



Legend of 'Lost City' sparks Thai research

BY JANELLE BROWN

Legend has it that more than 1,500 years ago, a city in northern Thailand called Yonok Nagabandu collapsed and sank into the ground. Now, 15 centuries later, Boise State University researchers are investigating whether the ancient tale has any basis in fact.

Boise State geosciences professor Spencer Wood, along with research professor Lee Liberty and graduate students Eric Rothwell and Sarah Goldstein, traveled to Thailand earlier this year to conduct several geophysical studies, including investigating the site where the city allegedly disappeared. Their studies, conducted in collaboration with the geophysics program at Chiang Mai University and the Cultural Center of the Rahjabat Institute, may eventually shed light on whether the so-called "lost city" actually existed.

"It's just a legend, but it's an intriguing one," says Wood. "There's a lot of precision in the story that has

caused the city's buildings to collapse. Later that night, the big sound occurred again. Then, in the morning, the sound came a third time and the city sank into the earth and became a great pond. The event was witnessed by an old widow who lived on high ground away from town and who did not partake in the feast of the great white fish.

The legend is inscribed in ancient Thai script on palm leaf manuscripts (above). While references to a huge white fish and an old widow are mysterious, the tale's key element – an earthquake – is plausible, Wood says. During a sabbatical in 1995, Wood conducted studies in Thailand that documented an active earthquake fault near the site of the legendary buried city. His findings were published in the 2003 issue of *Annals of Geophysics*.

Wood and his team returned in January 2004 and began new studies that could be used to help deter-

mine if a lost city is buried beneath the flood plain. Using a geophysical instrument called a magnetometer, Liberty first conducted tests at an excavated temple site. His tests confirmed that the instrument could be used to image brick structures, such as those that might have existed at Yonok Nagabandu.

The Boise State team conducted further seismic survey tests, and then traveled to the remote swamp in northern Thailand where the city allegedly sank in 476 A.D. They examined the site to decide what geophysical instru-

ments could be used to image beneath the swamp's sediments. The team also obtained core samples to a depth of 11 feet. The samples are now being radiocarbon-dated to estimate the depth at which material from 1,500 years ago might be buried.



Geosciences professor Spencer Wood, left, and graduate student Eric Rothwell use an auger to bore into swamp sediment at the alleged site of the lost city of Yonok Nagabandu in Thailand.

been handed down from one generation to the next."

According to the legend, a white fish more than 7 waa (42 feet) in length was caught in the river and given to the king, who in turn divided it among the people of the city. After the feast, a very loud noise

PHOTOS COURTESY OF SPENCER WOOD



Tharaporn Bundarnsin, left, a geophysics graduate student at Chiang Mai University in Thailand, joins BSU graduate students Eric Rothwell and Sarah Goldstein on an outing.

The Boise State researchers plan to publish their findings and work with their Thai counterparts to seek grants to conduct a geophysical survey of the swamp. Wood plans to return to Thailand in September, during the height of the monsoon season, to study the feasibility of conducting a magnetometer survey from wooden boats while the swamp is flooded.

Someday their work may lead to definitive answers about the lost city. But each incremental step also is valuable because it increases geophysical understanding of the area and gives researchers and students opportunities to apply their knowledge to real-life problems. Both Goldstein and Rothwell conducted other research while in Thailand, including a three-month study headed by Goldstein at the Pang Khum Experimental Watershed.

“It’s been very helpful to learn to use new geophysical tools and to visit a different culture with a different hydrology system,” says Rothwell (BS, Geology, ’01). “It’s been a fascinating experience.”

GEOSCIENCES DEPARTMENT HOSTS MAJOR MEETINGS

Approximately 1,000 geoscientists and students from throughout the West gathered at the Boise Centre on The Grove in early May for technical presentations, symposiums, field trips and workshops as part of an annual regional meeting of the Geological Society of America (GSA). The conference was hosted by the Department of Geosciences at Boise State University.

APPLIED TECH COLLEGE FORMS HONOR SOCIETY

The Selland College of Applied Technology honored the following seven outstanding students by making them charter members of the Boise State chapter of the National Technical Honor Society: Sean Clay Blankenship, computer service technology; Brian Coleman, drafting; Joseph Dryden, electronics; Jennifer Ellsworth, child care; Julia Free, culinary arts; Dustin Hinkel, broadcasting; and Gerald Starbard, small engines.

STUDENTS RECEIVE BIOMEDICAL RESEARCH DOLLARS

Five Boise State University students and six students from other Idaho universities received \$5,000 National Institutes of Health fellowships to conduct biomedical research at Boise State this summer in collaboration with university faculty in biology, chemistry, electrical engineering and mechanical engineering.

Boise State students who received Biomedical Research Infrastructure Network (BRIN) fellowships are Brady Catherman, Matthew Kai Elliott, Mark Headly, Amber Hibberd and Rohn McCune. Also working with Boise State faculty are Desiree Barton, Kendra Coonse and Burke Hays, Albertson College; Michael Lynn Gurney, BYU-Idaho; Brian Fife, Northwest Nazarene University; and Viola Fucsko, University of Idaho.

CENTER GETS MIGRANT LEADERSHIP INSTITUTE GRANT

Sixty migrant high school sophomore and junior students from Idaho will spend 12 days on the Boise State campus later this summer as part of the Migrant Student Leadership Institute sponsored by the Idaho Department of Education.

Boise State’s Center for Multicultural and Educational Opportunities is the recipient of a grant from the DOE to run the leadership institute. According to Scott Willison, director of the Boise State center, the program is designed to address the unique challenges faced by migrant students, who are confronted by issues of mobility, social isolation and interrupted schooling — all shown to negatively affect their success in school.

The students will stay in the university’s residence halls and participate in a variety of activities that support leadership development, goal-setting and lifelong learning skills.

BOISE STATE TO HOUSE NURSING WORKFORCE CENTER

Anticipating a shortage of nurses in the near future, two nursing organizations have come together to form a new organization and a research center aimed at recruiting, educating and retaining nurses. The Idaho Alliance of Leaders in Nursing (IALN) represents the merger of the Idaho Organization of Nurse Executives and the Idaho Commission on Nursing and Nursing Education.

The IALN is setting up the Idaho Nursing Workforce Center, which will be located within the Department of Nursing at Boise State. The center will collect data for the state of Idaho on the nursing work force and provide expert consultation on nursing work force issues.