



Corrections Innovations:

GPS Provides a High-Tech Alternative to Incarceration

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Imagine a high tech system of incarceration where criminal offenders make no movement without someone knowing. Imagine prisons becoming a correctional option reserved only for the worst offenders. With criminals showing no signs of ceasing their illegal behaviors, the corrections industry is exploring new means of monitoring and correcting criminal behavior.



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Everyone is in a floodplain...



By Alex Azarian
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It's 2042 and the Atlanta area is experiencing the worst flooding since 2009. Lisa Greene had a sweeping view of the Chattahoochee River from her backyard in Vinings. When she returned home from work one day, the surging river was flowing through her front door.

But she was stressed for another reason as she paced the banks along her street; she had canceled her flood insurance just a few months ago, frustrated with the high premium and hopeful that the river would never reach her front door. "It's never supposed to

be this high," the 35-year-old attorney groaned. "This has never happened before. I do remember my father talking about the historic flooding in 2009 and how he lost everything in Austell, but this area was largely spared from those storms. I mean, we're over 40 feet above the Chattahoochee, and we're experiencing a drought worse than the one early in this century. Where did all this water come from, and why did it rise so quickly and come here? I'm not even in a floodplain."

Everyone is in a floodplain...
Anywhere it rains, it can flood. The misconception that an

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It's no secret that being locked inside a prison is hardly a means of correcting one's behavior. It costs just over \$50 per day to house an inmate in a Georgia prison. It costs just under \$50 to house one in a private prison. Georgia has a history of being a progressive state with respect to correctional innovation and institutes a multitude of sentencing options for different types of offenders. Because offenders need differing levels of supervision, not all offenders are simply warehoused inside prison walls. Many are sentenced to probation and reintroduced to the community under strict supervision.

Probation is a means of incarceration that has great potential for rehabilitating an offender. The nature of probation is such that offenders are punished by having their behavior restricted without being inside a jail or prison. Georgia has been a national leader in progressive probation management for years. The intensive supervision system Georgia uses is studied by university criminology and criminal justice programs. During the 2009 legislative session, the Senate passed SB 24 which created the sentencing options system as another step in the evolution of probation. This system allows administrative sanctions, as opposed to judicial sanctions, for probationers who violate the terms of their sentence. By allowing approved sanctions to be imposed administratively, the sanctions

come more swiftly, and have the potential to be more effective as a deterrent. It also spares the state the cost of a judicial hearing.

Another step in the evolution of probation, and also parole, is the use of Global Positioning System (GPS) technology to monitor probationers and parolees. Instead of confining them to their home, as a traditional radio bracelet does, the GPS unit can track their movements wherever they go. Further, certain areas can be programmed as "off limits." If an offender wearing a GPS unit goes to one of these areas, their case officer is notified. If they leave and go someplace else, their movements continue to be tracked so that authorities know exactly where to apprehend them.

Sex offenders could be fitted with a GPS unit programmed with the location of the local schools so that authorities are instantly notified if they visit or linger too long near one. GPS units can also be used to track violent offenders. Their victims' addresses can be programmed into an individual's GPS unit so that their case officer will be notified if they venture too close.

There are two types of GPS monitoring, active and passive. With active monitoring, the GPS unit constantly sends data to a source where it can be read in real time or stored in an offender's electronic file. This level of monitoring continuously transmits data wherever the transmitter goes. If the



offender enters a forbidden zone, alerts are instantaneous. Alerts can come through email, cellular text message, or even as a phone call from a live person at a monitoring center.

Passive monitoring allows case officers to manually check on an individual and view the data that interests them. Live updates aren't always available, but instant violation alerts are. This level is usually less expensive, and can allow officers to maintain a higher caseload. With all systems, tracking is done through an internet portal. Case officers simply log onto the GPS monitoring company's website or software program and view the information they desire.

In many jurisdictions, only offenders who have already served time in jail are eligible for GPS monitoring as a condition of their probation or parole. Georgia currently uses GPS to track offenders on parole. Many county sheriffs' offices across the country use it to track offenders on probation.

From a policy standpoint, GPS

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area cannot flood stems from the fact that there are two types of floodplains for insurance purposes: High-risk and Moderate-to-Low-risk. Since lenders only require flood insurance for homes and businesses in high risk floodplains, most people assume that they are not in a floodplain, which is untrue. Confusing the issue further, a standard homeowner's insurance policy does not cover flooding, specifically because insurers consider flood risk to be an uninsurable peril. Insurers reportedly cannot accurately estimate losses and most lack the ability to pool and spread flood risks over a large and diverse group of insureds in order to minimize the possibility of multiple claims for the same event. Federally backed flood insurance fills this void and is available for residential and commercial properties through the National Flood Insurance Program (NFIP).

Background

The National Flood Insurance Program: Before Congress passed the National Flood Insurance Act in 1968 after frequent widespread flooding in the Midwest, the national response to flood disasters had been a so-called "levee-only" policy approach – i.e., relying on levees to protect the population and property in flood-prone areas. But the construction of dams, levees, and other structures to hold back flood waters was a policy that may have encouraged building in flood zones.



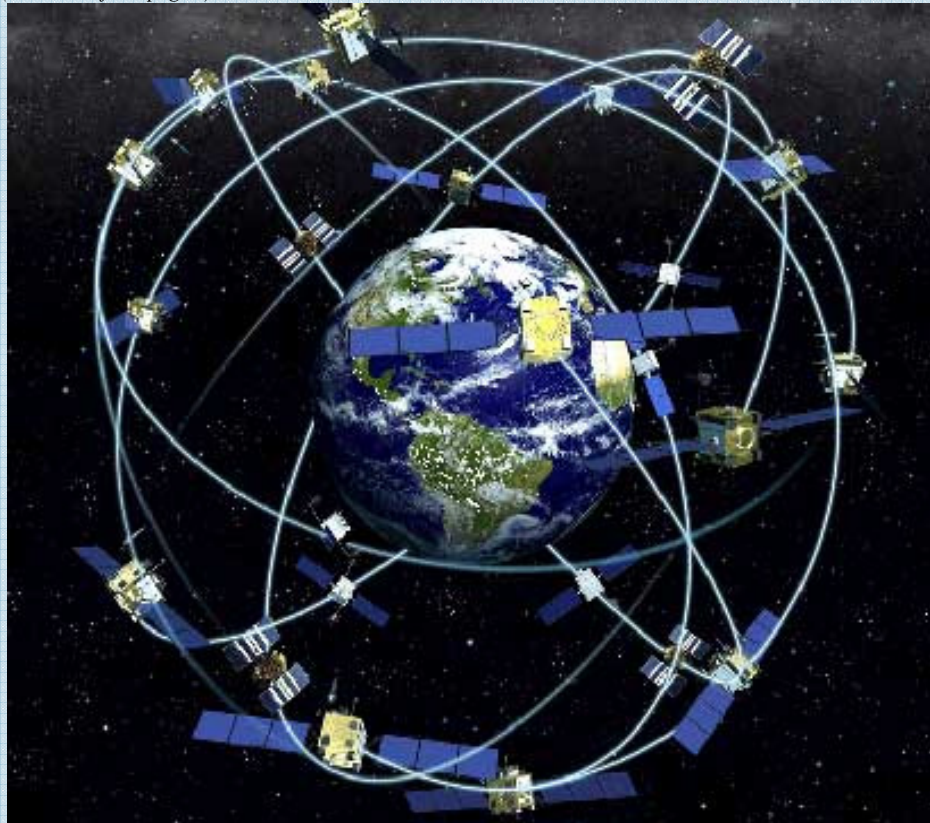
The National Flood Insurance Act created the National Flood Insurance Program (NFIP), which was designed to stem the rising cost of tax-payer funded relief for flood victims and the increasing amount of damage caused by floods. The NFIP has three components: to provide flood insurance, floodplain management, and flood hazard mapping. Federal flood insurance is only available where local governments have adopted adequate flood plain management regulations for their floodplain areas as set out by NFIP. The NFIP will not insure nonparticipating areas either because it cannot determine the risk of flooding in those areas, or due to the possibility that those areas are uninsurable due to poor management of poorly coordinated development. About 20,400 communities across the country participate in the program, including all but a handful of communities in Georgia. NFIP coverage is also available outside of the high-hazard areas.

In 1973, the law was amended to put constraints on the use of federal funds in high-risk floodplains – a measure that was expected to lead to almost universal flood coverage in these zones. The law prohibits lenders that are federally regulated, supervised or insured by federal agencies from lending money on a property in a high-risk floodplain zone when a community is participating in the NFIP, unless the property is covered by flood insurance.

Legislation was enacted in 1994 to tighten enforcement of flood insurance requirements. Regulators can now fine banks with a pattern of failure to enforce the law and lenders can purchase flood insurance on behalf of homeowners who fail to buy it themselves. The law includes a provision that denies federal disaster aid to people who have been flooded twice and have failed to purchase insurance after the first flood.

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monitoring can be both progressive and fiscally conservative. GPS monitoring offers full time 24-7-365 monitoring capabilities that traditional probation cannot match but does so without the staffing needs or costs of physical incarceration. This type of monitoring would fit on the continuum of sentencing options as both more expensive and more restrictive than traditional probation, but less restrictive and less expensive than any level of physical incarceration.

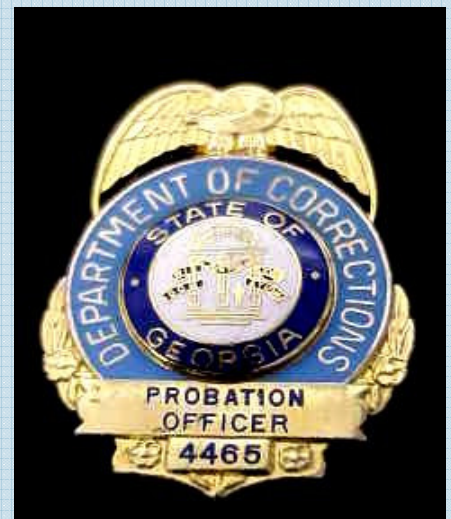
The benefits to individuals being monitored can be substantial if they abide by the terms of their monitoring. By staying out of an institution, they can continue to financially support themselves or a family. GPS monitoring allows them to work a job, attend school, attend mandatory treatment or coun-

seling, work community service hours, or complete a variety of other tasks. Additionally, the costs of this type of monitoring are low enough that they can be passed along to the offender.

The disadvantages at this point are that the public is largely uninformed or even unaware of this technology. If implemented poorly or at too high a cost, it could turn out to be unpopular with constituents. There are mixed opinions and research about whether or not this technology reduces recidivism. Some states, such as Florida, have seen decreases, while others have maintained current recidivism levels. The reasons for this come mainly from the administration of individual programs across the country. Programs with a reputation of high rewards for participation, and

guaranteed punishment for violation typically see reduced recidivism. Florida implements a variety of electronic monitoring options for different individuals and arguably has the most practical GPS monitoring model on which to base a Georgia program.

With any form of probation, there is a certain amount of trust involved in allowing an offender into the community, especially as an alternative to incarceration. When offenders violate the conditions of their monitoring, penalties need to be swift and severe. If the state is unable to impose severe restrictions, including incarceration of those who violate, then the program risks failure. Case officers will need to learn to use the technology, and be empowered to decide what to do with the increased amounts of information available on each of the monitored individuals. The potential exists for this technology to be very useful, but the resources and technology must be maintained, the training of officers must be sufficient, and the ability to apprehend violators needs to be formidable.



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How It Works: The NFIP is administered by the Federal Emergency Management Agency (FEMA). Flood insurance was initially only available through insurance agents who dealt directly with the federal program. The "direct" policy program has been supplemented since 1983 with a private/public cooperative arrangement, known as "Write-Your-Own," through which a pool of insurance companies issue policies and adjust flood claims on behalf of the federal government under their own names, charging the same premium as the direct program. Participating insurers receive an expense allowance for policies written and claims processed while the federal government retains responsibility for underwriting losses. Today, most policies are issued through the Write-Your-Own program but some non-federally backed coverage is available from the private market.

The NFIP is expected to be self-supporting (i.e., premiums are set at an actuarially sound level) in an average loss year, as reflected in past experience. In an extraordinary year, as Hurricane Katrina demonstrated, losses can greatly exceed premiums, leaving the NFIP with a huge debt to the U.S. Treasury that it is unlikely to be able to pay back. Hurricane Katrina losses and the percentage of flood damage that was uninsured led to calls for a revamping of the entire flood program.

Understanding Flood Areas

A flood is a temporary condition where two or more acres of normally dry land or two or more properties are inundated by water or mudflow. Many conditions can result in a flood: hurricanes, broken levees, outdated or clogged drainage systems, and rapid accumulation of rainfall.

Just because an area has not experienced a flood in the past, does not mean it will not in the future. Flood risk is not just based on history; it is also based on a number of factors: rainfall, river-flow and tidal-surge data, topography, flood-control measures, and changes due to building and development. Although flooding can happen anywhere, certain areas are especially prone to serious flooding. Consequently, as with other types of insurance, rates for flood insurance are based on the degree of risk. FEMA assesses flood risk for all participating communities, resulting in the publication of thousands of individual flood rate maps. High-risk areas are known as Special Flood Hazard Areas or SFHAs, but moderate-to-low risk, and undetermined-risk areas also exist:

High-risk areas (Special Flood Hazard Area or SFHA)

High-risk areas have at least a 1 percent annual chance of flooding, which equates to a 26 percent chance of flooding over the life of a 30-year mortgage, compared with a 9 percent risk of fire over the same period. All homeowners in these areas with mortgages from federally

regulated or insured lenders are required to buy flood insurance.

Moderate-to-low risk areas (Non-Special Flood Hazard Area or NSFHA)

In moderate-to-low risk areas, the risk of being flooded is reduced, but not completely removed. These areas are outside the 1 percent annual flood-risk floodplain areas, so flood insurance is not required, but it is recommended for all property owners and renters.

Undetermined-risk areas

No flood-hazard analysis has been conducted in these areas, but a flood risk still exists. Flood insurance rates reflect the uncertainty of the flood risk.

Flood plain maps are redrawn periodically, removing some properties previously designated as high hazard and adding new ones. New technology enables flood mitigation programs to more accurately pinpoint areas vulnerable to flooding. As development in and around flood plains increases, runoff patterns can change, causing flooding in areas that were formerly not considered high risk and vice-versa.

Flood Insurance Policy Coverage

People tend to underestimate the risk of flooding. According to the NFIP, 90 percent of all natural disasters in this country involve flooding. Since the inception of the federal program, some 25 to 30 percent of all paid losses were for damage in areas not officially designated

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at the time of loss as special flood hazard areas. NFIP coverage is available outside high-risk zones at a lower premium.

Flood insurance covers direct physical losses caused by flood and losses resulting from flood-related erosion due to heavy or prolonged rain, coastal storm surge, snow melt, blocked storm drainage systems, levee dam failure or other similar causes. To be considered a flood, waters must cover at least two acres or affect two properties. Homes are covered for up to \$250,000 on a replacement cost basis and the contents for up to \$100,000 on an actual cash value basis.

Replacement cost coverage pays to rebuild the structure as it was before the damage. Actual cash value is replacement cost minus the depreciation in value that occurs over time. (Excess flood insurance is available in all risk zones from some private insurers for NFIP policyholders who want additional coverage or where the homeowner's community does not participate in the NFIP.) Coverage for the contents of basements is limited.

Coverage limits for commercial property are \$500,000 for the structure and another \$500,000 for its contents.

To prevent people putting off the purchase of coverage until waters are rising and flooding is inevitable, all policyholders must wait 30 days before their policy takes effect.

Shortcomings and Proposals for Change

A major shortcoming of the NFIP is that the program does not have the ability to guide development away from floodplains and cannot restore beneficial floodplain functions once they have been impaired. In addition, despite widespread public awareness campaigns, many people still are not covered or not adequately covered for flood damage. Since its inception, the NFIP has been hampered in reaching its goals by insufficient Congressional funding in various years, lack of pertinent data, misconceptions about the nature of the program and the breakdown in coordination among its three major sectors.

A report published by FEMA in 2007 suggests that development patterns should be changed to protect environmentally sensitive areas and that communities in the flood program should be encouraged or required to ban development in these locations.

Another criticism of the NFIP is that it does not charge enough for coverage. Among the reasons for the premium shortfall is that the cost of coverage on dwellings that were built before floodplain management regulations were established in their communities is subsidized. As a result, the premiums paid for flood coverage by the owners of these properties reflect only 30 to 40 percent of the true risk of loss. In January 2006, FEMA estimated an annual shortfall in premium income of \$750 mil-

lion due to these subsidies. Some subsidized properties also suffer repetitive losses. Repetitive loss properties accounted for about \$4.6 billion in claims payments between 1978 and 2004.

Recently, Congress has been considering legislation to increase the NFIP's future income, including making property owners subject to repetitive flooding pay premiums that more closely reflect the true cost of their losses and gradually eliminating the flood insurance subsidy for vacation and second homes. In addition, such bills would have allowed premium increases of up to 15 percent from the current 10 percent.

By the Numbers

In 2007, the average amount of flood coverage was \$201,598 and the average premium was \$505.

- The average flood claim in 2007 was \$24,579, down from \$25,869 in 2006.
- NFIP premiums written rose from \$1.7 billion in 1999 to \$2.9 billion in 2007.
- Flood loss payments totaled \$523 million in 2007.
- In 2005 loss payments totaled a record \$17.6 billion largely due to the losses from hurricanes Katrina, Rita, and Wilma.

