

# Sedimentation Control along the Diez Lagos Irrigation Drainage Canal at Sunland Park, NM

## RESREACH TEAM MEMBERS

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## STUDY SITE

Sunland Park Urban Test Bed



## RESEARCH QUESTION

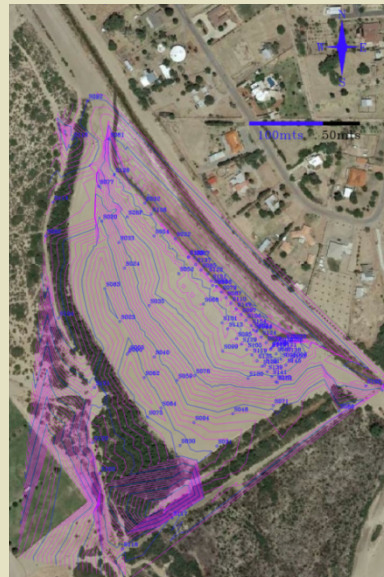
What is the cause of soil erosion in riparian areas of the arid southwest, can it be quantified, and how can it be controlled using native vegetation and natural systems?

## OBJECTIVES

- Conduct a land Survey of the Sunland Park Urban Test Bed Site to determine the existing land topography and GPS Coordinates.
- Install a grid of wood stakes to monitor the amount of soil being eroded or accumulating around the stakes and vegetation.
- Collect soil sample to determine density and size distribution of particles.
- Monitor wind speed and direction, precipitation and other meteorological parameters



1 m stakes with 2 cm tallies are placed in the ground at the field site



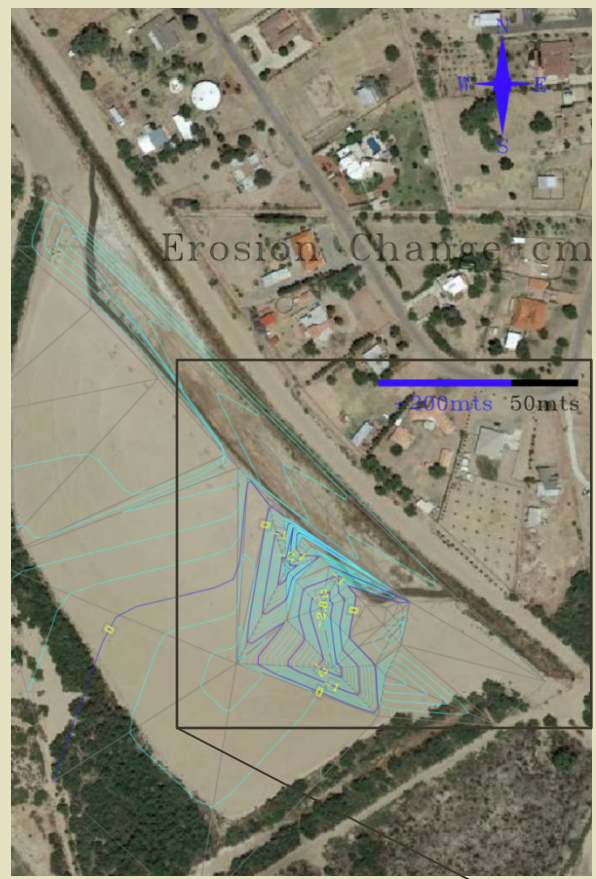
Map shows blue topography lines in meter increments and stake locations



Collecting GPS and elevation data at the field site

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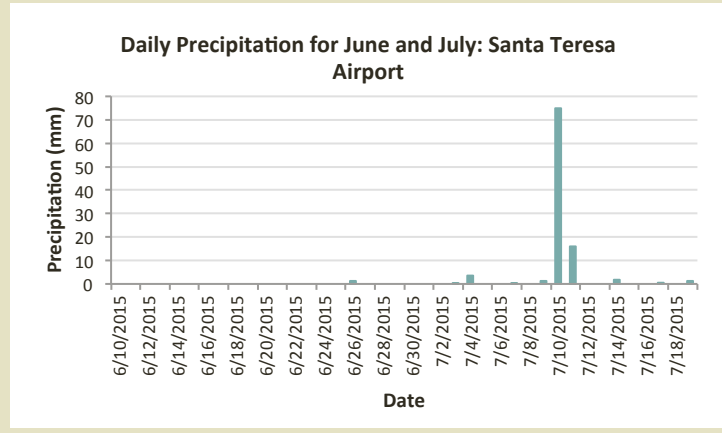
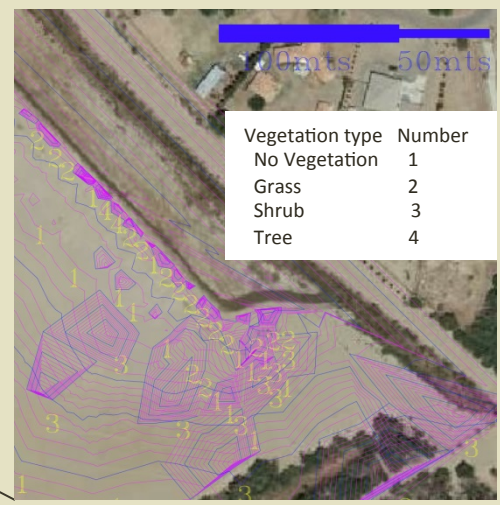
## MAJOR OUTCOMES



Left: Change in soil height in centimeters one month after stake placement.  
 Right: vegetation type around stakes

## CONCLUSIONS

- The majority of erosion occurred along the southern end near the channel and caused by surface runoff that had drained throughout the site to the lowest elevation towards the channel.
- Sieve analysis of 26 samples from the surface layer throughout the site showed a relatively uniform sediment size distribution composed of fine sand.
- Native grass vegetation along the channel provided increased soil stability and sediment retention.
- Monitoring erosion for an extended time period will be more representative of seasonal climate changes and erosional processes.



High precipitation for the area occurred on July 10<sup>th</sup> and 11<sup>th</sup> during the study.