

Military OneSource Podcast — Explore the Joy of Moon Watching With NASA

NASA Program

Episode transcript

Intro voice-over:

Welcome to the Military OneSource podcast. Military OneSource is an official program of the defense department with tools, information and resources to help families navigate all aspects of military life. For more information, visit militaryonesource.mil.

Bruce Moody:

Welcome to the podcast, I'm Bruce Moody. Today we're going to get reacquainted with the moon. We have two guests from NASA to help explain an event that's coming up, and it's called International Observe the Moon Night. More on that in a bit, but first, let's bring in our guests. We have Andrea Jones and Staci Tiedeken. You're both at NASA's Goddard Space Flight Center, which is just outside Washington D.C. Let's bring you in.

Welcome to the both of you, and let's have you introduce yourself. Andrea, let's start with you.

Andrea Jones:

Thanks so much, Bruce. It's wonderful to be here. My name's Andrea Jones and I'm the public engagement lead of the Solar System Exploration Division at NASA Goddard and director of International Observe the Moon Night.

Bruce Moody:

Nice. And Staci.

Staci Tiedeken:

Hello. Excited to be here today, speaking to you all about International Observe the Moon Night. As Bruce mentioned, I come from NASA's Goddard Space Flight Center, and I'm the outreach coordinator for the Planetary Science Division there, as well as the international partnerships coordinator for the program. So I'm excited to be here.

Bruce Moody:

Yeah, we're glad to have you. I know where you guys are because I can see the signs, the exit signs, on the side of the road. Are you guys launching any rockets from there?

Andrea Jones:

We do not launch rockets from our facility at Goddard, but Goddard actually has multiple different centers in different facilities and Wallops is one of them and we do launch rockets from there. So it's wonderful to visit and all the different centers have different offerings, and we are actually the science center. That's our main area of expertise.

Bruce Moody:

Okay. I want to start off with a question that may seem obvious, but if you have the opportunity to ask NASA, you should do it. Why is the moon so important to the Earth?

Andrea Jones:

So the moon is really important to the Earth for lots of different reasons. So a big one is that the moon stabilizes the tilt of our axis. So as you may know, the Earth is tilted about 23.5 degrees on its axis, and if it weren't for the moon, we'd actually bob around a whole lot. So for example, Mars bobs around a lot and has very extreme seasons, but because we have this big mass out in space that's dancing around our planet, we don't bob as much, and therefore Earth is a lot more habitable than it might be otherwise. The moon also gives us tides, which is of course important for lots of people along the coast and has perhaps helped with the rise of life on Earth. We don't really know, but it is part of the story that a lot of people are investigating.

We also have calendars developed with the moon in mind. The month is because of the moon, so the moon's actually woven into our arts and culture and into the timelines that we have been tracking over as long as humans have been farming, certainly, and as long as we've been celebrating anything that we wanted to time. So a lot of religious calendars are still tied to the lunar calendar.

There's so much more, I could keep going, but I think it's also interesting in this conversation from NASA, some people think that the moon might help us to become a space-sparing species. So the moon is pretty close to the Earth relative to everything else in our solar system, and certainly beyond, and it's something that has inspired us and enlivened us, and it's something that we can get to better than anywhere else beyond our Earth. And by going there, we are maybe building capabilities better than we would otherwise to go further out into space. So I could keep going. This is a great, fun question and I think you'd probably get lots of different answers depending on who you talk to, but those are a few reasons that are why it's really important to have this wonderful neighbor in space.

Bruce Moody:

I want to keep going, but we got to get on topic here. It's really interesting because you do talk about the moon as a stabilizing force. We all need that in our lives. It's stabilizing for the Earth, for tides, for weather, but also for communities, for traditions. So this is interesting. So because of its impact on us as humans and how we think and how we

feel and how we celebrate and how we engage, let's bring that over to the military community. So why should the military community care to learn about the moon?

Staci Tiedeken:

That is a great question, and I think Andrea did a wonderful job of explaining why the moon is so important to humans on Earth, and this naturally ties into why everyone should care about the moon. So we always like to say for International Observe the Moon Night, this is a program that is for everyone. It's from people with families to individuals. The program provides an opportunity to reflect on the impact that the moon has on us as a species, as well as on an individual level.

So the moon also provides a great opportunity to connect with deployed service members, in particular, as they can be looking at the moon at the same time as their loved ones back home. And the moon's an easy target to find in the sky, it's visible both at night and during the day, and you can find it from wherever you may be on Earth. And I know many service members miss their families at some point during their deployment, and the moon is a great way to maintain that sense of connection with them.

And I can directly relate to this as my fiancé is in the Coast Guard, so we have used the moon as a way to connect from afar when he's in the middle of the ocean. And we actually did this last year for International Observe the Moon Night, he sent me an email with an image of the moon from the middle of the ocean, so that was very sweet and kind of fun.

And I also wanted to mention that the very first Lunar Explorers themselves were also members of the military community, so the training that they went through to prepare for military life also helped them prepare for those very early days of human exploration of the moon, and I think this should particularly be a source of pride for the community.

I did want to mention that the NASA's Astronaut Corps has since evolved since the early days, with the latest classes including people from a wide variety of professions, but the military is still one pathway to becoming an astronaut. If you're curious about some space history exploration, I would highly recommend looking at the Apollo astronauts and Mercury and Gemini.

Bruce Moody:

So you've covered a lot of ground, from romance to becoming an astronaut. I think that's probably the widest-ranging answer I've ever gotten to a question on this podcast.

Staci Tiedeken:

Excellent.

Bruce Moody:

Yes, you went from romantically levitating to literally being outside of gravitation. That's very, very cool. All right. Good.

Andrea Jones:

I have to also, can I add one other thing? I know that I added so many things earlier, but this could just be for your information, if not on the podcast, but the moon is also very important to the Earth because it helps us learn about our own planet. So Staci talking about connecting with loved ones made me think about how I view the moon as having the baby pictures of planet Earth moon system. The Earth changes a lot over time. We're a great recycler. We keep recycling our crust through plate tectonics, and then we have wind and water and air and all these kinds of things. And so if we want to know more about our planet's history and how our planet formed and changed over time, we actually looked to the moon to understand what's in our deep past, and also what happened throughout the formation in the early days of the solar system. So I know we had a lot of information already. As a planetary scientist, I cannot believe I didn't mention the foundation of why I used to do the research that I did.

Bruce Moody:

Well, good. See, this is why we're all together. International Observe the Moon Night. Obviously, the night, that's a good time. When is International Observe the Moon Night? Is it one night?

Andrea Jones:

So International Observe the Moon Night is a day each year that everyone on Earth is invited to observe the moon, to learn about the moon and to honor the cultural and personal connections that we have to the moon. So it's a day that we catch up on what's been going on in lunar science and exploration. It's a day that we celebrate the moon in our arts and culture, and it's a day for lunar enthusiasts around the world to connect.

So last year we had almost a million people participating in 123 countries on all seven continents, and this year we're celebrating 15 years of the program. So as it normally is, it will be on a Saturday, this year it's on Sept. 14, and it's always a Saturday that's around a first quarter moon. So that's a great phase to observe because it's high in the sky in the evening, and it's a wonderful phase to look at through a telescope or a pair of binoculars because that line between day and night on the moon is a really, really beautiful place to observe the rugged lunar landscape. So if you ever have a chance to look at the moon through a telescope, this is a place that you can really envision hiking and climbing up those mountains, all the craters and sledding down into the crater floors in a way that a lot of other places aren't able to do because it's just so close.

Bruce Moody:

So let's get some ideas about how military families can use this event to strengthen their bonds.

Staci Tiedeken:

So I can jump in here. I would say that any event that brings people together, either in person or from afar, can strengthen relationships. And by participating in International

Observe the Moon Night, military families share the experience of both learning about and observing the moon together. And that can be through, if they're together, in person, you can go through looking at the moon through a telescope, through binoculars, with your naked eye. We'll talk a little bit more about other activity suggestions and other ways to observe the moon a little bit later, but that's just a quick example.

And the whole family can participate, even if a service member is deployed. And one easy way to do this is to start what we call a moon observation journal at the same time. This way you're observing the same moon, but from different locations perhaps. And this is especially neat if you happen to be at different latitudes. So the Northern Hemisphere moon actually looks a little bit different than the Southern Hemisphere moon, but it's the same moon. So this observation journal is a great activity to start with yourself if you want to do it on your own, or with family members, and it's a highlighted activity on our website every year since it's such a great one.

Bruce Moody:

Now that's really interesting. I didn't think of it. We've got links in the program notes, so what you're referring to, people can click on that, learn more. But yeah, talk a little bit about this because you can have a person on one end of the world looking at the moon and sharing what they see, their impressions of it, with somebody who is looking at it at the same moment, but from a totally different angle and seeing something quite different. And that can be because the family has moved, that can be because they have a parent who's deployed, or in training, or geo-batching someplace else. That's a really interesting concept, something you can bring to this observance.

Andrea Jones:

Absolutely. And yeah, I would just add that there are so many different ways to participate. So really, this event is all about observing the moon, learning about the moon, celebrating the moon, but doing that in a way that works well for you, for your family, for your community. So it can be as simple as going out and observing the moon, and that's a wonderful way to get involved. Or you can have an event that you plan for this, or you can have a book club that reads a moon book. Or you can have members of your new community go out and observe the moon together with your naked eye, you don't actually need any special equipment at all. Or you can observe the moon in a different way, and we have lots of observing suggestions and we can talk about some creative ways to do that as well if you can't go observe, either because you're not able to see, or you're not able to go safely outside.

Bruce Moody:

I want to get into that. That's really interesting, because for somebody who has accessibility challenges, how can they participate? How can they get something out of this event?

Andrea Jones:

Yeah, so it's really important to us that everyone everywhere who wants to participate is able to do so. The moon, of course, helps with this because it is so bright, you can see it even from light-polluted skies. But if you can't go outside, or you can't see, you can still observe the moon either with 3D printed lunar surface, you can feel the moon surface through 3D prints, and those you can print off from makerspaces or from libraries. If you're able to get some rocks, the moon is mostly made of basalt, the dark areas, and anorthosite, the light areas, so you can feel what those rocks feel like. You can get them from earth samples or get to a museum and maybe feel real moon rocks, but there are not too many you can feel.

And then also you can listen to or compose your own moon music. There's a lot of songs that have the moon in it. Clair de Lune is a famous one that we have from NASA, we've set to some NASA lunar reconnaissance orbiter camera imagery. And there's also reading or sharing moon stories. This is a time to learn about, how is the moon featured in your culture? Does your family or neighbors, somebody have memories of the Apollo moon landings or another story associated with the moon? A fun one, you can actually taste the moon, or sort of. We have an activity that we recommend that is making moon phases out of chocolate sandwich cookies, like Oreo-type cookies. And you can make the moon phases and then you can eat them. So there's lot of different ways, and we are very excited when people come up with different ones. We've had people make interpretive dances and decorate shoes with all kinds of moon decorations, so we encourage that. It's really something about making this experience a fun one for you.

Bruce Moody:

Okay. So I would not be in the category of unveiling interpretive dance. That would not be me. I might be around maybe some of the more analytical types. And with that thought, and you had mentioned that this has been going on for, did you say 15 years?

Andrea Jones:

It has, yeah, we started in 2009.

Bruce Moody:

So you've got the citizen scientist aspect of it, I would imagine.

Andrea Jones:

Yeah.

Bruce Moody:

So as people are looking at this, not so much to discover their inner Martha Graham, but are actually looking at this and saying, "Hey, what can I learn? What can I discover?" Have there been any discoveries or observations made during past International Observe the Moon Nights?

Staci Tiedeken:

I would say that most of the discoveries that we have tracked have been personal discoveries. There is a moon-related citizen science project where you can compare old images taken of the moon with new images taken of the same part of the moon to see how different surface features have changed. That helps scientists make more discoveries. But for the program level, there's been a lot of really neat personal discoveries that we've seen from participants all around the world.

And I want to just mention one because I think it's really fun. So during the first year of COVID, back in 2020, our participants around the world discovered new ways to observe the moon because we were in the middle of a pandemic, so you couldn't just go to our normal big events and look through the same telescope with other people. So, we had one group in particular, I think they were from Brazil, they actually hosted a drive-in theater-type event. So they had projected lunar presentations on a large screen and had a presenter present whatever moon topic they were interested in for people to view while remaining socially distant in their vehicles. So then we've seen some images from that event on our Flickr page. Every year, we have a different Flickr page depending on which year we're in. So that's a fun personal discovery type of result of participating in the program.

Bruce Moody:

Okay. So you're talking about Brazil getting involved, and of course the name of this is the International Observation. So how do you make it international? How are you engaging other countries to make this an international collaboration?

Staci Tiedeken:

That is a great question. And as the international partnerships coordinator for the program, one of my goals is to share the program with people all around the world. So one way we do this is by reaching out to potential new supporters. But because we are a tiny, but mighty, team, we have to be strategic on who we're able to reach out to so that we can maintain good relationships in the long run. But some of our current supporters include different space agencies. We have astronomical societies. There's a group from Spain that's been involved since I started at Goddard, so that's been fun to see how they've evolved over time. We've had museums participate as supporters, and then international and national networks, including Blue Star Families, and then many more.

But more recently, we have been working with NASA's Office of International and Interagency Relations and the U.S. Department of State to share the program with U.S. Embassies, as well as some Artemis Accord member nations. It is a NASA program, so we focused a lot on U.S. involvement, but it's an international program as well, so we try to make sure that we have other resources to support an international audience. So we have translated save-the-date cards, we have graphics that are highlighting different iconic landmarks around the world, and then we have moon maps that are available in both Northern and Southern Hemisphere versions as well.

It's been really fun to see how different countries celebrate their own involvement in lunar science, as well as their unique culture's connection to the moon. So it's been pretty fun reaching out to new people that may or may not have known existed before.

Bruce Moody:

Yeah, no doubt. For those who are overseas, I'm retired Navy, and my first tour of duty was Iceland, and I'm up there and-

Andrea Jones:

I love Iceland. Yes.

Bruce Moody:

So for me, being up there looking up in the sky was all about the aurora borealis. So there's a lot going on in the sky beyond the moon, and maybe that particular date and time for the International Observe the Moon Night, maybe it doesn't quite fit, because also when I was stationed up there, we had really grueling work schedules and maybe a particular date and time was just a deal breaker, couldn't work it, we were on duty, we were on watch. What other events or content does NASA have that could help service members and their families?

Andrea Jones:

So I'll begin by saying that we understand that a certain date is not going to work for everybody. So we actually have a participation window every year. We have an official date, and every year we have the chance to register your participation from the weekend before to the weekend afterwards, or maybe even a little bit further beyond that. And so we want you to participate when you're able to do so, aim for that date, but work within what's better for your own schedule.

We also have a lot of things that you can use at any time. The moon maps are created especially for the official date of International Observe the Moon Night each year. And they do highlight features like the mare, which are the dark patches, and human landing sites that are visible, and also features that are right along that terminator, that day-night line, that are really especially interesting to look at through a telescope or pair of binoculars on the date of International Observe the Moon Night, but you can use them a little bit before or afterwards, or anytime the moon is exactly that phase, actually. And then we have things like the NASA TV broadcast, which will be released on the date, so this year, Sept. 14, but it's recorded. You can watch it anytime. So there's a lot of flexibility in there to make it work for your own schedule.

Bruce Moody:

This has been a really fun conversation. Andrea, Staci, I just want to invite final thoughts, and feel free to inspire the military parents who have young kids into becoming astronauts.

Staci, let's start with you.

Staci Tiedeken:

Yeah. So I wonder if I could actually touch on a connection with the community. So I know there is a question about how can we use this program for people that might have recently PCSed to get in touch with their new community. And I wanted to bring this up because I wanted to first say congratulations to all of those people that have recently PCSed because that was me last week. And one of the things to do on the to-do list after PCSing, in addition to all the unpacking, is to try to connect with your new community. And this includes both your new unit or crew, as well as new neighbors and surroundings.

So I've been thinking about this with respect to International Observe the Moon Night because the program provides an amazing opportunity to meet people. So one way to get more involved and to meet new people would be to chat with your USO, or Ombudsman if you have one, or if they're someone that leads communications for your new unit, you can chat with them about possibly hosting a moon observing event at the commissary, or at the exchange. Or if you're not sure who to contact yet, which might happen if you just moved, you could host an informal get-together in your new neighborhood.

So a public event, it's a great way to learn more about your community, but also to meet other people who have been living in your community for a while and who can give you suggestions about the area. Or they might be space enthusiasts that can teach you about the moon. Or you can have all the moon phase cookies that was mentioned earlier. That would be a fun, great new shared experience. So using this program as an opportunity to meet new people would be, I think, a really amazing opportunity.

Bruce Moody: Excellent. Thank you. Andrea?

Andrea Jones:

I would say that as a member of the military, I cannot imagine the amount of things that are processing through your brain at all times. Everyone on Earth, we have so many things that we're thinking about, but this is an invitation to pause for a moment and just appreciate the beauty, the wonder, of this wonderful object, our nearest neighbor in space. And it's there every day, or most days, depending on the time you can see it, but we don't always stop and take a look at it and just appreciate the beauty, and that's something that I really enjoy about this event. And I especially enjoy doing that, not only with my local community, but knowing that there are a million people around the world observing with me is pretty powerful and feels really connecting beyond anyone I actually know. And just knowing that there are people interested in that out there makes me feel connected to my fellow earthlings.

And then I would say, from there, it's a wonderful place to keep going. There's a lot coming up right now, NASA is doing so much at the moon, and so this is a chance. If you're interested, if you're curious, we will give you updates every year on what's

happening with NASA lunar science and exploration. And then beyond, we stay in touch with people through our newsletter, and there's a lot of things coming up, from planetary science, from astrophysics, from earth science. We have a Europa Clipper launch happening this fall. We have a Lucy flyby of an asteroid. Artemis is amazingly interesting and ramping up right now. And then we have many more things coming up in astrophysics and earth science as well, and this is a way to get involved with NASA and stay involved.

Bruce Moody:

Oh my goodness. So first of all, thank you for joining us all together as earthlings. I don't think that's a first for this podcast. And Europa, yeah, that's definitely a trigger. I am so interested in the possibilities that lie below the ice of Europa. That is just amazing. What you do is so fantastic, so inspiring, and so fun, and just generates wonder and enthusiasm. So thank you to the both of you for joining us today.

Staci Tiedeken:

Thank you so much.

Andrea Jones:

Thank you for the opportunity.

Bruce Moody:

Awesome. Andrea Jones and Staci Tiedeken, they're from NASA's Goddard Space Flight Center. So great to talk to you about International Observe the Moon Night. And I want to remind everybody that Military OneSource is an official resource of the Defense Department. We always love to hear from you. Go to the program notes. There's a link. You can send us a question, a comment, maybe an idea for our future podcast, and be sure to subscribe to this podcast wherever you listen to your podcasts because we cover a wide range of topics to help military families navigate military life.

I'm Bruce Moody. Thank you for listening. Take care. Bye-Bye.