



NASA Weekly Update

Week of July 27 - August 3, 2009

July 31: Space Shuttle Endeavour Glides Home after Successful Mission: Space shuttle Endeavour and its crew of seven astronauts ended a 16-day journey of more than 6.5 million miles with a 10:48 a.m. EDT landing Friday at NASA's Kennedy Space Center in Florida. During the flight, Endeavour delivered the final piece of the Japan Aerospace Exploration Agency's Kibo laboratory and a new crew member to



After a 16-day mission to the International Space Station, space shuttle Endeavour touches down at NASA's Kennedy Space Center in Florida.

the International Space Station. Endeavour's mission included five spacewalks and installation of two platforms outside the Japanese module. One platform remained on the station and serves as a type of porch for experiments that require direct exposure to space. The other was an experiment storage pallet that returned aboard the shuttle. The shuttle began its descent from orbit with a deorbit engine firing at 9:41 a.m., followed by a smooth re-entry that brought the winged spacecraft across Central America, Cuba and the state of Florida on its way to the spaceport. The station now is 83 percent complete and has a mass of more than 685,000 pounds (more than 310,000 kilograms). For more about the STS-127 mission, visit: <http://www.nasa.gov/shuttle>.

Aug 3: Discovery to Roll Out to Pad Tuesday: Space Shuttle: Space Shuttle Discovery will rollout to Kennedy Space Center's Launch Pad 39A on Tuesday, Aug. 4 at 12:01 a.m. EDT. During prerollout preparations and testing Saturday morning in NASA Kennedy Space Center's Vehicle Assembly Building, a valve failed inside space shuttle Discovery's left-hand solid rocket booster hydraulic power unit tilt system, which helps steer the SRBs during launch. Any work to replace the valve and associated hardware will be done at the launch pad. Managers are assessing how to integrate the additional work with standard prelaunch processing activities. The astronauts for Discovery's STS-128 mission to the International Space Station are scheduled to begin their launch dress rehearsal and related training Wednesday, Aug. 5. The Terminal Countdown Demonstration test, as the rehearsal is known, is set to conclude Friday, Aug. 7. Discovery remains targeted for launch no earlier than Aug. 25. For more information about the STS-128 mission, visit: <http://www.nasa.gov/shuttle>

Aug 3: NASA Crew Takes YouTube Questions in Spanish and English: NASA's next space shuttle crew will answer questions submitted by YouTube users in both English and Spanish during the upcoming mission to the International Space Station. The crew is targeted to launch on the STS-128 mission in late August. Questions may be submitted starting today at: <http://www.youtube.com/user/ReelNASA>. Several questions will be selected to be answered live from orbit by the crew during a special event that will be broadcast on NASA Television. STS-128 astronaut Jose Hernandez, one crew member who will answer questions, is providing insights on his training in both English and Spanish via Twitter. To follow him, visit: http://www.twitter.com/Astro_Jose. For more information about the STS-128 mission and its crew, visit: <http://www.nasa.gov/shuttle>. For more information about the International Space Station, visit: <http://www.nasa.gov/station>. For NASA Television downlink, schedule and streaming video information, visit: <http://www.nasa.gov/ntv>.

July 31: NASA and CAFE Announce Green Aircraft Challenge:

The NASA Innovative Partnerships Program and the Comparative Aircraft Flight Efficiency (CAFE) Foundation today announced the Green Flight Challenge. The contest is a flight efficiency competition for aircraft that can average at least 100 mph on a 200-mile flight while achieving greater than 200 passenger miles per gallon. The prize for the aircraft with the best performance is \$1.5 million. The competition is scheduled for July 2011 at the Charles M. Schulz Sonoma County Airport in Santa Rosa, Calif. A variety of innovative experimental aircraft using electrical, solar, bio-fuel or hybrid propulsion are expected to enter. Several major universities and aircraft builders have expressed their intention to enter teams in the challenge. For information about CAFE and competing in this challenge, visit:

http://cafefoundation.org/v2/main_home.php. For more information about Centennial Challenges, visit: <http://www.ipp.nasa.gov/cc>.

July 30: NASA and JAXA Sign Agreement for Future Earth Science Cooperation:

NASA Administrator Charles Bolden and Japan Aerospace Exploration Agency (JAXA) President Keiji Tachikawa signed an agreement defining the terms of cooperation between the agencies on the Global Precipitation Measurement (GPM) mission. The ceremony took place Thursday at the Kennedy Space Center Visitor Complex. Building on the success of the NASA-JAXA Tropical Rainfall Measuring Mission (TRMM), GPM will begin the measurement of global precipitation, a key climate factor. It is an international collaboration that includes NASA and JAXA, with anticipated contributions of data from other international partners. GPM is also the cornerstone of the multinational Committee on Earth Observation Satellites Precipitation Constellation that addresses one of the key observations of the Global Earth Observation System of Systems. The heart of the GPM mission is a space-borne core observatory which serves as a reference standard to unify measurements from a constellation of multinational research and operational satellites carrying microwave sensors. GPM will provide uniformly calibrated precipitation measurements globally every 2 to 4 hours for scientific research and societal applications. For the first time, the GPM core observatory sensor measurements will make detailed observations of precipitation particle

size distribution, which is key to improving the accuracy of precipitation estimates by microwave radiometers and radars. For more information about GPM, visit: <http://nasascience.gov/missions/gpm>. For more information about TRMM, visit: <http://nasascience.nasa.gov/missions/trmm>.

July 28: NASA Honors Apollo Astronaut Al Worden with Moon Rock:

NASA honored Apollo astronaut Al Worden with the presentation of an Ambassador of Exploration Award for his contributions to the U.S. space program. Worden received the award during a ceremony Thursday, July 30. The ceremony was held at the Apollo Saturn V Center at NASA's Kennedy Space Center Visitor Complex in Florida, where the moon rock will be displayed. NASA is giving the Ambassador of Exploration Award to the first generation of explorers in the Mercury, Gemini and Apollo space programs for realizing America's goal of going to the moon. The award is a moon rock encased in Lucite, mounted for public display. The rock is part of the 842 pounds of lunar samples collected during six Apollo expeditions from 1969 to 1972. Those astronauts who receive the award will then present the award to a museum of their choice, where the moon rock will be placed for public display. Worden served as command module pilot for the Apollo 15 mission, which set several moon records for NASA, including the longest lunar surface stay time, the longest lunar extravehicular activity and the first use of a lunar roving vehicle. Worden spent 38 minutes in a spacewalk outside the command module and logged a total of 295 hours, 11 minutes in space during the mission. For more biographical information about Worden, visit: <http://www.jsc.nasa.gov/Bios/htmlbios/worden-am.html>. NASA Television will broadcast a Video File of the event. For NASA TV streaming video, schedules and downlink information, visit: <http://www.nasa.gov/ntv>. For more information about the Apollo Saturn V Center, visit: <http://www.kennedyspacecenter.com>.



NET August 25: Space Shuttle Discovery launch on the STS-128 mission from Kennedy Space Center to the International Space Station

NET Sept 15: STSS Demonstrators Program launch

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