Student Citizen Science

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Youth Learning as Citizen Environmental Scientists
Collaboration

• The GLOBE Program works with many partners to engage students in citizen science measurements that contribute to NASA missions SMAP, GPM, and the rest of the A-train.

• SciStarter and Eco-Schools, with grant support from YLACES, collaborate to support student participation in GLOBE’s ENSO Campaign.
• Teachers and youth group leaders are recruited, trained, and equipped to measure at least two variables out of four: soil moisture, surface temperature, precipitation, and clouds
• SMAP needs ground-based measurements for calibration and extended coverage
• GPM needs ground-based measurements for comparison with satellite sampling and sub-pixel data
Soil Moisture Active Passive (SMAP)
The NASA A-Train Including GPM
Surface Soil Moisture Measurements

- 205 Sites
- 4511 measurements
Surface Soil Moisture from Mountain View School
Precipitation Measurements
Schools That Reported 2014 - Present

- 5,354 sites
- 1,139,938 measurements
1 Year’s Rain Data From an Iowa School
Conclusions

• Student Citizen Science can deliver many data
• Geographic distribution of participation scattered
• There is a hard core of major contributors
• Rainfall measurement requires installation of a guage
• Soil moisture determination requires weighing and drying samples
• Every measurement represents considerable effort