



# Asombro Insights



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new web site:  
[www.asombro.org](http://www.asombro.org)

*Asombro Insights is published quarterly by the Asombro Institute for Science Education, a nonprofit organization dedicated to increasing scientific literacy by fostering an understanding of the Chihuahuan Desert. Please direct all inquiries to:*

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## Asombro Institute Wins Award

On May 20, the Asombro Institute for Science Education was recognized by the Las Cruces Public School Board with the **Excellence in Student Achievement Award**. This award is given by the New Mexico School Boards Association in recognition of individuals or groups who have played an important role in improving student achievement at the local district level.

Las Cruces Public School Board member Gene Gant nominated the organization for the award. The Asombro Institute was chosen, in part, because:

- The organization brings innovative, hands-on science programs to more than 12,000 K-12 students and 1,400 teachers annually.
- The organization does not teach students what to think but rather focuses on teaching them how to think.
- The organization's success in obtaining project grants and gathering support from the community means that program costs are kept low; only 7% of the organization's revenue comes from program fees.

Mr. Gant said, "It is with a great deal of pleasure that the Las Cruces Public School Board of Education awards to the Asombro Institute for Science Education the New Mexico School Boards Association 2008 Excellence for Student Achievement Award. We further recognize the unselfish dedication of three employees of the Institute: Executive Director,

Dr. Stephanie Bestelmeyer; Program Coordinator, Ms. Rink Somerday; and Site Coordinator, Mr. Paul Harper. These three are the leaders of all the volunteers who provide to our students, and adults, the outstanding scientific programs that have broadened their knowledge and helped to teach so many students to "think"."



*LCPS Board President Dr. Bonnie Votaw (left) presents the Excellence in Student Achievement Award to the Asombro Institute's Director Stephanie Bestelmeyer (center) and Program Coordinator Rink Somerday (right). Photo by Mike Cook.*

Stephanie Bestelmeyer, Executive Director of the Asombro Institute said, "It is an honor to receive this award and to work with the Las Cruces Public Schools and other districts each year to increase students' understanding of science. We are excited about the opportunities this award will bring to benefit students in our region."

The organization also received the Outstanding Service to Environmental Education at a Local Level Award from the North American Association of Environmental Education in October 2005.

# Notes from the Director

## Community Members and Groups Sponsor Hands-On Science

By Stephanie Bestelmeyer, Ph.D.

In the last issue of the newsletter, we sent an appeal to members to make donations to sponsor classroom programs by Asombro Institute staff members. The response has been overwhelming! So far, you have helped us fund 51 programs, which translates to more than 1,200 students who will receive the Asombro Institute's award-winning, hands-on classroom science programs.

Donations have come from individuals as well as groups

throughout our community. For example, the Native Plant Society of New Mexico is sponsoring 15 programs. Most recently, VFW Post 6917 donated \$960 to bring hands-on science to 600 students.

Most of these programs will take place in the 2008/09 school year, which begins in August. This will be an ongoing program, which means there is still plenty of time to make a donation and become part of the excitement. A donation of \$120 brings three, hour-long presentations to approximately 90 students (3 classes) at one school. Please call the office for details



VFW Post 6917's Commander Molina presents a check for \$960. These funds will bring classroom science programs to approximately 600 students during the 2008/09 school year.

(575-524-3334) or send your donation today. Thank you for your continuing support!

## Workshop Brings Advanced Ecology Research to Teachers

While the summer should be a relatively calm time at the Asombro Institute for Science Education, this certainly was not the case this year. From June 30 - July 12, Asombro Institute staff hosted 11 high school science teachers and 1 middle school science teacher in the first Ecoplexity Project workshop.

The purpose of the workshop was to immerse teachers in challenging, real-world ecological research to help them gain motivation and skills to implement field ecology research



Teachers Bo Gabitzsch, Michael Gutierrez, and Julie Gutierrez practice collecting data on vegetation cover in a black grama grassland.

with their own classes. The National Science Foundation-funded project is also taking place in Arizona, Colorado, Oregon, and Puerto Rico.

During the very busy two weeks, teachers participated in collaborative field method training, investigated ecological data from all biomes involved in the project, and completed their own research projects. They used tools like qualitative conceptual modeling and the Ecoplexity project website ([www.ecoplexity.org](http://www.ecoplexity.org)) throughout the workshop.

During the second week of the workshop, teachers focused on their own research projects. All projects centered on the theme of desertification, the large-scale expansion of woody plants (in our area, primarily honey mesquite) into

perennial grasslands. Teachers' projects examined potential causes and consequences of desertification on topics as diverse as soil nitrogen levels, nematode density, and arthropod diversity. Teachers presented their research to the group during a poster session on the final day of the workshop.

Asombro Institute staff members are extremely grateful to the scientists from the USDA-ARS Jornada Experimental Range and New Mexico State University who generously gave their time to assist teachers during the workshop:

Andrea Campanella, Ericha Courtright, Kris Havstad, Valerie LaPlante, Deb Peters, David Richman, Justin Van Zee, and Walt Whitford.



Teacher Janet Shearin presents a poster on her research on soil pH to other workshop participants.

### Workshop Participants

Lorraine Bridges - Mayfield High School  
Bo Gabitzsch - Mayfield High School  
Julie Gutierrez - Mayfield High School  
Michael Gutierrez - Oñate High School  
Libby Hamilton - Gadsden High School  
Michele Hice - Las Cruces High School  
Gloria Holzhausen - Gadsden High School  
Melinda Hopping - Mayfield High School  
Melly Locke - Sierra Middle School  
John Palmer - Gadsden High School  
Beth Rewalt - Mayfield High School  
Janet Shearin - Las Cruces High School

# The Value of Long-Term Data

**By Rink Somerday**  
Program Coordinator, Asombro  
Institute for Science Education

In today's world, we consider waiting for a potato to bake in the oven to take too long. We pop it into the microwave and have it done in a few minutes. Checks now clear in hours instead of days. We look for short-term contracts at the gym and on our cell phone. We are used to faster everything. But is there a place for information that has been gathered over decades and not just months or days?

Temperature and precipitation data collected over a short period of time (short-term data) may give only a small glimpse of trends affecting an ecosystem. Long-term data give a more accurate view of these trends. For example, in southern New Mexico, a year with only 9 inches of precipitation (rain, snow, sleet, or hail) may seem like an extremely dry year when examined over a two-year or even 10-year time frame. However, when annual precipitation averages from more than 50 years are examined (Figure 1), the year with only 9 inches may now appear close to average.

In 2005, the rain total near the Nature Park was 4.38 inches by June 30 and 9.92 inches at the end of the year. That is fairly

similar to 2007, when there were 3.77 inches by June 30 and 9.30 inches by year's end. This year, rain totals near the Nature Park were 0.45 inches at the end of June. Does this make it a "dry" year? By comparing to 2005 and 2007, it does (Figure 2).

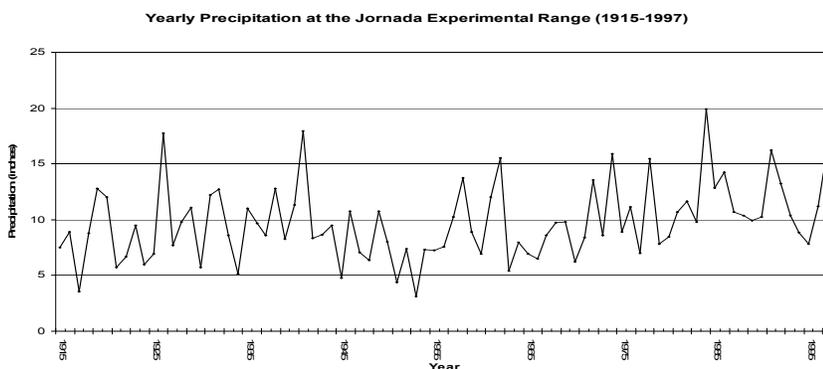


Figure 1. Precipitation data collected over the past 90 years allows scientists to put data collected over shorter periods into perspective.

Go back to 1930 to see another dry spring, with 0.66 inches by June 30. At year's end, there was an accumulation of 6.32 inches. 1930 would be considered a dry year by an average standard of 9 inches. However, this one year of below average precipitation did not mark the beginning of a prolonged drought. The total precipitation in 1931 was 12.59 inches! (Note: these amounts are calculated from the same rain gauge.)

By looking at decades of data, one can see the more extreme dry periods, such as the drought of the early 1950's and

the wetter years of the early 1980's (Figure 1).

In an exciting project started in 2004, long-term data is being collected at more than 50 sites in the U.S., including sites associated with the Long Term Ecological Research program, US Department of Agriculture's Agricultural Research Service, and the USDA Forest Service. More than 1,000 data sets are being collated in this EcoTrends Project that is being coordinated here in Las Cruces.

The objective of the EcoTrends Project is to condense complicated sets of data into annually, monthly, or seasonally derived values which can be used by researchers and students around the world. The data is set for publication in book form and will be available soon on the EcoTrends website ([www.ecotrends.info](http://www.ecotrends.info)).

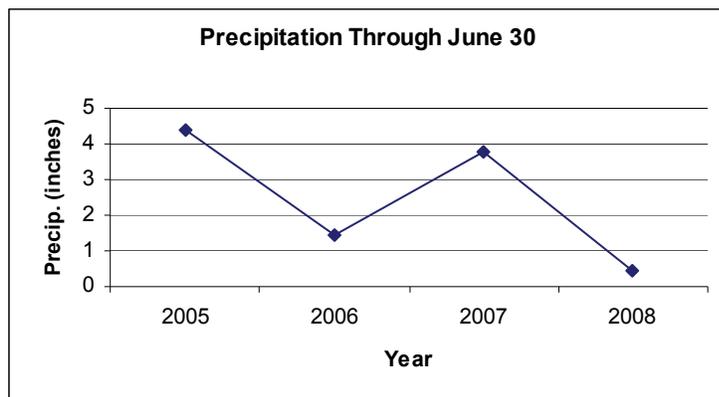


Figure 2. Precipitation totals through June 30 for a rain gauge near the Chihuahuan Desert Nature Park.

## Site Development Corner

**By Paul Harper**

*Site Coordinator, Asombro Institute for Science Education*

It's summertime, but this season will soon be coming to a close. So go for a hike and enjoy our desert which offers something new for you to see during every season and where you might encounter a rare cactus bloom, a tasty honey mesquite snack, or baby quail around the next creosote bush. In addition to what nature offers you, there are also always new improvements to the Chihuahuan Desert Nature Park meant to make your experience with nature more fulfilling and enjoyable.

A very large thank you goes out to the Jornada Experimental Range crew for their assistance on many projects at the park. You can always tell when monsoon season has hit at the park by the rough road conditions. It is especially in times like these that we are thankful for having the expertise and dedication of the Jornada crew to keep our roads passable for all makes and models of cars.

The Jornada crew has also been helping us to secure our western boundary. Establishing park hours (Tuesday - Saturday, 7AM - 5PM) has reduced vandalism greatly, yet there are still some trespassers cutting fences and locks. Those that do not break or cut our fence lines have been driving around current fencing, which destroys plants and creates new roads. Much of the success in securing the park is due to the



*Visitors will soon be able to enjoy the views from the amphitheater while resting under a large shade structure, which will be installed in August.*

Jornada crew who has been instrumental in helping us keep fences, locks and gates in working order.

If you're looking for a new adventure, a beautiful new hiking trail is being completed along one of the park's arroyos. Justin Van Zee has been hard at work mapping the new trail, which begins off the main entrance road. There has been a small parking lot added for you to leave your vehicle and start your hike down into the arroyo. Here you can investigate gorgeous erosion patterns as well as view the plants and animals that desire the slightly wetter environment of the local arroyo systems. The trail will later lead you back out of the arroyo to meet up with our main Desert Discovery Trail. The trail will be open this fall.

You want more exciting news? Large shade structures over our 150-seat amphitheater shade are ready for installation! As we all know, it can get pretty hot out in the desert sun. Three large cantilever shade structures will soon be installed over the back of the amphitheater, creating much needed shade for visitors. This cantilever system was chosen because of its minimalistic design that leaves no poles between the amphitheater seats and the speaker. It also allows an unobstructed view to the north.

Come out and enjoy the new additions and countless green hues the desert has to offer after the monsoon season.

## Land Officially Transferred to Nature Park

In late May, the long-awaited transfer of the 960-acre Chihuahuan Desert Nature Park site became a reality. The Jornada Experimental Range Transfer Act was included in the Farm Bill that was signed into law.

This provision was introduced by Senator Domenici and permanently allots the land from the U.S. Department of Agriculture's Agricultural Research Service (USDA-ARS) to the Chihuahuan Desert Nature Park, a transfer that has had the support of the USDA-ARS for several years. Senator Domenici said, "The park already offers many good programs and this land will allow it to expand those educational and research activities."

In 1998, the Chihuahuan Desert Nature Park was granted a temporary easement on the property which allowed it to conduct educational programs and construct facilities needed for those programs. The permanent transfer of land allows the organization to fundraise on a larger scale; funds will be used to construct additional facilities necessary to expand science education programs for schoolchildren, teachers, and other adults.

The Board of Directors of the Asombro Institute is extremely grateful to Senator Domenici and his staff for their assistance in facilitating this transfer.

## Exclusive Desert Tour September 20

Make your reservations today for an exclusive tour of the desert led by Asombro Institute Board President and local scientist Justin Van Zee. The tour will be held on Saturday September 20 from 9:00 AM - 2:00 PM. Justin may also guide another tour on Sunday September 21.

Back by popular demand, this tour allows participants to see regions of the Joranda Experimental Range that are normally off-limits to the general public. Last year's participants got to see and learn about many fascinating desert creatures, including cyanobacteria, prairie rattlesnakes, orioles, and even a small herd of oryx (antelope imported to the area from Africa).

Tickets for this exclusive tour are \$50 per person and include a catered lunch and transportation from the Chihuahuan Desert Nature Park. Reservations are required. Call the Asombro Institute office today (575-524-3334) or e-mail Program Coordinator Rink Somerday (rink@asombro.org) to make your reservation.

## Calendar of Events



**August 16 - Butterfly Flutterby.** Join us for the 6th annual Butterfly Flutterby. See local butterflies, learn how to attract them to your garden, and join in fun activities for kids of all ages. 9:00 AM to 12:00 PM at the Chihuahuan Desert Nature Park. \$1 admission.

**September 13 - Asombro Institute's booth at the Las Cruces Farmer's Market.** Visit our booth at the popular Farmer's Market in the Downtown Mall in Las Cruces from 8:00 AM - 12:00 PM. There will be a fun science activity for kids. Free.

**September 20 & 21 - Wildlife of the Jornada Basin Tour.** Please see details to the left.

**September 26 - 28 - State Meeting of the Native Plant Society of New Mexico.** The Las Cruces Chapter is hosting this annual event, which includes many interesting talks and field trips. Please visit <http://npsnm.unm.edu/meetings.html> for more information.

**October 18 - Early Birding.** Get up early and come to the park for some birding and coffee with ornithologist Brian Locke. Event begins at 6:30 AM at the Chihuahuan Desert Nature Park. Free.

## Education Programs

Here are the programs your donations helped us provide from April - June 2008. We've been busy!

2-Apr	Gadsden High School - hierarchy & classification	3-May	Elephant Butte State Park - critters of the desert
2-Apr	Valley View Elementary - soil	5-May	Cottonwood School (Socorro) - arthropods & weather
2-Apr	Central Elementary - soil	7-May	Highland Elementary - biomes
3-Apr	Sierra Middle School - field trip	8-May	Desert Trail Elementary - field trip
4-Apr	Sierra Middle School - field trip	9-May	Mesquite Elementary - field trip
7-Apr	Conlee Elementary - arthropod identification	10-May	El Paso Water Utilities - desert animals
8-Apr	Cesar Chavez Elementary - field trip	10-May	Farmer's Market - prickly pear cactus
9-Apr	Tombaugh Elementary - field trip	10-May	Critters in Your Garden at Enchanted Gardens
11-Apr	Jornada Elementary - field trip	12-May	Hillrise Elementary - classification
11-Apr	GFWC Progress Club - update on organization	12-May	Alameda Elementary - arthropod identification
12-Apr	Farmer's Market - food web	14-May	North Valley Elementary (Gadsden) - field trip
15-Apr	Chaparral Elementary (Deming) - field trip	16-May	Fairacres Elementary - field trip
16-Apr	MacArthur Elementary - soil	17-May	GPS Scavenger Hunt at the Nature Park
17-Apr	Booker T Washington Elementary - soil	20-May	Nixon Elementary (El Paso) - field trip
18-Apr	Booker T Washington Elementary - field trip	21-May	Nixon Elementary (El Paso) - field trip
18-Apr	Fairacres Elementary - Ag Day	22-May	Desert Trail Elementary (Gadsden) - career day
19-Apr	El Paso Zoo - Earth Day	10-Jun	White Sands Summer Camp - animal adaptations
19-Apr	Star Gaze at the Nature Park	11-Jun	Yucca Council Cub Scouts - animal adaptations
22-Apr	Mayfield High School - hierarchy & classification	14-Jun	Farmer's Market - plant a seed
24-Apr	Alameda Elementary - pitfall traps	14-Jun	El Paso Public Libraries - animal adaptations
25-Apr	Sonoma Elementary - field trip	14-Jun	Nature walk at the Nature Park
26-Apr	NMSU Oasis Club - Earth Day	21-Jun	El Paso Public Libraries - weather
26-Apr	Alamogordo Earth Day Festival	21-Jun	El Paso Public Libraries - bears
28-Apr	Highland Elementary - field trip	25-Jun	Friends of Rock Hound State Park - creepy crawly critters
29-Apr	Desert Trail Elementary - field trip	26-Jun	NAAEE Borderland Conference - partnerships
30-Apr	Fairacres Elementary - arthropod identification	28-Jun	El Paso Public Libraries - bats
30-Apr	Hillrise Elementary - weather	30-Jun	Ecoplexity teacher workshop
2-May	Chaparral Elementary (Gadsden) - field trip		

## Butterfly Flutterby is Coming Soon!

Join us for the 6th annual Butterfly Flutterby on Saturday August 16, from 9:00 AM - noon. This is one of the Asombro Institute's most popular programs for the general public, with something for everyone. Admission is \$1. Asombro Institute members at the Gypsum level and above will receive free tickets in the mail in early August.

At more than 10 hands-on activity stations, you can learn how to identify the most common butterflies of our region, how to attract butterflies to your garden, and some fascinating butterfly facts. You can plant a seed and watch this butterfly-attracting plant sprout at your house. For kids of all ages, there will be face painting, the popular "Pollination Station" game, and crafts to make and take home.

The Flutterby will also feature a bucket auction, with proceeds supporting the Asombro Institute's award-winning science education programs.

We hope to see you at the Flutterby!

## Merchandise for Sale

Help support the Asombro Institute for Science Education while also picking up unique gifts for yourself or a friend. Please call the Asombro Institute for Science Education office (575-524-3334) to arrange a purchase in the office or via mail. A few of the newer items for sale include:

**Patch (\$3)** - Designed by volunteer Vi Mason, this colorful, 3" patch features a roadrunner, lizard, and cactus.



**Animal Magnets (\$5)** - Local artist Virginia Romero designed these beautiful magnets featuring local wildlife. Each magnet is 1.88 inches square. Additional styles are available, and designs are also available in larger tiles.



## Many Thanks

Anonymous - laptop computer

John & Cathy Boeker - recycled ink cartridges

Jim & Sandy Hazelton - education supplies

Leonard & Maria Jolly - donation toward computer purchase

Jornada Experimental Range - workshop space; logistical and site support

Michael Gilman - used cell phones for recycling

World Wildlife Fund - office space

## Welcome New Board Members

While the staff of the Asombro Institute for Science Education runs the day-to-day operations of the organization, the overall goals and policies are set by a volunteer Board of Directors. In the past few months, two dedicated, talented individuals have joined this group. Please join us in welcoming them!

Courtney Harmon is the Program Coordinator for the NSF Academy for Young Scientists program at New Mexico State University. Her Master of Science degree in Geography from Texas A&M University focused on desert geology of the Chihuahuan Desert, Big Bend National Park. Prior to coming to Las Cruces, she spent five years in Academic Advising at Texas A&M University.



Joel Brown was raised in Victoria, Texas and graduated in 1978 from Victoria High School. He entered the USAF in 1978 and was a Pararescue specialist. He received the Airman's medal from the Air Force for meritorious service under fire. He is the Emergency Room Director at MountainView Regional Medical Center and has a strong background in survival and disaster management and planning.



YES! I want to support the Asombro Institute for Science Education's efforts to increase scientific literacy by fostering an understanding of the Chihuahuan Desert. All donations are welcome; the minimum donation to receive a printed copy of the newsletter is \$10. Please sign me up in the following category:

- Quartz (\$15 +) One-year subscription to the *Asombro Insights*.
- Gypsum (\$50 +) One-year subscription to the *Asombro Insights* and tickets to the Butterfly Flutterby.
- Jasper (\$100 +) Everything above plus invitations to a VIP event at the site.
- Obsidian (\$250 +) Everything above plus invitations to a VIP tour.
- Peridot (\$500 +) Everything above plus a limited-edition print of the Nature Park.
- Turquoise (\$1000 +) Everything above plus a custom cactus garden planter.

I would like \$\_\_\_\_\_ of this donation to go to the Asombro Institute for Science Education endowment fund.

Please make checks payable to *Asombro Institute for Science Education* or charge to:

Visa     MasterCard    Account Number: \_\_\_\_\_  
 Expiration Date: \_\_\_\_\_  
 Signature as it appears on card: \_\_\_\_\_

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 E-MAIL \_\_\_\_\_ Check here if you do NOT want to be listed in Asombro Institute publications \_\_\_\_\_

## New and Renewing Members

Our thanks go to these individuals, families, and organizations who became Asombro Institute for Science Education members or renewed their memberships through the end of June. We are so grateful for your support!

### **Turquoise**

Anonymous (1)  
 Donna and Michael Yargosz

### **Peridot**

VFW Post 6917

### **Obsidian**

Lynn and George Mulholland

### **Jasper**

Scott and Yvette Eschenbrenner  
 Leland H. Gile  
 Michael Gilman  
 Leonard and Maria Jolley  
 Deanise Marta and Michael Allen  
 John and Jill McCauley  
 Jennifer and Angel Montoya  
 Clifford Pelton  
 Susan Sanders  
 Rink Somerday and John Holloway  
 John Sproul  
 Tresco, Inc / Clyde Williamson  
 Carol VandenBerg  
 Susan Vantress  
 Alice and Gene Ward  
 Marthe Wygant

### **Gypsum**

Stanley and Kathryn Bardwell  
 Ellen Castello  
 Enchanted Gardens  
 Tom and Sue Schmutge

### **Quartz**

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 Beverly Denney  
 Vincent and Frances Dovydaitis  
 Judy Forney  
 Sandra Geiger  
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 Mrs. Sally Harper  
 Nigel Holman  
 Larry Ludwig  
 Bill and Pat Munro  
 Rich Richins and Rebecca Creamer  
 Dr. Robert Severance





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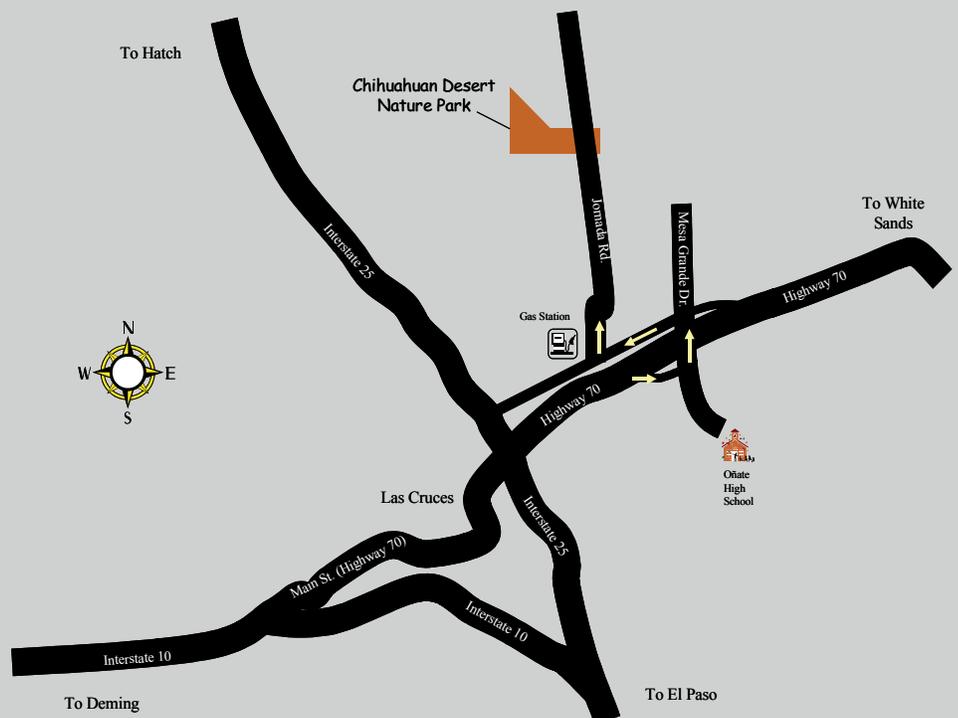
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## Directions to the Chihuahuan Desert Nature Park Open Tuesday - Saturday, 7AM - 5PM

- From I-25 in Las Cruces, head east on Highway 70.
- Take the Mesa Grande Drive exit (at Oñate High School).
- Make a U-turn under the highway to head west. After the U-turn, stay in the right lane.
- Turn right (north) on Jornada Road.
- Follow Jornada Road north for 6.5 miles. After approximately 1.5 miles, the road is unpaved.
- Turn left at the Chihuahuan Desert Nature Park sign.
- Follow the entrance road to the parking area and trailhead.



**ENJOY!**