

Welcome to Earth Matters and a topic of storms and hurricanes. Celebrating Earth Science Week, I'm Zeljka Fuchs-Stone.

Our planet and life on our planet exist in a remarkable balance between forces such as gravity and radiation from the sun. Our atmosphere also. One could say that we got really lucky. But why do we then have extreme weather events? Why do we have hurricanes that destroy everything in their path? Why can't we forecast them better?

The biggest reason for why we don't know why a certain storm becomes a hurricane and another one doesn't is because we don't have data. These storms ravage over the oceans before they hit land. But how can we collect measurements over the oceans? Using ships? Planes?

This summer, the summer of 2019, we conducted a big field project over Central America, the Eastern Pacific and the Southwest Caribbean. We flew 127 research hours on board of Gulfstream jet owned by US National Center for Atmospheric Research. We had a radar on board, but the most important instrument that we used are called sondes. Those are little tubes with a parachute that have super sensitive sensors to measure temperature, pressure, winds, humidity as they fall from the 45 000 feet towards the ocean. We dropped 655 sondes and thereby collected the best data set in that part of the world, a data set that will help us improve weather models and climate predictions. A data set that will help save lives.

Celebrating Earth Science Week, this is Zeljka Fuchs-Stone, a physicist from New Mexico Tech.