

# FLASH FLOOD VS. LAW — WHAT GIVES?

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*By Lt. Paul Berthelotte*

A summer thunderstorm in the desert is one of the most violent forces of nature. Lightning, hail and heavy rain cause havoc when several inches of water fall in minutes. A LAR company found out the hard way that flash floods can be a fatal result of the storm.

The clouds, gray and swollen with rain, had been threatening all day. Rumbles of thunder could be heard up and down the corridor. Range control had sent out a warning to all units in the training area that Thunderstorm Condition 1 (TC1) was in effect until 2200 that night. In fact, the entire desert region around the base, including several major cities, had been hit with thunderstorms and flash floods.

The LAR company moved into place to occupy a screening position on the reverse slope of a ridge. They wanted to avoid skylining the LAVs, reducing the chance of a lightning strike. As Marines settled into bivouac, they positioned the command and control (C2 or C-squared) LAV and the company commander's LAV-25 in the draw.

Photo-composite by Allan Amen

At 2139, range control contacted all units in the field, upgrading the TC1 to last until midnight. There was no mention of the potential for flash floods. The C2 LAV driver and the radio tech placed their sleeping bags on the deck while the company CO and XO remained inside the C2 LAV planning the next day's operation.

Several minutes later, the weather began deteriorating swiftly. The light rains that had been falling transformed

The driver shouted to the CO about the water level and told him they had to move right away. The CO and XO climbed out of their crew hatches to the top of the vehicle to observe the hazardous conditions. The driver followed by exiting the vehicle commander's hatch.

At 2221, the Marines in the LAV-25 called range control to report the flood. They also tried to throw a line to the C2 LAV. Meanwhile, the radio tech tried to engage the marine drive on the C2 LAV; which began to shift and lean. A surge hit soon after and it rolled. The driver was last seen holding onto the front of the vehicle. The CO and XO both were also knocked off and sucked to the bottom. The current carried them downstream several kilometers before they eventually pulled themselves out in the shallows.

Another surge of water rolled the C2 LAV again, with the radio tech still inside. Once the C2 LAV came upright, the Marine exited through the vehicle commander's hatch and tried to catch the winch rope being tossed to him from the LAV-25.

The LAV-25 contacted range control and advised them that that they had reached the C2 LAV, but that the driver was still missing. The CO formed a search party to go downstream looking for him.

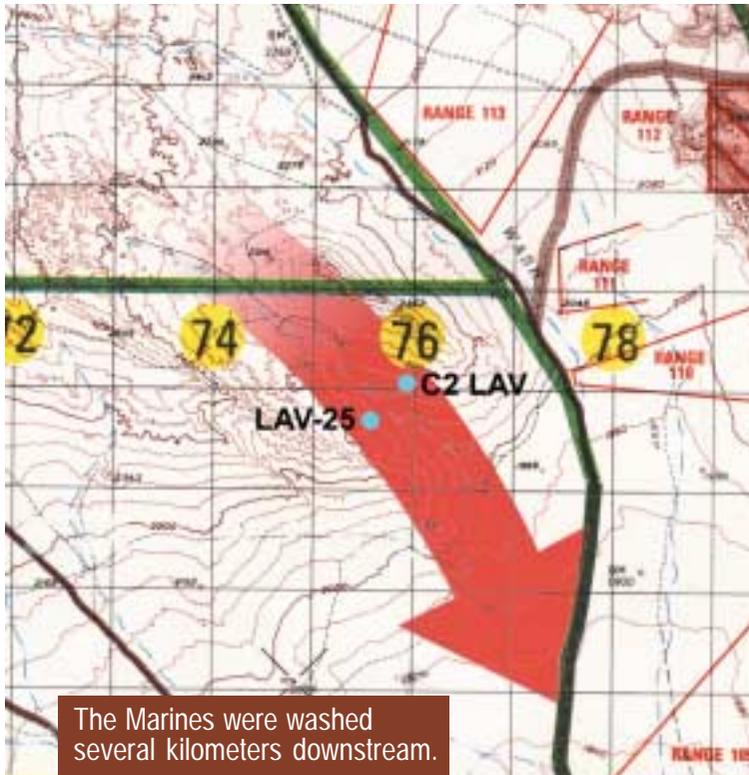
Half an hour later, the driver's limp and mangled body was found several kilometers away. A corpsman arrived four minutes later to find that the Marine was not breathing and had no pulse. CPR was not used because of the extent of upper-torso injuries. The LAV had rolled on top of him, killing him.

Here are the reasons for this mishap:

- The C2 LAV was positioned in an area susceptible to flooding. Hasty ORM was conducted throughout the day, identifying weather conditions as a hazard. But no one identified the draw they were in as an area where the intermittent stream could rapidly rise and flow during a thunderstorm.

- Flash-flood warnings were not passed the day of the mishap by the base weather unit. Marines cannot use risk management if they don't know what the risks are. The support provided by the weather guessers is essential for keeping the front-line units in fighting shape. However, this does not prevent a unit from exercising the initiative to gather their own weather intelligence (e.g. local news). It's a team effort.

- The CO, XO, and the Marines had no idea that the rising water was a flash flood. If they had, they probably would have moved their vehicle sooner. ☹️



into a heavy downpour. Minutes later, golf-ball-sized hail started hitting the ground and LAVs. Water began flowing in and around the vehicles and gear. Some of the equipment on the ground began floating away.

Alarmed, the driver and radio tech climbed into the C2 LAV to alert the CO and XO of the worsening weather conditions. Nervous, the radio tech shot a look out the rear-hatch vision block and saw the water level halfway up the back hatch (approximately 4 feet).

What the LAR Company didn't know was that within 15 minutes, the sudden and massive downpour, combined with the hard desert ground, had created a flash flood over a quarter-mile wide across the draw and 4 to 6 feet deep. The intermittent stream became a wall of water that surged right through their position.