ECU professor speaker at state park

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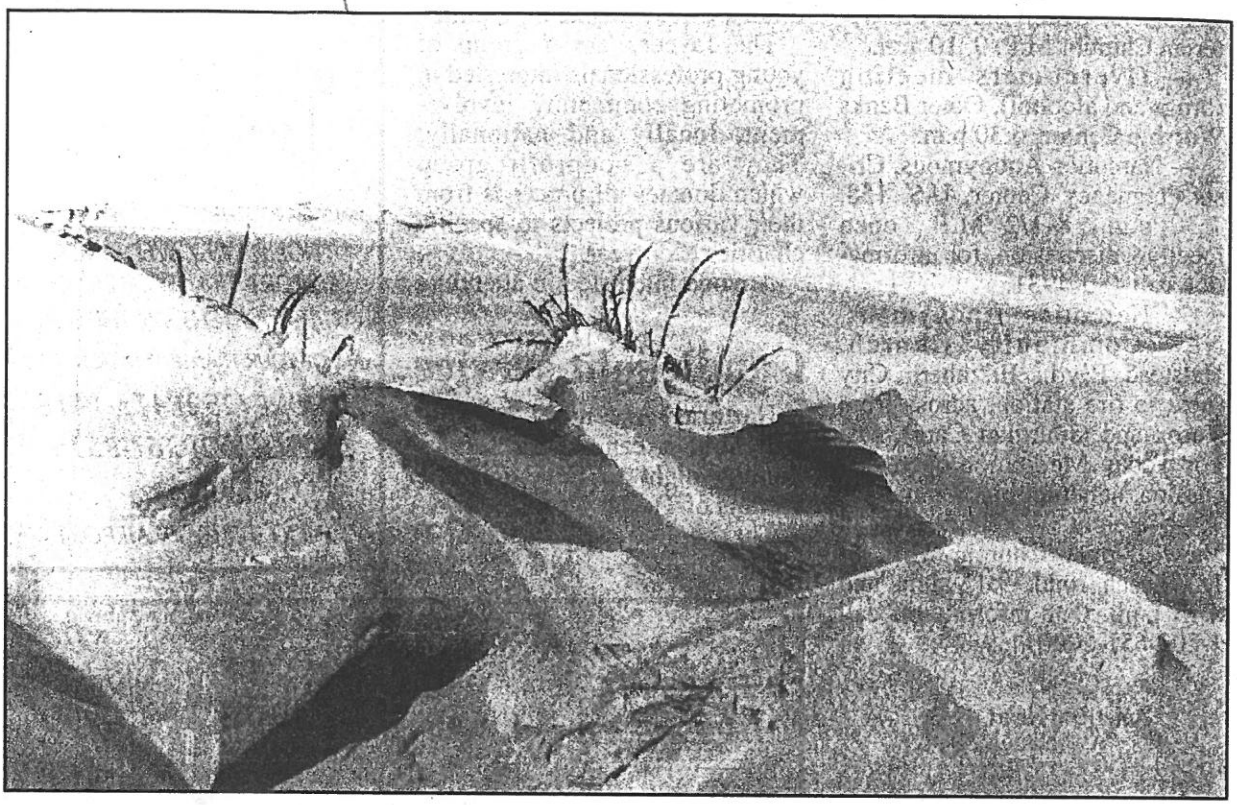

JOCKEY RIDGE STATE PARK, visitor's center, will be the scene of a public meeting on September 20 at which Dr. Richard Spruill, professor of hydrology at ECU, will be speaker. The program begins at 7 p.m. with invitation to the public for this informational session. It is entitled: ''Groundwater Hydrology of NC Coastal Planes: Problems and Solutions.''

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This program is sponsored by the Friends of Jockey's Ridge and the Jockey's Ridge State Park Advisory Committee. Three potential deep well sites have been identified at Jockey's Ridge by Dare County as part of its planned expansion of the reverse osmosis plant located in Kill Devil Hills.

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JOCKEY'S RIDGE

(Continued from Page 1A)

Dr. Spruill specializes in evaluation and development of the groundwater resources of the Atlantic Coastal Plain. He is currently involved in extensive research of safe yields of the Cretaceous Aquifer System of the Central Coastal Plain of North Carolina.

This includes evaluation of the safe yield of aquifers and aquifer systems through detailed aquifer testing, well-head protection planning, and the evaluation of the position and movement of the salt-water/fresh-water interface in coastal environments.

He has worked with municipalities, industries and the regulatory community to provide scientific insight during the planning and development of large-scale groundwater withdrawal projects.

New state and federal regulations protecting groundwater resources, such as the Capacity Use Area program administered by the Division of Water Resources, will be identified. Groundwater users face major problems in the Coastal Plain and in our coastal environments.

Dr. Spruill teaches courses in undergraduate general geology and petrology, and graduate courses in hydrology and computer applications in hydrology. For the past 19 years he has taught in the undergraduate summer geology field program in the four-corners region of the western United States.

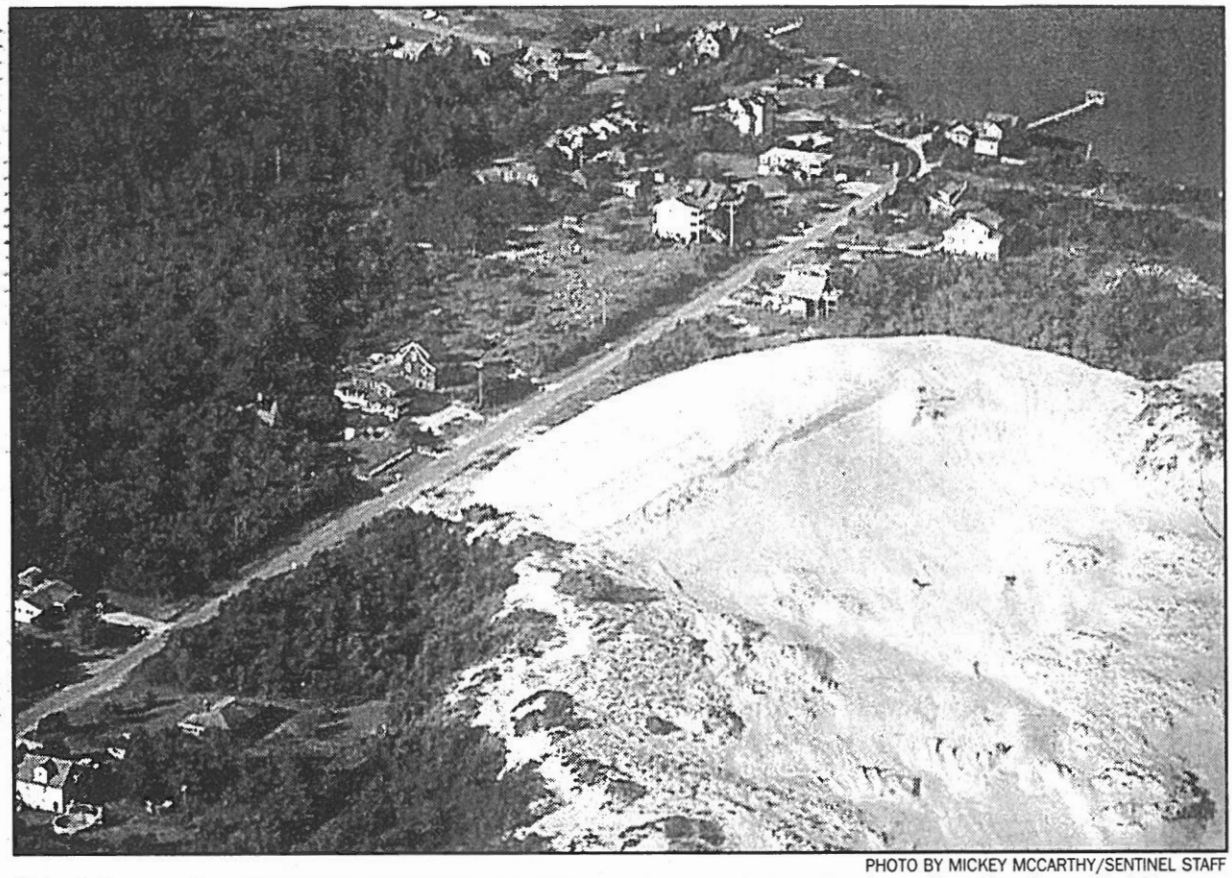

PHOTO BY MICKEY MCCARTHY/SENTINEL STAFF

Scientists once thought Jockeys Ridge was one big pile of sand washed on the shore. Now they know that it was built in three phases and that it was once covered in vegetation, because pieces of bark have been found deep within the dune.

Hydrology professor to discuss proposed wells at Jockeys Ridge

Dr. Richard Spruill, professor of hydrology at East Carolina University, will speak on Thursday, Sept. 20, at the Visitors Center at Jockeys Ridge State Park on "Groundwater Hydrology of N.C. Coastal Plains: Problems and Solutions."

The program will begin at 7 p.m., and the public is invited to attend this informational meeting, which is sponsored by the Friends of Jockeys Ridge and the Jockeys Ridge State Park Advisory Committee, according to Majid Elbers, Friends president.

Three potential deep-well sites have been identified at Jockeys Ridge by Dare County as part of its planned expansion of the reverse osmosis plant located in Kill Devil Hills.

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Outer Banks Sentinel 9.16.01

Series of free lectures will focus on environment, ecology issues

Many topics addressed in the Carolina Environmental Program, through which the University of North Carolina is producing a lecture series, will feature the Outer Banks and be presented here.

The lectures, which are free and open to the public, will be held:

Monday, Sept. 17 — Naturalist William R. Stott Jr. will present a program at 6:30 p.m. at Jockey's Ridge State Park Auditorium

Saturday, Sept. 22 — The grand opening event for the field site, free to the public, will be held at Roanoke Island Festival Park. A 7 p.m. reception in the Grand Mall will precede a performance by UNC-Chapel Hill professor, author and entertainer Bland Simpson in the film theater.

Monday, Sept. 24 — Darlene Kucken, N.C .Department of Environment and Natural Resources, will present a program at 7 p.m. at the N.C. Aquarium on Roanoke Island.

Monday, Oct. 15 — John Wells, director of the UNC-Chapel Hill Institute of Marine Sciences, will speak at 7 p.m. at the N.C. Aquarium on Roanoke Island.

Nov. 12 — Historian David Cecelski, author of "A Historian's Coast" and "The Waterman's Song," will speak at 7 p.m. at Roanoke Island Festival Park.

These events are made possible, in part, with support from the Weyerhaeuser Co. Foundation.

Outer Banks Sentinel

Study says Jockeys Ridge movement appears cyclical

Jockeys Ridge, the tallest sand dune on the Atlantic coast, gradually drifts to the southwest driven by prevailing winds, but that drift may be cyclical in nature and subject to long-term changes in the earth's climate, according to a new study of the dune at Jockeys Ridge State Park.

The study called "Stratigraphy of Back-Barrier Coastal Dunes, Northern North Carolina and Southern Virginia" was compiled from the work of a team of scientists who began their examination of the dune in 1996 funded by a grant from what is now the North Carolina Natural Heritage Trust Fund.

Until recently, little was known about the massive dune except that it constantly changes shape. The study gives insight into the dune's past and perhaps a glimpse into its future.

"The purpose of the project was to determine the dune's history and to determine how it behaved in the past so the park folks could use the information to determine how it might behave in the future," said Karen G. Havholm, a geologist and primary author of the report.

Havholm is a faculty member specializing in earth science education and sedimentology with the University of Wisconsin-Eau Claire's Department of Geology. Havholm — along with secondary author Dorothea Ames, assistant scientist in East Carolina University's geology department, colleagues from other institutions and undergraduate students — studied the dune using ground-penetrating radar, radiocarbon dating, photon-stimulated-luminescence dating and soil analysis.

Havholm believes that Jockeys Ridge will ultimately stabilize again. "I think there's no doubt," she said. "That's the natural progression of dunes in that area."

But, she says, any natural stabilization of the Jockeys Ridge sand dune could be in the distant future. Havholm's report also suggests that dune activity and stability are related to Earth's climate; dunes are built and shaped during drier conditions.

They are stabilized during more humid conditions. Havholm's findings are in the process of being reviewed prior to possible publication in scientific journals. Her research provides a scientific basis for the parks system to use in resource management and planning at Jockeys Ridge.

The study's information will also be used for interpretive and educational programs by park rangers, and it will be incorporated in displays in the park visitors' center displays.

The study found that sediment that eventually became the Jockeys Ridge sand dune was deposited during glacial times by the Roanoke River. And the dune actually developed during at least three separate periods (ca. 750, 1260 and 1830 A.D.) as wind reworked the sediment.

"We used to assume (Jockeys Ridge) was one big pile of sand washed on the shore," said Marshall Ellis, resource management specialist for the N.C. Division of Parks and Recreation. "Really, it was built in three phases. That was a complete surprise."

Ellis said he was also surprised to find that the dune has been completely covered in vegetation twice. According to the study, between the periods of dune formation, the Jockeys Ridge dune stabilized and was covered by vegetation. Some portions were covered by forest vegetation, as evidenced by pieces of bark found deep within the dune.

OUTER BANKS SENTINEL 9.16.01