

Sun-Earth Day Podcast script (STS-118 Launch)

[Sun-Earth Day Sound Theme]

Sounds and descriptions can capture a person, place, event, or feeling so *clearly* that you can “see” in your mind’s eye **whatever it is** that is being described.

My name is Troy Cline and you are listening to a ‘Soundseeing Tour’ for NASA’s Sun-Earth Day program.

Our **Soundseeing tours** are specialized audio tours of unique NASA locations that include ambient sound and in many cases descriptive text. **Your** only job during the tour is to pay special attention to all of the sounds that you hear. Why? Because **those** are the sounds you would actually hear if you were *really there*.

So fasten your seatbelts, and join me in today’s Soundseeing Tour as we experience the incredible sounds of Space Shuttle Endeavour’s recent liftoff into space; mission STS-118. It was the 22nd shuttle flight to the International Space Station and continued construction of the space station by delivering a third starboard truss segment. This was the first flight of an Educator Astronaut, mission specialist Barbara Morgan

If you are currently connected to the internet, you can visit the podcast page of Sunearthday.nasa.gov and follow along with more information and imagery of the whole event.

So without any further delay, let’s start our trip at NASA’s STS-118 Pre-launch Education Conference in Orlando FL, where I had the opportunity to talk to several people including a dynamic little girl, Layla, dressed to the nines in her own astronaut suit.

Layla: My name is Layla

Troy: You look like you are dressed up and ready for this. Describe to me what you are wearing

Layla: Well right now I’m wearing a um NASA suit that you see what an astronaut would wear.

Troy: Yeah, it’s bright orange and I like all the patches. You have a space shuttle patch on your right arm.

Layla: Yeah, (points to each of her patches) and I’m NASA and I’m a commander but I usually like pilot. Um, got that and something on my back.

Troy: Do you plan on being an astronaut one day?

Layla: Maybe (giggle)

Troy: Maybe? What would you like to be when you grow up?

Layla: A vetranerian ...a veterinarian ... um... a dolphin player...I mean to play with dolphins.. .a dolphin trainer or an astronaut.

Troy: What are you most excited about today?

Layla: Seeing the rocket go up.

Troy: Seeing the rocket go up or the shuttle go up... and we all know there's a teacher on board this time, right? Do you have anything you want to say to your friends?

Layla: Good luck!

Troy: (laugh) Your friends on the shuttle, huh? Well, Thankyou.

Just before we boarded the bus to Kennedy Space Center, I had the chance to chat with Michelle Hailey who was there representing the Girl Scouts of America.

Michelle: I'm the national liaison to NASA for Girl Scouts of the USA representing over 300 councils and over 4 million membership today watching this momentous event.

Troy: What are you most excited about right now?

Michelle: Well as an educator as well I'm very excited. Twenty one years ago I was teaching in a classroom of eighth graders when we watched, of course, the tragedy on TV of Challenger but now to see the full circle and the new educator astronaut to go into space and to do wonderful things supporting education. Fabulous opportunity! Our Girl Scouts participate daily, weekly, monthly in NASA sponsored opportunities. We have 4 trainers trained by NASA to do great things with our girls and support science, technology, engineering and math for our 4 million membership.

Troy: and we have a woman teacher going into space. So that's even better for your cause! (smile)

Michelle: Full circle! Girl Power Rules! Hopefully one day when Mars is the final target we'll see one of our Girl Scouts on Mars.

Moments later I joined 100s of excited shuttle fans as they boarded an enormous caravan of busses all headed to Kennedy Space Center to watch the highly anticipated launch.

Troy: So has anyone been to a launch before?

Group: No!

Troy: What are you most excited about? You've been to one right Henry? What was it like? Just tell me a little bit about it.

Bus Person 1: It was great! Just the whole entire atmosphere of just being there, the excitement, just thinking about what the astronauts must be thinking about as they're getting ready to through space. Even, now, today thinking about Barbara Morgan. What's she thinking about being the first educator [astronaut] in space. Just going to space for the first time sitting on a rocket, waiting. I just couldn't imagine!

Bus Person 2: You feel like you're part of something just so much bigger than what you're used to. Like, these are things you think about other people having an opportunity to be part of.

Bus Person 3: I'm really interested in the sound as well as the visual and all that stuff so I hope the podcast works to collect the experiences you don't get on TV.

Troy: How about a cheer for STS-118?

Group: YEAH!!

You can view a photo of the group on the Sun-Earth Day podcast page.

We finally arrived at the Banana Creek guest viewing area where I shared the next 3 hours with 3500 people. With digital recorder in hand, I stepped of the bus and walked directly to a series of metal bleachers perfectly positioned to give all visitors a view of both launch pads. In front of the bleachers were the famous countdown clocks and speakers broadcasting the countdown sequence.

Troy: (Background sounds include people chatting, pictures being taken and a broadcasted audio feed from NASA.) Right now I'm standing at the Banana Creek view site and to my left I see a digital clock that pretty large that has the countdown minutes on it and time. I see another clock to my right. There are about 1000 people here so far at the viewing area. Right behind me are...it looks like several metal bleachers that people starting to gather into and they're starting to find their places...and a lot of excitement going on already. Many people are taking pictures. What I'm looking at right now is a beautiful view of the launch site...of the shuttle Endeavor...and it across a body of water that's right in

front of us. It's a crystal clear view. It's going to be absolutely wonderful when the shuttle launches. Just to my left, as I face the shuttle, there are 3 flags. The American flag right in the center...and over to the far left is where they have a large building where a lot of people are going into right now. It's several hundred feet wide and I can't tell you how many hundred feet long that building is. That's where people are able to walk into, do a tour and see the Saturn V rocket.

Since we arrived 2 hours prior to the launch I had a little time to visit the Apollo/Saturn V Center right next to our viewing area. On my way into the building I ran into astronaut, Sunita Williams. She served as a flight engineer aboard the International Space Station. As a member of the Expedition-14 crew Sunita established a world record for females; with four spacewalks totaling 29 hours and 17 minutes of EVA. She has logged a total of 195 days in space. You can find a link to her current NASA biography on the Sun-Earth Day supporting podcast page.

Sunita Williams: I'm Sunita Williams. I was on the International Space Station and just came back with the last shuttle mission. I'm here escorting the families that are here. The spouses will be a little bit closer to the launch. We have a launch control center... but the parents will all be out here and I'm escorting them.

Troy: What are you most excited about today?

Sunita Williams: Um...I don't know a rocket's gonna launch. That's pretty cool! (laughter) and there's a lot of good friends of mine on board so I'm really excited for them to go up to space.

Troy: Well it's nice talking with you. Thank you!

A few moments later I joined hundreds of other people searching for just the right souvenir from the gift shop. While standing in line I had the unexpected surprise to meet a very special lady named, Eva Farley, from Merritt Island, FL. She had quite an interesting story to tell.

Troy: Hi and what's your name? (Eva Farley) We were just chatting in line and I asked you if this was your first launch..

Eva: and I said no, it was not, that I was here for the 'first' STS-1 .

Troy: How about that! What was that like?

Eva: it was awesome. (laugh) Probably one of the biggest thrills was to look up to see Neal Armstrong sitting there in the stands, by himself, you know, no one around him and just like...let me be (laugh). It was wonderful to see him up there.

Troy: Do you remember that moment as far as what it felt like? This is my first launch so....

Eva: It's like you reached the epic of everything. You feel it all...all the way down to your toes!

Troy: Do you have any advice to our students who might be thinking about going into space one day?

Eva: Yes! Please try for it. Let nothing stop you. If you need more math, more science, reading, whatever....you go for it!

Moments before leaving the building to find my seat to view the launch, I ran into Astronaut Mike Fossum, who graciously agreed to share a few moments of his time with us. Mike was part of the STS-121 return-to-flight test mission and assembly flight to the International Space Station. Mike and his comrade, Piers Sellers, performed 3 EVAs to test the 50-ft robotic arm boom extension as a work platform.

Mike Fossum: Hi. My name's Mike Fossum. I'm a NASA mission specialist astronaut. I was selected in 1988 and flew my first mission last summer: the summer of 2006. We launched on the 4th of July on STS-121. We're out here at the Cape today all excited. We've got the crew of STS-118 strapped into vehicle. The hatch is closed and there in the final countdown here. We've got a little more than an hour to go. Things are looking great. I know...everybody on board's a friend of mine and I know they're as excited today as I was a year ago right now. It's been a dream for all of'm for a long time and they didn't give up on that dream. Today they're strapped in and they're ready to see it all become real.

Troy: I know that our students are very interested, of course, with Barbara Morgan being on this flight....not to mention, our teachers. Is there something you can tell our students out there about going into careers with math and science or engineering?

Mike Fossum: Well math and science lays the foundation for doing just about anything worthwhile that you really want to do. We be glad to have them come down to be NASA's astronauts and NASA needs lots of scientists and engineers. And in fact the world and the country needs people that understand technology, people that aren't afraid of math that can make things happen. It's one of the great keys to a successful future. Be willing to work. It does take some work but don't be afraid of it. It's worthwhile and the payoffs are so huge.

As an engineer I enjoy the chance to find answers to problems, to develop new things, to create things that help make people's lives better. That's what I enjoy about being an engineer. I wish all of them (students) would clime aboard.

Troy: When you launched, what was the most exciting moment for you out of the whole experience?

Mike Fossum: For me the launch itself was very exciting as you feel all of the forces come together to push you, just literally, into space. The most exciting moment of that though was...as soon as we got there I unstrapped. My job was to jump up and get video tape of the external fuel tank. So I jumped up and I'm looking out the overhead window of the shuttle and we're over the North Atlantic. I see the curve of the earth and that little thin band of atmosphere, the black sky above it, and the blue and white - Earth - North Atlantic -below me. It just took my breath away and I stopped and said a quick prayer, "Thank you, Lord. I can't believe its really come true."

Troy: I get chills just listening to you talk about that. Where you involved with anything having to do with Space Weather? We're you aware of anything like solar storms that you had to be prepared for in any way?

Mike Fossum: There were no concerns during our mission. There is a notification. There's people that are watching that kind of thing and can notify us especially like when we're doing space walks. I did three space walks last summer... and so you're pretty exposed at point. There's people look'n out for you though.

Troy: We have some students who are learning how to track space weather and solar storms with our Space Weather Action Centers.

Mike Fossum: Oh, outstanding!

Troy: Hopefully they'll be able to send some messages to our astronauts and let them know from our kids!

Mike Fossum: Good! We'd appreciate that. That would be...that'd be excellent. Keep up the great work!

Troy: Thank you, Mike for your time.

We've provided a link to Mike's current NASA biography on the Sun-Earth Day supporting podcast page.

I headed out to the viewing area; climbed into the bleachers and quickly found my seat. All of the pictures that I took from that moment on are posted on the Sun-Earth Day podcast page.

With only minutes to spare I joined the audience as they faced the American flag and sang the National Anthem.

[The US National Anthem is being sung]

During the next few minutes, you'll hear everything that I heard as the shuttle lifted off into space. Now since our viewing area was 3.9 miles away from the actual launch site, it took several seconds for the sounds of the shuttle blasting into space to reach us. But when it did...WOW. So hold on to your seats and prepare for liftoff.

[Sounds of the countdown and launch]

That launch experience was my first. The tremendous vibrations and sounds truly shook every fiber of our bodies and added to what will undoubtedly be a memory etched in our hearts and minds for years to come.

Endeavour safely returned on August 21st, 2007. However, the education experiences continue. To learn more I spoke with Education Specialist Jonathan Neubauer from NASA's 'Teaching From Space' program.

I asked John to talk about one of the activities involving 10 million basil seeds launched on board Space Shuttle Endeavour as part of the STS-118 mission.

John Neubauer: 10 million basil seeds were launched on board Space Shuttle Endeavor as part of the STS-118 mission. They were part of an education payload that we're sending up to engage students and educators in the mission itself. The seeds return to earth at the end of the mission and will be made available to students and educators as part of the NASA Engineering Design Challenge: the Lunar Plant Growth Chamber. The Challenge basically engages students in a real world problem solving activity where students will be designing and evaluating a growth chamber for future missions to the moon. Basically students would use those flown seeds to actually assess or evaluate their plant growth chamber.

In addition to the seeds, two small collapsible plant growth chambers were transferred to the International Space Station for a 20-day plant growth investigation.

John Neubauer: We actually sent up two small collapsible plant growth chambers. One contained basil. The second one contained lettuce. The reason for that is we wanted to ensure that if for some reason the basil decided to not germinate we had something else as a backup and vice versa. The growth chambers were transferred from Space Shuttle Endeavor over to the International Space Station for a twenty day plant growth investigation. The investigation began on August 20th and is currently scheduled to conclude on September 8th and so far we've seen some real positive results with the basil. We're seeing some nice plant growth and are looking forward to the investigation continuing.

From the Sun-Earth Day supporting podcast page, you will find links to specific NASA web pages including Launch Coverage, astronaut biographies and STS-118 educational resources.

We are very interested in hearing your questions and comments about the Sun-Earth Day podcasts. If **you** have something to say, send an email to sunearthdaypodcast@mail630.gsfc.nasa.gov .

For all other details about the Sun-Earth Day program including information about our past SED themes and all podcasts, be sure to visit our website at sunearthday.nasa.gov.