

TECHNOLOGY

Spotting Thermal Anomalies from Space

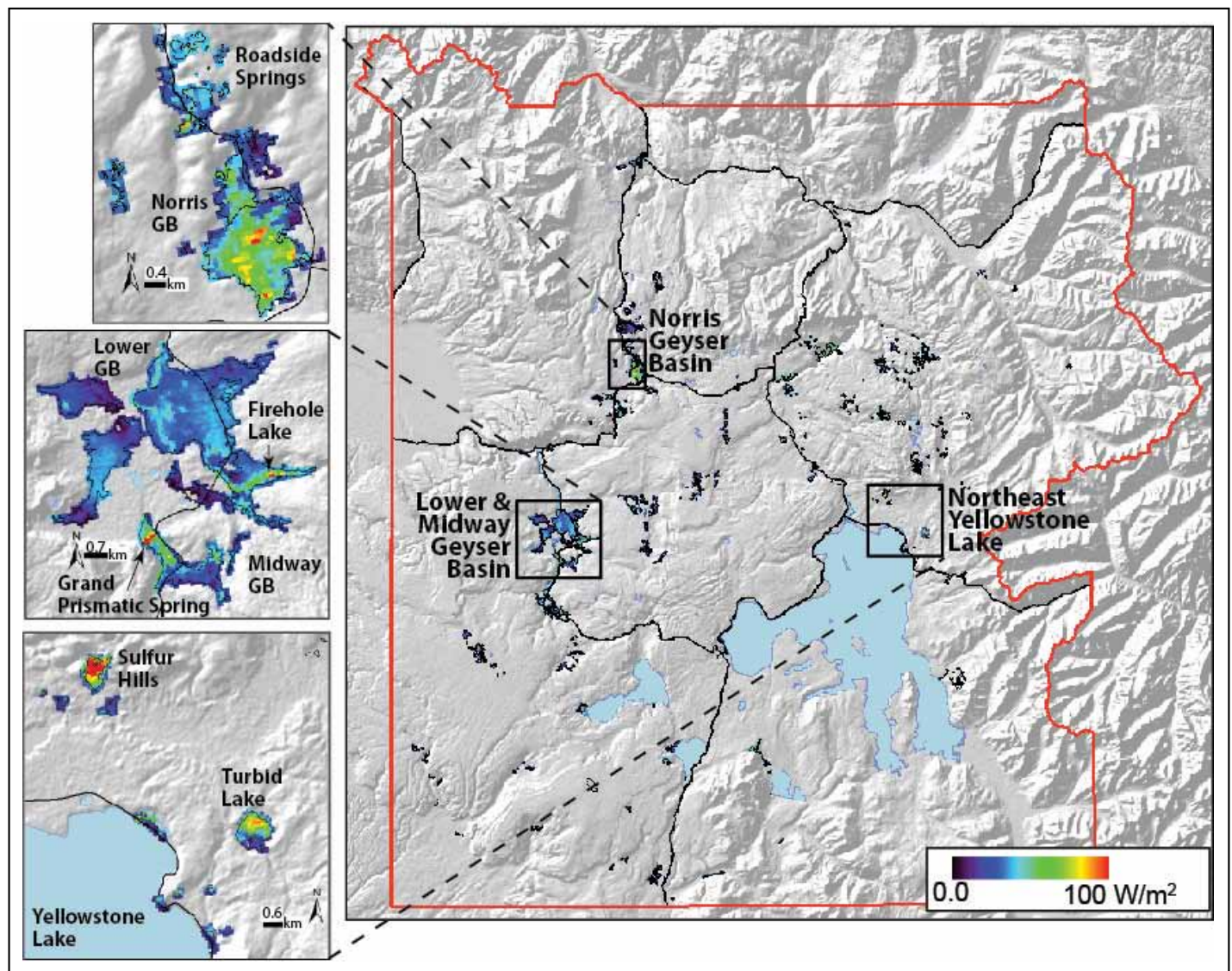
Thermal imaging with satellites has proven highly useful in studying erupting volcanoes, but geothermal areas are more difficult to study from space because their temperatures are much lower and the signal can be masked by solar heating of the ground surface during the daytime.

USGS scientist Greg Vaughan, together with colleagues from the USGS Yellowstone Volcano

Observatory and Yellowstone National Park, recently studied Yellowstone's thermal areas using satellite-based thermal infrared (TIR) remote sensing data from two NASA satellites, as described in a July 12 article on the USGS website.

With the better data Vaughan was able to create maps showing where abnormal amounts of heat are released, called thermal anomalies, and also to estimate surface temperatures and other aspects of heat flow at Yellowstone.

The USGS hopes this work provides a basis for future use of satellites to measure and monitor changes in geothermal areas around the world that are well below magmatic temperatures and have proven difficult to study with satellite-based techniques.



Shaded relief map of Yellowstone with warm (thermal) areas color coded based on how much geothermal heat they are emitting per unit area. MAP COURTESY OF USGS.