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A Successful Model for Professional Development and STEM Student Engagement: The 2017 NASA Eclipse PD Phenomenon

Image Credit: NASA STEM EPDC

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In the months preceding the August Solar Eclipse, the 12 NASA EPDC Education Specialists delivered over 300 educational events across the United States directly reaching over 3,500 educators, 11,000 students and another 9,700 parents, and other community members.

This impact included individuals from at least 45 states, the District of Columbia, Puerto Rico, and the US Virgin Islands.

On Monday, August 21, 2017, millions of people in North America looked up to the sky to see an amazing sight - a total solar eclipse. While many exclaimed and wondered at this phenomenon, many others felt the excitement and motivation that comes with understanding and education.

NASA EPDC made use of the numerous high-quality classroom resources developed by NASA. The EPDC Specialists, experienced and highly-trained STEM educators, then organized and delivered a multitude of rich, focused learning events aligned to scientific and mathematical concepts and instructional approaches to assist teachers to, in turn, reach their students. The 300 events were delivered in the Spring and Summer in forms such as 1 hr. educational webinars, off-site ½ day hands-on workshops, and on-center multi-day intensive learning experiences. By Eclipse day, over 24,000 educators, students and community members had participated in a culturally relevant educational learning experience regarding content standards in earth and space science – featuring the phenomenon of the Solar Eclipse.

The STEM workforce pipeline does not originate in colleges and universities. Rather, it begins with teachers who work with students early in their K-12 experiences as they develop their academic interests and skills.

If a middle and high school teacher is motivated and informed, they have the potential to lead up to 1,000 students per year to confidently broaden their career considerations to include STEM fields of study.

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Photograph by Linda KC Reynolds

Dr. Barbie Buckner, NASA Armstrong education specialist, holds up a pair of inexpensive glasses that can be used to view the total eclipse of the sun which occurred on August 21, 2017.

Buckner, one of 12 NASA STEM EPDC Specialists, holds workshops to encourage educators to inspire students in STEM. Classes are free and open to all formal and informal educators.

	# of Events
Online EPD Webinar	61
Online Webshop	0
On-Site	120
Off-Site	120
TOTAL	301

Over three hundred events were held. On-Site signified that events were held at a NASA Center, off-site signifies that an event was held off-site, such as at a school, university, or community center. Online webinars are 1 hour events held via Adobe Connect, free and online, but in real-time. Such online webinars are hosted by NASA STEM EPDC specialists and held at a scheduled time convenient to educators across many timezones.

Registered Participants at NASA STEM EPDC Eclipse Events

	Direct Interactions	Indirect Interactions	Unique Participants
Elementary	1,105	-	800
Middle	1,280	-	994
High	995	-	801
Pre-Service	58	-	38
Informal	110	-	66
Teacher Ed	16	-	-
ES Students	5,006	-	4,117
MS Students	3,871	-	3,862
HS Students	1,865	-	1,795
UG	350	-	
GR	5	-	
DR	5	-	
Admin	230	-	
Parents	6,055	-	
Public	3,096	15	
Other	311	-	
Totals	24,358	15	12,473

There may not be a solar eclipse every day, but the technological innovations and unique educational resources offered by NASA serve to motivate and inform educators and students every day!

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For more information about NASA EPDC visit txstate-epdc.net.

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