# Case Study: Town of Boone Fire Department

**Maintaining Situational Awareness in Off-the-Grid Emergency Response with CompassRespond®**

## Overview

When an elderly Alzheimer's patient went missing in the rugged Appalachian terrain surrounding Boone, North Carolina, time was not on Fire Chief Jimmy Isaacs' side. Temperatures were falling, the area lacked reliable cellular and radio coverage, and the patient's life was at stake.

To ensure an efficient, coordinated response, the Town of Boone Fire Department deployed CompassRespond, a ruggedized, mobile tracking solution from CompassCom. This real-time geospatial solution allowed Chief Isaacs to track personnel in the field, manage search sectors with precision, and ensure no area was missed—all in a location with no traditional communications coverage.

The patient was found within three hours. But more than a single success story, the incident proved the operational value of CompassRespond for search and rescue, wildland fires, and tactical incidents—especially in rural, mountainous terrain.

## Challenges

- **Limited connectivity** in forested, mountainous terrain beyond Motorola and cellular network coverage
- **Manpower constraints**, requiring optimized search-and-rescue coordination
- **Lack of situational awareness** during night operations and in unfamiliar areas
- **Safety risks** for personnel operating in remote or high-threat environments

## Solution: CompassRespond

Boone Fire deployed CompassRespond, a mobile, GIS-integrated tracking system designed for off-the-grid operations. Housed in the command vehicle and powered by Esri ArcGIS and Motorola P25 radio integration, the system enabled:

- **Real-time tracking** of personnel and vehicles via Motorola APX radios
- **Breadcrumb trails** to confirm complete search coverage
- **Live GIS map overlays** with terrain, structures, and trails
- **Playback mode** for real-time review and post-incident learning
- **Encrypted communication** for sensitive operations
- **Integration with dispatch and E911 systems** via CompassTrac backhaul when connectivity returned

## Deployment and Use Cases

### Search and Rescue

- Enabled Chief Isaacs to direct teams with precision and verify sector coverage
- Reduced risk of duplication or missed areas
- Used playback mode mid-incident to validate effectiveness

### Wildland Fires

- Provided visual coordination in difficult terrain and night conditions
- Helped confirm accurate incident location and team placement
- Supported rapid redeployment based on changing fire behavior

### Active Shooter Support

- Combined fire and police assets on a unified operational map
- Minimized friendly fire risk through icon differentiation and real-time visibility
- Encouraged cross-agency collaboration and adoption

### Water Emergencies & Trail Searches

- Allowed field commanders to load digital trail maps on-the-fly
- Guided responders to more efficient ingress routes

## Results & Benefits

- **Patient found safely** within 3 hours in the initial deployment
- **Expanded use across multiple incident types**, including fire, rescue, and tactical response
- **Enhanced team safety** through continuous personnel tracking
- **Improved command decision-making** in disconnected environments
- **Validated Boone Fire's investment** in GIS-integrated mobile solutions

## Quote

*"I can see where everyone is located at the same time—and their positions relative to each other, to fuels, to the topography, and to structures. If something goes wrong, you know where each person is located."*

**— Fire Chief Jimmy Isaacs, Town of Boone, NC**

## About CompassCom

**CompassCom Software** is a leader in real-time GPS telematics and Esri-integrated fleet and personnel tracking. With decades of experience supporting public safety, defense, utilities, and transportation agencies, CompassCom provides robust, scalable solutions like CompassTrac Enterprise and CompassRespond to deliver situational awareness when it matters most.