KIRK MOORE/Gannett News Service

Scientist Hugh French (left) and natural historian Mark Demitroff examine a 65,000-year-old sand wedge in the Dorchester section of Maurice River Township, Cumberland County.

Geology offers clues to past

Scientists learn how ice ages shaped South Jersey's landscape

By KIRK MOORE
Gannett News Service

MAURICE RIVER TWP.

The 20-foot bluff looked like sand. It sounded like concrete as scientist Hugh French scraped the surface with a shovel and trowel, exposing material the wind blew in 65,000 years ago.

Cleaving through hardened layers of sand and gravel, the sand wedge measured about 8 feet high, narrowing downward to a jagged point, like a lightning bolt frozen in time.

French explained how this ground had chilled and split open, and the crevice filled with sand carried on fierce winds that came screaming off a continental glacier more than 100 miles to the north.

As he talked, French outlined the wedge with his trowel. He wanted to display it when two busloads of geologists and students came Saturday to see how the ice ages shaped South Jersey's landscape.

"If it had been a wedge with ice, it would have expanded," French pointed out, his trowel skittering along the edge. "But here, you don't see any compression of the enclosing sediment. That means it was sand, rather than water."

That cryptic wedge, exposed at the edge of the Mays Landing Sand and Gravel Co. pit at Dorchester, Cumberland County, is one clue.

Even early Colonial farmhouses and churches are embedded with chunks of ancient ironstone fluted by wind-blown sand. Those stones, like peanut brittle with a coating of rust, are "travelers in time" dating back 2 million to 3 million years, French said.

All those signs suggest today's Pine Barrens forest was once a wind-blown, "polar semidesert," said French, a geomorphologist with 30 years of experience studying such terrain from northern Canada to Tibet and Antarctica.

This is a far different vision from earlier theories that pictured the southern half of ice age New Jersey as subarctic forest, lakes or river deltas.

This new model also explains why ponds and swamps are scattered throughout the Pinelands and why some of those 12,000-year-old watering holes suddenly dried up in the late 20th century, an important question for other scientists as they embark on new government-sponsored research into the region's water resources.

"It's very exciting to have them here, talking about such ground-breaking work," said Dana Archer, past president of the

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