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American Society of Civil Engineers*

news

Special Session on Hurricane Katrina Underscores Recovery and Leadership

By Mark Fitzgerald

On October 27, less than an hour after the conclusion of the plenary session that opened ASCE's annual conference, Society members and other professionals gathered in the Pacific Ballroom of Los Angeles's Wilshire Grand Hotel for an evening session entitled "Recovering from Katrina: Should Civil Engineers Lead?" Arranged only weeks before the conference, the session featured a panel of speakers who presented information and offered insights into the devastation caused by the hurricane.

Thomas L. Jackson, P.E., F.ASCE, a Louisiana resident and a past president of ASCE, moderated the session. "Every one of the houses that Katrina impacted has a story," he said in introducing the panel. "Many of these houses represent families who can't even attempt to replace what they've lost."

Marc L. Levitan, Ph.D., M.ASCE, an associate professor of civil engineering at Louisiana State University and the founding director of the school's Hurricane Information Center, spoke next about the need for the civil engineering community to work together on multiple fronts. "No single change is going to fix the problem," he pointed out. "We've got to consider the entire system. We have to rebuild the coast because that's our first line of defense and we need the sediment in the barrier islands and we need the marshes. Of course, we also have to rebuild and improve the levees and institute better floodplain ordinances." Levitan highlighted the need to adopt and enforce statewide building codes and a comprehensive disaster plan for hurricane shelters and public buildings. While he also recommended that stakeholders work with the mortgage and insurance industries to provide incentives for enhanced hurricane protection, Levitan stressed that educators have a responsibility to make sure the engineering community

knows how to design and build for disasters.

Scott Douglas, Ph.D., P.E., M.ASCE, the director of the University of South Alabama's Coastal Transportation Engineering Research and Education Center and a professor of civil engineering there, seconded Levitan's call for more specialized education. "We need a new cadre of civil engineers trained in the unique design environment along the coast," said Douglas, who in September led one of the teams ASCE assembled to assess surges, wave damage, and the condition of beaches, barrier islands, and marshes between Mobile, Alabama, and the Louisiana state line. "America's population continues to move to the coast; they love it there. But the civil engineering community hasn't promoted enough training for coastal engineers. As it is, there is no formal training program in coastal engineering in the states hit hardest by Katrina. I think if we had had those programs in place, we might have seen a little less damage, maybe even a lot less damage."

According to Peter Nicholson, Ph.D., P.E., M.ASCE, a professor of civil engineering at the University of Hawaii at Manoa and a member of the ASCE assessment team sent to New Orleans, there were "numerous types of failure mechanisms to the levees, including overtoppings, scouring, embankment failures, and transition problems." Although Nicholson said there is sufficient proof that significant overtopping occurred at a number of sites (such as along the Mississippi River Gulf Outlet and the Inner Harbor Navigational Canal), he pointed out that his team found no evidence of levee overtopping at the 17th Street Canal breach. "There is evidence, however, that a section of the levee embankment that supported the floodwall moved approximately thirty-five feet laterally," he said. "While our field studies have helped us gain a better understanding of how the levees performed, we will require further data collection, testing, and analysis before we can determine precisely why each levee performed as it did. It is this comprehensive understanding that will form the basis for the recommendations that will help provide future protection for the residents of New Orleans and elsewhere in the nation."

Steven C. McCutcheon, Ph.D., P.E., M.ASCE, the president of the American Ecological Engineering Society and the director of ASCE's District 14, provided an overview of how the hurricane affected the region's members and how the Society has been assisting in the recovery efforts. "We have about one thousand ASCE members in the Gulf Coast Branch of Mississippi and the New Orleans Branch of Louisiana who were displaced as a result of this disaster," he noted. "We still haven't gotten these branches back up and operational; that's going to take us a little while longer. But through the support of our fellow members of ASCE, it's something that we will do and something that we must do." McCutcheon also commended the ASCE Foundation, the Executive Committee of the Board of Direction, and many others for helping to raise more than \$42,000 for members in need in the weeks immediately after the hurricane. "ASCE is not a humanitarian organization like the Red Cross, but we have been able to pull together and help when others have suffered considerable losses," he added. "Until

recently, I've never seen our volunteers and our staff work quite this well together—the concern and effort have been exceptional over the last several weeks.”

A former resident of New Orleans, Norma Jean Mattei, Ph.D., P.E., M.ASCE, concluded the session with a personal narrative of what she went through in the days and weeks after the hurricane. “Try and put yourself in my shoes or imagine yourself having been displaced by a major disaster in your hometown,” said Mattei, an associate professor in the civil and environmental engineering department at the University of New Orleans. “My office has become the trunk of my car,” she added. “The university expects to be up and running by January, but right now we’re working out of four satellite campuses, which were all impacted by the hurricane.”

In considering the future of New Orleans, Mattei, who was born and raised in the Crescent City, was optimistic. “People from New Orleans stay in New Orleans,” she said. “Even though hurricanes may try to push me away, I will never leave the city. I want to help rebuild it—not bigger, but better.”