

# Space shuttle Discovery, crew of 7 back on Earth

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The space shuttle Discovery lands on Kennedy Space Center's Runway 33 Tuesday, April 20, 2010, in Cape Canaveral, Fla. (AP Photo/NASA,Bill Ingalls)

(AP) -- Shuttle Discovery and its astronauts returned safely to Earth on Tuesday after making a rare flyover of America's heartland to wrap up their 15-day, 6 million-mile journey to the International Space Station.

The touchdown was delayed by rain and fog that dissipated as the sun rose, allowing Mission Control to take advantage of the morning's second landing opportunity.

Discovery swooped through a hazy sky before landing on the Kennedy Space Center runway. NASA briefly considered bringing the shuttle in to the opposite end of the strip because of puffy clouds, but the glare from the sun was too great and [flight controllers](#) stuck to the original

plan.

In the end, commander Alan Poindexter made a smooth touchdown, albeit a day late because of rain.

"Welcome home," Mission Control said, radioing congratulations on the entire flight.

"It was a great mission. We enjoyed it," Poindexter said. "And we're glad that the [International Space Station](#) is stocked up again."

NASA had promised a spectacular show, weather permitting, for early risers in Helena, Mont., and all the way along Discovery's flight path through the Midwest and Southeast.

With the [space shuttle](#) program winding down, there weren't expected to be any more continental flyovers.

This was, in fact, Discovery's next-to-last flight. Only one more mission remains for NASA's oldest surviving shuttle. As soon as it's removed from the runway, it will be prepped for the final shuttle flight, scheduled for September.

Discovery zoomed over the North Pacific on its way home before crossing into North America over Vancouver, British Columbia. Then it headed toward the southeast, flying over northeastern Washington, Helena, Mont.; Wyoming; southwestern Nebraska; northeastern Colorado; southwestern Kansas; Oklahoma; Arkansas; Mississippi; Alabama; Georgia and finally Florida east of Gainesville.

NASA had anticipated the sonic booms might be heard as far north as Kansas. There were no immediate reports.

Before the shuttle began its descent, Mission Control described to the astronauts the route they would be taking to Cape Canaveral. "Sounds like a great ground track," Poindexter observed.

It was the first time since 2007 that a space shuttle descended over so much of the United States.

NASA typically prefers bringing a shuttle home from the southwest, up over the South Pacific, Central America and the Gulf of Mexico. That way, there's minimal flying over heavily populated areas. In 2003, space shuttle Columbia shattered over Texas during re-entry, but no one on the ground was injured by the falling wreckage.

NASA wanted to maximize the crew's work time in orbit, while minimizing fatigue. That resulted in this North American crossing.

Before leaving the space station Saturday, Poindexter and his crew dropped off tons of supplies and equipment. The main delivery was a tank full of ammonia coolant, which took three spacewalks to hook up.

A nitrogen pressure valve refused to open after the tank was installed, and for a day, NASA considered sending the shuttle astronauts out on a fourth spacewalk to fix the problem. But engineers concluded it was not an emergency and that the space station crew or future shuttle fliers could deal with it.

History, meanwhile, was made with the presence of four women in space: three on the shuttle and one at the station.

Discovery returned with a couple tons of trash and discarded space station equipment. Most of that was jammed into a cargo carrier that rocketed away aboard the shuttle back on April 5. The carrier will be re-outfitted and fly back up on Discovery in September, and be installed

permanently at the orbiting outpost.

Only three [shuttle](#) missions remain for NASA before the fleet is retired this fall after nearly 30 years of operation. Atlantis will carry up a small Russian lab and other equipment next month.

The same bad weather that prevented Discovery from returning home Monday also stalled Atlantis' trip to the launch pad. The three-mile move from the hangar has been rescheduled for Tuesday night. Liftoff is targeted for May 14.

**More information:** NASA:

<http://www.nasa.gov/mission-pages/shuttle/main/index.html>

NASA: <http://spaceflight1.nasa.gov/realdata/sightings/>

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