

There's No Place Like Home... Relatively Speaking

According to the National Consortium for the Study of Terrorism and Responses to Terrorism (START), the four decades between 1970 and the end of 2011 yielded more than 104,000 worldwide acts of terror. It's no surprise that politically unstable areas in the Middle East, North Africa, South America and South Asia accounted for more than half of all attacks. Nearly 15,000 attacks, however, were documented among the developed countries of Western Europe, while around 2,600 occurred in the United States, as shown in the map at right.

The staggering losses of 911 notwithstanding, Americans generally are insulated from acts of terror in terms of the number of incidents. Although U.S. attacks represent a comparatively small percentage of the global tally, the recent Boston Marathon tragedy reminds us that even one such attack is one too many.



Although terrorist attacks in the United States are closely associated with large urban areas, they're also fairly dispersed. Every state, including Alaska, Hawaii and the territory of Puerto Rico, experienced at least one terrorist attack between 1970 and 2011.

Geospatial Solutions Play a Key Role

Since 911 we've become much more aggressive in adopting geospatial technology at all levels, ranging from the Department of Homeland Security (DHS) to local law enforcement. This has become necessary to address a new challenge. Once upon a time, law enforcement might be fortunate to capture a single video of a crime in progress. But in today's world of smartphones and ubiquitous sensors, the problem often facing crime solvers is how to effectively handle the flood of data being captured.

In Boston, for instance, Intergraph's Video Analyst software helped law enforcement agencies sift through tens of thousands of images and videos quickly and efficiently. The software not only clarifies and enhances images—more importantly, it uses the date and time stamps, as well as Global Positioning System (GPS) coordinates embedded in many of today's videos, to yield a virtual 4-D re-creation of a crime scene.

Additionally, Maine State Police Detective Leonard Bolton, a former member of the state's Joint Terrorism Task Force, reportedly combined cell phone analysis with a geographic information system (GIS) to assist in tracking the suspects' movements in the suburbs west of Boston following the attacks, ultimately locating their vehicle in Watertown.

Geospatial solutions aren't just for solving acts of terror after they happen. Consider NVision Solutions' INSITE VI system, which uses an airborne sensor to "see" up to 80 feet deep into the Earth—a valuable tool for locating tunnels along the U.S.-Mexico border used by drug smugglers and potentially by terrorists. When the federal government challenged the company to locate six known tunnels without any clues, the company didn't—it located nine, including three the government didn't know about!

In this issue of *Earth Imaging Journal*, we present a comprehensive overview of the geospatial technology offered by NASA and DHS, along with solutions from several geospatial firms for homeland security and disaster management applications.

— By Jeff Specht, publisher, *Earth Imaging Journal*

Publisher's Note: Map courtesy of Gary LaFree, Laura Dugan and Erin Miller, *Integrated United States Security Database (IUSSD): Terrorism Data on the United States Homeland, 1970 to 2011*. Final Report to the Resilient Systems Division, Department of Homeland Security (DHS) Science and Technology Directorate, U.S. DHS. College Park, Md., START, 2012.

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