

MAN VS. NATURE IN NEW ORLEANS

September 9, 2005

Engineers have begun repairing levees damaged in New Orleans after Hurricane Katrina hit, and researchers are using the hurricane's data to try to lengthen warning times.

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After Hurricane Katrina



JEFFREY KAYE: The water that inundated New Orleans - - billions of gallons -- is now gushing into canals as pumps very gradually drain the city. Helicopters are ferrying sandbags to workers filling holes in broken levees. Construction crews are working around the clock to fix breaches and complete dikes.

Three levees suffered serious damage. Two of the flood walls have been patched for now. The repairs include the construction of a 400-foot long road along the 17th Street Canal. The breaches occurred as surges, the walls of water pushed by the hurricane, simply overwhelmed the weakest parts of the system.

But sealing the holes with sandbags, rocks and gravel is only a temporary patch. To find long-term solutions and prevent future flooding, scientists are studying hurricane behavior.

Measuring effects of Hurricane Katrina

MASHRIQUI, Louisiana State University: We're looking for a mark here –

JEFFREY KAYE: Researchers from Louisiana State University came yesterday to Slidell, a storm-ravaged community just north of New Orleans.



MASHRIQUI: If you look and stand up there and see the water mark, and you can feel how high the water was, the entire area was inundated up to, like, this high water. And with the force of 5, 6, or 7 feet per second, that means it was just like a whoosh of water, and anybody standing in its path there is no chance of surviving.

JEFFREY KAYE: Mashriqui -- he goes by one name -- was inspired to study hurricanes because of the damage they caused in his native Bangladesh. Paul Kemp is an expert on coastal restoration.



PAUL KEMP: OK, so we're at -- I am getting 5.35 feet.

JEFFREY KAYE: They want to know exactly how high the floodwaters rose here so they can gather data to refine computer models that allow them to make predictions.

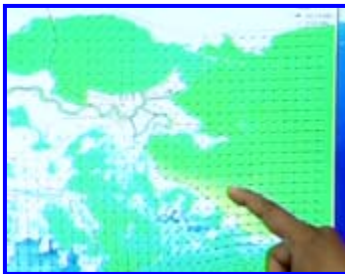
PAUL KEMP: You can see it on the doors here and then inside the church, you know, it's all through the church. But we have about a half to an inch of mud over everything in here.

JEFFREY KAYE: Local resident Bobbie Pichon helped the researchers by providing eyewitness testimony.

BOBBIE PICHON: It come in a half hour, it come in a little over six foot in a half hour. It just like they talk about the salami -- it was just like that -- it just whooshed. You could not even get to your cars or anything to get 'em out, you know, but the trees were down.



Predicting major storms



JEFFREY KAYE: Mashriqui wasn't taken by surprise. The week before last, as the hurricane approached, the computer model he helped develop contributed to an early warning system.

MASHRIQUI: People had enough time to look at and read and find out where would be the impact area.

JEFFREY KAYE: His computer models showed with uncanny accuracy just where the flooding would occur. The precision of their forecasts has convinced the scientists that their computer models would allow engineers to better design and construct effective levees.

JEFFREY KAYE: Can the damage, though, be prevented?

MASHRIQUI: Well, with the right structure it can be because now we will go back to the levee design, we will go back to the wall design; we will go back to the layout of the entire structure to find out where are the weaknesses that existed, and we already see some.

JEFFREY BROWN: But levees should be just part of a long-term solution, contends Kemp. He says improving the wetlands, a complex system of bayous and marshes, would provide a first line of defense.

PAUL KEMP: If we had more marsh out in front here, we might have less storm surge. That's one connection.

JEFFREY KAYE: Why?

PAUL KEMP: Well, because the storm surge basically loses its energy as it passes over ground and over the rough surface.



JEFFREY KAYE: The marsh would have given it a place to go.

PAUL KEMP: That's right.

Man vs. Mother Nature

JEFFREY KAYE: These scientists are optimistic that smart engineering can prevent future floods, but Marvin Manahan of the Army Corps of Engineers isn't so sure.



MARVIN MANAHAN: Mother Nature is going to take her toll; there is no real preventing the water. Mankind just can't hold back what Mother Nature's gonna throw at us.

JEFFREY KAYE: Manahan's fatalistic view is shared by one of the legions of construction workers repairing levees.

WORKER: I lost everything, man, everything.

JEFFREY KAYE: What do you mean "everything?"

WORKER: House, everything.

JEFFREY KAYE: How does it make you feel fixing this right now?



WORKER: It makes me feel good. I hope it lasts, you know. You don't want to ever go through this any more, you know. But who knows. You know, so, just putting it in the Lord's hands.



JEFFREY KAYE: For now, the picture is bleak. With officials predicting more than a month to drain the city, much of New Orleans remains a wasteland of water, with scattered flames from natural gas leaks adding to the hellish panorama.