

THE CELL PHONE AS A RESCUE RESOURCE

A cell phone can be a valuable resource in a back country emergency. If the area has cell service, the phone can be used for two-way communication with rescuers. It also can be used by rescuers to help locate the caller. Back country travelers, however, should never depend on cell phones as a primary navigation and communication device because of limited reception in the back country. Cell phones also have relatively short battery life and are not designed for extreme environments. Keeping these precautions in mind, Portland Mountain Rescue offers the following tips to maximize the value of the cell phone as a rescue resource:



- +

The most critical factor in using a cell phone in the back country is cell coverage. Cell phones send data through radio frequencies that require line-of-sight between the phone and the cell tower. Many, if not most, wilderness areas do not have good cell coverage. If your phone shows that you don't have service, don't give up immediately, however. Often reception can be improved by moving to higher ground or out of areas where heavy forest canopy or canyon walls block reception. Cloud cover can also affect reception.
- +

Even when reception is inadequate for voice communications, the connection may be adequate for a text message. Text messages use far less battery power than voice calls and are ideal for simple messages. 911 service is not yet equipped to accept text messages, but you can text your emergency to a reliable friend (or two) with instructions to call 911. Send your friend a description of your emergency and your phone number. Rescuers will then be able to communicate with you by text message. If a text message does not go through immediately, hold the phone higher and try again. Move to higher ground and repeat if messages are not sent. Keep trying from different locations until your message is sent or it is clear that you cannot establish a connection.
- +

Newer phones are equipped with a GPS chip, which can determine the phone's location by connecting to the GPS satellites. If the phone has a GPS application installed, the user can extract the GPS data directly. The user can then apply that information to help them determine their location. They also can text that information directly to rescuers. To do this, simply take a screen shot of the GPS application with the coordinates and text the screen shot to a reliable friend or to rescuers if you have made that contact.
- +

When a caller connects with 911, the 911 system can often extract the GPS coordinates from the phone. This happens automatically, even when GPS is turned off, and does not require a GPS application to be installed on the phone. In cases where GPS coordinates cannot be retrieved from the phone (older phones and networks), the service provider can work with law enforcement officials to locate the phone using other methods, such as triangulation from cell towers. These methods typically are less accurate than a GPS location. Once location information is obtained, it is communicated to the sheriff and provided to rescuers to help locate the subject. This sort of information about a subject's location has become increasingly common and valuable in our rescue missions.
- +

The accuracy of the coordinates from the phone's GPS depends on several factors, especially the number of satellites to which the GPS has connected. These connections take time and can be lost when the phone is moved. A 911 call may not extract data with the same accuracy as could be obtained from a GPS application that has been running on the phone for a longer period. A second 911 call often extracts more accurate coordinates from the phone.



Many smart phones can run mapping applications that take advantage of the GPS functions in the phone. These applications allow the user to see their location on a topographic map or satellite image of their area. This information can be especially useful for backcountry navigation. Downloading maps, however, is a battery hog and so is extended use of the phone's GPS. Ideally, the user should download maps and store them on the phone before leaving home. Better yet, use a standalone GPS unit with maps installed and carry extra batteries. Always rely first on the simple technology of a map and compass. Use a GPS device or a smart phone to aid in navigation, but understand that they become worthless once the battery dies.



Some other smart phone applications also use the phone's GPS. This is sometimes called geotagging. For example, Facebook includes a function that allows users to track their travels for friends. The information posted by Facebook, however, is not precise enough to significantly aid search efforts. Such postings require an internet connection and consume significant battery power that should be conserved for critical communications.



As suggested by many of the above tips, battery power is critical to the successful use of a cell phone as a rescue resource.

- Be sure your battery is charged before you leave home. Then leave the phone off until you need it.
- Keep the phone warm by carrying it in an inner pocket. Warm a cold phone by holding it in your armpit next to the skin for 15 minutes. Cell phone batteries are like hypothermia patients; don't conclude they are dead until they are warm and dead.
- Phones consume considerable energy trying to make the initial connection. When you don't have service, turn the phone off until you have moved to a better location.
- While in the backcountry don't use the phone for entertainment or casual communications. Instead save your battery by enjoying your surroundings and talking with your fellow adventurers.
- Consider carrying an auxiliary battery with a full charge, and keep it in reserve for emergency use.



Finally, use your smart phone to request a back country safety presentation from Portland Mountain Rescue at <http://www.pmr.org/safetyed/pmrPErequest.html> We prefer communicating with you in a warm room compared to unhappy calls from the back country.