## **Great Sand Dunes**

National Monument Colorado

National Park Service U.S. Department of the Interior











North America's tallest sand dunes. Colorado's biggest sand box. A geologic wonder. A unique recreational area. Great Sand Dunes National Monument is different things to different people.

Explore the dunes and watch geology in action as the wind blows a plume of sand off a dune crest. From the crest you can look 80 kilometers (50 miles) across the valley to the mountains that were the source of the sand. On the dunes at night you can watch, with a flashlight, creatures that are rarely seen by day.

The Great Sand Dunes nestle against the Sangre de Cristo Mountains in the highmountain San Luis Valley. An unexpected surprise, the dunes are products of the mountains, valley, and climate. They probably began to form as the last Ice Age ended. Streams of glacial meltwater carried boulders, gravel, sand, and silt from the mountains. Boulders and rocks dropped near the mountains' foot; lighter material carried out onto the valley floor. The Rio Grande carried sand and gravel eastward from the San Juan Mountains to the valley floor. As deposits built, the river shifted, leaving enormous sandy deposits exposed to the wind.

The Sangre de Cristos tower 1,200 meters

(4,000 feet) above the valley floor. The range's northern two-thirds forms a barrier to prevailing southwesterly winds. The southern third nearly parallels the wind and directs it to a pocket where the range shifts direction. Here the wind is funneled through three low passes. As it has for 15,000 years, the wind bounces and rolls the ancient river sand toward the mountain barrier where, through these passes, the wind loses energy, leaving the sand behind. Trillions of tons of sand have created a dune field covering over 250 square kilometers (150 square miles). The main dune field of 130 square kilometers (50 square miles), caught in a wind trap, is stable. But the dune surfaces change with each wind.

Medano Creek washes the dune field's leading edge back into the valley where the sand is blown back onto the dunes. Blowing out of the mountain passes "reversing winds" pile the dunes back upon themselves, building them higher. Dunes creep up the back of dunes, piling sand still higher, building North America's tallest dunes.

History Near the Dunes Folsom Man camped near the dunes 10,000 years ago. Other peoples lived in the valley and traversed the mountain passes but left little evidence. The San Luis Valley may have been the Pueblo people's ancestral home, but when Europeans arrived the Utes had been here for generations. Spanish explorers probably came in 1694, but the valley was on the frontier of Spanish settlement until the mid-1800s. U.S. citizen Zebulon Pike—trespassing on the Spanish—wrote of the dunes in 1807. Anglo explorers and, later, settlers passed the dunes after crossing Medano and Mosca passes. By the 1920s the Great Sand Dunes were popular with valley residents and their visitors. Through the residents' efforts Great Sand Dunes National Monument was proclaimed in 1932.

Activities with Rangers Hikes, walks, talks, and campfire programs with rangers are provided from Memorial Day to Labor Day. Ask for a schedule at the visitor center.

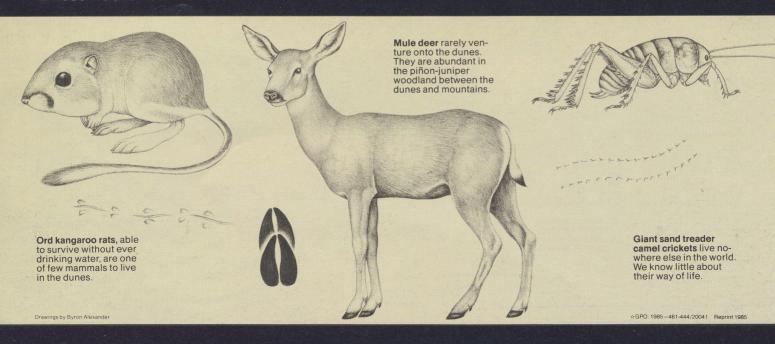
Precautions on the Dunes Lightning often strikes the highest point. If you are on a dune, that's you! Get off dunes when storms approach. Summer sand can burn your feet—take shoes on the dunes. Keep children in sight; it is easy to get lost while running, jumping, and rolling in the dunes. Pets must be kept on a leash and within 30 meters (100 feet) of roadways and parking areas. Deer and other animals may seem tame, but are wild. Don't feed or approach them closely.

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## **Whose Tracks Are These?**



## **Great Sand Dunes**

Great Sand Dunes National Monument, 52 kilometers (32 miles) northeast of Alamosa, Colorado, is reached from U.S. 160 and Colorado 150 from the south, or from Colorado 17 and County Six Mile Lane from the west. Open year round.

For information write: Superintendent, Great Sand Dunes National Monument, Mosca, CO 81146. Telephone 303-378-2312.

## Information and Access

Visitor Center The visitor center is open for information, exhibits, and emergency help from 8 a.m. to 8 p.m. Memorial Day to Labor Day; 8 a.m. to 5 p.m. except Federal holidays in winter.

Picnicking and Camping Fire grates and picnic tables are provided in the cotton-woods near the dunes. Charcoal fires only allowed in picnic area.

The Pinyon Flats Camparound operates April through October. first-come, first-served. Gathering wood is prohibited. You may buy it from a concessioner. Organized groups may reserve group sites. A nearby private campground has campsites and RV hookups. Backcountry camping requires a free permit: Apply at visitor center. Open fires and pets are prohibited in the backcountry.

4-Wheel Drive Use and Tours Medano Primitive Road (4-wheel drive only) goes to the Rio Grande National Forest and Medano Pass. Soft sand usually requires reduced tire pressure. Get air near the camparound. Vehicles must stay on the road. Driving off road or on dunes is prohibited. Vehicles and drivers must be licensed. A concessioner runs 4-wheel drive tours along Medano Primitive Road May through September. Spectacular dune views can be had regardless of age or handicap. Get information from Great Sand Dunes Oasis, Mosca, CO 81146 (303-378-2222), or at Oasis headquarters near the park entrance.

