



STS-129/ULF 3 Pre-Mission Summary

NWS Spaceflight Meteorology Group



The Space Shuttle Atlantis is scheduled to launch November 16th, 2009 at about 2:28 PM EST (19:28 UTC). This mission will be the 129th space shuttle flight, and the 31st flight to the [International Space Station \(ISS\)](#). The available days for launch extend through November 20th in the event of delays due to either weather or systems problems. The next available window is in early December. The end-of-mission landing for an on-time launch would occur on the morning of November 27th at KSC in Florida.

Atlantis' crew consists of Commander Charlie Hobaugh, Pilot Barry Wilmore, and Mission Specialists Robert Satcher, Michael Foreman, Randy Bresnik and Leland Melvin. Space station crew member Nicole Stott will return to Earth on Atlantis. STS-129 is slated to be the final space shuttle crew rotation flight to or from the space station. Atlantis will deliver parts to the space station, including a spare gyroscope, and the mission will feature three spacewalks. See [NASA's STS-129 web page](#) for more information about the details of the mission and the crew's biographies.



The Spaceflight Meteorology Group is responsible for providing the Flight Control Team in the Mission Control Center with all weather support from the time the solid rocket boosters are lit at launch through the end-of-mission landing. Launch forecasts are issued for the Return-to-Launch Site (RTLS) and [Transoceanic Abort Landing \(TAL\)](#) aborts. The prime TAL site for this mission is Zaragoza, Spain. Additional TAL sites include Moron, Spain and Istres, France. Kennedy Space Center is the preferred end-of-mission landing site. The alternate end-of-mission landing sites are Edwards Air Force Base in California and White Sands Space Harbor in New Mexico.

Based on climatology for a mid-November launch, KSC weather is favorable for the afternoon launch about 70% of the time with cloud ceiling or crosswinds below flight rule limits being the primary flight rule violation risks. Weather conditions at the prime TAL site of Zaragoza are favorable about 60% of the time. There is about an 80% chance of acceptable weather at Moron, and a 60% chance of acceptable weather at Istres. The [Spaceflight Meteorology Group \(SMG\)](#) will post mission forecasts to our web site (<http://www.srh.noaa.gov/smg>) starting on Friday November 13th -- three days prior to launch -- through the end of the mission.

Tim Oram is SMG's lead meteorologist for the mission with Brian Hoeth as the assistant lead and TAL weather forecaster. Paul Wahner, the lead Techniques Development Unit (TDU) meteorologist, will provide upper winds forecasts to launch loads engineers and assist the lead forecasters during launch and landing.

Submitted by: Tim Oram, STS-129 Lead Meteorologist

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