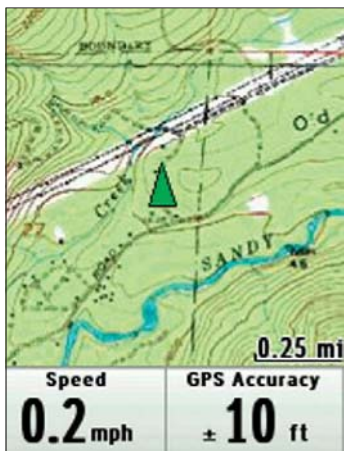


DeLorme's inReach, EarthMate GPS Team Up for In-Field Communications

By Steve Wilent

You may recall reading about GeoPro Messenger in the December 2010 Field Tech column, a satellite-based text-messaging device with a built-in GPS receiver that, combined with the GeoPro web application, lets you communicate with and track people in the field. It turns out that GeoPro Messenger's maker, GeoPro LBS Inc., was a key partner in developing another such communications system: DeLorme's inReach satellite communicator (www.delorme.com). Both GeoPro and inReach use the Iridium global satellite network, making them potentially quite useful for foresters, wildland firefighters, and others who work outside of cell-phone range—according to DeLorme, 90 percent of the Earth's surface lacks cell service. However, there are some important differences between these products. One key distinction is that inReach can work with either a DeLorme GPS receiver or an Android-based cell phone.



A position indicated on a topographic map displayed on a DeLorme PN-60 GPS receiver.

For field hardware, GeoPro users can choose from GeoPro's proprietary GeoPro Messenger, or NAL Research Corp.'s SHOUT Nano handheld satellite tracking/messaging devices, or Iridium's Extreme satellite telephone. These devices let you send and receive text messages up to 160 characters in length to email addresses, cell phones, or GeoPro-specific addresses; send "SOS" emergency messages; set GPS waypoints; and let other GeoPro users view your location and route via a website. The Extreme phone can display latitude, longitude, altitude, velocity, and other GPS data, as well as make phone calls (if you have a service plan).

These devices and services will cost you a pretty penny. For example, GeoPro distributor Roadpost Inc. (www.roadpost.com) sells the GeoPro Messenger for \$699, the SHOUT Nano for \$849, and the Iridium Extreme for \$1,495. In addition, you'll pay \$50 for a GeoPro software license, \$17.50 per month for GeoPro network access, and, if you wish to use the GeoPro web application, another monthly \$17.50 license fee. Messages (text, check-in, location, emergency, and so on, including incoming and outgoing messages) cost 20 cents

each. The Iridium Extreme has a separate fee structure for telephone service.

As a stand-alone module, inReach lets you send pre-loaded text messages, but it has no screen and no keyboard, so you can't compose messages. You can receive message-delivery confirmations, send "SOS" emergency messages, and let others track your location via a website. The inReach device will set you back much less than the GeoPro hardware: \$249.95. DeLorme offers three monthly service plans. The most expensive Expedition plan costs \$49.95 per month and includes 120 text messages, unlimited tracking points (for following an inReach user's progress online), and SOS emergency messaging. Additional tracking points cost 25 cents. The least-expensive Safety plan costs \$9.95 per month and includes 10 text messages and SOS messaging, but zero tracking points; however, you can pay for tracking points as you need them at the rate of \$1.50 each. At any subscription level, you'll pay a one-time \$11.95 activation fee.

EarthMate PN-60w GPS

To compose and send text messages via inReach, you'll need another device. If you already have an Android phone, all you need is the inReach module and the DeLorme EarthMate Android app, available free at market.android.com.

A worthy and useful alternative is DeLorme's EarthMate PN-60w GPS receiver. A couple of months ago, I asked Brian Stearns, the company's natural resources market manager, for a PN-60w and an inReach module. Neither was available at the time—these products became available for retail sale on November 15. Instead, Stearns sent me a PN-60, which is exactly the same as the PN-60w, with the exception of the ability to communicate wirelessly with an inReach module and its color (red and black rather than all black).

The PN-60w and PN-60 are high-end "consumer grade" GPS receivers that would serve foresters well in many cases. GPS accuracy, according to DeLorme's documentation, is less than 15 meters, and less than three meters when receiving a WAAS (Wide-Area Augmentation System) satellite signal. The PN-60 product literature claims "WAAS-enabled accuracy to within 10 ft.," and indeed the PN-60's calculated accuracy was usually less than 10 feet, even while I was under moderately heavy Pacific Northwest canopy cover.

The PN-60's \$299.95 price includes DeLorme's Topo North America 9.0 PC desktop software and topographic and street maps of the United States and Canada. The PN-60w (\$349.95) also comes with Topo North America 9.0, as well as a one-year subscription to DeLorme's MapPack (normally \$29.95/year), with downloadable high-resolution color aerial imagery (digital orthophoto quarter-quadrangles, or DOQQs), as well as a range of black-and-white aerial imagery, high-resolution US Geological Survey city maps, National Oceanic and Atmospheric Administration nautical charts, and other maps and images.

What's more, with the PN-60 line you can collect and work with data for De-

Lorme's Xmap GIS software. (Xmap is itself worthy of a review in this column or in GIS for Foresters. Do you have experience with Xmap? Let me know.)

For holding GIS data and a big chunk of that collection of maps and imagery, the PN-60 and 60w come with 3.5 GB of internal storage, plus an SD card slot for adding more space. The device's screen, however, is just 2.2 inches, measured diagonally (1.4 inches by 1.7 inches), which is adequate, but tiny compared to the large displays of the recently reviewed Juniper Mesa and Trimble Yuma handheld field computers.

If you're in the market for a consumer-grade GPS, then the PN-60 is an excellent choice, and would be so even without Topo North America. Did I mention that it's waterproof? It is, and overall seems rugged and very well built. Spending another \$50 for a PN-60w would get you the option to buy an inReach module now or in the future—they're sold separately.

Is the inReach service worth the monthly fees and messaging charges? For me, the answer is no, and I reckon that would be true for many foresters. For others, however, the cost may be trivial when considering the advantages of having two-way communications between a remote location—say, somewhere in the Humboldt-Toiyabe National Forest in Nevada or in the vastness of the boreal forests in North America or Russia—or in the woods around my house an hour east of Portland, Oregon, where cell-phone coverage is spotty, if it's available at all. For an incident command team on a wildfire in a remote area, having this kind of commu-



DeLorme's inReach satellite communicator, paired with a DeLorme EarthMate PN-60w GPS receiver or an Android phone, offers two-way messaging anywhere on Earth.

nication available and tracking of crews on the line might well be invaluable.

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