.</li> <li>Additional Risk Criteria, which are not included in the PoV, are mission-specific constraints that may not include all phenomena within each risk factor.</li> </ol> |  |           |                                    |                                       |  |
|   | See <a href="https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf">https://www.patrick.spaceforce.mil/Portals/14/Weather/LaunchFAQ.pdf</a> for more information   |  |           |                                    |                                       |  |
| <b>Next Forecast Will Be Issued</b>           |  | 25 May 2023  |           |                                    |                                       |  |