



## Saguaro Surveys with Mansfeld Middle School

by Rebecca Patterson-Markowitz

On November 16, 11 students from Mansfeld Middle School ventured to Saguaro National Park to conduct saguaro surveys.

The morning was windy and cloudy with a chance of some scattered showers, but it didn't stop these young scientists from getting out into the desert. We were met by park staff who led us up a wash past Hohokam petroglyphs into a part of the park that is off-limits to visitors unless they are conducting research. This was where we split into four groups and hiked to find our saguaro plots.

The students were handed a GPS, and asked to guess what G-P-S might stand for. They offered some guesses that fell short of the mark, so Ranger Mike explained that there were satellites sending information from space to the units in their hands. This didn't seem to impress these young tech-gen students very much. They were, however, very excited and impressed with themselves when they correctly used these devices to navigate through the wash and locate their first saguaro.



**Students and rangers work together to locate and document saguaros within Saguaro National Park.**

It was blustery and there were many squeals of "My hands are freezing cold!" as we walked from plot to plot collecting data. When we looked out at our surroundings we could see the clouds moving quickly against the slopes of the Tucson Mountains. Ranger Ann taught the students how to not disrupt the animal burrows dotting the landscape as we followed the GPS on a winding path past cholla, ocotillo, limber bush and saguaros.



**Youth get hands-on experience with clinometers, GPS units and other scientific survey equipment.**

Each student got a chance to use the different instruments of measurement, from a clinometer to a measuring tape and camera. One of the most surprising facts that the students learned on the trip was that saguaro cacti only grow about an inch tall in the first 8-10 years of their lives. The fifth saguaro in my group's plot was probably around 15 years old, measuring approximately 75 centimeters. Most of the cacti we surveyed that day had no trace of nurse plants, something the surveys asked the students to observe for each saguaro. Saguaros often grown under trees or other cacti as protection from the heat and the vulnerability that comes with being tiny. Ranger Mike disappeared behind a palo verde on what we thought

was a bathroom break, but he soon called everyone over to share his discovery of two golf ball sized saguaro growing under the tree. All the student's camera phones came out of their pockets to document the babies.

The sun came out as we were heading back, so students ate a quick bite outside. Then we mercifully got to escape the cold and go inside the Education Center for a debriefing with Ranger Chip and Ranger Tina. Chip shared how important the students' volunteer contributions were, and how their data would be used in the future. The students were then asked to share a reflection of the experience.



A baby saguaro!

Lilly shared that she felt like she had the opportunity to be a scientist for a day, and how cool that was. Other students echoed this sentiment, and added that using the new equipment was fun and challenging. Kirstin Bittel, their teacher, and I had decided that the students deserved a surprise hot chocolate to acknowledge their endurance and hard work in the cold. We were driving into town and passed by an Egees, to which the students chorused "Egees!" It turns out hot chocolate isn't as popular with this bunch of Tucsonans. So they got an icy treat instead, and headed off to the rest of their afternoon to enjoy the fruits of their perseverance.



This Seeds of Stewardship outing made possible by a grant of funds from:

