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Recovery continues in Joplin

By Chris Gray-Garcia
Regional Field Office

Photo courtesy of Kansas City District

USACE employees monitor cleanup operations on a residential street.

Tornadoes don't come any stronger than the one that struck Joplin, Mo., May 22.

A rare EF-5 storm, with winds exceeding 200 miles per hour, it churned for six miles through Joplin's heart; killing 159 people, injuring 1,000 more, and destroying as much as a third of the city. It was the deadliest tornado since modern record keeping began in 1950, according to the National Weather Service.

Seven weeks after the disaster, the devastation is still obvious, but so is the progress of recovery. More than two-thirds of the estimated 1.87 million cubic yards of debris have been cleared, an amount that could fill New York's Central Park, and rebuilding has begun.

Under the National Response Framework, the guidelines that govern the federal government's response to a disaster, the Federal Emergency Management Agency (FEMA) assigns missions to the federal agencies best equipped for them. After the Joplin tornado, FEMA assigned the U.S. Army Corps of Engineers three missions:

- Remove tornado debris from streets and home lots,
- Build temporary replacements for critical public facilities like fire stations and schools,
- Build the sites for temporary housing communities to shelter more than 600 families.

USACE urban search and rescue staff also helped in the first days after the storm.

The Joplin missions came when USACE was also responding to tornadoes in Alabama and fighting floods on the Mississippi River and in the Missouri River Basin. Yet, more than 300 USACE staff traveled to Joplin to help with the recovery mission.

Kansas City District quickly set up a field office in Joplin, led by the district's commander, Col. Anthony Hofmann. Col. Daniel Patton, an Army Reserve officer and Texas businessman, then volunteered to command the ongoing recovery operation.

In its first eight weeks, USACE awarded more than $160 million in contracts for debris removal and construction work, built two temporary fire stations and started construction on two temporary housing sites and facilities for all eight public schools that the tornado destroyed.

All temporary school facilities are on schedule to open before school starts Aug. 17. Families began moving into the temporary communities by the end of July.

Debris removal is ongoing. As of July 19, more than 1.2 million of the estimated 1.87 million cubic yards of debris from homes and vegetation has been cleared. USACE also continues to oversee the construction of temporary schools and mobile home sites. The mission is expected to continue into the fall.

"The Army Corps of Engineers is our hero," said Dr. Debra Fort, the principal of Irving Elementary School, which was destroyed by the tornado.

USACE began its temporary public facilities mission to replace Irving and other schools by using existing school campuses throughout the area. Some are in use and others were vacant, such as the Washington campus where Irving schoolchildren will begin classes this fall.

These facilities consist of modular units, tent structures and storm shelters. Inside the modular facilities are classrooms, kitchens, labs and restrooms. This also includes all electrical and cables needed for today's educational environment.

"Irving Elementary is a family and one of our greatest concerns was that we would be split in different directions," Fort said. "We were relieved to learn we could remain as a family at Washington Education Center by bringing in modulars. We're amazed at how quickly the modulars were put in place. My teachers love them. There is an excitement among the Irving families as we look toward the future. The Corps has provided a reassurance to us that we can continue to educate our students at a high level."

Fort has even quelled concerns of other principals whose schools were affected by letting them tour her campus and see for themselves the quality and workmanship that have gone into the facilities. Irving is 65 percent complete, and progress is made every day on all eight schools.

"The long-term mission of FEMA, the city of Joplin and USACE is to leave the city in a condition that they can build upon after USACE is gone," Patton said. "We want to help create a vision for the citizens that Joplin is going to be better and stronger in the end."

(USACE public affairs specialists Sara Goodeyon and Andrew Stamer also contributed to this report.)

Insights

Jesus tells followers to not worry

By Col. Gary Sexton
Chaplain, U.S. Army Corps of Engineers

In the Sermon on the Mount, Jesus commands His followers to not worry. As I consider this divine directive for my own life, I must admit that it is easier said than done. Most of us believe that anxiety is not something that we choose to experience, and neither is it something that we think we can control.

Just 10 minutes of listening to the daily news is enough to send waves of concern and anxiety washing over us. The big source of anxiety in our times is from the economic sector with the high unemployment rate and the related housing crisis. With the graying of America as many Baby Boomers reach the Golden Years, the availability of Social Security and Medicare and Medicaid funds is a worry. Will there be enough to cover the inevitable costs of illnesses and preventative health care?

Near to the hearts of our U.S. Army Corps of Engineers family are the impacts of natural phenomena such as floods, tornadoes, hurricanes and fires on homes and businesses, as well as the security and safety of our neighbors. Ten years of war in Iraq and Afghanistan has taken its toll on our armed forces, yet they continue to perform magnificently in accomplishing their missions.

The behavioral health community has provided many excellent insights and coping strategies for dealing with worry and anxiety, but I would like to concentrate our reflections on the spiritual dimensions of overcoming these debilitating emotional states. I would like to briefly explore scriptural insights as they relate to the three time periods of our lives: past, present and future.

In dealing with the past, anxiety takes the form of regret or remorse over a decision or action that has yielded a cost in finances, relationships or a clear conscience. Perhaps we are haunted by words or actions that we wish we could undo. Herein lays the need for forgiveness or reconciliation. Paul gives us a promise in Colossians:

"For He (God) has rescued us from the dominion of darkness and brought us into the kingdom of the Son He loves, in whom we have redemption, the forgiveness of sins." (Colossians 1: 13, 14)

Jesus offers some penetrating perspective about the present when He teaches, "Therefore, I tell you do not worry about your life, what you will eat or drink, or about your body, what you will wear. Is not life more important than food, and the body more important than clothes? Look at the birds of the air; they do not sow or reap or store away in barns, and yet your heavenly Father feeds them. Are you not much more valuable than they? Who of you by worrying can add a single hour to his life?" (Matthew 6:25-27)

There is no warrant for using this passage to support failure to plan or not taking responsibility for things that we can control. I think the focus of this passage is that we are to invest our emotional energy and faith in the One who cares the most for us, rather than waste our energies in pursuit of things that rob of us the peace that comes from a living relationship with God.

Further on in His sermon, Jesus looks to the future saying, "But seek first His (God's) kingdom and His righteousness, and all these things will be given to you as well. Therefore, do not worry about tomorrow, for tomorrow will worry about itself. Each day has enough trouble of its own." (Matthew 6: 33,34)

This is not a promise of "pie in the sky, by and by." It is the Lord urging us to have our priorities ordered so that we may experience His work in our daily lives. It sets forth the reality of God's reign in our lives and the affairs of mankind. It also tells us to have a commitment to just and holy living, with the assurance given that whatever we actually need will be furnished.

Jesus is revealing to us the necessity to live in "day-tight compartments" in the here and now rather than being consumed by things we cannot affect because they are in a future where He is in control.

I finish with the encouragement that Paul gave to the believers in Macedonia.

"Do not be anxious about anything, but in everything, by prayer and petition, with thanksgiving, present your requests to God. And the peace of God, which transcends all understanding, will guard your hearts and minds in Christ Jesus." (Philippians 4:6,7)

(The opinions in this article are those of the author and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)

USACE lock hosts terrorism exercise

By Gary Kehoe
North Atlantic Division

The recent attacks in Norway proved that terrorism can strike anywhere. That's why the U.S. Army Corps of Engineers continues to participate in joint training exercises that test the ability to respond to these attacks.

One recent training exercise took place at the Great Bridge Navigational Lock and Canal in Chesapeake, Va. Here, while Norfolk District employees went about tending to recreational, commercial and military vessels, a former government employee armed with a handgun and long guns planned a terrorist attack.

The terrorist in this scenario had been recently fired by a military service agency. He had nothing to lose, so he made his way onto the Great Bridge Navigational Lock and Canal reservation compound and took several employees hostage. A 911 call for suspicious activity brought the local Chesapeake police patrol unit, and the terrorist opened fire on the unit.

Immediately, the patrolmen called for assistance over the police network. The Chesapeake Police Department special weapons and tactics (SWAT) unit mobilized, and within minutes hostage negotiators, snipers, recon/surveillance specialists and others began arriving and developing a plan of attack.

Norfolk District's Security Office was also part of the team, and provided the Chesapeake police with computerized maps of the project site, building and utility locations, interior maps and photographic 360-degree representations of the building interiors. They also provided depictions of all entrance and exit points of the buildings.

This vital tactical information helped the SWAT team successfully breach the facility, save the hostages and take the suspect into custody.

The exercise not only taught the Chesapeake police and the district Security Office lessons in terrorism response, but it also developed relationships between first responders and facility personnel, which are vital should a real-life incident occur.

(Gary Kehoe is the security officer of North Atlantic Division.)

Photo courtesy of North Atlantic Division

A member of the Chesapeake Police Department special weapons and tactics unit comes off a boat at the Great Bridge Navigational Lock and Canal during the terrorism training exercise.

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U.S. Army Corps of Engineers

Tornado trees recycled for mulch

By Chris Gray-Garcia
Regional Field Office

Photo courtesy of Kansas City District

Contract workers mark, cut and fell tornado-damaged trees in Joplin.

The EF-5 tornado that struck Joplin, Mo., May 22 churned for six miles through the center of town. As much as a third of the city was destroyed -- homes, schools, fire stations and businesses.

And trees. Thousands of trees, some as old as 100 years. Trees that had shaded generations of families snapped like toothpicks by 200 mile-per-hour winds.

"It's the loss of neighborhood, really," said Jon Skinner, an urban forester with the Missouri Department of Conservation. "It's a shared green space. The streets were the gathering place because they were shaded by these trees. That emotional connection is hardest to replace."

Felled and splintered, they added up to an estimated 435,000 cubic yards of debris. All of it needs to be cleared.

As part of the federal tornado recovery effort, the Federal Emergency Management Agency assigned the U.S. Army Corps of Engineers the mission to clear Joplin's streets and private property of debris. More than 270 haul trucks continue to work daily to remove it, supervised by about 120 USACE quality assurance specialists.

But while much of the building debris can only go to a landfill, the trees are destined for a second life.

The process starts with sorting. Building materials from homes like splintered lumber, bricks and furniture is separated from potentially hazardous items like electrical appliances, paint and cleaning supplies. Trees and shrubs are hauled to a city-owned site in the northwest corner of town called the Schifferdecker Vegetation Disposal Site.

There, crews work 12 hours a day grinding it into rough-cut mulch with an industrial-size wood chipper weighing 60,000 pounds. After weeks of deliveries, stories-high piles of tree stumps (more than 2,800 to date), branches and mulch are stacking up at Schifferdecker.

But not for long. Green Country Soil, a landscaping supply company in nearby Miami, Okla., has agreed to take almost all of the mulch. This saves local and federal governments the cost of disposal and keeps the trees close to home where they'll likely help grow the next generation of Joplin's urban forest.

"Mulching is a great tool for tree re-growth," said Skinner, who is working with the community on a plan for tree re-planting. "It's a good use of that resource."

But first, the rough mulch must be cleaned to take out foreign debris such as metal so it will be suitable for lawns and gardens when it is shipped to stores within a 100-mile radius. Green Country Soil will further process the chunks from Schifferdecker by grinding it down to a typical mulch size for commercial and residential use. The company's proximity to Joplin means that much of the material may end up back where it started.

This situation is atypical for the mulching industry because they normally have sources for wood byproducts to make mulch, said Tim Potter, a vice president at Oak Castle Lawn and Garden, parent company of Green Garden Soil. "We don't wait for storms to get material. In this case, we're just trying to help."

Green Country Soil is helping by keeping this reusable material out of the landfill and sending it to lawns where it will turn back into soil to grow more trees.

"We feel bad for the citizens and the loss of their trees. But this is as good an ending as we can make," Potter said.

"It's kind of neat," said Charlie Hall, a USACE liaison to local government. "The trees that were lost will wind up as mulch for the new trees that folks will plant."

(Andrew Stamer in the USACE Joplin Recovery Office contributed to this story.)

Lost award returned to Joplin woman

On July 16, Natalie Mauller-Smith got married. On July 14, she received an early wedding present from the U.S. Army Corps of Engineers.

Like many people in Joplin, Mo., Mauller-Smith lost much on May 22 when a tornado ripped through the city. Dave Stanton, a USACE safety officer, met Mauller-Smith where her childhood home once stood to return an award he found in the rubble. The award is from the Modern Languages and Literatures Department at Pittsburg State University (PSU), Pittsburg, Kan., naming Mauller-Smith as the Outstanding Spanish Student of 2006.

Although the small piece of stone and brass may have little intrinsic value, it means more to Mauller-Smith than most people can imagine.

"Most everything's gone," Mauller-Smith said. "What wasn't in the house was in a storage shed that was destroyed. Small things can be really important when everything is gone."

Mauller-Smith, who will begin a new job teaching English and Spanish at Chetopa, Kan., in the fall, said the award is especially important to her. "My experience at Pittsburg State and in my Spanish classes inspired me to be a teacher," she said.

Stanton said it is surprising that he discovered the award among the tons of debris.

"We had just finished clearing a lot," Stanton said. "The crew had just demobilized, and I was walking along the street when I saw something in the gutter. Pretty much everything else was clean. I saw the marble plaque and on the top I noticed somebody's name. I thought, 'Wow, this must be important to someone.' Looking at the property, they probably lost everything, but this one little thing survived, so I thought it might be special to her. It might be the only memory that she has of that house."

Photo by Malcolm Turner, Pittsburgh State University

Natalie Mueller-Smith holds the award that Dave Stanton found in the tornado debris and returned to her.

Stanton gave the plaque to USACE public affairs officials in the Joint Field Office. They in turn contacted PSU to track down Mauller-Smith.

She said that receiving the award just days before her wedding is a positive sign.

"We're looking at the wedding as a new beginning," Mauller-Smith said. "I'm starting a new job, I'm getting married. We're looking forward to the future and this memento is a nice connection to the past."

Mark Rohr, the city manager of Joplin, said Mauller-Smith's story is typical of how the removal of the tornado debris has been handled.

"Members of the U.S. Army Corps of Engineers and the thousands of volunteers who have come to Joplin understand that they aren't just handling debris," Rohr said. "Before the storm, the debris was part of someone's home or life, and we've taken every step to make sure personal items are handled with respect. We're grateful that this award could be returned to Natalie, and we wish her and her husband the best of luck as they begin the next chapter in their lives. We'll be here for them, and the other residents of this great city, every step of the way as we rebuild our community together."

Stanton deployed to Joplin for a month. He is also a veteran of the Hurricane Katrina cleanup in Mississippi, and has seen his share of devastation and also of recovery. He said it all comes down to Americans helping Americans.

"If my hometown of Portland were hit like this, we'd want people from all over to come help us," Stanton said. "It's great when Americans can step up and come in and help. If nothing else, in my 30 days here, if this one thing gets back to her, I've done my job."

(This article was provided by the Media Relations Department of Pittsburgh State University.)

Tornado recovery operations in Alabama

By Gene Pawlik
Recovery Field Office

Photos courtesy Gene Pawlik

Recovery operations continue in Tuskaloosa, Ala., after the tornadoes.

Recovery operations continue in Alabama after the April 27 tornadoes that caused widespread damage and loss of life.

"The impact that the storms had on Alabama and its citizens is almost unimaginable," said Col. Steven Roemhildt, Mobile District commander. "The scope of this mission in terms of geographic area and volume of work is incredible. I continue to be impressed daily by the work done by our USACE volunteers from around the nation, and by our contractor partners. Of course, I can't say enough about the resiliency and character of the citizens and communities in Alabama who are determined to recover from this disaster as quickly as possible."

As of July 24, the Alabama Rights of Way (ROW) mission involved 21 counties, 37 towns and cities, two lakes and one school district. USACE and its debris contractors had removed more than 4 million cubic yards of debris from public rights of way, and in doing so had worked more than 2 million man hours with no lost workdays due to accidents. An estimated 600,000 cubic yards of ROW debris remained.

The wet debris mission tasking for USACE took place at Lake Martin and Neely Henry Lake, and required removing floating and submerged debris deposited into the lakes by the storms. The debris posed a safety risk to boaters, skiers and swimmers if not removed, and threatened the health and water quality of the lakes.

The Lake Martin wet debris mission closed on July 25 and involved removing about 15,000 cubic yards of debris. The Neely Henry Lake cleanup was completed July 19 and removed more than 5,000 cubic yards of debris, including trailer frames, camper trailers and three boats. Submerged debris deemed to be not a risk was left in the lakes where it will eventually become fish habitat.

The Private Property Debris Removal (PPDR) mission is taking place in 20 counties and 11 cities and towns. As of July 24, USACE had received 2,560 rights of entry for PPDR and had completed about half of those. More than 470,000 cubic yards of PPDR debris had been removed of an estimated nearly 800,000 cubic yards total.

One challenge in the debris collection mission for both ROW and PPDR is that there has not been an end date declared for the mission in many localities. Debris is still being pushed to the rights of way requiring contractor debris crews to regularly sweep streets for the new debris, and rights of entry are still being collected for PPDR. Mobile District anticipates the state of Alabama and FEMA will formally announce end dates for the federal assistance for those missions soon.

The USACE critical public facilities mission in Alabama is complete, and involved construction of six fire stations and one police station, most in small communities that were also hard hit by the storms.

The temporary housing mission drew to a close near the end of July with 236 mobile homes installed to assist Alabama families whose homes were badly damaged or destroyed in the storms. The temporary housing units were built in 28 counties, with Lawrence County in northwest Alabama receiving the most at 30 units. The final ready for occupancy inspection for the mission took place in early August.

The end date for USACE's support to the state of Alabama and FEMA has not yet been determined. Until the mission is complete, USACE and its contractors will continue to work as hard as possible to help the citizens of Alabama restore their lives and communities to normalcy.

Stricken schools receive supplies

More than 1,000 students attending three Alabama school systems will benefit from fund-raising by U.S. Army Corps of Engineers emergency responders when classes begin in early August.

Soliciting from colleagues working tornado recovery efforts in Alabama, USACE volunteers collected about $700 of school supplies during a seven-day campaign named Project SAK (School Supplies for Alabama Kids).

"This is so generous of everyone," said Debbie Crawford, principal of Holt Elementary School in Holt, Ala. as she told the USACE volunteer group about the damage, destruction, and community response created by the April 27 tornados. "We're so blessed to have these donations."

On July 29, Ashley Hodge, Danny Hensley and Millie Harper, volunteers from Mobile District, along with Gilbert Dent of Charleston District and Rick Benoit of Portland District delivered $250 worth of school supplies to Crawford. Among the donations were backpacks, notebooks, pencils, markers, paper, binders and crayons. Harper had spearheaded the one-week drive at the USACE office in Tuscaloosa, Ala.

With their school rendered uninhabitable by the tornado, about 425 Holt Elementary students, kindergarten through fifth grade, are attending classes at a formerly closed facility, Lloyd Wood Middle School in Northport, Ala., about 10 miles away.

According to Crawford, just one of her students was injured when the tornado struck, but 53 Holt Elementary students lost their homes, there were 85 injuries to school families, and two mothers died protecting their children.

USACE Photo by Rick Benoit

Debbie Crawford, the principal of Holt Elementary School, receives school supplies from (left to right) Ashley Hodge, Danny Hensley, Gilbert Dent and Millie Harper.

"This is a powerful story," Dent said. "She's a dedicated lady."

"It was difficult not to have wet eyes listening to her talk," Hodge said.

Hackleburg, Ala., a town of about 1,500, was hit especially hard by the April 27 storms. Two EF-5 tornados destroyed its schools, police and fire department buildings, and more than 100 homes. The city also suffered the highest percentage of deaths with 29 fatalities.

On July 29, Joan Baker, principal of Hackleburg Elementary School, received more than $250 in school supplies donated by the Alabama Emergency Agency, the Federal Emergency Management Agency, and USACE volunteers at the Birmingham Joint Field Office. Hodge also collected school supplies at the Birmingham Field Office, including backpacks, calculators, glue sticks, markers, notebooks, paper, binders and crayons.

According to Baker, about 500 students kindergarten through 12th grade finished the past school year attending classes at two area churches. Next school year they will move into temporary modular buildings in the shadow of Hackleburg's demolished educational complex. The temporary schoolrooms were provided by the Corps' temporary facilities mission.

USACE distributions collected by Project SAK organizers were completed July 30 with deliveries of more than $200 in supplies to Holly Pond, Ala., schools by Ben Finn of Louisville District, Mike Lee of Nashville District, and Sam Hill, a USACE rehired annuitant. They are all members of the Corps' Cullman County Field Office.

"We were fortunate the storms did not cause more harm and damage then they did," said Jan Pierce, a teacher at Holly Pond. "I'm so appreciative of all the efforts by USACE to help."

"It's all about the kids," said Finn, who helped organize the Project SAK effort in Cullman County. "This was something we all wanted to pitch in and do."

(Rick Benoit, the mission action officer in Portland District, wrote this article.)

High-tech system vital in Missouri River flood response

By Sara Gross
Joint Information Center

It takes all kinds to fight the flood in the Missouri River Basin – local government and federal employees, Soldiers and civilians, National Guardsmen and contractors.

And Androids.

The U.S. Army Corps of Engineers has not taken a sudden science fiction turn, but there is definitely a high-tech, 21st century flair to this disaster response. A mobile information collection application (MICA) running on Android smart phones now enables levee surveillance teams to share levee issues almost instantly. Each day, five to eight of these teams monitor an established set of levees in Omaha District's Missouri River Levee System, and provide technical assistance to levee sponsors.

Along the Missouri River, there are about 250 miles of federal and nonfederal levees in Omaha District. Public Law 84-99 gives the U.S. Army Corps of Engineers specific authorities to conduct preparedness, response, recovery and rehabilitation activities on these levees.

USACE builds the levees, and the local levee sponsors are responsible for the operations, maintenance and monitoring of their levee systems. While USACE has a comprehensive and aggressive federal levee safety program that includes an annual inspection for adequate maintenance and a more rigorous structural review every five years, more meticulous surveillance is required during a flood.

The flood of 2011 requires extra vigilance because levees along the Missouri River will be saturated for several months, potentially compromising the system's integrity.

"MICA is invaluable to see where a critical matter is located, and to be able to go back to the site," said Dick Taylor, project operations manager of the Missouri River Project in Omaha District. "This tremendous technology allows a team member to take a snapshot of a sand boil and upload it for almost immediate assessment."

MICA was adapted from the ongoing development of the Operation Blue Roof Field Management System, a smartphone-based data collection system initiated by the Corps' Reachback Operations Center after Hurricane Katrina.

Operation Blue Roof is the program that allows USACE to make temporary repairs to homes whose roofs are damaged during a hurricane. This allows the homeowners to live in their homes until permanent repairs are made. The program takes its name from the blue plastic sheets used in the repairs

The Blue Roof tool, now in its pilot phase, collects data digitally, replacing the stacks of paperwork and the inability to provide real-time images of damages and repairs that caused slow response to homeowners' needs.

Michael Winkler, a research hydraulic engineer with the Engineering Research and Development Center (ERDC), first saw MICA's potential during the response to the 2011 flood on the Mississippi River.

"In late May, I was assigned to Mississippi River flood duty with Memphis District," Winkler said. "Teams were reporting field images and corresponding data 24 to 36 hours old during daily briefing meetings. The only way we could get current data was to bring a team in with photos, GPS information and field notes. What we needed was up-to-date information on urgent situations to provide a better overview to the commander and senior staff.

"Because I knew about the Blue Roof application, I contacted ERDC and they agreed to adapt the program for flood fighting and send 25 smart phones to Memphis," Winkler said. "The MICA system they delivered can be applied to any field situation where information needs to be communicated in a timely manner."

MICA can be rapidly configured for emergency response to floods, tornados, hurricanes, and even routine inspections performed by USACE. Within 48 hours, the ERDC team adapted their existing smart phone software into an all-purpose rapid field-data collection application for the 2011 flood fight.

As the flood ended on the Mississippi River, the Missouri River flood was just beginning.

"Starting in late May, we contacted the chief of the Readiness Branch at Northwestern Division and decided to bring the application to Omaha and Kansas City," Winkler said. "Meanwhile, the system used in Memphis District had been further refined."

During the Missouri River Basin flood, MICA has allowed the efficient management of employee resources, and standardization of inspection, data collection and reporting.

"Our team took a MICA coordinate of longitudinal cracking on Ditch 6," said Andy Hill, levee surveillance team member. "Engineering Division decided that this data point was urgent enough to immediately deploy resources to strengthen the levee section."

Ditch 6 is a three-mile-long levee that protects Hamburg, Iowa, from ditch flooding. When a Missouri River federal agricultural levee breached, Ditch 6 was raised 8 feet in one week by a joint team of the Iowa National Guard, Hamburg area residents and USACE.

Urgent MICA issues are discussed at command level at the Emergency Operation Center meeting each afternoon. All MICA data are synced and uploaded to a shared database for discussion and potential ways ahead for these areas of concern.

During the flood fight, MICA helps USACE determine the status of the levee systems under PL 84-99.

"I have 100-plus levee sponsors, and need to work with them to see that the operation and maintenance is executed so that their communities are protected when there is a flood," said Bryan Flere, the Corps' levee safety program manager.

"At the peak of this year's flood-fight, more than 60 Android smart phones running MICA deployed to Memphis, Vicksburg, New Orleans, Omaha and Kansas City districts," said Robert Walker, MICA program manager in ERDC. "To date, more than 5,000 GPS data points have been collected that contain more than 13,000 photos, videos, and audio clips."

Like any technological tool, MICA is not without obstacles. Given the range of an area of concern, one MICA coordinate may not represent an entire issue. But it is important to not overload the system with information, so levee surveillance team members must decide what constitutes a critical coordinate.

"There was a muskrat swimming around the same section of one of the levees for more than three days," Hill said. "It was difficult to decide whether to add the muskrat as a MICA coordinate or not."

MICA can transmit current data, given signal strength, and the precursors to a potential levee failure, but "it can't preclude an event," Taylor said.

But the obstacles are diminutive compared to how valuable MICA will be in the post-damage assessment report, and in getting the Missouri River levee system back to pre-flood condition and ready for the spring 2012 runoff season. After the floodwater recedes and the assessments are complete, the smart phones will be shipped back to ERDC where they will be configured to assist with the next mission.

How MICA app works

By Sarah Gross
Joint Information Center

The mobile information collection application (MICA) that the U.S. Army Corps of Engineers is using for flood-fighting efforts operates from the HTC Droid Incredible II smart phone, written using the source code HTC application development language from the Android operating system.

The MICA menu to input relevant data is urgent, burrows, waters edge, pumps, backwater flooding, racking, seepage, sand boils, sliding, dummy data (tests), gages, miscellaneous, failure, repair, erosion, closure structure, drainage structure, freeboard and relief wells.

This menu can be configured to make it relevant for any emergency situation.

The phone has a built-in global positioning system that geo-references the flood-fight critical location, with the corresponding note, picture(s), audio or sketches, as needed.

The uploaded data is displayed in a Web-based geographic information system, accessible to USACE employees with the appropriate credentials.

The MICA Web-based dashboard presents all the collected data in a standard Web browser, and the raw data can be analyzed and presented using other various tools, such as Corps Map and ArcView.

The MICA data is also stored in a Structural Query Language server database where it can be edited, queried and compiled into reports. MICA coordinates with successful mitigation actions will still remain in the system.

Afghanistan districts seek volunteers

By LaShawn Sykes
Transatlantic Division

If you are interested in a rewarding deployment opportunity overseas, consider teaming up with the U.S. Army Corps of Engineers in Afghanistan. USACE provides construction, renovation and support to U.S. Forces-Afghanistan, and is actively seeking highly qualified engineers, construction and project managers to fill and maintain more than 600 critical positions.

Besides offering invaluable experience, career growth incentives and financial perks, the USACE reconstruction effort offers a real opportunity to be part of history in the making – building democracy, stability and security throughout Afghanistan.

In the past six years, Afghanistan Engineer District North in Kabul and AED-South in Kandahar have built hundreds of construction projects valued at more than $4.5 billion. Completion of the Afghanistan-Tajikistan Bridge in 2007 is an example of the progress being made toward economic stability, ushering in a new era of trade in the region.

The opening of Shurandam Industrial Park power plant this year is another example of a USACE project having an immediate effect on Afghanistan's security, governance and commerce. This 10-megawatt diesel power plant brings Kandahar City one step closer to the sustainable, reliable power needed to jump-start businesses and economic development.

Other USACE reconstruction projects include military bases, schools, medical clinics, roads, airstrips, and power and water supply systems, which are all desperately needed by the Afghan people.

In the next three years, USACE will posture itself to meet President Obama's goal of ending the U.S. combat mission and transitioning to a training and support function in Afghanistan. To advance this effort, USACE has altered its focus from building U.S. bases to building bases for the Afghan National Security Forces – the Afghan National Army (ANA) and the Afghan National Police (ANP). These new Afghan facilities will be home to more than 300,000 army and police personnel, and will be essential for establishing security throughout Afghanistan and its neighboring countries.

As part of the human capital development initiative, USACE will also train Afghan engineers to build, maintain and sustain the ANA and ANP bases to last long after USACE and the international forces leave Afghanistan.

This effort is a huge undertaking. USACE is now managing a $12 billion construction program for the government of Afghanistan. To support this massive effort, the districts' higher headquarters, Transatlantic Division (TAD) in Winchester, Va., established the Afghanistan Recruitment Cell (ARC) in January. The seven-person cell must select and hire two to three volunteers each day to deploy for a six or 12-month tour.

To make these daily selections, ARC receives support from the Corp's deployment coordination administrators (DCAs), reviews referral lists, and collects unsolicited resumes from both USACE employees and applicants from outside the federal government who are interested in Schedule A (excepted service) appointments.

Schedule A employees have a tremendous impact on the reconstruction effort in Afghanistan. "They come to us with a variety of experience, enthusiasm and professionalism that is paying enormous dividends toward USACE supporting the ANSF mission," said Col. John Hurley, deputy commander of TAD. "Schedule A employees, together with our USACE and military personnel, are increasing the Corps' reputation as the premier engineering and construction organization."

USACE employees who are interested in deploying overseas can contact their division or district DCAs, who can walk them through the deployment process.

Applicants from outside the federal government interested in deploying to Afghanistan may view the Corps' vacancy announcements on-line at http://jobsearch.armycivilianservice.com/. Once there, follow these instructions:

- Click on "Job Search."
- Keyword: "Afghanistan."
- Agency Search: "Army Corps of Engineers."
- Applicant eligibility: "NO" for not a current federal employee.

Applicants may also contact TAD's ARC directly at TAD.inquiries@usace.army.mil.

Within 45 to 90 days after a position has been offered and accepted, both USACE and Schedule A deployees must report to USACE's Deployment Center in Winchester to begin deploying to Afghanistan.

For information on USACE employment, visit TAD's employment website at www.tad.usace.army.mil/employment.asp.

To learn more about what a civilian deployment offers, visit the Corps' civilian deployment site at www.usace.army.mil/CEHR/Pages/CivilianDeployment.aspx.

Photos courtesy of AED-North

A USACE employee talks with two Afghan workers during construction of the Afghan National Civil Order Police compound in Lash Kar Gah.

Military Personnel Corner

Cadets can train with USACE

By Roberta Crissy
Headquarters

The Cadet District Engineer Program (CDEP) is now a key component of our regiment's effort to build excellent engineers. The CDEP is one initiative we are executing to encourage young men and women in engineering degree programs to choose the engineer branch.

Typically between their junior and senior year, cadets from the U.S. Military Academy (USMA) at West Point, N.Y., and the U.S. Army Cadet Command (USACC) have the opportunity to train with Army units in a branch they are interested in selecting. About 40–50 cadets train with the U.S. Army Corps of Engineers each summer as part of CDEP.

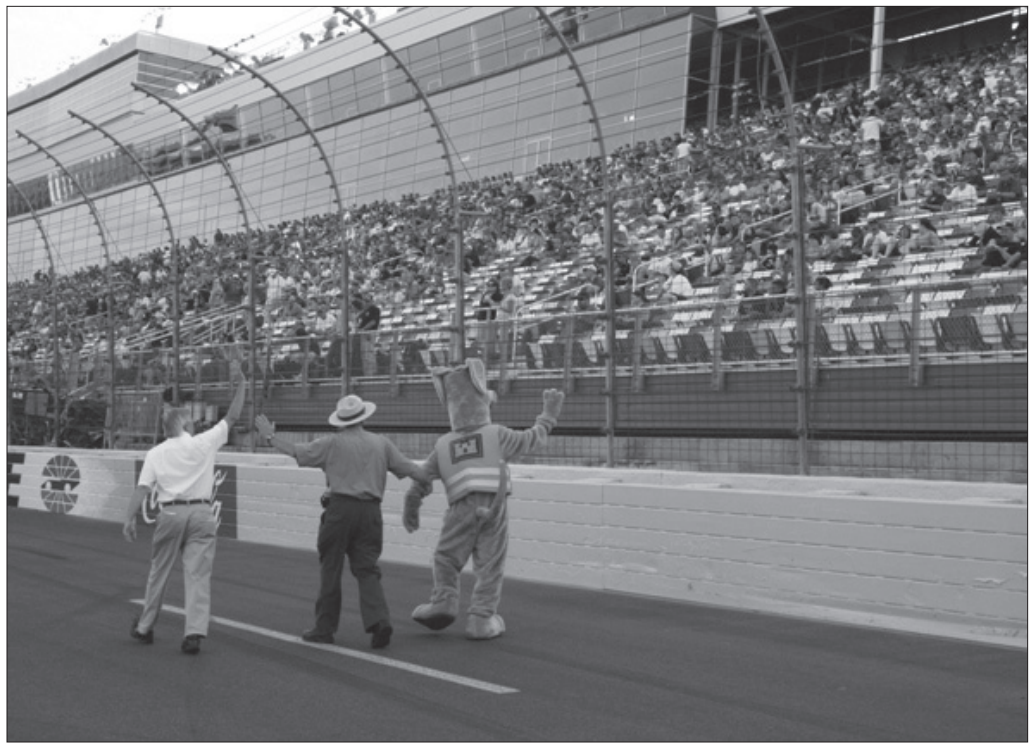
The Human Resources Directorate, Military (HR-M) will begin the initial planning process in the fall contacting the deputy division commanders (DDCs) to request points of contact for their divisions. HR-M will also request DDCs provide the number of cadets they wish to host by district. Districts may host more than one cadet.

To maximize the effectiveness of this program, districts should identify and set aside issues or portions of civil works or military projects for the cadets to work on while they are with the district. Ideal missions would be of short duration that the cadet can complete or see a definable beginning and end before departure. However, districts are not limited by this timeframe.

Districts pay for the cadets' temporary duty (TDY) costs. The average cost for a four-week cadet TDY (travel, per diem, lodging, etc.) in the continental U.S. is about $4,000. The cost for a cadet who goes overseas is about $6,000. Headquarters USACE provides the money to USMA and USACC up front, so the cadets' orders can be cut. At the end of the summer, each district will pay the costs for their cadet by reimbursing Headquarters.

A sponsor should be assigned for each cadet. Once the district receives the name of its cadet, it is critical for the sponsor to touch base by phone or email with the cadet as soon as possible. This sets the tone for the entire training experience. Districts should ensure the sponsors that are identified will remain with the district for the entire summer.

It is important that USACE make this experience worthwhile for the cadets. Remember, it is our intent to recruit great engineers, and this starts while they are in college. This may be their first exposure to the U.S. Army Corps of Engineers.



Photos courtesy of Louisville District

(Left) The core water safety audience, males ages 18-35, try on self-inflating life jackets and meet Bobber, the Water Safety Dog. (Right) Bobber and USACE personnel greet the crowd at a NASCAR track.

Water safety message goes *NASCAR*

Here's a grim statistic – males between the ages of 18 and 35 make up the largest group of drowning victims at U.S. Army Corps of Engineers water recreation areas.

Here's a statistic that's more fun – males between the ages of 18 and 44 make up the largest audience at NASCAR races.

And that's why the logo of Bobber, the Water Safety Dog is roaring around the track on the hood and tailgate of a racing pickup truck at five NASCAR races this summer. USACE park rangers and Bobber himself are also taking the water safety message directly to the people at those same races.

During the 2009 National Resource Management Conference in Nashville, USACE park rangers and managers discussed several ideas to market the Corps' water safety message. Diane Stratton, park manager at Louisville District's Rough River Lake, introduced the concept of promoting water safety at NASCAR events.

Stratton's idea was well received. The next step was to research demographic data about NASCAR audiences to determine how best to reach the target population. Marketing firms and NASCAR officials were contacted, and the data they provided positively supported the concept.

Louisville District personnel reviewed different types of events offered by NASCAR, and determined that the Camping World Truck Series events would be the best venue for the water safety message. Average attendance at a NASCAR Camping World Truck event is 50,000 people, and 800,000 watch the race on television. Of those at the track and watching the race at home, 63 percent are males between the ages of 18 and 44.

Stratton and her team adopted the message, "Like Your Favorite Driver Wears Their Protective Gear, We Want YOU to Wear Your Gear When You Are on the Water."

Discussions with the Corps' National Operations Center for Water Safety, the Office of Council and the Contracting Division in Louisville District identified the team's authorities and parameters. Using current authorities that allow USACE educational outreach at public venues, the contract was written to secure exhibit space and provide USACE staff with venue access.

Photos courtesy of Louisville District

Bobber poses with the racing truck that carries the USACE safety message.

The contract was managed by the Louisville District team, but other USACE districts were invited to participate. In total, Wilmington, Savannah, Rock Island and Fort Worth districts joined Louisville District in this unique venture to promote water safety.

The contract, which provided space at five Camping World Truck Series events, was awarded April 27 to Ride to The Rock for Autism, Inc., a non-profit group. The events this year are May 20 in Charlotte, Va., July 7 in Kentucky, July 16 in Iowa, July 29 at Indianapolis, and Nov. 4 in Texas.

The water safety logo of Bobber, the Water Safety Dog was featured on the hood and tailgate of a Toyota Tundra racing truck. The logo and graphics for the "Wear Your Gear" messages at the exhibits were designed by Tony Isbell, visual information specialist, who works with the USACE National Water Safety Program. Isbell created Bobber, the Water Safety Dog.

During the events, USACE park rangers are granted access to pit row, camping areas around the track, garage area and grandstands to promote water safety. Water safety public service announcements are aired on local radio stations, and on-the-spot interviews may be conducted with park rangers at the event by SPEED Channel, NASCAR Race Hub and other media sources at the race.

The USACE water safety team has taken their message to three races. Park rangers from Wilmington and Savannah districts who worked the May 20 event noted, "We were able to put a face on the Corps of Engineers that many people had never been exposed to, one that had their safety and well-being in the forefront."

Park rangers from Louisville District who worked the July 7 event had 100 direct water safety contacts every 30 minutes from 8 a.m. to 7 p.m. Col. Keith Landry, commander of Louisville District, Stratton and Bobber were invited up on stage during driver introductions. The announcer thanked USACE for their efforts during the 2011 flood events, and also broadcast a water safety message. The driver introductions were aired on SPEED Channel and viewed by more than 1 million viewers.

"The photos we took show the success in reaching the target audience with the water safety message, and personnel in the participating districts look forward to the three coming NASCAR events," Stratton said. "We hope this message will be put into action and result in lives saved and injuries prevented."

(Diane Stratton of Louisville District wrote this article.)

Largest civil works project nears completion

By Col. Robert Sinkler
and Nick Silbert
Hurricane Protection Office

After Hurricanes Katrina and Rita, Congress authorized and funded a $14.4 billion Hurricane and Storm Damage Risk Reduction System (HSDRRS) to protect the greater New Orleans area against a 100-year storm surge (a storm surge with a one percent chance of occurring each year).

The HSDRRS is the largest civil works project in American history and includes 133 perimeter miles of levees, floodwalls, gates, barriers and other structures.

Presidents George W. Bush and Barack Obama committed to providing 100-year storm-surge risk reduction by 2011. Sept. 9 will be the official Day of Recognition for the project.

To build an integrated, robust risk reduction system, three major strategic improvements were made to the existing substandard floodwalls and levees:

- All canals, bayous and waterways that opened into the heart of New Orleans were closed with steel gates, walls and/or pump stations.
- All levees and floodwalls along the 133-mile perimeter were engineered, designed and built to the same standards. This involved demolishing, removing and replacing miles of unacceptable levees and floodwalls.
- Nearly 50 pump stations were repaired and storm-proofed so the city could effectively remove flood water during a storm.

The U.S. Army Corps of Engineers used a variety of strategies to design and build the HSDRRS on a schedule that was unprecedented and aggressive for a major civil works project.

First, the White House Council on Environmental Quality granted USACE special permission to abide by a set of alternative arrangements in compliance with the National Environmental Policy Act. These NEPA alternative arrangements allowed USACE to break up comprehensive environmental impact statements into smaller units called individual environmental reports, and permitted more public input. This allowed individual projects to move more quickly into construction. A comprehensive environmental document is being drafted to address the cumulative impacts of all HSDRRS construction.

Second, Mississippi Valley Division (MVD), which oversees six districts along the Mississippi River, employed acquisition strategies normally associated with military construction to deliver several large HSDRRS projects. These acquisition strategies include design-build and early contractor involvement, which significantly shortened the project delivery time.

Photo by Paul Floro, New Orleans District

The Gulf Intracoastal Waterway-West Closure Complex has the nation's largest sector gate (foreground) and the world's largest drainage pump station (background). The West Closure Complex is a major risk reduction project on the west bank of the Mississippi River.

Third, USACE employed innovative techniques to overcome many engineering challenges. For instance, USACE used deep soil mixing along a stretch of levee in New Orleans East to increase the strength of the soil to support a higher levee. About 500,000 tons of cement was incorporated into the 5.7-mile stretch. In all, about 1.7 million cubic yards of soil was treated with deep soil mixing, making it the largest such project in the country, and possibly the world.

Also, as part of the West Return Floodwall, which runs north-south for nearly 3.5 miles along the St. Charles and Jefferson Parish line, USACE designed hinged metal plates on top of the floodwall and between the girders to prevent waves from overtopping the floodwall under the Interstate 10 Bridge during a major storm. These plates can be manually lowered to inspect the bridge section efficiently.

Many of the HSDRRS projects were built on a massive scale. Two of the more high-profile projects include the Inner Harbor Navigation Canal (IHNC)-Lake Borgne Surge Barrier, and the Gulf Intracoastal Waterway (GIWW)-West Closure Complex.

The IHNC-Lake Borgne Surge Barrier is a 1.8-mile barrier wall anchored nearly 200 feet into the ground that stretches across the confluence of the Mississippi River Gulf Outlet and the GIWW on the East Bank of the Mississippi near Lake Borgne. In addition to the 26-foot-high steel and concrete barrier wall and floodwall tie-ins, the surge barrier also has three gates – a sector gate and barge gate, each 150 feet wide, at the GIWW, and a 56-foot-wide vertical lift gate at Bayou Bienvenue. This $1.1 billion surge barrier, which will be complete in 2012, is the largest design-build civil works project in USACE history.

The GIWW-West Closure Complex is located on the west bank of the Mississippi River, about a half-mile south of the confluence of the Harvey and Algiers canals on the GIWW. The complex consists of a 225-foot-wide sector gate that will tie into a floodwall on the west and a drainage pump station on the east. The pump station has 11 flower pot pumps with a total capacity of 19,140 cubic feet per second. The nearly $1 billion project is the largest pump station of its kind in the world, and eliminates 25 miles of levees, floodwalls, floodgates and pumping stations from the direct impact of storm surge. The complex will be complete in 2012.

In total, the 133-mile concrete, steel, rock and clay perimeter "wall" includes two interstate highway crossings, three four-lane state highway crossings, five railroad crossings, and about 500 smaller road and vehicular crossings. Thirteen significant canals, waterways, and bayous also cross the system and require massive steel gates and concrete structures, including the two largest sector gates ever built by USACE.

More than 600 pipelines, utilities and facilities had to be relocated to complete the system. The USACE real estate team had the challenge of acquiring access, since virtually none of the perimeter system was built on property owned by USACE.

MVD created Task Force Hope in New Orleans in 2005 to manage the HSDRRS program. The New Orleans District Protection & Restoration Office and the Hurricane Protection Office (a separate USACE command that will fully integrate into New Orleans District by the end of September) oversee the execution and delivery of the system.

All six MVD districts have been engaged in the engineering, design and delivery of the HSDRRS, with several other districts and commands given specific responsibility for supporting different aspects of project delivery. Thousands of USACE civilians, Soldiers, contractors and consultants have helped deliver the HSDRRS. Indeed, personnel from every USACE district in the U.S. have supported the program at some point in the past five years.

In addition, USACE leveraged external expertise from academia and private industry in designing, building and peer reviewing components of the system. The Corps' stakeholders, including state and local government partners and non-government organizations, have helped resolve a multitude of complex issues. This has been the largest interagency domestic disaster recovery operation in U.S. history.

Though much of the HSDRRS is in place, construction will continue in some areas through 2015. Engineered interim structures (temporary structures that meet the 100-year design criteria) and engineered construction closures (rapidly deployed measures such as sand bags and HESCO baskets) will be in place this hurricane season where permanent risk reduction features are not yet in place.

The storm-surge fortifications of New Orleans are a model for coastal cities all over the globe that will be impacted by the anticipated coastal erosion and sea-level rise. New Orleans will be the most modern walled city in the world and, because it is in a hurricane zone, its storm surge defenses have a more robust design than even the world-class systems in Europe and Asia.