

ver wondered how someone decides to study Earth Science for NASA? Meet Marilé, Josh, and
Lola. Discover how they got started, what they do, and what keeps them excited about being an Earth scientist.



Marilé is an atmospheric scientist who studies clouds and **aerosols**. She is also an education specialist based at NASA's Langley Research Center in Virginia.



Josh is a climate scientist and oceanographer who studies how seas are rising and how icy places are melting. He is based at NASA's Jet Propulsion Laboratory in California.



Lola is an ecologist who studies how plants – especially **mangrove** forests – interact with their environment. She is based at NASA's Goddard Space Flight Center in Maryland.

### Vocabulary

**aerosols** – Tiny airborne particles like ash, dust, sea salt, and pollution.

**mangrove** – A tree that grows in dense groupings in salty water around tropical coastal areas.

Marilé explains how cloud types and aerosols affect the color of the sky.

#### earthobservatory.nasa.gov/eokids

www.nasa.gov

### **Marilé Colón Robles**

Born and raised in Puerto Rico, Marilé is the first member of her family to pursue science as a career. She did not start out with her eyes set on NASA. Growing up, she focused on the arts, and she is still an accomplished musician who plays flute, guitar, piano, and harp. She also loved watching English-language science shows and documentaries. The shows helped her practice her English skills, while teaching her about creatures like sharks and Komodo dragons.

### EO Kids: When you were in school, did you think you were going to be a scientist or an educator?

Marile: If you talked to my mom, she would tell you that I always wanted to be a teacher because I would line up my Barbies and teach them things. But like a scientist, I always wanted to learn about things, too.



## EO Kids: When you talk to your family or friends about work, what do you tell them?

Marile: I remember explaining to my grandma about how aerosols from faraway places like Ethiopia affected clouds and rain in Puerto Rico. She could not believe it. It took a lot to convince her it was true.

#### EO Kids: What is the coolest part of your job?

Marile: I love that I get to encourage and teach students, teachers, scientists, and citizen scientists from around the world to make and use cloud observations. Learning their perspectives and seeing their excitement always inspires me.

> Josh flies on an airplane to launch instruments that measure ocean temperatures. His project is called OMG: Oceans Melting Greenland.

### Josh Willis

Born in Texas, Josh knows how to crack a joke, and how to crack a case too – a science case. He performs comedy as a hobby, and his job and his jokes are centered on understanding the world around us. As a NASA scientist, Josh studies glacial ice loss around Greenland and how sea level is rising around the world.

### EO Kids: When did you first know that you wanted to be a scientist?

Josh: I was always asking questions as a child. I became a scientist because I enjoy figuring things out and trying to understand how the world works.

#### EO Kids: What's the hardest part of your job?

Josh: When I find something out, I have to convince my colleagues that it's true. It can be really frustrating. Even though it's the hardest part, it is fun when you finally succeed.

#### EO Kids: What is the coolest part of your job?

Josh: Every once in a while we learn something new that nobody knew before, and that is really exciting.





#### EO Kids: What do you like to do when you are not studying Earth?

Josh: I love acting, comedy, and making people laugh. I started taking classes a few

years back, and I now perform at least once a month and make films with a friend. One of them is "Climate Elvis," where I play a climate scientist who looks like Elvis Presley and answers questions about climate.

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"The planet is warming and the ice around Greenland is melting. But we found a glacier that suddenly reversed and started growing. This was because the ocean waters around it had started cooling."

– Josh Willis

Lola stands amidst the thick roots of mangrove trees in Africa.

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## EO Kids: What is the most exciting location you've been to for your research?

Lola: It's really hard to pick just one place. I have been to Costa Rica, Gabon, Brazil, Madagascar, and Mozambique. I travel a lot and I get to go to some places that you wouldn't think to visit for fun.

### EO Kids: What obstacles did you have to overcome?

Lola: You have to make it through school, which isn't always easy – especially when you don't see how the things you study relate to what you want to do with your life. At times I had difficulties focusing on my classes. It wasn't until I took a marine ecology class, where I spent most of my day outside, that I discovered that staying inside a lab was not for me. Then I started doing a lot better in school.



## Temilola "Lola" Fatoyinbo

The daughter of a United Nations official, Lola was born in the United States but lived in many countries while growing up. This helped her learn many languages. It also fueled her interest in various landscapes and a love for protecting the environment. Lola is now an ecologist who studies forests, especially mangroves.

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## EO Kids: What has been your best discovery or surprise?

Lola: We found the tallest mangrove forest in the world! I had been making maps using satellite imagery, and some of the results just didn't make sense. We thought the trees were too tall. Then somebody told us that there were really tall trees in Gabon – one of the places where we were studying so I got to visit. When we finally measured the trees in person, they were even bigger than we had measured from space.

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Do you want to be a scientist and work for NASA someday? Get a head start on your studies and practice your skills by gathering data for NASA and the GLOBE Observer citizen science project. Your observations could help scientists like Marilé, Josh, and Lola.

#### What you need:

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- a smart phone or tablet
- the free GLOBE Observer app
- a Wi-Fi connection (to download the app)

### Try it:

- Grow Marilé Search and "I wanted to be download the free a veterinarian, "GLOBE Observer" because I love animals. I was app from the always saving Apple App Store or scraps for the **OB** Google Play. stray dogs in my neighborhood." **2** Follow the directions to Observer Josh create a citizen Choose your protocol: "I wanted to scientist account. **Capture clouds** always be a kid, You will need an clouds with your camera and I still am. email address to like Marilé. I get to learn do this. about the world mosquito habitat as my job. That is the most fun **3** Select a tool: mapper thing you can do.' Clouds, Land Land Cover Monitor land Cover, or Trees. cover changes like Josh. **4** Follow the directions in the Measure tree heights like Lola. app to make and submit an
  - "I wanted to study plant<u>s in</u> places like the Amazon to be able to use them to make new medicines."

Lola

Explore other NASA citizen science projects, by visiting https://science.nasa.gov/citizenscientists

Visit the Observer Website

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observation.