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## Emergency Mapping and Messaging with SPOT

by Adam Bolonsky

*Editor's Note: We have included two reviews of the SPOT Messenger unit to illustrate that people have found it to be effective on both coasts of North America.*

Sea kayakers who venture beyond the pale—past the channel marker, the lighthouse, the harbor and the bay—have matters to deal with once their distance from home reaches the remote. The experienced carry VHF's; the experienced and gabby carry VHF's and cell phones. Pack in a GPS too and kayakers can calculate nautical miles traveled, minutes-per-mile, and perhaps most important, how to parse latitude and longitude coordinates from a chart or GPS, note their location and report it.

Communications become tough, though, when you're offshore or someplace really remote. Now you're out of cell phone range and not likely to be able to raise anyone via VHF to relay your "I'm OK" message to friends and family back home.

Enter SPOT.

SPOT is a GPS and satellite-based mapping/messaging beacon. Push HELP or OK/Check In and you transmit, via the commercial GEOS satellite system, pre-written emails and text messages to friends and family. Press 911 and you transmit to GEOS your location and an emergency alert, which the GEOS's call center in Texas directs to local search and rescue.

SPOT's built-in GPS and live link to Google Maps lie at the heart of the whole works. SPOT's jobs—transmitting your location coordinates, creating Google Maps, emailing and text messaging friends or notifying search-and-rescue—are handled by an internal transmitter, GPS and land-based routers. End result is that, regardless of whether you hit OK, HELP or 911, SPOT relays your latitude and longitude.

The small, bright orange beacon is about the size of two stacked decks of playing cards. It's waterproof and powered by a pair of included lithium ion AA batteries that gave me 24 hours of use without indication of drain. Reasonably priced at \$170 list plus \$90 for a year's GEOS messaging, SPOT is a good bargain, especially when you consider that \$90 gives you a year's worth of unlimited HELP and OK/Check In messaging. Track messaging costs extra.

I spent a month sending test HELP and OK messages to kayakers throughout North America and England. In all but a few cases, SPOT sent my programmed messages flawlessly: email and text messages, each with an embedded Google Map link, reached recipients within a half hour or so. In addition, each message contained my latitude and longitude, time and date of transmission, the name of the nearest mapped location, and, most rewarding, links to Google Maps showing where I was.

It's this feature, GPS-based Google Maps linking, that makes SPOT useful and fun. Google Maps are by now familiar to most everyone. Open one and you can choose between crisply rendered maps, terrain and satellite image views of virtually any place on earth. When I used SPOT to check in with friends and family, they were able to zoom in on the very patch of coastline, the bluff on the island, the hollow in the dunes or the clearing in the forest where I was transmitting. They saw what I was surrounded by—a literal bird's eye view of my world. Send a HELP message and those images gain urgency: friends and family know you're in trouble and where.

Although the 911 function was not available for testing, results were impressive overall. When I placed SPOT on the dashboard of my car to transmit, SPOT worked. When I clipped SPOT to my backpack or to the foredeck, the messages got sent. I sent HELP, TRACK and I'M OK messages in weather conditions ranging from clear to light rain to fog to light snow. Flawless. GPS-mapping accuracy was excellent: spot-on 90% of the time, accurate within an eighth of a mile when not. The unit is rugged too. I dropped it several times and also let it bounce around in the surf. No damage.

SPOT does have a few glitches which relate to its being a first-generation product. My first set of test messages, for example, never arrived in my Yahoo email account. I couldn't change the subject line of email messages. Highly numeric, those default and unalterable subject lines, which read along the likes of "Help message from unit 123-45-6789," set off a few junk email filters. Also, interpreting the unit's minimal interface takes getting used to. You can't simply push HELP or CHECK-IN and shut the unit off. Rather, you have to watch the LED for up to a minute more, to be sure SPOT emits the 5-second flash that indicates that transmission is complete. Moreover, you then need to monitor the adjacent LED to see whether it continues to blink in phase with the HELP or OK LED. Out of phase indicates loss of GPS hookup; in phase means success. >>>

The final bug with the unit, at least far as kayakers are concerned, comes from an unlikely source: Google Maps itself. Though Google Maps' interface for email recipients is simple and easy to use, given the maps' accuracy and viewing options, Google Maps is very much a land-based database of images. Image coverage, in other words, doesn't extend more than two or so miles offshore. Make a HELP or OK transmission with SPOT from more than a few miles offshore, and Google Maps places your location in unmapped water. Friends and family will need to zoom out to see what landmass lies nearby. If they have been tracking your location daily or hourly, they'll then need to transfer your latitude and longitude coordinates to a marine chart or chart database.

Despite these small flaws, I'd recommend SPOT to most anyone: paddlers who want to venture beyond cell phone range but wish to check in with friends and family every day or so; adventurers who need to keep in touch with their sponsors; moms, dads, and grandparents who want to keep in touch with their kids and grandchildren. Or, as one dad co-testing SPOT with me remarked, "What a great way for the kids to keep up with grandma's travels!"

Because SPOT relies exclusively on latitude and longitude coordinates, you can't help but become better at reading charts if you use the unit. Look at SPOT's Google Maps of where you've been lately and there lie your coordinates, plain as day, on the places you've transmitted from. You can't beat that for learning how to read and interpret lat/long numbers. Coupled with SPOT's ability to reassure others of your whereabouts when you're far away—SPOT's most salient value, I think—makes SPOT worth a shot.

## Locator Beacon Options

Other Doppler-based emergency beacons have been around for decades. EPIRBs and personal locator beacons (PLBs), two types of emergency signaling devices are considered so infallible they're required on commercial fishing vessels and by the organizers of many adventure races.

Their infallibility comes at a high cost though. EPIRBs run about \$1,000 on average, plus registration fees, and do one job only: transmit to SARSAT and COSPAS, the international search and rescue agencies, a prolonged electronic squeal which does nothing other than locate you, at the same time accessing the registration database listing to whom the EPIRB is registered.

PLBs are the less-bulky recreational version of EPIRBs. Cheaper by half (about \$475, with free registration for US users), PLBs are about the size of a very small shoe. Like EPIRBs, they do only one job, yet do so with near infallible reliability: send to government-based search-and-rescue coordinating agencies an electronic notification that you are in trouble, and where. But like EPIRBs, no friendly email messages saying hi, no charming map for friends or family to scan and pan over.

PLBs and EPIRBs can be rented from a variety of online outfits: plb-rentals.com, for example, rents PLBs for about \$45 US a week. [↓](#)

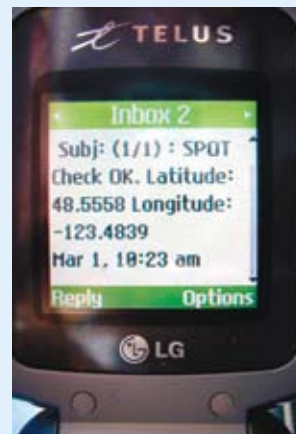


## SPOT Messenger

by John Harper

As someone who travels to many remote places as part of both work and pleasure, the SPOT Messenger caught my eye as a potential tracking and emergency contact system. My local marine store, which had a SPOT in stock, reassured me that the SPOT "delivers as claimed" so I purchased one. To date, it has performed exactly as advertised and should be of interest to anyone exploring remote parts of the planet.

SPOT combines a GPS receiver, which fixes your location, and a satellite transmitter, that sends that location through the satellite system. The system is compact, rugged and immersible! There are four levels of communication possible: (1) push the OK button to send a programmed message to a registered contact (the contact receives this message as an email or cell-phone text message); (2) push and hold the OK button for 5 seconds and the system goes into a tracking mode where fixes are sent at 10-minute intervals to the SPOT tracking website (your "home team" can monitor your progress); (3) push the HELP button to trigger the SPOT response center to call your designated contacts (identified as part of our registration); and (4) push the 911 button to indicate an emergency situation and prompt the SPOT response center to contact the nearest emergency services to your location. While I haven't needed the HELP or 911 services, I found the OK-fixes and tracking systems to work flawlessly.



The replaceable batteries last for weeks in the tracking mode and months when used intermittently.

I was worried about the SPOT connecting to the satellites but from my own personal testing on Canada's west coast, the fixes have been transmitted within 20 minutes. I am sending the unit up to northern Baffin Island for a view from a different part of the planet.

The system is priced at \$169 (USD) and the annual subscription is \$100. I also opted for the \$50 SPOT Casting option, which records 10-minute fixes when the system is in the tracking mode. The subscription sign-up was click-click-click easy through the website ([www.findmespot.com](http://www.findmespot.com)), and within an hour of sign-up, I was receiving position fixes via text messages on my cell, through email and via the SPOT tracking website. Track data are easily viewed on Google Maps with a few more clicks of the mouse.

The SPOT Messenger has much of the functionality of a personal EPIRB with the main difference being that SPOT can be used to let people where you are when things are going well and there are no life threatening problems.

The SPOT Casting option sends fixes to a website, where they can be viewed on Google Maps.

John Harper lives in Brentwood Bay, British Columbia and travels extensively along the BC-Alaska coast as part of work and pleasure. Mr. Harper owns a consulting company specializing in coastal habitat mapping. [↓](#)



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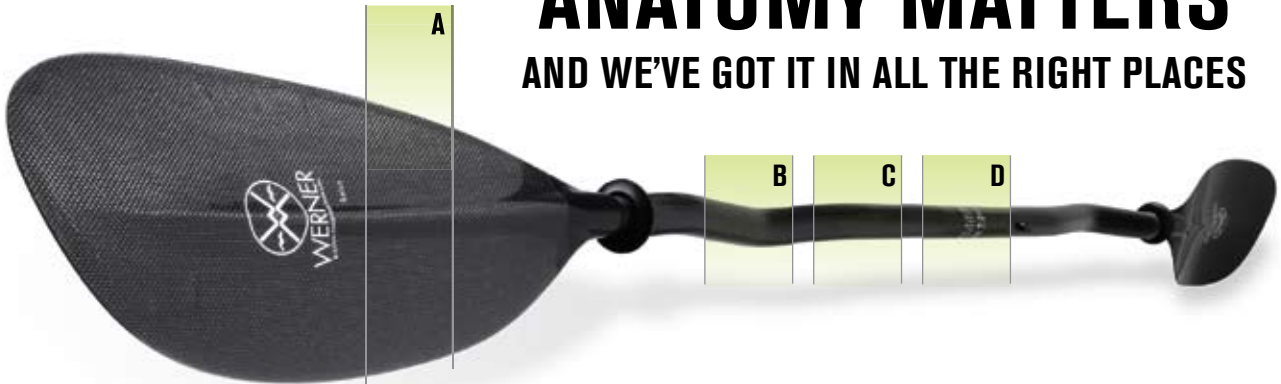
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