Participatory approaches to environmental research and monitoring (community and citizen science) are rapidly expanding in scope and variety and are promoted as 1) vehicles for science education and outreach to the public, and 2) as an avenue for democratizing science, broadening the knowledge sources and voices that inform and conduct science. But only recently have we begun researching the evidence and cases of community and citizen science to examine who learns what from whom, under what circumstances, and why and to whom it matters. Drawing from over 15 years of primarily qualitative research, I will discuss a wide range of participatory approaches along with the evolution of this increasingly touted field. I provide examples from community forestry, environmental justice, environmental education, and informal science education to discuss multiple methods of investigating learning and the many ways that research can be more and less participatory. I will also discuss current efforts to institutionalize participatory approaches to research as a socially just tool that any scientist or researcher can apply to their work when given training, facilitation and institutional and professional support.