

PLANETARY SCIENCE: THE NEED AND RESPONSIBILITY TO ENGAGE THE PUBLIC AND THE CHALLENGE OF EFFECTIVENESS. M. V. Sykes¹, ¹Planetary Science Institute, 1700 E. Fort Lowell, Suite 106, Tucson, Arizona, 85719.

Public interest in solar system exploration is high and positive. It is an area that is very accessible. It links to a spirit of adventure that we consider an important part of the American culture. Consequently, it is a great context for conveying information about science, engineering and even mathematics. People are receptive. Children are also receptive from an early age. Solar system exploration can be a great context for educating them about these same things.

We have a responsibility to convey what we do to the public, because it is very largely a taxpayer funded effort through NASA. They should understand that their investment in what we do is worthwhile. Public interest in what we do makes this a much easier task, but does not diminish the responsibility. One point in support of the value of planetary science is the development of comparative planetology. By learning about other worlds, we learn more about our own. This has been driven by the flood of detailed data returned to the Earth, particularly from Mars.

Despite the advantages planetary science has in facilitating the education of the public, teachers and

children on STEM subjects, one must ask whether efforts to date have been effective, and what effectiveness even means.

Science and math education has been held up as an essential area of American education for decades and highlighted in the "America COMPETES Act". Much has been invested. Yet for all the attention paid to STEM education, there are reports of American students falling behind in the essential subjects of math and science, grimly predicting that the future of the US in the global economy is at serious risk.

Do our public outreach and NASA-supported STEM education programs (from mission activities to purely educational programs) help stem the tide? Or is their impact of limited duration and of no lasting value? The answer is arguably the latter, but for reasons associated with the necessarily limited duration of these efforts.

Activity cannot be the goal in and of itself.