

Geographic Profiling Finds **SERIAL** **CRIMINALS**

BY JIM WEISS AND
MICKEY DAVIS

On the computer screen, it looks like a splotch of rainbow colors dropped carelessly on a street map, but that splotch is helping detectives at the Pinellas County, FL Sheriff's Office zero in on serial criminals.

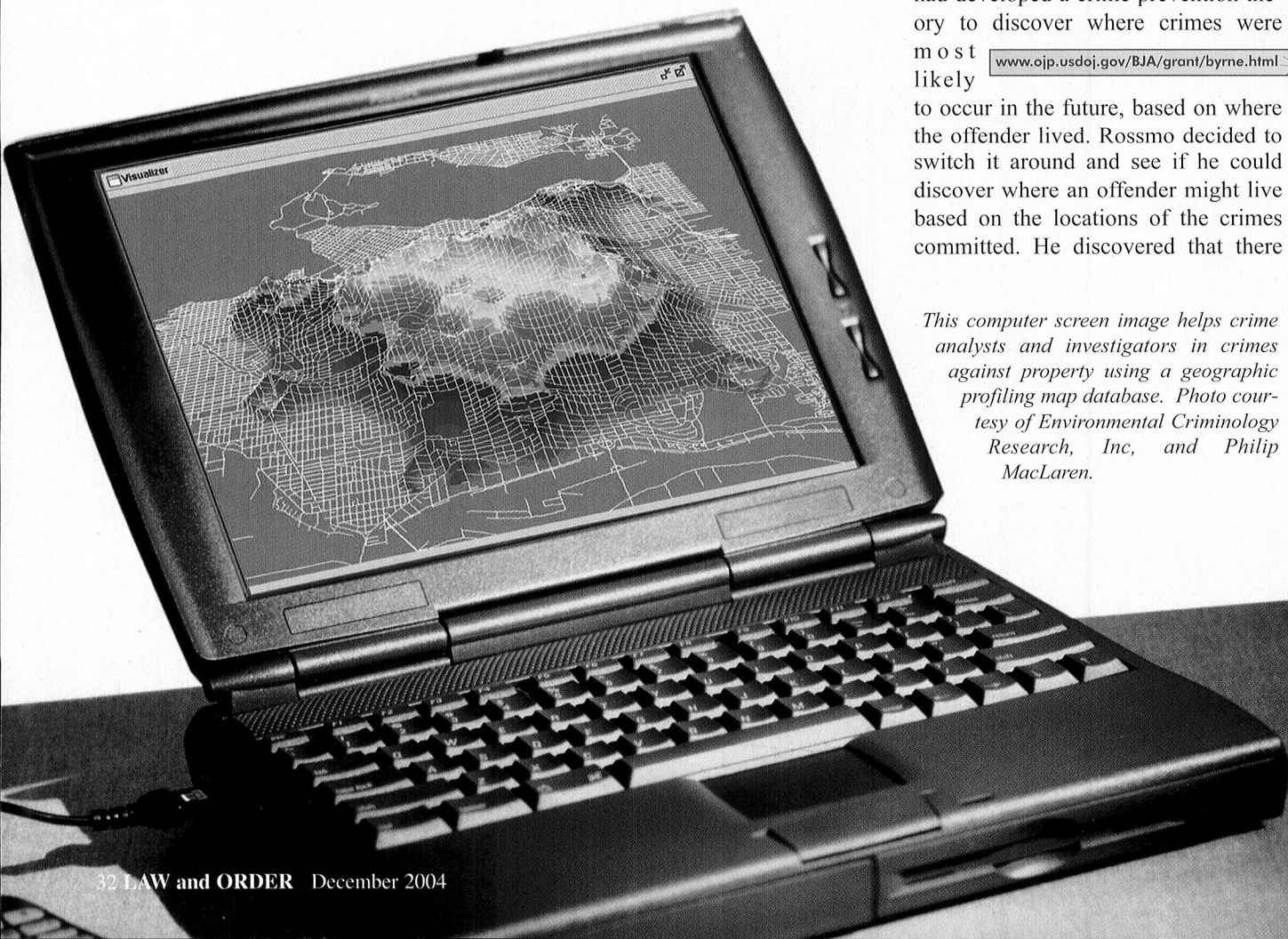
Geographic profiling analysis is a relative newcomer to crime investigations. Kim Rossmo developed the program more than 10 years ago when he was investigator with the Vancouver (BC) Police Department and working on his Ph.D. in Criminology. The theory behind geographic profiling has to do with the fact that everyone has a pattern to their lives, especially when the geographical areas they frequent

are taken into consideration. People go to work, maybe spend time at the gym, take the kids to soccer, and go to the doctor generally within a prescribed area. There is usually a limited distance they will travel in their daily activities. Career criminals are no different in this regard.

Professors Paul and Patricia Brantingham at Simon Fraser University's School of Criminology had developed a crime prevention theory to discover where crimes were most likely

to occur in the future, based on where the offender lived. Rossmo decided to switch it around and see if he could discover where an offender might live based on the locations of the crimes committed. He discovered that there

This computer screen image helps crime analysts and investigators in crimes against property using a geographic profiling map database. Photo courtesy of Environmental Criminology Research, Inc, and Philip MacLaren.





By using the locations of a series of crimes, the officers can narrow down the area where the offender is most likely to reside.

was a pattern to the seemingly random locations of serial crimes.

People travel only as far as they need to accomplish their goals and not much further. This “least effort” principle of human behavior is used by restaurants or chain department stores to decide where to open a new location. Criminals also operate under this theory, but with a difference. The serial criminal creates a buffer zone closest to his center of activity, which is generally where he lives. He does not want to commit his crime too close to his home because he might be recognized. He also does not want to go too far away because he is not familiar with the area, and won’t know escape routes, etc.

Rossmo decided that the most probable area for a crime was near where the offender’s desire to remain anonymous met with his desire to stay within his comfort zone. Rossmo wrote an algorithm to express his theory. This eventually led to the creation of the computer program called Rigel, which he tested retroactively on several closed, high profile, historical cases.

By studying locations of the crimes, Rossmo was able to pinpoint Canadian serial killer Clifford Olson’s home within 3% of the area of the victim encounter sites.

What Does a Geographic Profiler Do?

There are currently only 28 geographic profiler-analysts in the world, and three of them are with the Pinellas

www.geographicprofiling.com County Sheriff’s

Office. By using the locations of a series of crimes, they can narrow down the area where the offender is most likely to reside. They don’t solve crimes, but rather, help to ease information overload, prioritize subjects, focus investigative strategies, and conserve limited fiscal resources.

Profiling works best when there are at least five crimes that are related so that a pattern can be established. Currently the profilers in the sheriff’s office work mainly on armed robberies, burglaries, criminal mischief, and grand theft cases. Crimes that are difficult to link may not be profilable,

such as thefts from autos with no discernable modus operandi.

When the geographic profiling analyst begins working on a serial case, the officer assembles all of the information available about the case from the detectives and others involved in solving it, looking for patterns. Because of prior training in geographic profiling as well as experience, the analyst is able to weigh the individual pieces of information, deciding which are most important.

This information—such as addresses and times of the crimes, sequence of events—is then physically entered into Rigel, named after the brightest star in the constellation Orion (the hunter). The analyst can enter the exact location of each crime through Rigel using a separate mapping program such as MapPoint, which is updated yearly. A problem in areas of rapid growth is that even the most up-to-date version might have missing streets, so locations can also be digitized or entered using longitude and latitude coordinates.

Other data that might also be of interest include the particular day of

the week the crimes took place (the subject may have committed them on his lunch hour, for example); the days between crimes (maybe he only committed them on the weekend), and; whether he walked, rode a bike, or took a car from the scene—anything that might point to some kind of pattern or a potential suspect.

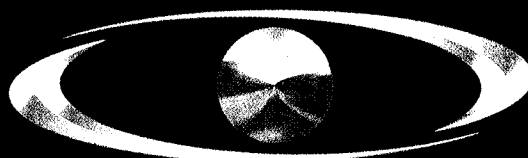
The geographic profiling analyst then creates a scenario of the crimes. Some crimes might be eliminated because, due to their physical distance from the close pattern created by the other crimes, the same person did probably not commit them. Two or three crimes also may be counted as one incident because they took place close to the same time on the same day.

The street or area maps Rigel produces have color overlays that give a visual idea of where the offender most likely lives. Bright red shows the area of highest probability, while the colors—in the order of the colors in a rainbow—spread outward, each color denoting a different probability. The



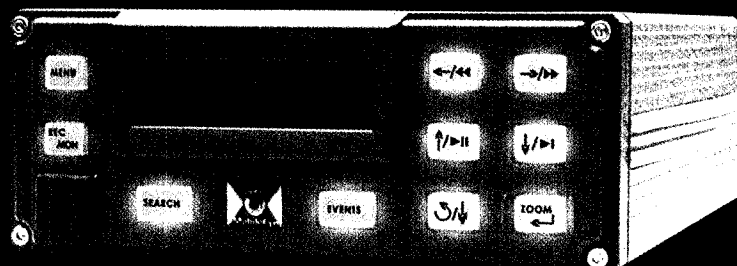
A geographic profiling analyst at the Pinellas County, FL Sheriff's Office believes this program is a helpful tool that allows investigators and detectives to save time and open up investigative opportunities.

**THE MOST
REVOLUTIONARY
IN-CAR VIDEO SYSTEM
ON THE MARKET TODAY**



MobileEye
We've Got You Covered...

**DIGITAL
In-Car Digital Recording
For Police Vehicles**



**1-888-333-1615
www.MobileEye.com**



Circle 22 on Reader Service Card or Online at - <http://info.ims.ca/3348-22>

colors do not make a circle around the area of the crimes, but rather form a "splotch" in one direction away from the crime scenes (which are noted by black dots).

The splotch colors can also be produced in a three-dimensional format, with the red peaking at the highest level over an area, and the other colors at other levels, like a series of mountain peaks. Most people seem to find the flat "splotch" of color to be the easiest to read. This color-coding gives detectives and investigators an area in which to begin, and they can branch out from there.

Rigel can also work with aerial photographs, sectors, and grids, as well as help create flash bulletins, pattern warnings, and series alerts for getting information out to law enforcement officials in a timely manner.

The average report is about 13 pages long. It consists of an introduction, background, crime site locations, geographic analysis, anchor point region (such as the criminal's home

location), profile discussion that might include such things as whether the suspects were likely to be familiar with the area, and suggested investigative strategies.

In a recent case, the sheriff's office crime analyst entered 13 crimes into Rigel. Seven were eliminated, leaving six crimes that were probably committed by the same person. The entire hunting area was 7.5 square miles, but the hit score area where the criminal probably lived was only 0.8 square miles. This gave the detectives a very small area in which to concentrate their efforts and also gave them a place to start with their initial list of suspects.

This was much better and more efficient than having to begin searching the entire 280 square mile county. This "hot zone" information can also be used for other purposes such as a basis for door-to-door searches or addresses for mailing flyers telling residents to be on the lookout.

Rigel can also be linked to other databases such as motor vehicle regis-

trations and suspect databases, allowing searches to be made on type of vehicle, arrested subjects, property incidents, offenses, and field investigation reports. Something as small as a tattoo or birthmark spotted while the suspect was running away might lead to a suspect.

In Lafayette, LA, police were stumped in a serial rapist case. The offender, dubbed the Southside Rapist, was linked to 14 rapes by either DNA or the rapist's behavior. The police had about 2,000 tips and 1,000 suspects. It would have been cost-prohibitive to do DNA tests on all of them. Then, through the use of Rigel, the rapist's "anchor point" or probable home area was profiled. An anonymous tip suggested a sergeant on the Lafayette Parish Sheriff's Office, but he wasn't living particularly near the area pinpointed. Further investigation, however, revealed that he had lived in the center of the area highlighted in red at the time of the rapes. His DNA was tested, he confessed, and he was

Build a baton, get a **FREE** Leverage Cap!

Three easy steps: 1) Buy an ASP baton, 2) Buy a sidebreak scabbard, 3) Get a leverage cap free!

ORIGINAL ASP BATONS

ASP-FB21	21" Original	\$35.25
ASP-FB26	26" Original	\$59.50

Easy to carry and readily at hand, these batons are durable and rugged. Matte black finish. Lifetime warranty.



SIDEBREAK SCABBARDS

ASP-SB21F	21"	\$22.95
ASP-SB26F	26"	\$26.35

Available in plain black, black basketweave, high gloss, or a ballistic nylon weave.



LEVERAGE CAP

Leverage Cap enhances your grip, and your swing! A 21" swings like a 26" and a 26" like a 31"!



\$14.00 value!

FREE!

**Everyday gear
for everyday
encounters.**

heroism in everyday duty...

ASP TACTICAL HANDCUFF



ASP-56101 Nickel \$29.95



NEW!

Features:

- NO Back Loading
- Radiused Edges
- Only 9 ounces!

STREICHERS
since 1953

800.367.3763
www.streichers.com

Circle 23 on Reader Service Card or Online at - <http://info.ims.ca/3348-23>

charged with the crimes. If it hadn't been for the geographic profile, testing him might never have been a priority because of who he was.

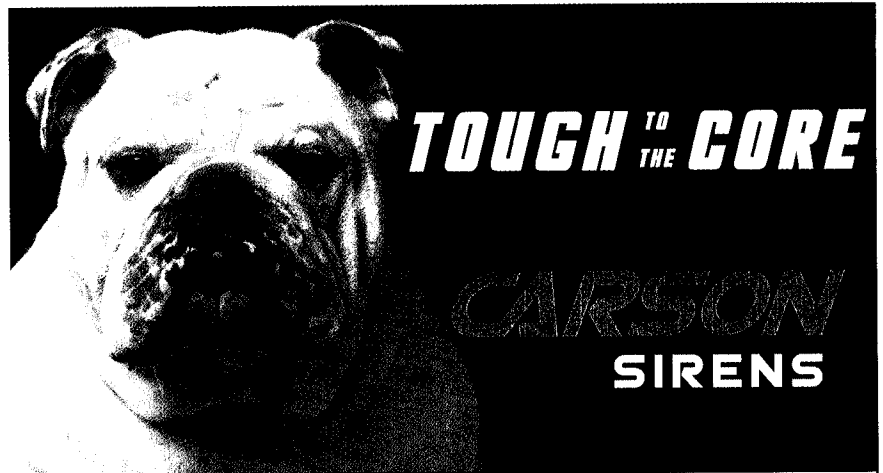
Training

Because existing geographic profiling programs generally require extensive training, a two-week course was developed to train analysts and investigators in profiling serial property crimes.

The three profilers in Pinellas County attended the course at the National Law Enforcement and Corrections Technology Center-Southeast Region (NLECTC-SE) in Charleston, SC, a component of the National Institute of Justice. The training is also offered at other locations. NLECTC grant funding covered all three profilers.

In order to attend the two-week course, the NLECTC funding requires that a student: 1) have a minimum of five years of law enforcement experience along with being familiar with investigative practices, have an above average level of analytical skill, and have competence with mapping and GIS (Geographic Information Systems); 2) agree to remain in geographic profiling duties, as required, for at least two years following the training program; 3) be mathematically competent, with the ability to master basics of probability and statistics; 4) be computer literate and have the ability to accurately read maps; 5) have documented high level of self-motivation and the ability to work without supervision, and; 6) have the ability to learn geographic concepts and techniques.

The course concentrates on the practical aspects of geoprofiling property crimes. It begins with an introduction to the concepts and theory of geographic profiling including the mathematics and statistics behind the techniques, crime pattern theory, routine activities and mental maps, and criminal hunting methods. Later, Rigel analyst software is introduced and actual cases are plotted. Also covered are effective analysis, strategy and scenario development as well as report generations. At the end of the course



Take the

CARSON
CHALLENGE today!

Carson has made rugged, reliable sirens for several industry leading name brands for over 30 years. In fact, every SA Siren on the road today is a Carson built siren.

We dare you to take the Carson Challenge and let us prove that the rugged, reliable sirens you have come to trust are even better when they have **our** name on it.

Purchase a new SA or SC Siren and receive up to

\$100 Cash Back.*

Visit our website at

www.carson-sirens.com

or call 1-888-577-6877

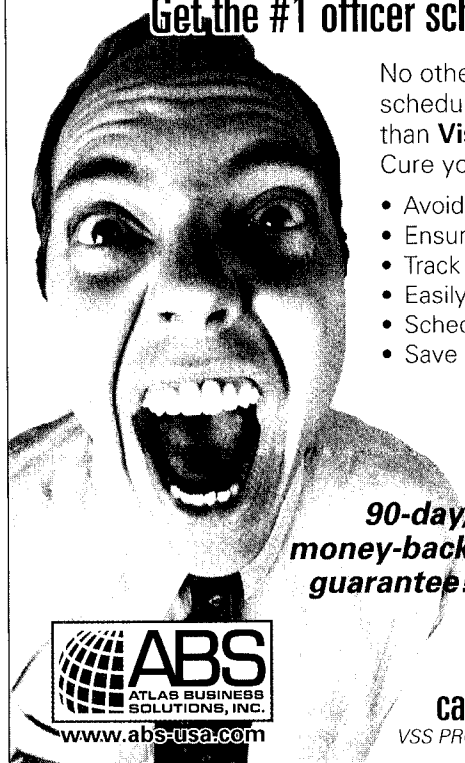
for more information and to locate a Carson Dealer near you.

*Mail-in Rebate offer is limited to one siren per municipality. Offer valid until 8/31/2004 or while promotional supplies last. Please refer to website for details.

Circle 24 on Reader Service Card or Online at - <http://info.ims.ca/3348-24>

End Scheduling Headaches!

Get the #1 officer scheduling software



**90-day,
money-back
guarantee!**

No other tool can help you get your schedules done faster, better, or easier than **Visual Staff Scheduler® PRO**. Cure your scheduling headaches today!

- Avoid scheduling conflicts
- Ensure shift coverage
- Track time-off/vacation requests
- Easily rotate schedules
- Schedule months or years in advance
- Save time



call **1-800-874-8801**

VSS PRO starts at \$495. Call for multi-user pricing.

Circle 25 on Reader Service Card or Online at - <http://info.ims.ca/3348-25>

there is an eight-hour exam. Students follow the training with a two-year internship.

When the Pinellas County Sheriff's Office heard about the geographic profiling program, it sent selected staff to training and then applied for Byrne Grant through the Florida Department of Law Enforcement. According to the Bureau of Justice Assistance, the Edward Byrne Memorial State and Local Law Enforcement Assistance Grant Program (Byrne Formula Grant Program) is a partnership among federal, state and local governments to create safer communities by improving the functioning of the criminal justice system.

The grants "may be used to provide personnel, equipment, training, technical assistance and information systems for more widespread apprehension, prosecution, adjudication, detention, and rehabilitation of offenders who violate state and local laws."

The sheriff's office's grant, which is renewable for up to four years, paid for

the computer equipment, Rigel software, program supplies, and 75% of the salary for the full-time, principal profiler (the sheriff's office pays for the other 25%). While other geographic profiling programs generally require a year of training and about \$60,000 in commercially available technology, the initial cost of Rigel analyst is \$6,250, with an annual maintenance fee of \$1,200.

NLECTC, at the time the Pinellas County Sheriff's Office personnel attended, was able to offer the training under a grant. There is now a charge for it.

Helpful Hints

Robin Wilfong, geographic profiling analyst at the Pinellas County Sheriff, said that one of the most difficult problems she encountered with the new program was convincing the investigators and detectives that Rigel would not replace them. They needed to understand that it would be a helpful tool, allowing them to save time and

effort by narrowing down their initial search area and suspects, and by giving them more opportunity to go on the road and do their jobs.

To combat this reluctance, Wilfong sent out several information sheets from the crime analysis division to the other sections. These explained what geographic profiling was and how it could be used as an investigative strategy, but stressed that it should not take precedence over reliable and forensic conclusions. Information about the program was also presented at various meetings.

Computers are becoming more and more valuable to crime solving, and will be used increasingly in the future. The Pinellas County Sheriff's Office is currently using Rigel for profiling property crimes, and can obtain geographic profiling services for violent crimes from the National Center for the Analysis of Violent Crime in Quantico, VA. It also plans to offer its services to other county law enforcement agencies, and later, to others in the region. It has already received requests from agencies outside of the state, and even overseas.

Since a relatively small number of criminals commit a significant portion of crimes, locating these serial offenders is of the utmost importance in keeping a community safe. While it does not solve crimes, geographic profiling helps find these offenders by organizing the large quantities of information produced in a crime investigation, and allowing investigators to begin their search in an area with the highest probability that the suspect lives or works there. Or, as Wilfong said in one of her information sheets about the program, "We plot them, you spot them."

Jim Weiss is a retired lieutenant from the Brook Park, OH, Police Department and a frequent contributor to LAW and ORDER. Mickey Davis is a Florida-based journalist.

Essentials of The Reid Technique: Criminal Interrogation and Confessions

(Abridged)

By Fred E. Inbau, John E. Reid
Joseph P. Buckley III
Brian C. Jayne

Hundreds of thousands of investigators have received training in the Reid Techniques® and used the text, *Criminal Interrogation and Confessions*.

Now for the first time, an abridged version of this best-seller is available.

YOURS FOR ONLY **\$30⁰⁰*** PLUS SHIPPING

KEY FEATURES:

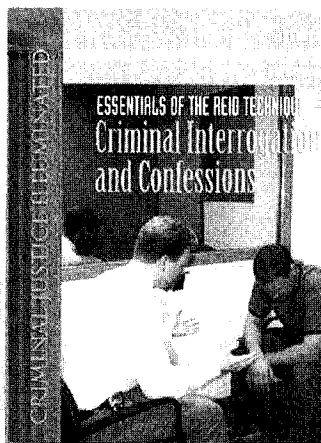
- An abridged book covering the state-of-the-art technique of interviewing and interrogation in the field
- Designed for law enforcement personnel, corporate security officers, criminal justice students and attorneys
- Includes real-world scenarios and examples
- Contains fascinating insights into how people behave when they are trying to lie
- Teaches proper and effective ways to interrogate and safeguards against false confessions

For more details or to order go to www.reid.com or call 1-800-255-5747 ext. 20

*VOLUME DISCOUNTS AVAILABLE

JOHN E. REID AND ASSOCIATES, INC.
250 S WACKER DR SUITE 1200 CHICAGO IL 60606

Circle 26 on Reader Service Card or Online at - <http://info.ims.ca/3348-26>



MOVING?

Please inform us of your change of address eight weeks in advance (or as soon as possible):

Law and Order
PO Box 16088
North Hollywood, CA 91615-9837

