



Launch Mission Execution Forecast

Vehicle: Falcon 9 NROL-76

Issued: 27 Apr 2017/1200 UTC (0800 EDT)

Valid: 30 Apr 2017 1100-1300UTC (0700-0900EDT)

Synoptic Discussion: A weak frontal boundary may bring a few extra upper-level clouds into an otherwise sunny Central Florida this evening, before fully dissipating overnight. On Friday, a strong storm system will develop over Texas, while the Space Coast will see a return of southeasterly winds that may bring in isolated, morning coastal showers. Over the weekend, conditions will continue much the same as Friday for the Spaceport, but with gradually increasing onshore winds due to a tighter pressure gradient as the Texas storm system slides east. By Sunday morning, the frontal boundary associated with the system will begin moving through the Gulf Coast states, further increasing the winds with a tightening pressure gradient. The primary launch weather concerns are liftoff winds and cumulus clouds associated with the coastal showers. Maximum upper-level winds will be from the west at 80 knots near 45,000 feet.

Overnight Sunday and into Monday, the front will make its way into the Florida Panhandle. This will add the potential for upper-level cloudiness over the Spaceport. The main weather concerns for a Monday morning attempt will be liftoff winds and thick layer clouds associated with instability ahead of the frontal boundary. Maximum upper-level winds will be from the northwest at 60 knots near 45,000 feet.

<u>Clouds</u>	<u>Coverage</u>	<u>Bases (feet)</u>	<u>Tops (feet)</u>
Cumulus	Few	3,000	7,000
Cirrus	Scattered	27,000	30,000

Weather: Isolated Showers

Surface Visibility: 7 Miles

Solar Activity: Low

Liftoff Winds (MPH): 140° @ 20 P25 (162')

Pressure: 30.15 inHg

Temperature: 74°F

RH: 85%

Launch day probability of violating launch weather constraints: **20%**

Primary concern(s): Liftoff Winds, Cumulus Cloud Rule

Delay day probability of violating launch weather constraints: **30%**

Primary concern(s): Liftoff Winds, Thick Cloud Layer Rule

Sunrise: 30/0643 EDT
1/0642 EDT

Sunset: 30/1957 EDT
1/1958 EDT

Moonrise: 30/1038 EDT
1/1138 EDT

Moonset: 1/0036 EDT
2/0129 EDT

Illumination: 24%
34%

Next forecast will be issued: 28 April 2017