

WILDERNESS TECH

By Norm Arlt, October 2015

While the focus of WTS is on the basics – map, compass, knife, etc, there are many highly technical pieces of equipment which can greatly increase your safety and enjoyment of the backcountry. More are becoming available all the time. While issues of lack of power and equipment failure add some risk to using these devices, they can be very useful tools when backed-up with basic knowledge and gear.

These devices include: Handheld GPS with internal maps, cellphone, smartphone and related apps, SPOT, avalanche beacon, AvaLung, avalanche airbag. A key issue with any of these devices is understanding how to use them BEFORE you need them. Just as having a compass with you doesn't help you to navigate if you don't know how to use it, it is important to practice using these devices before you need them. When you are lost, cold, and miserable, it is a bad time to try reading the instruction manual, if you have it with you.

Backup power sources can be very helpful. Spare batteries, especially lightweight long-shelf-life lithium type, could save your life. If your device has built-in rechargeable batteries, you may be limited in your options. For cellphones, battery-powered USB chargers are available.

For handheld GPS units, detailed topo maps usually can be uploaded. Routes and waypoints can be prepared and uploaded before a trip. Even basic models have all the functions that most hikers would need.

For cellphones, sometimes texting may work even when voice calls can't be made. Effective 6/30/15, all US 911 Emergency Centers should be able to receive text messages sent to 911 (voice calls are preferred, if possible).

For smartphones, map apps can be helpful if data service is available or maps are downloaded ahead of time. Maps downloaded as pdf files can be read with Adobe Reader or other apps. The GPS function usually does not need data service to function, and can work in "airplane" mode while saving battery power. Free and paid GPS apps (e.g. Backcountry Navigator Pro, Colorado Trail Hiker) can allow your smartphone to function as a full-fledged GPS unit (maps should be downloaded when you have a data connection). The camera can be used to photograph paper maps or those posted at trailheads. Apps for first aid, such as First Aid – American Red Cross, can provide immediate detailed information in an emergency situation.

For SPOT and other EPIRB and PLB devices (EPIRB stands for "Emergency Position Indicating Radio Beacon", PLB stands for "Personal Location Beacon"), a broadcast of a victim's location may help alert rescuers. The SPOT device provides a "check-in" feature to let friends know where you are on a non-emergency basis. It is important for the victim to be able to physically activate these devices or provide for automatic activation in an emergency situation.

For avalanche beacons, a victim buried in snow can potentially be found before death. Body recovery is often expedited. One should keep in mind that an avalanche beacon

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does nothing to prevent avalanche burial. Also, blunt force trauma may limit the benefits of being uncovered quickly.

For the AvaLung and similar products, a victim may survive longer under the snow due to the air provided. It is important to keep the mouthpiece in place as one is being tumbled about during the avalanche.

For avalanche airbag systems, a victim may not be buried as deep as a victim without the airbag. It is important to activate the system as the avalanche begins. Also, blunt force trauma may limit the benefits of not being buried deeply.

In most emergency situations, being a part of a group will dramatically improve the outcome vs a solitary individual.

References

Backcountry Navigator Pro app

<https://play.google.com/store/apps/details?id=com.crittermap.backcountrynavigator.license>

Colorado Trail Hiker app

<https://play.google.com/store/apps/details?id=com.highsierraattitude.cthiker>

SPOT

<http://www.findmespot.com/en/>

EPIRB/PLB

http://epirb.com/difference_between_EPIRBs_PLBs.php

http://en.wikipedia.org/wiki/Distress_radiobeacon

Avalung

<http://blackdiamondequipment.com/en/ski-packs>

Avalanche airbag System

<http://avalanchepacks.com/avalanche-airbags/>

<http://beaconreviews.com/transceivers/Airbags.asp>