

Book review

GIS for Homeland Security, by Mike Kataoka, 1st ed. 2007.
ESRI Press, ISBN 978-1-15948-155-8. 99 pages.
—Reviewed by **Matthew Basanta**

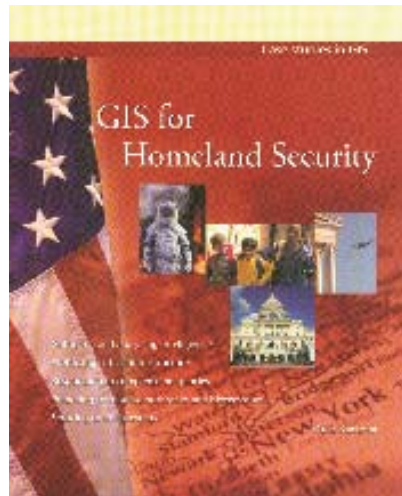
Homeland security. Shortly after the September 11th tragedy, this phrase became a keyword in the American lexicon, punctuating public and private discourse and effort.

The world of technology in particular has been quick to respond. Novel technology ranging from explosive detectors at the airport to facial recognition software at the Super Bowl, has been developed to help make our homeland more secure. The geospatial community contributed a visualization method, the Geographic Information System (GIS), which has become a major tool in decision making.

Mike Kataoka, an editor for ESRI Press, has assembled a quality collection of case studies demonstrating the wide array of uses for GIS in homeland security. All the examples in the book feature applications of ESRI's ArcGIS, which is not surprising given that ESRI is the developer of industry-leading GIS software in the U.S.

The book comprises six chapters, a section on trendsetting people in the field, and a section of terms and acronyms relating to homeland security. Readers do not need any prior knowledge of the subject, as Kataoka makes a good job of explaining technical concepts.

The first chapter profiles uses to collect intelligence. Kataoka gives several examples of systems that can collect and analyze intelligence data and how they can be modified to manage region-specific emergency.



Chapter Two discusses the use of GIS to protect infrastructure. Power facilities, hospitals, and government buildings are a few examples of sites that could be targets of terrorist attacks. Using GIS allows facility managers to preplan for emergencies by modelling the effects of an attack or emergency.

In Chapter Three, Kataoka discusses means to utilize GIS in the response phase of an emergency. As an example he profiles the response to Hurricane Katrina. While many problems were discovered during that tragic disaster, GIS was not one of them. It played a critical role in the response mounted and minimized the deficiencies in other response areas. One of the most visible outcomes of using GIS was the rapid production of maps for use by responders. They were crucial for navigation

around the storm ravaged area, since many street signs were destroyed by the hurricane.

The next two chapters examine less traditional homeland security responses. Disease outbreaks, for instance, can be terrorism related or naturally caused. Authorities will be better able to contain a disease outbreak with GIS maps tracking the outbreak from its initial place of incidence to locations to which disease has been transmitted.

Another non-traditional use of GIS is in planning the security of large events such as the Super Bowl or political conventions. These events, which could easily turn into high-threat events, require special attention by security personnel and cooperation among many agencies. GIS allow for easy transfer of spatial data between all players.

Each chapter ends with a substantial list of references for readers to find more information about the case studies discussed, as well as the GIS methods applicable to different situations covered by homeland security. Other useful reference are the profiles of four pioneers in the GIS community who have contributed significantly to the homeland security effort with their spatial data analysis methods.

Overall, this book is a good primer for those with little to no experience in using GIS in the field of homeland security. The book is written in a very non-technical manner, providing a plethora of information about both GIS and its homeland security specific applications.

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