



Launch Mission Execution Forecast

Mission: Falcon 9 Starlink 6-3

Issued: 17 May 2023 / 0830L (1230Z)

Valid: 19 May 2023 / 0026-0358L (0426-0758Z)



Forecast Discussion: A late-season boundary is approaching northern Florida today, increasing the moisture and instability over the peninsula. This will create increased shower and thunderstorm chances along the Space Coast during the afternoon and evening. A similar set up is expected tomorrow with the addition of a weak circulation center forming along the boundary stalled across Central Florida. This will cause the convection to linger into the overnight hours Thursday into Friday, producing possible Anvil, Debris and Cumulus Cloud Rule violations at the Spaceport.

Most guidance indicates the circulation center will move north through the day Friday, allowing any afternoon convection to dissipate by the back-up opportunity's launch window overnight Friday into Saturday. The primary launch weather concerns are the Anvil and Cumulus Cloud Rules that may be slow to dissipate overnight.

Probability of Violating Weather Constraints ¹																															
Launch Day	60→40% Primary Concerns: Anvil Cloud Rule, Debris Cloud Rule, Cumulus Cloud Rule																														
	<table border="1"> <thead> <tr> <th colspan="4">Weather Conditions</th> <th colspan="2">Additional Risk Criteria²</th> </tr> </thead> <tbody> <tr> <td>Weather/Visibility: Isold Showers / 7 mi.</td> <td colspan="3">Clouds</td> <td>Upper-Level Wind Shear:</td> <td>Low</td> </tr> <tr> <td>Temp/Humidity: 72°F / 82%</td> <td>Type</td> <td>Coverage</td> <td>Base (ft)</td> <td>Tops (ft)</td> <td>Booster Recovery Weather: Low</td> </tr> <tr> <td>Liftoff Winds (200'): 090° 7 - 12 mph</td> <td>Cumulus</td> <td>Scattered</td> <td>3,000</td> <td>15,000</td> <td>Solar Activity: Low</td> </tr> <tr> <td></td> <td>Cirrostratus</td> <td>Broken</td> <td>25,000</td> <td>30,000</td> <td></td> </tr> </tbody> </table>	Weather Conditions				Additional Risk Criteria ²		Weather/Visibility: Isold Showers / 7 mi.	Clouds			Upper-Level Wind Shear:	Low	Temp/Humidity: 72°F / 82%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	Liftoff Winds (200'): 090° 7 - 12 mph	Cumulus	Scattered	3,000	15,000	Solar Activity: Low		Cirrostratus	Broken	25,000	30,000	
	Weather Conditions				Additional Risk Criteria ²																										
	Weather/Visibility: Isold Showers / 7 mi.	Clouds			Upper-Level Wind Shear:	Low																									
Temp/Humidity: 72°F / 82%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low																										
Liftoff Winds (200'): 090° 7 - 12 mph	Cumulus	Scattered	3,000	15,000	Solar Activity: Low																										
	Cirrostratus	Broken	25,000	30,000																											
24-Hour Delay	40→30% Primary Concerns: Anvil Cloud Rule, Cumulus Cloud Rule																														
	<table border="1"> <thead> <tr> <th colspan="4">Weather Conditions</th> <th colspan="2">Additional Risk Criteria</th> </tr> </thead> <tbody> <tr> <td>Weather/Visibility: Isold Showers / 7 mi.</td> <td colspan="3">Clouds</td> <td>Upper-Level Wind Shear:</td> <td>Low</td> </tr> <tr> <td>Temp/Humidity: 72°F / 82%</td> <td>Type</td> <td>Coverage</td> <td>Base (ft)</td> <td>Tops (ft)</td> <td>Booster Recovery Weather: Low</td> </tr> <tr> <td>Liftoff Winds (200'): 090° 10 - 15 mph</td> <td>Cumulus</td> <td>Few</td> <td>3,000</td> <td>15,000</td> <td>Solar Activity: Low</td> </tr> <tr> <td></td> <td>Cirrostratus</td> <td>Scattered</td> <td>25,000</td> <td>30,000</td> <td></td> </tr> </tbody> </table>	Weather Conditions				Additional Risk Criteria		Weather/Visibility: Isold Showers / 7 mi.	Clouds			Upper-Level Wind Shear:	Low	Temp/Humidity: 72°F / 82%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low	Liftoff Winds (200'): 090° 10 - 15 mph	Cumulus	Few	3,000	15,000	Solar Activity: Low		Cirrostratus	Scattered	25,000	30,000	
	Weather Conditions				Additional Risk Criteria																										
	Weather/Visibility: Isold Showers / 7 mi.	Clouds			Upper-Level Wind Shear:	Low																									
Temp/Humidity: 72°F / 82%	Type	Coverage	Base (ft)	Tops (ft)	Booster Recovery Weather: Low																										
Liftoff Winds (200'): 090° 10 - 15 mph	Cumulus	Few	3,000	15,000	Solar Activity: Low																										
	Cirrostratus	Scattered	25,000	30,000																											
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	As Required																														