



# Launch Mission Execution Forecast

**Mission:** Falcon 9 NASA Crew-7

**Issued:** 22 Aug 2023 / 0830L (1230Z)

**Valid:** 25 Aug 2023 / 0344 - 0355L (0744Z - 0755Z)



**Forecast Discussion:** The southeastern US and Florida will be on the downstream side of a mid to upper-level ridge over the Central US through the week with an upper-level trough just to the east over the Atlantic. At the surface, high pressure will slide through the northeastern US and out into the Atlantic into Thursday. The result for the Spaceport will be deep easterly flow, tapping into drier air and keeping rain and storm chances low. The best chance for showers and storms will be Wednesday, as the high moving offshore pushes a front down the east coast and an upper-level disturbance retrogrades southwest across the state. This will likely bring an east-northeast wind surge along with a modest increase in moisture and better, though still below normal, chances for Atlantic showers into Thursday. There are some discrepancies in how far south this band gets by Thursday night, but even the more enthusiastic scenarios suggest that any activity would be in the form of low topped Atlantic showers, making the Cumulus Cloud Rule the weather concern going into the primary launch window early Friday morning.

High pressure will weaken across the state as the next front settles across the Deep South and eventually North Florida into the weekend. Weakening east-northeast flow and drier than normal conditions will continue to bring a small threat for Atlantic showers, which will remain the primary weather concern into the backup windows early Saturday and Sunday mornings.

Launch Day	Probability of Violating Weather Constraints <sup>1</sup>				
	<b>15%</b>	Primary Concerns: Cumulus Cloud Rule			
	Weather Conditions			Additional Risk Criteria <sup>2</sup>	
	Weather/Visibility: None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)
Temp/Humidity: 80°F / 79%	Cumulus	Scattered	2,500	12,000	Ascent Corridor Recovery: Low
Liftoff Winds (200'): 060° 10 - 15 mph					Solar Activity: Low

24-Hour Delay	Probability of Violating Weather Constraints				
	<b>10%</b>	Primary Concerns: Cumulus Cloud Rule			
	Weather Conditions			Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)
Temp/Humidity: 80°F / 83%	Cumulus	Scattered	2,500	6,000	Ascent Corridor Recovery: Low
Liftoff Winds (200'): 070° 5 - 10 mph					Solar Activity: Low

48-Hour Delay	Probability of Violating Weather Constraints				
	<b>10%</b>	Primary Concerns: Cumulus Cloud Rule			
	Weather Conditions			Additional Risk Criteria	
	Weather/Visibility: None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)
Temp/Humidity: 80°F / 85%	Cumulus	Scattered	2,500	5,000	Ascent Corridor Recovery: Low
Liftoff Winds (200'): VRB 5 mph					Solar Activity: Low

**Notes**

- The Probability of Violation (PoV) is the chance of a local safety or customer constraint violation occurring anytime 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** 23 Aug 2023