Summary of Launch Weather Criteria for Atlas V/Mars Science Laboratory

Do not launch if the wind at the launch pad exceeds 33 knots.

Do not launch if the ceiling is less than 6,000 feet or the visibility is less than 4 nautical miles.

Do not launch through upper-level conditions containing wind shear that could lead to control problems for the launch vehicle.

Do not launch through or within five nautical miles of a cloud layer greater than 4,500 feet thick that extends into freezing temperatures, unless other specified criteria have been met.

Do not launch through or within five to 10 miles of cumulus clouds with tops that extend into freezing temperatures unless specified conditions and distances can be met.

Do not launch within 10 nautical miles of the edge of a thunderstorm that is producing lightning for 30 minutes after the last lightning is observed.

Do not launch for 30 minutes after lightning is observed within 10 nautical miles of the launch pad or the flight path unless specified conditions can be met.

Do not launch if field mill instrument readings within five nautical miles of the launch pad or the flight path exceed +/- 1,500 volts per meter for 15 minutes after they occur, or +/- 1,000 volts per meter if specified criteria can be met.

Do not launch if an attached thunderstorm anvil is within 10, 5, or 3 nautical miles of the flight path, unless time-associated criteria specified for these three distances can be met.

Do not launch if a detached thunderstorm anvil is within 10 nautical miles or if within 3 nautical miles or fly through a detached anvil unless specific time-associated criteria have been met.

Do not launch if a thunderstorm debris cloud is within 3 nautical miles or fly through a debris cloud for three hours unless specific criteria have been met.

Do not launch through disturbed weather that has clouds that extend into freezing temperatures and contain moderate or greater precipitation, or launch within five nautical miles of disturbed weather within the flight path unless specified criteria can be met.

Do not launch through cumulus clouds formed as the result of or directly attached to a smoke plume unless specified criteria are met.