

ern part of the state into the floodzone. He says that highly trained swiftwater rescue teams were rarely needed during Floyd, and that "operations" level teams were readily available among local fire and rescue organizations and wildlife officers. Given that just 24 hours before Floyd's landfall, the projected hurricane path was into Charleston and inland across Winston-Salem and Greensboro, Tolbert says it would have been imprudent to move highly trained resources from the western part of the state into the coastal plain.

Tolbert does agree there is a need to train and equip all personnel who might be called upon to respond to a water-related emergency or might find themselves in a flood emergency situation as a result of their duties. Specifically, Tolbert envisions these personnel being divided into three levels of capability—awareness (able to provide minimal rescue services), operations (able to provide rescue from a boat, shoreline, and bridges, but not in the water), and technician (able to perform rescues in moving floodwaters using special equipment). Thus far, the division has received a FEMA grant of \$70,000 to begin this training, but no state ap-

propriation. Tolbert estimates a need for training and equipment in excess of \$2 million.

Ray's criticisms also were broadly rejected by the Office of the State Fire Marshal in the N.C. Department of Insurance. Tim Bradley, Senior Deputy Commissioner of Insurance in the Office of the State Fire Marshal, notes that N.C. Department of Transportation officials are not trained or equipped for swift water rescue because their job is not rescue. He says that rescue squad personnel, on the other hand, often do have such training, especially where they provide protection in areas with large bodies of water. "During Floyd, everyone helped out, including numerous citizens who were not trained," says Bradley.

"Large investments in swift water techniques and equipment in areas without major rivers or large bodies of water would likely not be tolerated by the taxpayers," Bradley adds. "When a jet crashes in a rural community, local fire departments are usually ill-equipped to handle that incident unassisted by outside help. Airports, on the other hand, have crash-fire equipment and training as would be expected. The same scenario exists for



Flood Speak: A Guide to Some Common Terms

- **100-year-floodplain:** Inundation during periods of higher than normal stream flow that has 1 percent chance of being equaled or exceeded in any given year. This is also known as "base flood."
- **Floodplain:** The area adjoining a drainageway such as a river or stream that is subject to inundation by a base flood. The floodplain consists of the following two parts:
 1. **Floodway:** The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 0.2 feet.
 2. **Floodway Fringe:** The area of the floodplain lying outside of the floodway.
- **Hazard Mitigation:** A series of preventive measures designed to avoid future risks to people and property from natural disasters. Some preventive measures include upgrading facilities, relocating property in flood-prone areas, or elevating floodplain buildings.
- **National Flood Insurance Program:** A program managed by the Federal Emergency Management Agency (FEMA) that provides federally backed flood insurance to communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

—Long Vo and Patrick Cash