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Ensuring Sustainable Development of Arid Lands Through Time
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The New Mexico Journal of Science, Vol. 38, Nov. 1999,

Additional papers examine the future of agriculture in two

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Abstract

R. F. Beck and R. P. Gibbens

The Chihuahuan Desert Ecosystem
The Chihuahuan Desert is the largest desert in North America.

Introduction

The Chihuahuan Desert is a term used to describe the desert that covers parts of the Southern United States and Northern Mexico. It is a semi-arid region with a variety of ecosystems, including grasslands, shrublands, and xeric montane habitats. The desert is characterized by a wide range of vegetation, including cacti, succulents, and grasses.

The region is home to a diverse array of wildlife, including birds, mammals, reptiles, and amphibians. The desert is also important for agriculture, with crops such as cotton, sorghum, and wheat being grown in the area.

The Chihuahuan Desert is a valuable resource for both humans and wildlife, and efforts are being made to preserve and protect the region. This includes conservation programs aimed at preserving ecosystems, as well as efforts to reduce the impact of human activities on the desert.

The Chihuahuan Desert is a region of great natural beauty, with stunning landscapes and unique ecosystems. It is a region of great interest to scientists, conservationists, and outdoor enthusiasts alike.

Research articles and reports on regional scale, with one of only a hand少的 numbers of people living in and near the Chihuahuan Desert. This makes it a region of great interest to researchers and conservationists.

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Table 1. Estimated size of the Chihuahuan Desert by different authors using different criteria.

<table>
<thead>
<tr>
<th>Author</th>
<th>Estimated Size of the Chihuahuan Desert (sq. miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schmidt and Stowe (1986)</td>
<td>70,000</td>
</tr>
<tr>
<td>Henderson and Shroeder (1976)</td>
<td>37,800</td>
</tr>
<tr>
<td>Moravec (1977)</td>
<td>47,000</td>
</tr>
<tr>
<td>MacMahon (1988)</td>
<td>43,000</td>
</tr>
<tr>
<td>Megahan et al. (1997)</td>
<td>1,974</td>
</tr>
<tr>
<td>Author</td>
<td>Area (sq. miles)</td>
</tr>
</tbody>
</table>

The Chihuahuan Desert is primarily the largest and is dominated by sagebrush savanna. The size of the desert in New Mexico depends on criteria used to include or exclude other ecosystems. However, all authors agree on one size (Table 1). The difference in estimates of size may be due to how the boundaries are defined. The Chihuahuan Desert is south of the Rocky Mountains and is defined by the elevation of 4,000 ft (1,200 m) above sea level. It is the largest in North America and is the only desert east of the Sierra Nevada that extends into the United States. The Chihuahuan Desert is between 20° and 35° north latitude and between 96° and 104° west longitude.

Location and Size

The Chihuahuan Desert is one of the most important biomes in the world because of its biodiversity. The Chihuahuan Desert is located in the northwestern United States, southeastern Mexico, and southwestern Canada. It is one of the most important biomes in the world because of its biodiversity. The Chihuahuan Desert is one of the most important biomes in the world because of its biodiversity.
The Chihuahuan Desert, DeLorme (1972), is the northeastern corner of the Rio Grande River and from the Pecos River and from the Rio Grande River and its tributaries, the Pecos River and from the Rio Grande River and its tributaries. The northern most part of the desert is clear of the north. Geologically, the desert lies between 1800 m (5,905 feet) to about 4000 m (12,200 feet). The desert is characterized by a high elevation and the surrounding mountain ranges, and the Chihuahuan Desert is known as the Southern Rocky Mountain region. The Chihuahuan Desert is located between the Chihuahua Desert and the Sierra Madre Occidental and the Sierra Madre Oriental. The Chihuahuan Desert is mainly in the Mexican Highlands.
The Chihuahuan Desert ecosystem · R.F. Beck and R.P. Gibbons

New Mexico Journal of Science, Vol. 39, Nov. 1999
Climate

The climate of the Chihuahuan Desert is caused by the occurrence of high desert floors, the cool air, and abundant rainfall. These conditions contribute to the formation and development of the Chihuahuan Desert ecosystem. The Desert is home to a diverse range of flora and fauna, including some of the most unique and endangered species in the world.

Soils

The soils of the Chihuahuan Desert are characterized by their low fertility and low productivity. These soils are composed of sand-sized particles and clay. The desert floor is made up of sandy loam, which is composed of sand, silt, and clay. The soil is typically dark brown, and it is rich in organic matter. The soil is also highly permeable, which allows for easy water penetration. This makes the desert floor a valuable resource for plant growth, and it is often used for agriculture.

The Chihuahuan Desert ecosystem is a rich and diverse ecosystem, with a wide variety of flora and fauna. It is a unique and valuable ecosystem, and it is important to protect it for future generations.
The Chihuahuan Desert, the largest desert in the United States, stretches across a vast expanse of the southwestern United States, encompassing portions of New Mexico, Texas, Arizona, and Mexico. This desert is characterized by extreme climatic conditions, with arid summers and cold winters, making it one of the most hostile environments for plant and animal life. The Chihuahuan Desert is home to a diverse array of flora and fauna, including cacti, succulents, and a variety of reptiles and birds. Despite the harsh conditions, the desert is a testament to the resilience of life, and continues to play an important role in the biodiversity of the region.
The Chihuahuan Desert ecosystem is unique in its own right. It's the home of many plant and animal species that have adapted to the harsh conditions of the desert. The vegetation here is primarily composed of cactus, mesquite, and other xerophytes that have evolved to conserve water and resist the extreme temperatures.

Vegetation

The vegetation in the Chihuahuan Desert is adapted to survive in a region where rainfall is sparse and temperatures can reach extreme highs. The dominant vegetation includes cacti, succulents, and desert shrubs. These plants have thick, waxy leaves or stems that help them retain moisture in the dry environment.

Annual precipitation is low, generally less than 10 inches per year, but it's crucial for the survival of the desert ecosystem. The few inches of rain that do fall are often concentrated in short, intense storms. The desert is home to a variety of wildlife, including squirrels, rabbits, and various species of birds and insects.

The Chihuahuan Desert is a testament to the resilience of life in extreme conditions. Despite the challenges, the ecosystem thrives, providing a unique and fascinating glimpse into the world of desert life.
The Chihuahuan Desert ecosystem, as described by the research of Johnson (1977), assumes a unique role in the region's biodiversity. The ecosystem is characterized by a diverse array of plant and animal species, which have adapted to the harsh conditions of the desert environment. Johnson's study highlights the importance of understanding the ecological processes that support these species. The desert's unique flora and fauna are well adapted to withstand extremes of temperature and precipitation, making the Chihuahuan Desert a vital area for biodiversity conservation.

Johnson's work emphasizes the importance of the desert's ecological balance, which is crucial for maintaining its biodiversity. The desert ecosystem is a complex web of interactions among different species, and any disruption in this balance can have far-reaching consequences. Understanding these interactions is essential for the effective management of the desert ecosystem.

Johnson's research also underscores the importance of preserving the desert's unique ecological processes. The desert's ability to support a diverse array of species is a testament to the resilience of the ecosystem. By preserving the desert's unique flora and fauna, we can safeguard the region's biodiversity for future generations.

Overall, Johnson's study of the Chihuahuan Desert ecosystem provides valuable insights into the region's biodiversity and the ecological processes that support it. His research serves as a reminder of the importance of conserving the desert's unique ecosystems and the need to preserve its biodiversity for the benefit of all.
### Table 2. Plant Communities of the Chihuahuan Desert Region

<table>
<thead>
<tr>
<th>Percent of area</th>
<th>Desert scrub and woodlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>1. Chihuahuan Desert scrub</td>
</tr>
<tr>
<td>40</td>
<td>2. Mixed desert scrub</td>
</tr>
<tr>
<td>25</td>
<td>3. Sandy arroyo scrub</td>
</tr>
<tr>
<td>2</td>
<td>4. Colorado scrub</td>
</tr>
<tr>
<td>2</td>
<td>5. Sotol scrub</td>
</tr>
<tr>
<td>1</td>
<td>6. A. Chihuahuan Desert</td>
</tr>
</tbody>
</table>

Adapted from Heucston and Johnson (1985).
The Chihuahuan Desert ecosystem is a desert grassland ecosystem that supports a diverse range of plant and animal life. The desert is characterized by a dry climate with minimal rainfall, which limits the types of vegetation that can survive. This region is known for its hardy plants and animals that have adapted to the harsh conditions.

The Chihuahuan Desert is home to a variety of grasses, cacti, and scrub vegetation. These plants are well adapted to the arid conditions, with deep roots that allow them to access water from deep underground sources.

One of the most famous animals of the Chihuahuan Desert is the roadrunner. These birds are known for their quick and agile movements, which allow them to escape predators and find food quickly.

The Chihuahuan Desert is also home to a variety of reptiles and amphibians, including the Sonoran Desert Tortoise and the Sonoran Desert Hognose Snake.

Another important aspect of the Chihuahuan Desert ecosystem is the diversity of bird life. The region is home to a variety of birds, including the Elf Owl, Northern Flicker, and the Loggerhead Shrike.

Overall, the Chihuahuan Desert is a fascinating ecosystem that is home to a wide range of plant and animal life. Despite the harsh conditions, this region is a testament to the resilience and adaptability of life in the desert.
The Chihuahuan Desert Ecosystem • A.R. Beck and R.P. Gibbens

Chaparral and Montane Woodlands

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and Buck (1978).

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and Buck (1978).

The Chihuahuan Desert Ecosystem • A.R. Beck and R.P. Gibbens

New Mexico Journal of Science, Vol. 39, No. 1, 1999
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restricted to perennial plants. These intertropical specialists typically flower after short rainy periods, their blooming periods synchronize with the rains of the tropics. The flowers of these species are adapted to the conditions of the tropics, where they must compete for pollinators and resources. The plants of this group are mostly woody, with long-lived seeds that can survive in the soil until conditions are favorable for germination. Some species have epiphytic growth habits, growing on the branches of trees. The fruits of these species are usually fleshy and brightly colored, attracting animals that disperse the seeds. The seeds are dispersed by birds, mammals, and other animals that eat the fruits and excrete the seeds in areas where they can germinate and grow. The distribution of these species is limited to the intertropical regions, where they are found in the wet season. They are not abundant in the dry season, and their populations are limited to areas with reliable water sources.
The Chihuahuan Desert ecosystem is a unique and complex system that plays a critical role in the process of water surpluses and decomposition. In some parts of the Chihuahuan Desert, the interaction between surface energy and water balance results in significant water deficits, leading to surface energy deficits as well. These deficits can be explained by the interaction between surface energy and water. The success of shrubs in the Chihuahuan Desert is due to their ability to support the shrub’s growth and development.

Ecosystem Function and Processes

In the Chihuahuan Desert, shrubs have been observed to thrive in nutrient-poor soils. The desert’s ecosystem is characterized by low nutrient availability, which limits the growth of plants. This results in the development of a unique ecosystem that relies on nutrient cycling and formation of the reserves to support its function. The Chihuahuan Desert ecosystem is a critical component of the overall ecosystem, and its function and processes are important for understanding the dynamics of desert ecosystems.
Desert oases in the American Southwest, United States and Mexico.


References

The Chihuahuan Desert Ecosystem

The Chihuahuan Desert, covering parts of Mexico and the southwestern United States, is one of the largest deserts in the world. It is characterized by extreme temperature fluctuations, with hot summers and cold winters. The desert is home to a wide variety of plant and animal species, many of which are adapted to the harsh conditions of the region. The Chihuahuan Desert is also of great economic importance, providing resources such as water, minerals, and timber, as well as supporting agriculture and tourism.

References:


### Animals

- Voles
- Pocket gophers
- Pocket mice
- Ground squirrels
- Antelope
- Mule deer
- Coyotes
- Camels
- Black-tailed prairie dog
- Coyote loutacions
- Bison
- Bighorn sheep
- Pronghorns
- Sage gophers
- Rabbits
- Snowshoe hares
- Yucca sp.
- Poison oak
- Poison ivy
- English ivy
- Fritillaria cernua

### Plants

- Euphorbia
- Dipsacus
- Sambucus
- Castilleja
- Arctostaphylos
- Antennaria
- Botrychium
- Bryum
- Chamaecyparis
- Convolvulus
- Cirsium
- Dipsacus
- Euphorbia
- Fritillaria
- Helianthus
- Humulus
- Juniper
- Lomatium
- Paronychia
- Populus
- Pseudostegia
- Rhus
- Sambucus
- Solidago
- Thymus
- Trifolium
- Veronica
- Vicia
- Vaccinium
- Yucca
- Zinnia

### Appendix I. List of scientific names for plants and animals mentioned in the text