Stop 1. Chihuahuan Desert Nature Park

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Education and Outreach Components:

- Education
 - K-12 students and teachers; general public
 - Undergraduates & graduate students
- Outreach to land managers & scientists
- Media communications
- Technology development and transfer
- Data and information accessibility

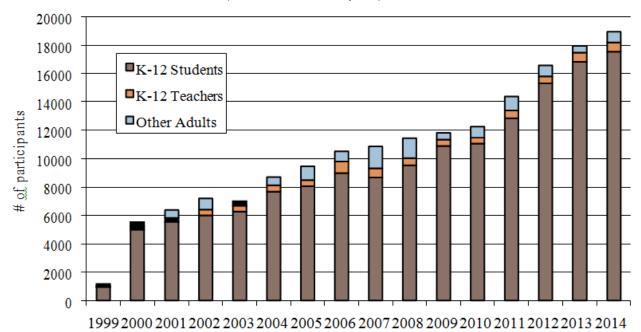


Common Features

Tight connection to LTER science
Inquiry-based and hands-on
Alignment with education standards (NM, TX, NGSS, CCSS)
Leveraged by outside grants (\$7 for every \$1 of LTER funds)

Impact:

1. 151,299 K-12 student contacts (>49,000 in last three years)

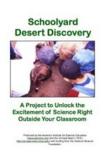


- 2. Increases in content knowledge
- 3. Gains in understanding of scientific practices
- 4. Decreases in stereotypes about what scientists look like and what scientists do

K-12 Education and Outreach

Schoolyard Science Studies





<u>Last 3 years</u>: Kits distributed throughout NM and El Paso, TX region

Class/Schoolyard Programs



<u>Last 3 years</u>: 1,650 one-hour programs for 40,193 students (~24 students/program)

Field Trips



<u>Last 3 years</u>: 93 full-day trips for 5,213 students (~56 students/trip)

Teacher Workshops



<u>Last 3 years</u>: 11 workshops (1-10 days) for 214 teachers (~19 teachers/workshop)

Family Education Events



<u>Last 3 years</u>: 18 events for 1,249 participants (~69 people/event)

Desert Data Jam



<u>Last 3 years</u>: 109 projects in final competitions (198 students)

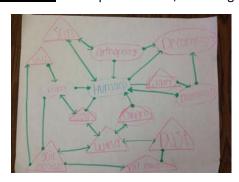
Graduate Student Involvement in K-12 Education

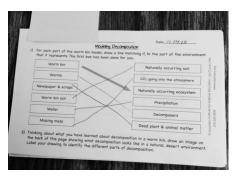
Update tomorrow from Owen McKenna

K-12 Education and Outreach

Focus for next three years:

- 1. Continue existing programs
 - At least 1,500 classroom/school programs and 75 field trips
 - At least 3 teacher workshops
 - Host Desert Data Jam in April 2016, 2017, 2018
 - At least 12 family-friendly public programs
 - New graduate student collaboration options
- 2. Refine, expand, develop and implement new evaluation tools
 - Objective: Increases in content knowledge
 <u>Current tools</u>: Conceptual models; matching "games;" pre/post multiple choice





- Objective: Gains in understanding of scientific practices
 <u>Current tools</u>: Teacher evaluations, teacher focus groups
- Objective: Decreases in stereotypes about what scientists look like and what scientists do <u>Current tool</u>: Describe a Scientist Assessment
- 3. Strengthen existing partnerships and form new collaborations with other LTERs
 - Active participation in Education & Outreach Committee
 - Data Jam collaboration (BES, CAP, FCE, HJA, LUQ)
 - Data Literacy working group
- 4. Disseminate information on successful models
 - Bestelmeyer, SV; Elser MM; Spellman KV; Sparrow EB; Haan-Amato SS; Keener A. 2015. Collaboration, interdisciplinary thinking, and communication: new approaches to K-12 ecology education. *Frontiers in Ecology and the Environment* 13(1): 37-43.