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DISASTERS

Planning for the worst

By Theresa Wieberg IRE and NICAR

Preparing for disaster might sound like an impossible task – after all, events such as this season's hurricanes do not wait until those in their paths are ready for their fury. But there are steps journalists can take to get ready for computerassisted reporting after the big one hits.

Journalism veterans say there are some essential databases for newsrooms to use in reporting on the aftermath of a disaster. So what should you keep on hand and updated?

"Any databases that give you a comprehensive picture both of the people and the structures of your area, such as detailed Census data, property tax roll, flood plain maps in database form ready for mapping, and information about the transportation system of the area," says Steve Doig, a journalism professor at Arizona State University and a member of Investigative Reporters and Editors' board of directors.

Property tax rolls, available in

continued on page 20

AFTER A HURRICANE

Probing FEMA's chronic illness

By John Maines, South Florida Sun-Sentinel

The meltdown of the Federal Emergency Management Agency's response to Hurricane Katrina stunned America and the rest of the world. At the *South Florida Sun-Sentinel* in Fort Lauderdale, there was a lot less surprise.

By the time Katrina hit New Orleans, we had spent the better part of a year

documenting troubles with the FEMA relief efforts that followed Florida's

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SPOTLIGHT:

For more about hurricane destruction see:

- . GIS and GPS plot storm damage, p. 6
- . Identifying at-risk populations, p. 8
- Covering coastline stories, p. 10
- The November-December 2005 IRE Journal

TROUBLE IN SCHOOLS

Assault data riddled with holes

By Jeff Roberts and David Olinger, The Denver Post

When is an assault not an assault?

When public schools in Colorado say so, as these cases illustrate:

- A child is beaten on his way home from middle school by five older boys in ski masks.
- Five girls ambush a 10th-grader with a blow to the head. They hold her down, pull up her sweater and burn her with a cigarette.
- A 13-year-old girl suffers bruised kidneys and blood in her urine after a girl jumps her from behind.

None of these were assaults. Not according to the yearly "report cards" – or School Accountability Reports (SARs) – the schools delivered to parents last year along with their children's performance on the state assessment tests.

The SARs have been released by the Colorado Department of Education each fall since 2001. Parents get a nice pamphlet with all sorts of information about their kid's school such as student-teacher ratios, academic ratings,

continued on page 18

Bits & Bytes

Entries in

Judging for the Philip Meyer Journalism Awards, created to recognize journalism that uses social science research methods, is under way.

The awards, new this year, will honor the best use of methods such as surveys, content analyses, field experiments, social network analyses and statistical analyses in news reporting.

For the inaugural awards, judges are choosing from 28 entries postmarked before the Oct. 31 deadline. The judging is scheduled to be completed on Dec. 20 and the awards will be presented at the 2006 CAR Conference, which is scheduled for March 9-12 in Newark, N.J.

First, second, and third prizes will be awarded.

The awards were announced by IRE, NICAR and the Knight Chair in Journalism at Arizona State University this year. NICAR is a joint program of IRE and the Missouri School of Journalism.

The annual award is named in honor of Meyer, author of "Precision Journalism" and a pioneer in using social science methods in news reporting. Meyer is the Knight Chair in Journalism at the University of North Carolina at Chapel Hill.

The awards include cash prizes of \$500 for first place, \$300 for second place, and \$200 for third place.

For more information, visit www. ire.org/meyeraward.

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Covering the big story

By David Herzog, NICAR and Missouri School of Journalism

Make no mistake, the aftermath of Hurricane Katrina and its lesser siblings, is the big U.S. news story of the year. As journalists document how evacuees are settling into nearly every corner of the United States, it is easy to see how the ripple effects of this devastating storm will generate local news stories in the years to come.

In this issue of *Uplink* and the ones to come, we will pass along tips, information about databases and notable stories relevant to this coverage.

In the meantime, here are five key areas that journalists using computerassisted reporting can focus on during the coming year:

1. The resettlement. Many journalists have already started reporting this story anecdotally as new residents

displaced by the storm move into town. USA Today and The New York Times have used housing aid application data from the Federal Emergency Management Agency to take a deeper look at where the evacuees are settling across the county.

The long-term story is more than where the people move, however. Journalists will want to examine how the resettlement affects schools, social services, housing, employment and the economy in their towns. Journalists will find data from a multitude of sources, including school enrollment data from the state.

2. Racial inequity. To what extent are racial minorities disproportionately affected by disasters such as hurricanes? As the televised images showed, African-American residents of

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About our contributors ...

Adam Bell specializes in computerassisted reporting at *The Charlotte Observer*.

Chase Davis is a senior at the Missouri School of Journalism. Through December, he is working as a reporting intern at *The Boston Globe*. His Web site focusing on computer-assisted reporting is at www.car-chase.net.

John Keefe is news director for WNYC-New York Public Radio. He is an alumnus of the 2005 Editor miniboot camp.

John Kelly is space editor at Florida Today and is one of the newspaper's computer-assisted reporting specialists.

John Maines is assistant research manager/computer-assisted reporting specialist at the *South Florida Sun-Sentinel* in Fort Lauderdale. He is a 2000 alumnus of the Advanced Statistics mini-boot camp.

David Olinger has been a reporter at *The Denver Post* since 1997. He has written many stories with the assistance of public databases or in-house statistical analyses: on unregulated gun trades after the Columbine High massacre, predatory foreclosure investors, child abuse deaths, neighborhood pollution and Census trends.

Jeff Roberts is *The Denver Post's* computer-assisted reporting editor. He has worked at *The Post*, as a reporter or editor, since 1984. He attended the IRE and NICAR Computer-Assisted Reporting Boot Camp in 1997 and has been a presenter and instructor at the annual IRE and CAR conferences.

Matthew Waite is a reporter for the *St. Petersburg Times* who specializes in computer-assisted reporting and the use of geographic information systems (GIS). Waite is a 1999 boot camp alumnus.



AWARDS FOR ENTRIES

The annual contest of Investigative Reporters and Editors, Inc.

DEADLINE: Postmark by Jan. 9, 2006

Categories

Newspaper:

For outstanding investigative reporting at a daily or weekly newspaper (Use highest one-day circulation of the week.) Categories are: Circulation less than 100,000, Circulation between 100,000 and 250,000, Circulation between 250,000 and 500,000; Circulation more than 500,000, and Local-Circulation Weekly.

Television:

For outstanding investigative reporting by a television outlet. Categories are. Network or syndicated program, Top 20 market, and Below Top 20 market.

Other Media:

For outstanding investigative reporting in other media such as Magazine, Newsletter, Specialty Publication, Book and Radio.

Online:

For outstanding investigative reporting.

Special Categories:

Tom Renner Award: Outstanding reporting in any medium covering and exposing organized crime (Limited to 10 stories) You must submit TWO sets of copies if submitting an entry in the Tom Renner category and in another category.

IRE FOI Award: Honors individual or organization in any medium whose significant actions further open records or open government. You must submit TWO sets of copies if submitting an entry in the FOI category and in another category.

Student Award: Outstanding investigative reporting by a student in a college-affiliated newspaper, magazine or specialty publication (or while serving a print internship), or broadcast work that has been publicly reviewed, screened or aired.

International Entries: International entries will be placed into appropriate categories by IRE staff, Contest judges can then move entries into other categories. IRE can award a special citation for deserving international work.

NOTE: Judges reserve the right to give more than one award in a category or to declare no winner in a category

The contest recognizes the best investigative reporting in print, broadcast and online media, and helps identify techniques and resources used by entrants.

For entry forms and additional information, visit our Web site at www.ire.org/contest

Bits & Bytes

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Boating resources

IRE offers resources to journalists covering boating accidents, such as the Lake George, N.Y., tour boat accident in October.

The boating accidents resources Web page includes information about databases useful in covering boating accidents that are available from the IRE and NICAR database library. In addition, there are synopses of related tipsheets and stories available from the IRE Resource Center, and references to relevant past articles in *Uplink* and *The IRE Journal*.

The site can be found at www.ire. org/inthenews_archive/tourboat. html.

Hurricane help

Visit www.ire.org/inthenews_ archive/katrina.html on the IRE Web site for stories, databases and tipsheets available for journalists covering the aftermath of hurricanes.

The Web site includes detailed descriptions of stories about hurricanes and tipssheets for reporting on hurricanes that are in the IRE Resource Center. In addition, the Web site includes links to other sites that journalists will find useful in their reporting.

Journalists also can get more information about databases available from the Database Library that can be used in reporting about hurricanes and their economic effects.

For more information about the databases visit www.ire.org/datalibrary or call the Database Library at 573-884-7711.

TROUBLE IN SCHOOLS

Suspensions underreported

By Adam Bell, The Charlotte Observer

This year, when we examined the Charlotte-Mecklenburg Schools' suspension rate, we found that more than 450 students had been suspended at least 10 times. One was suspended 31 times.

We started our analysis with a Microsoft Access database that listed 52,600 suspensions in a district of 114,000 students, but did not include such key information as the students' school, race and age.

For a follow-up story, we requested from the district more complete data, which they later provided to us on CD at no charge. This revised database allowed us to give interested parents and others a way to look at schools and compare them to others, something CMS administrators had never done for the public or even themselves.

Data holes

I imported the new database into Access 2000. It included a dummy ID that served as a unique identifier for each suspended student, school ID code, whether the suspension was in- or out-of-school, reason for the suspension, race, gender and year born.

The database covered about 49,500 suspensions, and the district later said it had taken out certain cases for privacy concerns, in which they felt information could be used to identify a specific person. This is how we lost 3,000 or so records from the original number. We had our doubts about the criteria they were using. For instance, the student with the 31 suspensions, was not in our new, more detailed, database.

Another issue that CMS had not disclosed became apparent after viewing the data closely. Each student's suspensions were assigned to only one school, although it is not unusual for students to transfer to alternative schools if they are having a lot of discipline problems.

We made it clear in our copy that "Suspensions were listed at the school where the student finished the year. That's how CMS keeps the data, even if a student got suspended at one campus then transferred to a different one. CMS officials say totals generally reflect suspensions at each campus."

Initially,—we ran many queries in Access to get a feel for where the numbers might take us, including focusing on race totals and which schools had high suspension rates. While many queries failed to uncover anything interesting, we did enough and saw some patterns emerge.

We looked at school suspension rates as well as total number of individuals suspended (by running a query that grouped by the fake ID and counted the records).

We felt the more accurate picture on race was by provided by using the total individuals suspended rather than total suspensions. That way, we could look at the rate at which individuals were being kicked out, and not have to worry about double counting individuals with more than one suspension, or have a few individuals skew the results when we were looking at overall suspension rates at schools. When we used total suspensions, mainly in some charts,

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TROUBLE IN SCHOOLS

Destination: Failing schools

By John Keefe, WNYC-New York Public Radio

For years, there had been rumblings that kids with special needs were being "dumped" into New York City's worst high schools. Reporter Beth Fertig decided to see whether enrollment numbers confirmed what the parents of these children had long suspected.

While our analysis could not detect evidence of intentional dumping, it did show that special education students and English language learners were disproportionately overrepresented in the city's failing and most violent public high schools. At the same time,

those kids – as a group – were losing out on the new, small schools created to improve education.

Fertig started by filing a request under New York's freedom of information law for enrollment data about each of the city's 337 public high schools. She asked for total enrollment, enrollment of special education students, and enrollment of English language learners.

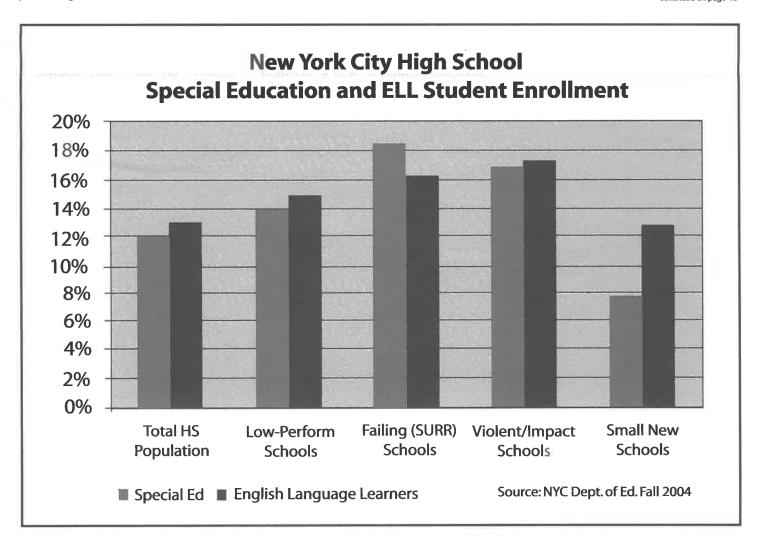
The data came in two Microsoft Excel spreadsheets because the Education

Department maintains separate offices for tracking English language learners and special education students. We merged these spreadsheets into one, where we could keep track of both populations and compare them to overall enrollment. This proved difficult because the spreadsheets did not overlap neatly. Each had schools that were missing from the other's list. After making repeated requests, we finally received complete data for all of New York City's public high schools.

After we compiled the data, we wanted to make a quick check and see if we had a story. We created a column to calculate the percent of special needs students in each school and then sorted the data by that percentage in descending order.

At a glance it was easy to see the list

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MAPPING IT OUT

The latest uses of mapping in news reporting.

GIS, GPS after the storm

By Matthew Waite St. Petersburg Times

After a hurricane strikes, one of the hardest things to do early is get a good grip on the scope of the damage. One of the best ways to do it is with mapping. A map showing where and what kind of damage has occurred can convey a huge amount of information about the scope of the destruction for your readers or viewers.

The trouble is, unless you are lucky, the government agencies that would normally do this – or will end up doing it later – are too busy helping people instead of mapping damage data.

So, especially early, you will probably be doing it yourself. It is not as hard as you might think.

You will need a few things first. And you should have this stuff in place long before a storm threatens. You will need a geographic information system (GIS) program, obviously. You are going to need a large geographic data library. You are going to want to have every piece of geographic data you think you might need after a storm — property parcel maps, surge zones, street files, Census data, anything you can think of. The reason? Your newsroom may run on generator power, but the GIS office

that has the data you need probably will not be powered up. It is hard to get data off a computer that has no power.

Your geographic data library will form your mapping base. To map the hurricane damage, the handiest tool you can get is a global positioning system (GPS) receiver. Get several for your newsroom if you can. (For more about using GPS, see the July-Aug. 2003 *Uplink*).

Unless you are in the largest of newsrooms, you will be out and about covering the storm after a hurricane strikes your town. Bring a GPS receiver with you and mark damage points when you see them. If you have more than one GPS unit, you can send them out with other reporters and compile the data later.

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Many media outlets send photographers up in helicopters to get dramatic pictures of the destruction after a storm. Chances are there is room on the helicopter for you, too. So get on it and ride along. I did that for Hurricane Ivan in 2004 and used GPS to map damage from that storm.

If you do, bring Dramamine. And bring empty bags for the inevitable motion sickness, even if you have never been airsick before. Trust me on this. The hours after a hurricane are blustery and rainy, and the helicopter will dump and dive all over the place. Even the heartiest

flyer will turn green after a few hours of that.

You can map the damage with a GPS alone or, during fuel stops, with a laptop running a GIS program, such as ArcView. Make sure you consider laptop battery operating life. After Ivan, we flew from central Florida to the Alabama border. We were in the air for more than six hours and over the damage area for more than three. That was longer than my laptop's batteries would last and the military surplus Bell Jet Ranger that we flew in did not have a cigarette lighter that I could have plugged a power inverter into. I checked.

Even if you leave your laptop behind, you can still do some preparation using your GIS program. Plot the track of the hurricane and try to model the winds. The National Hurricane Center (at www.nhc.noaa. gov) provides the data you need to do this. (For more about building hurricane track maps, see the May-June 2005 Uplink).

You can display the track in ArcView and create a buffer that displays the distance that the hurricane-force winds extend. You can create a map that shows the tracks and buffers at different intervals – say five intervals of 10 miles – to see the distance from the hurricane's path. Print these maps out and take them with you as guides for looking for damage. Another useful resource is a gazetteer and atlas, especially one that includes back roads on it.

Once airborne, power up your GPS. It helps to have an external antenna that you can stick out of the helicopter and pick up signals that may be weak. Then, every time you spot newsworthy damage, create a waypoint using your unit. My GPS receiver automatically assigns numbers to each waypoint. Note the waypoint numbers in your notebook and describe what you see for each. If you aren't marking them in your

laptop and creating points on the fly, you can download the points to your GIS after you land.

I used the gazetteer to guide us, report where we were, name towns we were flying over, and help report from the sky. Be careful though. Our photographer lost his map hours before we got to the destruction zone. It was sucked out the open helicopter door.

On the way back, I wrote two sets of detailed descriptions of what we saw from the sky. One I dictated to our re-write person on duty that night while we were refueling, the other I transmitted to our graphics department. The one for graphics included detailed geographic information including street intersections, ranges as well as latitude and longitude points - we were in the air so long that using GIS to map it and transmit the maps became impossible - and descriptions of what we saw. I transmitted a text file into our editorial system from a cellular modem from the back of the helicopter when we got close to a cell tower. When I got into the office, with time running out on deadline, I used the points recorded by my GPS then displayed on a GIS map to adjust the points where a graphic artist had placed markers on a map.

The next day, we published dramatic pictures, details of damage in areas closed off to other reporters and a damage map, both in print and interactively online. And, other than a little airsickness, it wasn't that hard.

Find the story about Ivan's damage www.sptimes.com/2004/09/18/ Weather/Florida_death_toll_ hi.shtml.

For the interactive graphic, click on "Graphic: Ivan's Fury."

Contact Matthew Waite by e-mail at waite@sptimes.com.

REQUIRED READING FOR YOUR NEWSROOM

HOME MORTGAGE LENDING:

How to Detect Disparities

Pulitzer Prize-winning journalist Jo Craven McGinty guides reporters through understanding and using Home Mortgage Disclosure Act data. Included are specific story ideas and lists of tipsheets and stories available through IRE.



COVERING POLLUTION:

An Investigative Reporter's Guide by IRE in cooperation with SEI

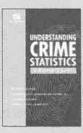
This primer gives an overview of useful resources reporters can use for local investigations into environmental pollution. Filled with examples and references to stories. tipsheets and other resources available from IRE and SEL



UNDERSTANDING **CRIME STATISTICS:**

A Reporter's Guide

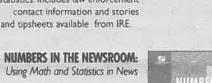
Covers using Uniform Crime Reports, National Crime Victimization Survey, National Incident-Based Reporting System, other major statistical sources, writing the crime statistics story and database analysis of crime statistics. Includes law enforcement contact information and stories



MAPPING FOR STORIES:

A Reporter's Guide To Campaign Finance by Jennifer LaFleur and Andy Lehren

Learn step by step how to map data for daily news stories and larger projects. This practical introduction to mapping can be used alone or as a supplement to other books, It includes story examples and breaks down the elements needed to undertake analysis using mapping software. It is structured to help journalists complete better stories.



Using Math and Statistics in News

Pulitzer Prize-winning reporter Sarah Cohen guides journalists through working with numbers, including fractions, rates, percents, per capitas, measuring change, making inflation adjustments, understanding averages, working with graphics, doing budget stories, questioning surveys and polls, and much more.



A Computer-Assisted Reporting Guide

UNSTACKING THE DECK:

Invaluable for pursuing stories about the impact of money on elections, political parties and candidates at the federal, state and local levels. Learn about loopholes in soft money restrictions, the use of nonprofits to funnel money to candidates, how to track where candidates spend the money they raise and how to obtain and use pertinent documents and electronic data



COVERING AVIATION SAFETY: An Investigator's Guide

Learn to develop a crash plan for your newsroom, report from the scene of a crash, start an aviation beat, interpret aviation records, negotiate Web data and investigate planes and airlines on deadline. Includes related stories and tipsheets, as well as FAA contact information and useful Web sites.

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AFTER A HURRICANE

Maps identify at-risk areas

By John Kelly, Florida Today

Here on Florida's Space Coast, we are steely-eyed pros when it comes to fleeing hurricanes.

After all, three named storms smashed through Brevard County in 2004. Two were fierce enough to send thousands of people into bumper-to-bumper traffic, bound for safe haven.

So, for many people here, the initial reaction to the televised events unfolding in New Orleans in the days before and after Hurricane Katrina drowned the Gulf Coast was to wonder why residents did not evacuate the city.

The answer — that large numbers of New Orleans residents did not have the means to leave — did not register. Our experience last year led us to assume that anyone who wanted to get out of a hurricane's path would and could do so.

Or could they? We decided we ought to at least question the assumption and test our community's readiness to move people to safety in event that a really monstrous storm like Katrina ever roared our way.

Hence, we embarked to answer the classic and often dreaded editor's question: "Could it happen here?"

Matt Reed and I had done some analysis and reporting in 2004 using ESRI ArcView 9 geographic information system (GIS) to predict and later validate the kind of damage to our beachside communities by the hurricanes battering Florida's eastern coastline.

We combined data from local, state and federal sources to look at the number of people, homes and businesses located in the most vulnerable areas of the county — the places where fierce wind, storm surge, beach erosion and floodwaters would wreak havoc.

We obtained mapping data for every parcel in our county from the property appraiser. We got streets, waterways and political boundaries from the state Department of Transportation, and demographic maps and data from the Census Bureau.

Over that base map of our community, we layered ESRI shapefiles of areas prone to flooding, storm surge, and wind damage and shoreline erosion in a hurricane. Those came from the National Oceanic and Atmospheric Administration's Coastal Storms Program.

ArcView allowed us to tally the approximate number of people and the precise number and value of homes and businesses located within areas that hurricane experts predicted could be hardest by various levels of hurricanes.

We predicted how many people might be displaced, the areas likely to be hard hit and dollar values of endangered property before Frances and Jeanne hit last year. We used ArcView in damage assessment afterward too and found that we were pretty close on all counts.

This year, we were able to use the same basic data to go answer a question raised by New Orleans' experience: Are there people living in hurricane-threatened areas of our county who might not have the means to escape once the authorities ordered an emergency evacuation? And, if so, had our government officials put in

place a plan to help those people?

The answer to the first question was "Yes." There are vulnerable people who might need assistance getting out of the path of a dangerous storm. Not as many as New Orleans, but even in this much smaller community, the numbers show thousands of seniors, poor people and families without cars living in places singled out by government officials and hurricane researchers as risky in a storm.

The answer to the second question was "Sort of." Brevard County has a program set up to provide free rides, using public transit buses and vans, to people who are elderly, disabled and even those who simply do not have their own cars. The catch: you have to sign up, in advance of the storm, for the county to pick you up.

About 2,000 people had signed up for the free evacuation pick-up service during last year's storms. Our numbers revealed that at least 20,000 people might qualify for the service.

Rather than create standards for who might qualify, we relied upon those accepted by the county and emergency officials in their own planning documents. They deemed people over 65, living in poverty or without transportation among those at higher risk in a hurricane. We used 2000 Census data to tally total numbers of people that would appear eligible under those standards.

Granted, there are some weaknesses in any such analysis. First, we had to rely on 2000 Census data. In our growing county, five-year-old demographic data has its weaknesses. Second, every storm is different, and areas prone to storm surge, flooding and killer winds in one storm might not be threatened by another just a little ways up the coast.

We decided the data was reliable enough to use as a general guide for asking questions and spotting potential problems in the county's planning. The



neighborhoods we identified as home to the largest concentrations of poor, elderly or families lacking vehicles were mostly outside the areas where condo and home building boomed during recent years.

Fortunately for us, much of the data we needed had been created for our county and neighboring Volusia. A government project called the Coastal Storms Program launched a "Risk and Vulnerability Assessment Tool" pilot test that relied on GIS to help emergency planners identify the counties' highest risk areas. The goal of the test was to find critical facilities, neighborhoods and people at the highest risk in a major hurricane or other disaster.

The project had done a lot of the data processing involved in combining Federal Emergency Management Agency flood maps with government storm surge maps and local databases of facilities such as hospitals, firehouses and shelters. A collection of mapping shapefiles is available for download (see www.csc.noaa.gov/rvat and go to Data Dictionary for the file list).

We also are fortunate to have a county government that is heavily invested

in GIS. Our property appraiser has a constantly updated shapefile of property parcels available online.

However, anyone with intermediate knowledge of ArcGIS could gather the data necessary from FEMA, the Census Bureau and other government sources to do similar analyses.

We opted to use ArcView as a visual tipster for our reporting.

In addition to identifying the total number of people possibly in need, we wanted to identify where they lived. We used Census block groups to identify these neighborhoods. We found several dozen neighborhoods with at-risk populations, so we pulled the data into our existing hurricane mapping project from the year before. We also had a hurricane hazard areas map from NOAA's storm project. Those maps identified levels of risk, from low to high, for hurricane winds, water and erosion.

We saw several clusters of neighborhoods, many of them along the riverside areas in or near a flood plain. All of the neighborhoods were at least partly within areas that the NOAA experts had deemed as facing "moderate" to "high" risk in a direct hit from a major hurricane.

It wasn't necessary to calculate exact

People we interviewed who might need a ride to flee a storm were not aware of the program even though the county had run public service announcements and made other outreach attempts.

The resulting story and map prompted good discussions among emergency management officials and public service organizations. Reed went on a local radio station with the county's emergency management chief to talk about the issue. Within a week or so after the story, at least a couple of hundred people had contacted the county to get on the pick-up list. Several other conscientious residents called us to say they would volunteer to coordinate rides in their neighborhoods.

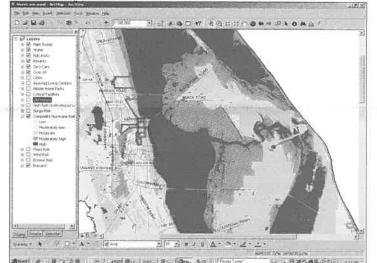
Certainly, we could have done the same story without much computer analysis at all, but the story would have lacked the detail our analysis provided. Much of the reporting work on the story consisted of interviewing and sifting through hundreds of pages of county emergency planning documents.

Other newspapers have done similar stories amid the second-guessing about what happened in New Orleans, measuring their communities' emergency plans against the worst of the worst disaster

scenarios. Some journalists used data analysis. Others did not.

In our case, we were able to utilize the more extensive GIS analysis we did the year before. It illustrated the importance of preserving your earlier CAR analyses. For this story, with some minor updating of our data, it became one of several tools we used to answer our editors' "Could it happen here?" question.

Contact John Kelly by e-mail at jkelly@flatoday.net.



numbers of people living in flood plains or surge zones. We simply wanted to eyeball areas of the county where there were higher-than-average numbers of people who in need of evacuation assistance. The maps and data helped us formulate informed questions.

The people in the county emergency management circles had done their homework. They knew where clusters of particularly vulnerable people were before we came with our questions. However, they admitted, they had lacked a comprehensive plan for evacuating residents who had not already signed up.

AFTER A HURRICANE

Covering coastlineswith IRE Resources

By Amanda Buck and Rhitu Chatterjee, IRE and NICAR

IRE and NICAR offer numerous resources that can help journalists report on coastline change using computerassisted reporting. Highlights include:

The NICAR 'Net Tour (www.ire. org/training/nettour) provides Internet resources, including links to Web sites with files that can be used to map coastline data in geographic information systems (GIS).

Stories from the IRE Resource Center

"Boom on the Beach," USA Today This series examined economic growth and development along the East and Gulf coasts. The series revealed that in spite of many natural threats, such as long-term hurricane risk, rising sea level, fragile sands and erosion, "growth pressure keeps building." The journalists used data from annual countylevel disaster declarations from Federal Emergency Management Agency, annual mean sea-level data from the NOAA and nationwide municipal building permit data. The story was based on analysis and mapping using Microsoft Access, Excel and ESRI ArcView. (Story No. 17357)

"Shoreline in Peril," Newsday

For years, the rich and powerful have built lavish second homes along the 75-mile Atlantic Ocean shoreline from Fire Island to the Hamptons. This investigation found that property owners on Long Island's ocean shores were building at public expense. The story relied on several databases regarding claims and losses for flood insurance. Newsday used Access and MapInfo Pro GIS to analyze the data. (Story No. 14973)

"New Jersey Fails to Protect Wetlands," *Atlantic City Press*

This story revealed that weak enforcement made "a mockery out of the country's toughest wetlands law" and resulted in the flooding of houses. The newspaper used Excel to organize and analyze the data obtained from the New Jersey Department of Environmental Protection and other agencies. (Story No. 18706)

"Crisis Along the Coast," The Philadelphia Inquirer

This story examined development along the East Coast and its vulnerability to recurring disasters. The journalists used a number of databases such as FEMA's disaster relief database and the Flood Insurance Administration's flood insurance database, to build their own database. They then analyzed the data on disaster spending along

the coast, federal flood payments and premium rates, coastal pollution and water quality. (Story No. 16655)

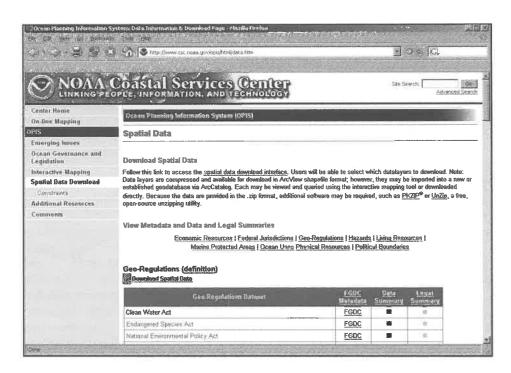
Tipsheets from the IRE Resource Center

Land Scandals by the Sea. This tipsheet from Thomas Maier of *Newsday* focuses on how to look at court documents, environmental records and land deeds for a broader picture of coastal development. (Tipsheet No. 879)

Hurricane/Disaster CAR. John Maines, of the South Florida Sun-Sentinel, provides suggestions and resources for covering emergency situations, including resources from FEMA and private companies that provide images of destruction. (Tipsheet No. 2284)

To order copies of the stories or tipsheets contact the Resource Center at 573-882-3364 or rescntr@ire.org.

Contact Amanda Buck by e-mail at amandab@ire.org.
Contact Rhitu Chatterjee by e-mail at rhitu@ire.org.



this meaning on their own. But as with any other source, journalists must be skeptical.

Reporters should beware never to take points plotted on a Google Map as precise locations, especially in cases where a measurement of a few yards is likely to matter. The maps are great for eyeballing clusters and showing trends in areas, but more precise measurements should be left to GIS packages.

The API also does not handle multiple points plotted at exactly the same coordinates well. No matter how many points are plotted there, only one will appear. In those cases, I usually alter the coordinates by an infinitesimal amount so the points appear offset at higher zoom levels.

Finally, Google does not want corporations using their maps exclusively on local intranets. Under the API's terms of use, all maps have to be displayed on the open Internet and must be universally accessible. I got around this by placing mine on my personal Web site, and it seems Google is willing to compromise on other solutions.

There are technical issues as well. Microsoft Internet Explorer sometimes chokes trying to map more

than a few hundred points. Although performance is quickly improving, Google Maps was not designed to handle thousands of events at a time.

Because no function exists for it in the API, geocoding – assigning latitude and longitude coordinates to addresses – requires some creative programming. Many programmers scrape the coordinates from www. geocoder.us, which condones the practice, or set up a large Census TIGER database on their servers and draw from it using Perl.

Solutions for these problems and others are often discussed by the extensive community that has coalesced around the API since Adrian Holovaty, a 2001 graduate of the Missouri School of Journalism recently hired by *The Washington Post*, helped popularize maps hacking with chicagocrime.org earlier this year.

Google's message boards are loaded with information, and Google representatives often log in to answer questions. It seems that Google continues to supports the innovation born from tinkering with their technology, and the potential is clear.

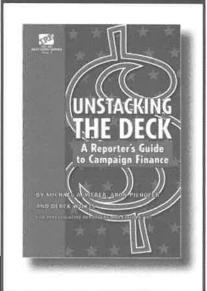
Although it is not without hiccups, the Google Maps API has already been used to create gorgeous online



graphics. Within the newsroom, it can also be turned into a useful reporting tool that could help relieve some of the deadline dependence reporters have on CAR gurus.

But more importantly, it can make spatial data display a more prominent and accessible component of news coverage, revealing new story ideas and helping create a better-informed newsroom.

Contact Chase Davis by e-mail at chase.davis@gmail.com.



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FEMA

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four hurricanes in 2004. We found one problem after another, ranging from widespread fraud and waste in the agency's disaster assistance program to the discovery that many FEMA housing inspectors had criminal histories.

Our work led to a U.S. Senate investigation and a demand by senators for sweeping changes at FEMA to shore up sloppiness and improve accountability.

For most of the year, FEMA officials issued flat denials of the *Sun-Sentinel's* findings or used spin tactics to make things look rosy. When the agency bowed to the Senate demands for change this summer, the title of the announcement had a typical twist: It was called Building on Success.

FEMA responded to 313 declared disasters across the United States and in U.S. territories between 1999 and 2004. That's an average of one a week. Because of FEMA's failings after Katrina and the sometimes off-key statements by former director Michael D. Brown, more people now see the agency has problems that it has refused to acknowledge.

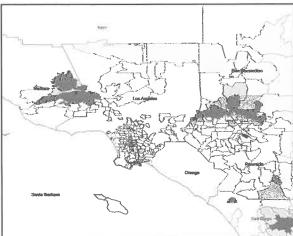
The Sun-Sentinel's yearlong look at FEMA began in September 2004, when reporters Sally Kestin and Megan O'Matz investigated what happened to \$31 million in disaster assistance payments to residents of Miami-Dade County. The worst of Hurricane Frances missed Miami-Dade County and instead delivered winds equal to a nasty summer storm. Yet FEMA's data showed that nearly 13,000 residents collected money through FEMA's Individuals and Households Program.

The program has good intentions – to provide money to the poor, uninsured and underinsured who suffer disaster-related losses. The grants are often just a few thousand dollars or even

a few hundred dollars, but the sheer number of applicants can cause the cost of a typical disaster to quietly soar into the millions of dollars.

Just as it did with Hurricane Frances.

On Labor Day weekend in 2004, the storm made landfall 100 miles north of Miami-Dade. The county had maximum sustained winds in the 40 mph to mid-50 mph range, and public



officials were confident the county had been spared. But early on, FEMA's one-page county-by-county disaster summaries showed millions of dollars flowing to individuals in Miami-Dade County.

The data exposed the mystery. Basic reporting solved it.

We requested records for each applicant who sought federal assistance, and FEMA provided it at no charge in nine Microsoft Excel spreadsheets, which allowed us to total dollar amounts by ZIP code.

Most of the money went to the poorest neighborhoods of Miami and surrounding communities. Kestin and O'Matz visited several, and residents freely volunteered that cheating FEMA was a way to make quick money.

Some residents familiar with the scam said people soaked their old sofas outdoors with a garden hose and sprayed Coca-Cola on their ceiling and walls to simulate damage from roof leaks.

The abuse in Miami-Dade was so widespread that we wondered if it had happened elsewhere. This spring, we expanded the investigation to 20 disaster declarations in other cities between 1999 and 2004, selecting them based on insider tips telling us that FEMA payments far exceeded

actual damage. Again we filed a FOIA request for the disaster databases, which FEMA sent to us at no cost, on CD, after extracting them from its National Emergency Management Information System (NEMIS).

The FEMA databases are fairly easy to analyze in Microsoft Access or any other database manager. The 12 delimited ASCII (text) files include information on housing assistance, property loss payments, and cause of damage. Property losses are itemized for each applicant

 televisions, microwaves, air conditioners clothing, lawn mowers, washers, dryers, cars and much more.
 FEMA also pays certain medical and dental expenses, rental assistance, temporary housing costs and disasterrelated funeral expenses.

Unfortunately, it is impossible to tell precisely which losses were reimbursed by FEMA. The records might show that a person had several appliances damaged or destroyed, and that they received \$1,500, but there's no way to determine which specific appliances were covered. We wrote around it: "FEMA paid \$13.1 million for claims that included 5,260 televisions, 1,810 uniforms, 1,091 microwave ovens and 1,311 washers and dryers."

FEMA also excludes names and addresses of aid recipients, citing restrictions of the U.S. Privacy Act of 1974. *The Sun-Sentinel* sued for the names and addresses in federal court, and the case is pending. Three



Gannett newspapers based in Florida – Florida Today, the Pensacola News Journal and The News-Press in Fort Myers – lost a similar suit.

We mapped out the money by ZIP code using ArcGIS 9 and compared our data maps to any document we could find – public records of damage in these areas, newspaper stories, police or fire calls, ambulance runs, public utility flooding reports, and the National Climatic Data Center's storm events database. We interviewed dozens of public officials, business owners and local residents.

The dollar amounts indicated these were huge disasters—87,600 residents of Detroit received \$168.5 million after a 2000 storm—and yet often we often found little evidence of damage or destruction in neighborhoods that received the bulk of the money.

On Sept. 18 and 19 we published our findings in the series, "FEMA: Legacy of Waste." Over five years, the agency paid at least \$330 million into areas reporting little or no damage, representing 27 percent of the \$1.2 billion FEMA paid to more than half a million individuals.

During the investigation Sun-Sentinel reporters visited the inner cities of Baton Rouge, Cleveland, Detroit, and Los Angeles. In each, residents told us almost mirror versions of what we had heard in Miami: FEMA was an easy mark.

My favorite was the Southern California wildfires. In 2003, after the fires destroyed hundreds of thousands of acres in the rugged California mountains, \$5.2 million in FEMA aid somehow found its way to the inner-city areas of Los Angeles and surrounding communities, at least 25 miles from the fires.

Some of our analysis never made it into print. Our statistical analysis software, SPSS, showed an interesting pattern for damaged or destroyed television sets. In some disasters, the farther

someone lived from a storm, the greater the odds they would claim a television set was damaged.

FEMA made little attempt to refute our reporting. When they tried to use hard numbers against us, they blew it.

On Jan. 10, three months after we ran our first story questioning the aid to Miami-Dade County, Daniel Craig, the agency's recovery division director, told reporters in a telephone conference that sustained winds reached 85 mph in "in the parts of Miami-Dade County that received our assistance."

FEMA made little attempt to refute our reporting.

To make that calculation, FEMA used surface wind maps that can be downloaded as ESRI shapefiles from a Web site run by the Hurricane Research Division of the National Oceanic and Atmospheric Administration, at www.aoml.noaa.gov/hrd/data_sub/wind.html. We had the same shapefiles. We followed up with a story and map showing that the nearest 85-mph winds were gusts at least a half mile offshore of Miami-Dade, and quoted NOAA officials saying FEMA misrepresented their data.

Craig also told reporters FEMA was confident storm damage occurred in Miami-Dade. "We know this for several reasons," said Craig. "Foremost among them is that FEMA's contract inspectors personally inspect and verify the claims. Our contract inspectors are our first line of accountability."

In April, after a lengthy investigation, Kestin and O'Matz wrote that those inspectors include criminals with records for embezzlement, drug dealing and robbery.

The FEMA database showed that more than 300 deaths were related

to the four 2004 hurricanes, based on FEMA's funeral reimbursements – it seemed like a high number.

When the reporters contacted the Florida Medical Examiners Commission, the medical examiners were equally surprised. They are the official keepers of storm-related death counts, and their numbers did not match FEMA's.

The commission reviewed 306 deaths from the four Florida hurricanes in which FEMA paid up to \$7,500 in funeral expenses. The examiners found just 74 could be blamed on the storms. In the other 232 cases, the cause of death was suicide, unrelated accidents or natural ailments such as cancer, heart attacks or emphysema.

Asaresultofthe Sun-Sentinel'sarticles, in May hearings were held before the U.S. Senate Committee on Homeland Security and Governmental Affairs. Two months later the committee sent then-FEMA director Brown a letter saying "serious shortcomings" existed in the nation's disaster relief program that "allowed taxpayer dollars to be wasted." The committee made 19 recommendations for change it said FEMA must make, including paying for only disaster-related funeral expenses and more extensive background checks of inspectors.

In August, FEMA announced a series of reforms in its Building on Success report, outlining plans for greater scrutiny or work by inspectors, who now are required to take photographs of damaged property. FEMA also said people appealing for federal help will be reimbursed only for items that are "clearly destroyed, physically gone or contaminated."

The anger over Katrina almost guarantees that FEMA will see more changes in the future. At the *Sun-Sentinel*, we are glad to have helped build on the agency's success.

Contact John Maines by e-mail at JMaines@sun-sentinel.com.

Assault

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teacher experience and average daily attendance.

The pamphlets – 1 million copies are printed every year and each one is available for download on the Internet – also are supposed to reveal how many times schoolchildren have been caught with drugs, alcohol and dangerous weapons, as well as how many "assaults/fights" happened on campus the previous school year.

Getting data

Journalists get most of this information in a Microsoft Excel spreadsheet with nearly 1,800 rows and more than 100 columns. Some schools are listed more than once because they are both elementary and middle schools, or middle and high schools. The data includes the school's performance on the Colorado Student Assessment Program (CSAP) tests, average teacher salary, enrollment, dropout rate, students eligible for free lunch and number of teachers and administrators.

We typically sort the data to see how many schools were rated "Excellent," "High," "Average," "Low" or the dreaded "Unsatisfactory," which holds consequences for those schools. We compare the schools to their previous years' ratings and look at whether there is a correlation between how well a school is rated and factors such as poverty, length of school year and teacher experience.

I used Excel to show that, for instance, in all of the schools rated "Excellent" only 3.2 percent of students qualified for free- or reduced-price lunches while 54 percent of students in schools rated "Unsatisfactory" qualified for free- or reduced-price lunches. Once again, nothing fancy, though I've also played with the data in SPSS and come to similar conclusions.

We usually do stories on whether schools have improved and whether

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they are in danger of being converted to charter schools because of low ratings. As far as comparing ratings from year to year, in the past the state has put the previous year's rating in the current year's spreadsheet so it was easy to compare them. That wasn't done this year so I had to merge the current year data with previous years. I used Microsoft FoxPro database manager to join the data on a unique number for each school so I could see how the ratings compared from year to year.

The report cards had been out for a while this year when a student at Montbello High in northeast Denver was fatally stabbed in the school lunchroom. That prompted us to closely examine the "assaults/fights" category on the SARs.

After scrubbing the spreadsheet to eliminate duplicate data, then sorting it and using Excel's pivot table reports to aggregate the information by school district, we quickly saw something odd: While Jefferson County, the state's largest school district, listed nearly 650 fights and assaults on its report cards to parents, Denver Public Schools (the state's second-largest district) listed only 103.

Even odder: suburban Cherry Creek schools, with more than 46,000 students, reported just one fight for the entire school year, as did the Aurora school district with more than 32,000 kids. Some neighborhoods in Aurora, a suburb just east of Denver, are urban and economically challenged as any other in the state. But if you believed the SARs, high school kids in Aurora never, ever fought with one another!

And what did the SARs show as the most viölent school in Colorado? A middle school in Fountain, a suburb of Colorado Springs, with a population of 760 and nearly twice the total assaults and fights reported by all Denver high schools.

Our spreadsheet work, which never got very complicated on this story, was mostly done at this point. We now knew there was likely a wide variance in how districts disclosed incidents of school violence, seriously calling into question the validity of that information on the SARs. But we needed more data to be certain.

Finding fights

Police reports, detailing each time officers were called to a school because of violence, would be the key to making this a really powerful story. Even though the SARs might show no fights at a school, we suspected that police might say otherwise.

Getting the police data was not going to be easy. For reasons we have never quite understood, police departments in our area have historically balked at releasing electronic incident data that can be imported into a spreadsheet or database manager. Denver and Aurora police again told us we would not be getting any databases, but they would provide us with some paper reports (after redacting all minors' names) for incidents at high schools during the previous school year.

That was all we really needed, we decided.

From the reports we learned Denver police had recorded at least 345 assault arrests at high schools last year. The SARs listed only 38 assaults at Denver high schools.

In the Cherry Creek district, where there supposedly had been no fights at any of the high schools, a boy had been beaten by a classmate who used a watch as if it was brass knuckles, a police report showed. Another boy had been permanently disfigured by "a deep laceration to his right cheek." Another suffered a closed head injury and facial fracture.

There were a lot more examples like these.

At one school that reported no assaults, a boy had struck a classmate with a flagpole, inflicting injuries that caused the victim's father to take him to a hospital. At another, a boy had been stabbed in the forearm during a schoolyard fight. At another, a kid had been beaten with a baseball bat.

Conflicting police policies complicated our search for information.

The details provided to us varied greatly in the two cities, Denver and Aurora, where we sought incident reports on all aggravated assaults during a school

In general, Aurora police censored only names of juveniles, while Denver police redacted almost everything from incident reports. Denver police also charged a fee for each report they produced, while Aurora police provided reports at no charge.

Uncovering more

We traced the wholesale exclusion of school violence from accountability

reports to a state interpretation of the law requiring such reports.

State education officials told us they had limited the "assaults/fights" category on accountability reports to first- and second-degree felony assaults. They did this for two reasons: They didn't want every shoving match listed as a serious incident, and there is no statutory definition of a fight in Colorado.

But that definition generally limited the reported assaults and fights to attacks using a deadly weapon or causing "serious bodily injury," which maimed the victim, damaged internal organs or posed a substantial risk of death.

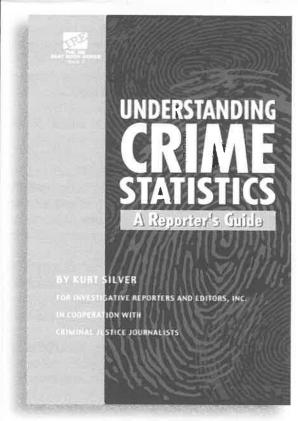
In practice, some school districts used that limitation to exclude some attacks that police defined as second-degree felony assaults. Others insisted a fight is a fight and reported each one to parents.

"We report fights very literally at this school," Deb Keiley, principal of Fountain Middle, supposedly the state's "most violent" school, told us. "We have high expectations of the students."

But the state definition allowed other school officials to decide that a girl held down and burned with a cigarette was not an assault victim; after all, a few small scars did not have to be counted as a serious bodily injury.

At the high school she attended, and never returned to after she was attacked, the principal offered this example of what would count as an assault or fight on his school's accountability report: "If I broke all the bones in your face."

Contact Jeff Roberts by e-mail at iroberts@denverpost.com.



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Planning

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electronic form, are at the heart of any investigation about who and what is affected by a disaster. These databases provide information about the characteristics of each property, such as buildings and land use, and who owns it.

Property records are also useful in tracking activity as communities rebuild, says Margot Williams, database research editor at *The New York Times*.

"They may give us a way to figure out down the road where people went, to see where they were, what new ownership will be and where people used to live," Williams says. "It allows us to take a look back when we see what places like Louisiana look like a year or two from now."

Data from the 2000 Census – the most recent – contains detailed population information, down to areas as small as a city block. Journalists can use this data to generate estimates of the number of people stricken by disaster and describe the affected areas.

Key data

It can be a daunting task to collect and update the data. But Williams says the effort is worth the result: a useful library that journalists can use. "You want to collect everything because you just don't know what will happen, but you need to make decisions and target certain data."

Older data is good to have on hand, too, especially if it is the most recent available. That data, Williams says "is the foundation. It's useful for the context, for comparison, background, how things have been done in the past. It also helps you be competitive, and do stories that no one's done."

For example, Williams says the U.S. Environmental Protection Agency's Toxics Release Inventory was useful

in reporting on potential environmental hazards after Katrina. The most recent TRI data, from 2003, contains information about facilities that emit pollutants. It is available from the IRE and NICAR Database Library.

"When the floods happened, people were very interested in finding out what toxic materials were stored in the facilities in the area and how they would affect workers and others in the area if they leaked," Williams says. *Times* reporters used TRI for background information while reporting on the effects of Hurricane Katrina. The reporters who used TRI sought out other information about the conditions in the area — which toxins were present in the water and landfill locations, for example.

One of the key practices for journalists is to keep, in portable form, copies of databases and stories.

Other databases can provide history and context, Williams says, such as the Small Business Administration Disaster Loans and the Federal Procurement Data System (federal contracts) data. The SBA database shows which businesses have received assistance in the past, and the procurement database includes information about businesses that received contracts to provide post-disaster services.

Protecting data

When disaster strikes, journalists may get shut out of their newsrooms and lose access to their data.

The New Orleans Times-Picayune staff

faced myriad challenges as Hurricane Katrina bore down on the city. The storm hit New Orleans on Tuesday, Aug. 29. Newspaper management had plans in place to publish the paper as long as the staff could remain in the paper's building in New Orleans. The winds started to pick up before Katrina hit, and power went out early Monday morning.

"We worked here at the paper Sunday night through Monday using the generator on the roof," says reporter Mark Schleifstein. "We had enough fuel to last a few days and run a battery of computers. We still had some Web availability through satellite. That lasted until we left the building."

After fleeing the city in newspaper delivery trucks the day Katrina hit, the staff continued to publish stories on the newspaper's companion Web site, www.nola.com, and later printed papers using another newspaper's presses.

Schleifstein, who helped report the newspaper's 2002 "Washing Away" series that warned of the danger for New Orleans after a devastating hurricane, says that keeping newsrooms functioning in times of disaster involves foresight.

The Times-Picayune relied on the resources of others—such as The (Houma, La.) Courier and Louisiana State University's Manship School of Mass Communication. The Courier provided a makeshift newsroom and use of its printing press. LSU let the Times-Picayune use a computer lab.

One of the key practices for journalists is to keep, in portable form, copies of databases and stories. "Reporters, if they're smart, have backed it up. It's also on the computers and on the mainframe, but its not done very often unless you're extremely conscientious," Schleifstein says.

Schleifstein had files on the newspaper's computer systems that were inaccessible until he re-entered the building. "They would have been helpful, but were not necessary," he says. "I also had a bunch of stuff on my laptop, which I had with me."

The Times-Picayune computer equipment and servers were not damaged in the storm, but they were inaccessible from remote locations. When Schleifstein returned to the newsroom he had more than 1,000 e-mail messages waiting that he had not been able to access via the Web.

Williams says the newspaper's strategy includes backing up databases on servers that are accessible off-site. It also has a newsroom already set up elsewhere if journalists need to relocate from the newspaper's main newsroom.

Older data is good to have on hand, too, especially if it is the most recent available.

Doig stressed the importance of off-site backup as part of a plan to get a newsroom back in operation. "Individual reporters can dump files onto a CD, but the IT department should also have a plan that puts [the files] in another location."

Doig recalled the 2001 anthrax contamination at the American Media Inc. building in Boca Raton, Fla., which shut down the building. AMI, which publishes supermarket tabloids, abandoned the building.

"With a little bit of thought, you can anticipate certain disasters, and with a relatively small amount of money, you can make sure it won't be a crippling one."

Contact Theresa Wieberg by e-mail at theresa@ire.org.

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Suspension

continued from front page 4

we made clear the distinction. This might seem like a small step but you should plan on deciding early on which way to focus to avoid going back and redoing half your queries later.

Merging data

Soon after starting the project, we decided to merge a database that my colleagues Ted Mellnik and Melissa Manware were going to use for a separate story.

This was a Charlotte-Mecklenburg Police Department database with 1,000 records of arrests of people 19 or younger on CMS campuses during the school year, weekdays from 7 a.m.-5 p.m. The records did not contain identifying information about students younger than 16. Reporters eyeballed the reports and were satisfied that few cases involved nonstudents.

We also looked at a CMPD database of more than 1,500 crimes reported on school campuses during the school year, though the information could not be linked to the suspension or arrest databases. We examined about 800 county sheriff records, in Microsoft Excel, of arrests and incarceration of people identifying themselves as students. (Juveniles are not held in the county jail and were not part of those records.)

We had one set of data on suspensions and another on incidents and arrests. The suspensions data listed 32 reasons for suspensions, but for our analysis we chose the six that we felt included violent or threatening behavior: firearms, robbery, extortion, sex offense, weapons, and physical/verbal aggressive action.

The full-page chart that ran with the story listed every school's enrollment as well as totals in violent/threatening reported crimes and arrests, and

suspensions in the violent/threatening categories.

There was a lot more violent activity on campuses than the public knew about.

We showed readers there were 1,537 serious crimes at schools reported to the state by CMS; 1,203 arrests on campuses; 1,473 crimes reported at schools, and 12,681 CMS suspensions for violent/threatening acts.

In response, school safety officials admitted they failed to disclose some crimes as required by the state and will re-examine how they report crime.

Racial disparities

The second story reported on several other major findings in the analysis: CMS suspended 1 in 6 students, children as young as 5, and black students nearly four times more often than whites.

Overall, CMS suspended 8 percent of its white students and 30 percent of its black students, disparities that exist nationally, but are not easily explained.

This complex issue touches on several factors, including racism, cultural misunderstanding by teachers and poverty. The stress of poverty can mean less structure at home and more exposure to violence and trauma in poor neighborhoods for children. In Charlotte's home county, black school-age children were four times more likely to live in poverty than white children.

As one CMS administrator said of the racial disparity, "It's a very difficult issue, and it's uncomfortable for folks. ... You don't want to believe there are any biases, but the truth is – there probably are."

The idea of looking at the youngest students grew out of our initial queries, when one of the categories we looked at was suspensions by year born. Here we took the two most recent years in the database to look at the number of suspensions.

There were other quirks we found with the data, and for which we had to adjust:

- When we looked at the suspensions of the youngest students we eliminated those who were suspended for having incomplete immunizations because the children do not have control over that.
- The CMS population database included only percentages of student race and ethnicity. We had to convert the percentages to numbers and, in the cases where we rounded the number, mentioned that in a footnote.
- For our full-page chart listing every school's suspension rates of white, black and other students, we questioned what we should do when there were very small numbers of a racial group at an individual school. After consulting with our stats colleagues in the newspaper's research department, we decided to exclude percentages for groups of 30 or fewer students to ensure we were presenting statistically valid rates. The chart also included the total number of students suspended per school.
- We also excluded from our list alternative schools for troubled youths that had no population figures provided.

After the series ran, the CMS board called for a review of discipline practices to stop the surging suspensions that can compound problems for schools and students.

Read the series on the Web at www. charlotte.com/mld/charlotte/living/education/11819136.htm.

Adam Bell can be reached by e-mail at abell@charlotteobserver.com.



Big story

continued from front page 2

New Orleans were the ones left behind as others in the city evacuated. For more than 15 years, journalists have used CAR to look for hints of racial bias in business, social institutions. governments and law enforcement. Data from the U.S. Census includes detailed information about race that journalists can continue to use to look at whether racial minorities in their own areas would be at risk in a disaster.

- 3. FEMA's failures. Journalists have already been using the Federal Emergency Management Agency's own data to show it has wasted millions of dollars by providing aid to people who suffered no losses in disasters. The South Florida Sun-Sentinel, for instance, has been reporting on this since last year. Journalists can get the same data and look to see if the problems have persisted locally.
- 4. Coastal safety. The Atlantic and Gulf coasts, which lie in the path of hurricanes, have experienced steady population growth during the past few decades. At the same time, wetlands and barrier islands nature's safeguards against flooding - are eroding. Journalists can use all sorts of data (Census, building permit, wetlands, etc.) to report on what this dangerous mix may portend for their towns.
- 5. The reconstruction. Billions of dollars in private and public money will flow into the Gulf region to clean up, and then rebuild. Federal spending, federal loan program and local property databases can be used for the reporting.

For more information about many of the databases mentioned here visit the IRE Web site at www.ire.org/ inthenews archive/katrina.html.

Contact David Herzog by e-mail at dherzog@nicar.org.

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Investigative Reporters and Editors, Inc. is a grassroots nonprofit organization dedicated to improving the quality of investigative reporting within the field of journalism. IRE was formed in 1975 with the intent of creating a networking tool and a forum in which journalists from across the country could raise questions and exchange ideas. IRE provides educational services to reporters, editors and others interested in investigative reporting and works to maintain high professional standards.

Programs and Services

IRE Resource Center: A rich reserve of print and broadcast stories, tipsheets and guides to help you start and complete the best work of your career. This unique library is the starting point of any piece you're working on. You can search through abstracts of more than 20,000 investigative reporting stories through our Web site.

Contact: Beth Kopine, beth@ire.org, 573-882-3364

Database Library: Administered by IRE and the National Institute for Computer-Assisted Reporting. The library has copies of many government databases, and makes them available to news organizations at or below actual cost. Analysis services are available on these databases, as is help in deciphering records you obtain yourself.

Contact: Jeff Porter, jeff@ire.org, 573-882-1982

Campaign Finance Information Center: Administered by IRE NICAR. It's dedicated to helping journalists uncover the campaign money trail. Through seminars and Web site, CFIC provides a forum on the latest developments in which journalists can learn from one another. Our training provides keys to the nuances of campaign finance and its influence on contracts, jobs and legislation. In our seminars we teach journalists newsgathering and database skills they need to do in-depth, original reporting that goes far beyond the numbers.

On-the-Road Training: As a top promoter of journalism education, IRE offers loads of training opportunities throughout the year. Possibilities range from national

conferences and regional workshops to weeklong boot camps and on-site newsroom training. Costs are on a sliding scale and fellowships are available to many of the events.

Contact: David Donald, ddonald@ire.org, 573-882-2042

Publications

The IRE Journal: Published six times a year. Contains journalist profiles, howto stories, reviews, investigative ideas and backgrounding tips. The Journal also provides members with the latest news on upcoming events and training opportunities from IRE and NICAR.

Contact: Brant Houston, brant@ire.org, 573-882-2042

Uplink: Bimonthly newsletter by IRE and NICAR on computer-assisted reporting. Often, Uplink stories are written after reporters have had particular success using data to investigate stories. The columns include valuable information on advanced database techniques as well as success stories written by newly trained CAR reporters.

Contact: David Herzog, dherzog@ire. org, 573-882-2127

Reporter.org: A collection of Web-based resources for journalists, journalism educators and others. Discounted Web hosting and services such as mailing list management and site development are provided to other nonprofit journalism organizations.

Contact: Matthew Dickinson, matt@ire.org, 573-884-7321

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