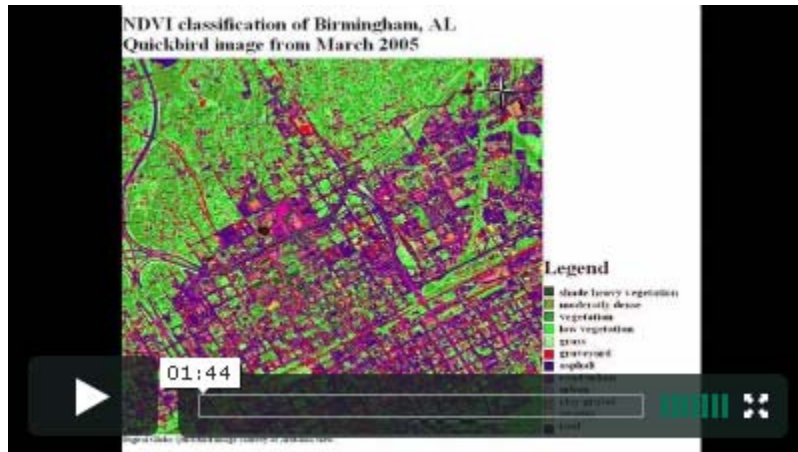


## UAB Students Using Satellites to Study Lyme Disease in State

## UAB Students Using Satellites to Study Lyme Disease in State

Multi-Media



Article Body

**July 27, 2009**

**BIRMINGHAM, Ala. - Six University of Alabama at Birmingham (UAB)** students and two students from other universities are using satellite imagery to identify possible habitats in Alabama for the black-legged tick that carries and transmits Lyme disease.

The students are interns with the NASA-Marshall Space Flight Center **DEVELOP Program**. DEVELOP is a competitive internship in which students work with NASA and partner-agency scientists to carry out innovative research projects.

The eight students are working in UAB's Laboratory for Global Health Observation (LGHO) using data from the NASA Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) sensor on board the Terra satellite, as well as DigitalGlobe QuickBird satellite technology. The technology enables the team to identify the environmental factors in Alabama, specifically the Birmingham metro area, necessary for Lyme disease to occur, said UAB senior Nathan Renneboog, 21, the Marshall DEVELOP team leader. The interns work with an adviser, Senior Research Scientist Jeffrey C. Luvall with the NASA Marshall Space Flight Center.

Along with the satellite remote sensing technology, the students are using geographic information systems (GIS) software to generate representations of Alabama in colorful, digital maps on their computer screens. The maps' color patterns detail conditions on the ground such as soil moisture and vegetation that support habitats for black-legged ticks, also known as deer ticks. Animals like the White-tailed deer and the White-footed mouse often are carriers of the ticks and the disease. Ticks carrying the disease often breed in heavily wooded areas.

"There has been disagreement among health officials about the degree to which Lyme disease exists in Alabama," Renneboog said. By identifying these habitats, the students want to confirm that conditions are present in Alabama for the disease, he said.

On Wednesday, July 29, team members will share their study results with local health officials to help raise public awareness of Lyme disease, Renneboog said. On Aug. 4, Renneboog will present the project results to senior executives at NASA headquarters in Washington, D.C.

In addition to Renneboog, a native of Ghent, Belgium, the DEVELOP interns are UAB graduate students Lili Xie of Sichuan, China; Kathryn Roa of Davao, Philippines; Stephen Firsing III of Princeton, N.J.; Shveta Setia of Chandigarh, India; and Ret. Lt. Col. Marilyn McAllister of Athens. The team also includes Boston University student Emily Capilouto of Birmingham and LSU student Kyle Levy of Zachary, La.

### **What is Lyme Disease?**

Lyme disease is caused by bacteria called *Borrelia burgdorferi*. Ticks can transmit the bacteria to people and animals when they bite skin. Symptoms often include a circular skin rash that appears three to 30 days after the tick bite, fever, chills, fatigue, muscle and joint aches and swollen lymph nodes. If left untreated, the disease can spread to other parts of the body. If diagnosed early, however, Lyme disease can be treated with antibiotics, experts say.

### **About the UAB Laboratory for Global Health Observation**

The UAB Laboratory for Global Health Observation (LGHO) is the first satellite remote sensing laboratory in North America with a primary focus on medical and health-based research. Through the LGHO, UAB researchers use satellite imagery for anthropological and archaeological research and to track the spread of diseases on the earth and identify areas in which health disparities are occurring. The LGHO also offers courses in satellite remote sensing.

### **About the NASA DEVELOP Program**

DEVELOP is an applied sciences training and development program that engages students to extend NASA science research and results to scientific and public communities. NASA and partner science advisers assist students in conducting scientific research projects and demonstrating outcomes to community leaders. Projects use NASA science research results, measurements and predictions and address the Applied Sciences National Applications. Professional-caliber products are delivered that can assist community decision-making, and students gain the capability to contribute immediately to the science community.

### Media Contact

**Media Contact:**  
Gail Short  
(205) 934-8931  
[gshort@uab.edu](mailto:gshort@uab.edu)

Selector  
Lead  
Order  
1

Posted by Andrea Reiber on 7/27/2009 2:45:00 PM

## **Categories**

- News

[CREATIVE & MARKETING UAB REPORTER PERIODICALS WEB COMMUNICATIONS](#)

© 2008 University of Alabama at Birmingham  
Birmingham, Alabama

[Disclaimer](#)

[About this Site](#)

Created by [UAB Web Communications](#).

Postal Address: UAB Media Relations AB 1320, 1530 3rd AVE S BIRMINGHAM, AL 35294-0113 Phone: 205-934-3884