

Google Street View is new arm against alien species

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The camera of a street-view car on the Google street view stand at the world's biggest high-tech fair, the CeBIT in the northern German city of Hanover, on March 3, 2010

Google Street View can be a useful weapon in the costly and time-consuming fight against invasive species, French biologists said on Thursday.

A team at France's French National Agency for Agricultural Research (INRA) used the online tool, which provides 360-degree images of streets filmed by specially-fitted cars, to gauge the spread of a tree-killing insect.

The pine processionary moth—*Thaumetopoea pityocampa* in Latin—is a foliage-munching critter that is native to balmy southern Europe but heading northwards and to higher altitudes as temperatures rise.

Its preferred food is an evergreen called the Austrian pine, which is extensively used in Europe's managed forests and ornamental gardens.

In autumn, larvae of the moth build a nest in which to hunker down for the winter—a highly visible home made from white, shiny silk that hangs at the end of branches like a hairy lightbulb.

Using this as a telltale, the researchers "drove" around a large area with Google Street View to map districts that had been invaded by the moth.

The area of 47,000 square kilometres (18,100 square miles)—bigger than the Netherlands—was divided up into a grid of 183 large-scale "cells", each comprising 16 kms by 16 kms (10 miles by 10 miles).

If a nest was spotted, the "cell" was marked down as infected.

The results from Google Street View were 90 percent as accurate as a test conducted on the ground by a human, who drove around the area in a car.

However, cyber-spotting was less successful in a different test that was carried out on a smaller scale.

A test area of 121 square kilometres (46 sq. miles) was marked out in

smaller "cells", but Google Street View performed less well, partly because of a lack of roads in some places.

Google Street View can be performed "in silico sampling of [species](#) occurrences", the scientists said, in a Latin quip about the use of computers as a substitute for boots-on-the-ground humans.

"Our results show that it has some promise for future use, at least with species easily observed by means of road sampling such as the pine processionary moth."

Earlier this year, a similar pilot study by Spanish biologists mapped cliff sites in northwestern Spain that could be a potential habitat for two species of vulture, proving the usefulness of Google Street View for endangered as well as [invasive species](#).

Both studies appear in the public-access journal *PLoS One*.

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