July 8, 2011: That time Ars saw the last ever Space Shuttle launch

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The shuttle went to orbit more quickly than our autofocus could follow
MERRITT ISLAND, Florida—The *Hitchhiker's Guide to the Galaxy* describes space as "really big." Kennedy Space Center (KSC) might be peanuts compared to space but, for human-sized visitors, it's pretty big. Located on Florida's Atlantic coast, an hour's drive east of Orlando's tourist spots, KSC has been NASA's site of choice for sending people into space since the 1960s. Covering the northern half of Merritt Island, its 219 square miles are studded with launch complexes surrounded by semitropical nature. Last week, Ars braved KSC's heat, rain, and crowds to watch *Atlantis*, and the 30-year Space Shuttle program, head into space for the final time.

Launching rockets over the ocean has quite a few advantages, but it's also subject to the capricious weather patterns of the Atlantic. Getting something into a specific orbit is more complicated than just kicking the tires and lighting the fires; each day only has a discrete launch window of a few minutes. If it's raining at the launch site, flight path, or at the various emergency landing sites in France and Spain during that time, no one's going to space that day. This makes attending a launch somewhat fraught: the weather doesn't care about anyone's plans, plane tickets, hotel reservations, or

work schedule.

Driving to KSC, things did not look promising. NASA scheduled the launch for Friday, July 8th at 11:26 am, with successive launch windows on Saturday and Sunday. By Wednesday afternoon, the 45th Weather Squadron was predicting a 70 percent chance of delay. To make matters worse, if Friday did have to be scrubbed, Sunday would probably be the next attempt, as NASA wanted to give its teams enough time to get home, rest, and get back again, a process that would be seriously complicated by the hundreds of thousands of expected visitors and the traffic jams they'd bring.

Rain battered the causeway as we drove to KSC on Thursday, but luckily my fears of aquaplaning to a watery death weren't realized. The reality of the trip sunk in at our first sight of the Vehicle Assembly Building, or VAB. This giant box-like building, the largest single-story building in the world, is where NASA put together the components of successive Apollo and Shuttle launch vehicles. It's also where launch vehicles begin their slow journey atop a crawler-transporter to Launch Complex 39A, followed by a fast journey into orbit.

- Other news services lined up for coverage.
  Jonathan Gitlin
- The blossoming media village.
  Jonathan Gitlin

At the media center

Badges acquired, we made it to the Media Center. In the shadow of the VAB, dozens of TV news vans were corralled together, satellite dishes pointing to the skies. News organizations from across the world were out in force. Some national broadcasters like CBS had their own buildings, weatherbeaten after three or more decades of exposure to the elements. Others were in trailers perched on cinderblocks, underneath

tents and canopies. The rest of us were left jockeying for space in the Media Center and its annex. Beyond this teeming journovillage, a lawn reached out to the water's edge, where the countdown clock and a flagpole framed the three-mile stretch of water that separated us from LC39A.

Flanking the lawn were a number of tents. Boeing was on hand with their new CST-100 crew capsule, a seven-seat design that's being developed by the private sector. A mockup of the internal configuration was split in half. Nestled next to it was a prototype of the pressure shell, made from just two pieces of spun aluminum bolted together—according to Boeing, the lack of welds should make gaining manned flight certification a much quicker process.

- Boeing's CST-100 pressure shell.
  Jonathan Gitlin
- Orion, the next generation crew vehicle
  Jonathan Gitlin

Orion, the Multi-Purpose Crew Vehicle under development for NASA by Lockheed-Martin, was in another tent. This was the actual test vehicle, festooned with data acquisition systems, fresh from undergoing a test drop out the back of a C-141 last year. Unlike Boeing's design, Orion will do more than just travel to low earth orbit and back; a week to the Moon, or even many months to Mars and back, could be in the cards.

Sitting in between these two tents was the Tweetup tent. NASA has done a fantastic job of adopting social media as part of its outreach, and it has invited groups of lucky Twitterers to watch recent launches. Past treats at tweetups have included a look inside the VAB (something the public hasn't been allowed to do since before the beginning of the Shuttle program), as well as photo ops at the launch pad. For this final launch, Bob Crippen, Commander of STS-1, was on hand to talk to attendees, as was Elmo from Sesame Street, who was the only

celebrity I spotted other than Seth Green. The real celebs were the numerous former shuttle astronauts, easily recognizable in their blue jumpsuits.

Checking in with the weather desk reinforced the fatalistic feeling in the air. There had been a couple of lightning strikes in the vicinity, one hitting the water tower near the launch pad. However, once NASA’s safety concerns had been satisfied, we lined up by a row of buses for a photo opportunity with Atlantis on the pad. Everyone was excited, veterans and novices alike. That feeling even lasted after the skies opened up once again, soaking us to the bone as we stood in the rain waiting for the camo-clad security team and their sniffer dogs to give our bags the all-clear.

Visiting the launch pad

We had bumped into some familiar faces who were covering the launch for the *Guardian*. On the three-mile ride we swapped stories; how we fell in love with space, whether we thought we’d actually get to see a launch, where we were when *Challenger* took its final flight.

Enlarge / Reporters queued up to get a picture of the launch site.
Jonathan Gitlin

(*Challenger*, *Columbia*, and *Apollo 1* have always affected me quite deeply. January 28th is my birthday, and for all three tragedies to have happened within a few days strikes me as a cruel cosmic birthday present. The tragedies of *Challenger* and *Columbia* seemed to perpetually hang around in the background. Maybe I'm a bit morbid, but they underlined the fact that traveling into space is anything but routine, despite the public perception.)

The crawler-transporter was visible through the fogged-up bus windows, parked a safe distance from LC39A. The buses pulled up a quarter of a mile from the pad, just before the Crawlerway sloped gently up to it. Trackmarks were embossed on the surface of the Crawlerway, two long ribbons of pink

Alabama river rocks that stretched from the VAB to the pad. You could follow them to see, sitting there in all its glory, *Atlantis*!

I'd seen *Enterprise* several times, as it currently lives near my home, but there's something quite different seeing something in its natural habitat rather than permanently parked in a museum. Even if you'd told me the launch would be postponed until after we had to return to DC, I'd have considered the trip a success.

The rain picked up again, putting the same question in everyone's mind: "Will they launch?" Word filtered across the Twitter grapevine that the decision would be made in the middle of the night. Thursday night didn't involve a lot of sleep. Waking at 2am, we saw that NASA had given the go-ahead to begin fueling the external tank, even though the forecast for launch was still only 30 percent.

As attractive as a full night's sleep seemed, to sleep in and miss the launch while stuck in traffic would have been unforgivable. At 4am, my alarm went off again and we hit the road. Traffic was light until we got within a couple of miles from the causeway. We traveled this next stretch at about the same speed as a loaded crawler-transporter, but the brightening skies and lack of rain kept spirits high.

The jam evaporated at the causeway checkpoint, as only those with badges or passes were allowed onto KSC—the vast majority of spectators watched from the beaches of Titusville. "Carnival" probably isn't the right way to describe the atmosphere at the Media Center. Unlike the crowds that packed the Visitor's Center, causeway, and other sites, (almost) everyone was there to work as well as watch the launch. Yet the enthusiasm and affection for the program was palpable.

And then it was time to launch.

sts-135-atlantis-launches-into-orbit/