



Launch Mission Execution Forecast

Vehicle: Falcon 9 NROL-76

Issued: 29 Apr 2017/1300 UTC (0900 EDT)

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

Synoptic Discussion: The Bermuda high pressure ridge to the east, combined with a strong low pressure system over Texas, is creating stout southeasterly winds along the Space Coast. This scenario will continue over the weekend, which will also allow isolated showers to develop along overwater convergent bands. These convergent band showers will typically be most prevalent in the morning hours along the immediate coast. By Sunday morning, the frontal boundary associated with the storm system will begin moving through the Gulf Coast states, increasing the winds, which will increase the chances of a morning coastal shower. 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 60 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 50 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	Solar Activity:	Low
Surface Visibility:	7 Miles	Pressure:	30.15 inHg
Liftoff Winds (MPH):	140° @ 20 P25 (162')	RH:	85%
Temperature:	74°F		

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: As Required