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USGS Maps Show Potential Non-Native Python Habitat Along Three U.S. Coasts

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Listen online to a Federal News Radio interview with invasive snake specialist and USGS scientist Dr. Gordon Rodda.

Burmese pythons—an invasive species in south Florida—could find comfortable climatic conditions in roughly a third of the United States according to new "climate maps" developed by the U.S. Geological Survey (USGS). Although other factors such as type of food available and suitable shelter also play a role, Burmese pythons and other giant constrictor snakes have shown themselves to be highly adaptable to new environments.

The just-released USGS maps can help natural resource agencies manage and possibly control the spread of non-native giant constrictor snakes, such as the Burmese python, now spreading from Everglades National Park in Florida. These "climate match" maps show where climate in the U.S. is similar to places in which Burmese pythons live naturally (from Pakistan to Indonesia).

A look at the maps shows why biologists are concerned.

The maps show where climate alone would not limit these snakes. One map shows areas in the U.S. with current climatic conditions similar to those of the snakes' native ranges. A second map projects these "climate matches" at the end of this century based on global warming models, which significantly expands the potential habitat for these snakes.

Biologists with Everglades National Park confirmed a breeding population of Burmese python in the Florida Everglades in 2003, presumably the result of released pets. Python populations

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White Pine County, Nevada, is a Critical Water Source for large areas of Nevada and Utah

have since been discovered in Big Cypress National Preserve to the north, Miami's water management areas to the northeast, Key Largo to the southeast, and many state parks, municipalities, and public and private lands in the region.

An American alligator and a Burmese python locked in a struggle to prevail in Everglades National Park. This python appears to be losing, but snakes in similar situations have apparently escaped unharmed, and in other situations pythons have eaten alligators. Photo by Lori Oberhofer, National Park Service.

"Wildlife managers are concerned that these snakes, which can grow to over 20 feet long and more than 250 pounds, pose a danger to state- and federally listed threatened and endangered species as well as to humans," said Bob Reed, a USGS wildlife biologist at the Fort Collins Science Center in Colorado, who helped develop the maps. "Several endangered species," he noted, "have already been found in the snakes' stomachs. Pythons could have even more significant environmental and economic consequences if they were to spread from Florida to other states."

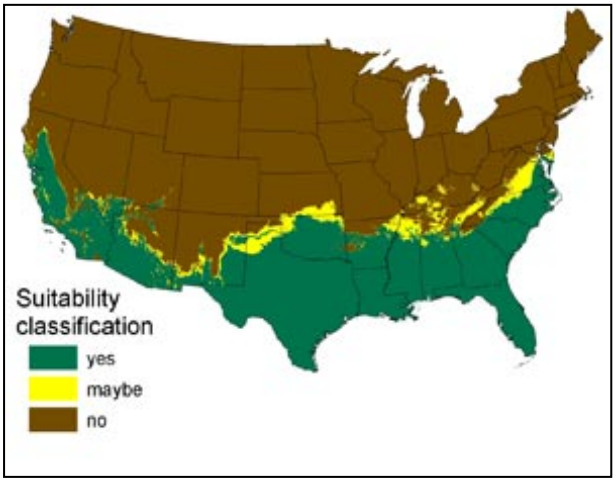
Control of exotic species is often prohibitively expensive once they have become established. Therefore, prevention through screening and risk assessment is of great importance, especially when protecting continental areas from invasive reptiles, said USGS invasive snake expert Gordon Rodda, also of the Fort Collins center. USGS scientists and their partners are seeking to compile the scientific data necessary to guide management efforts to prevent further introductions, control existing populations of snakes, and contain their spread.

Burmese pythons have been found to eat endangered Key Largo woodrats and rare round-tailed muskrats. "This makes it that much more difficult to recover these dwindling populations and restore the Everglades," said park biologist Skip Snow, "and all the more important that pet owners be responsible in their choice of pet and dispose of it properly should they need to. Releasing them into the environment is bad for that pet, bad for native species, and also illegal."

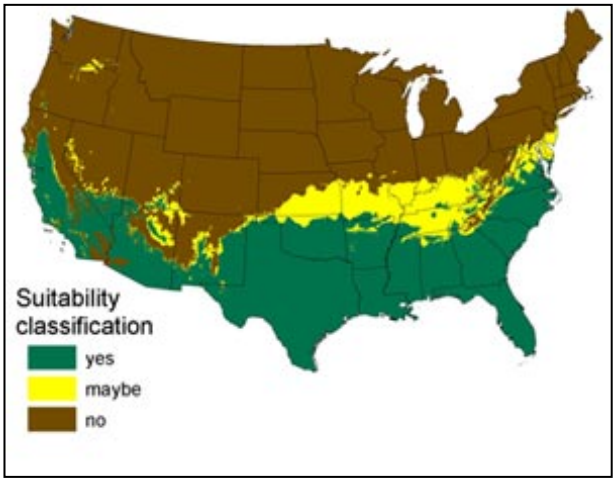
Currently, scientists with the USGS and Everglades National Park are investigating the behavior and biology of these snakes - that is, what are their requirements for survival? This information will help refine predictions of where the snakes might go next and their likelihood of survival. USGS researchers are also conducting a risk assessment for nine species of giant constrictors (including boa constrictors and yellow anacondas) that are prevalent in the pet trade and as such, potential invaders in the United States.

Due to be completed by early 2009, the assessment evaluates the risk of invasion for these species and the potential for social, economic, and environmental impacts. The two agencies are also developing and testing tools to control invasive snake populations and prevent their spread, especially to the Florida Keys where several listed species would be threatened by the presence of pythons or other constrictors.

For more information, visit the Florida Invaders Web site.



Areas of the continental United States with climate matching that of the pythons' native range in Asia. USGS image.



Projected climate in the continental United States in the year 2100, based on global warming models, that matches climate in the pythons' native range in Asia. USGS image.

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