



WHITE SANDS NATIONAL MONUMENT

Significant Fossil Discoveries Made In Park

Over the last four years, hundreds of fossilized tracks have been found throughout White Sands National Monument, greatly expanding the number of fossil track sites known from the Tularosa Basin in southern New Mexico. These tracks are thought to possibly represent one of the largest concentrations of Cenozoic tracks within the United States and possibly the world.

The tracks appear to be primarily from proboscideans (mammoth or mastodons), artiodactyls (camels), and one or more sets of carnivore tracks (possibly dire wolf). The tracks represent individual animals whose estimated shoulder heights ranged from 1.8m (juvenile) to 3m (adult), and had estimated walking speeds of 6-7 km/hr. Radiocarbon (C14) ages from associated track-bearing soil layers suggest that some of the tracks may date back to 30,000 years before present, long before the arrival of humans to the area.

However, a few recently discovered sets of fossil tracks appear to be associated with archaeological artifacts, suggesting a possible co-existence between humans and the mammoths / mastodons. The majority of the fossil tracks suggest that the ancient animals traveled to and along the shorelines of late Pleistocene Lake Otero and surrounding ancient wetlands.

In an attempt to document the trackways before they disappear, the monument's biologist, David Bustos, recruited two students (Drew Gentry and Christopher Franco), using NPS Geoscientists-in-the-Parks (GIP) and regional NPS Youth In Parks funding to fully document the trackways. Drew was hired through the NPS GIP Program, in partnership with The Geological Society of America's GeoCorps America Program. Christopher's position was funded through Intermountain Region YIP funding. During the past month the students have discovered many previously undocumented tracks, with hundreds of prints.

The tracks are preserved in gypsum layers and are quite fragile. Once exposed from beneath the sand the tracks weather rapidly. The majority of the tracks identified last year are now completely gone and those that are still present are severely eroded. The monument staff are working with Vincent Santucci of the NPS Geologic Resources Division to develop a strategy for conservation and monitoring of the fossil tracks. The scientific significance of the fossil tracks preserved at the monument underscores the need for continuing research into these incredible and rapidly vanishing natural wonders.

Contact Information

Name: David Bustos, Biologist

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