

GOTENNA PRO X CASE STUDY: Texas Task Force 1 Response Efforts in Florida and Texas

BACKGROUND:

Texas Task Force 1 is one of the 28 federal teams under the FEMA Urban Search and Rescue System and as a statewide urban search and rescue team under direction of the Texas Division of Emergency Management. The task force also coordinates the state's swift-water rescue program and the Helicopter Search and Rescue Team which works in conjunction with Texas Military Forces.

goTenna is the world's leading mobile mesh networking company and provider of off-grid connectivity solutions for smartphones and other devices. goTenna's innovative mesh networking protocol is embedded into low-cost, low-power devices and paired with easy-to-use mobile apps enabling mobile, long-range connectivity even without cell, wifi or satellite.

OVERVIEW:

Texas Task Force 1 deployed with goTenna Pro X units in October 2018 during missions to Florida and Texas for response efforts to Hurricane Michael and flooding, respectively. This provided an opportunity for the Urban Search and Rescue (USAR) team to use and evaluate goTenna's equipment during live operations for the first time.

- **Florida:** Texas Task Force 1 deployed to Florida on October 9, ahead of expected landfall of major Hurricane Michael. The task force deployed consisted of 70 personnel, six rescue boats, and four search canine teams. Twenty goTenna Pro X units were deployed with the Florida task force.
- **Texas:** Texas Task Force 1 also deployed to Junction and Mason, Texas on October 9, after significant flash flooding that morning. The task force deployed five water rescue squads (10-person teams), four swift-water boat teams, and four helicopter search and rescue teams (similar to Coast Guard rescue swimmers). Fourteen goTenna Pro X units were deployed with the Junction task force. goTenna personnel were embedded for observation between October 13-14.

goTenna Pro X units were distributed to operational teams each morning during briefings. Different squads used goTenna throughout these efforts, including boats, rescue squads, canine teams, and helicopters. The devices were deployed for use-cases, including:

- Debris searches to include collapsed multistory buildings, homes, and piled up vehicles from rushing water;

- Swift water rescues;
- Aerial searches and coordination with ground units;
- Body recovery;
- Wide area wilderness searches; and
- Law enforcement – issues with media and civilians trying to enter search areas.

During the deployment period, 22 different agencies used the units in unison with the USAR teams, including federal, state, and local groups. The units were actively used from dawn to dusk each day without any battery life issues.

CONCLUSION:

Feedback following the test period was positive, with users commending:

- **Interoperability:** Intuitive and operable with a smartphone, which all team members already carry.
- **Ease-of-use:** Easy to deploy and train personnel in just a few minutes.
- **Secure:** Added encryption that had previously been missing.
- **Situational awareness:** During wide area, water, and helo rescues, situational awareness is typically extremely difficult due to ongoing hazards. goTenna Pro X provided total situational awareness during operations, with many team members mentioning – “I wish we had this in [insert disaster.]”
- **Coordination:** Increased coordination among agencies.
- **Lightweight:** Lightweight form factor allowed the USAR teams to average 12 miles per day in mud and debris.

Following use of goTenna Pro X, various team members concluded: “We need this in our department.” (Note: USAR teams are comprised of specialists from multiple departments. Texas Task Force 1 includes rescuers from 40 different agencies.)