

Emergency Communication Devices as a Risk Management Tool

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**SNOHOMISH COUNTY
HELICOPTER RESCUE TEAM**







Emergency Communication Devices as a Risk Management Tool

Goals:

1. Understand the **limitations of cell phones** and why you should consider carrying a **satellite-based** communication device.
2. Provide an **overview of different devices** on the market.
3. Discuss **how to incorporate these devices** into your outdoor program.
4. Share some tips on **what to do if you need to be rescued.**



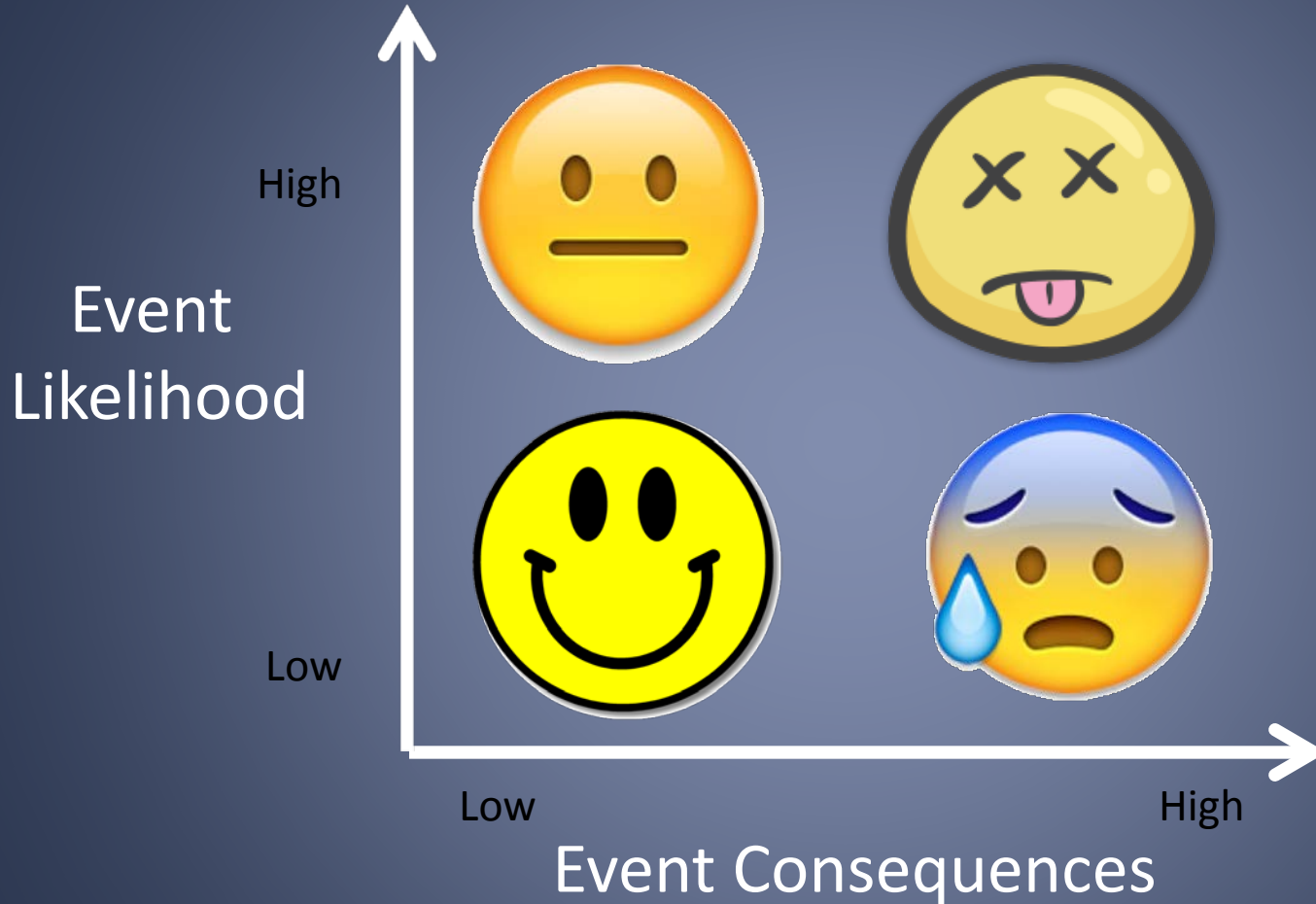
Scenario:





Risk Management Equation:

$$\text{Risk} = \text{Likelihood} \times \text{Consequences}$$







Scenario: Headlee Pass



<http://www.mtnphil.com/Vesper/Vesper.html>



Consequences

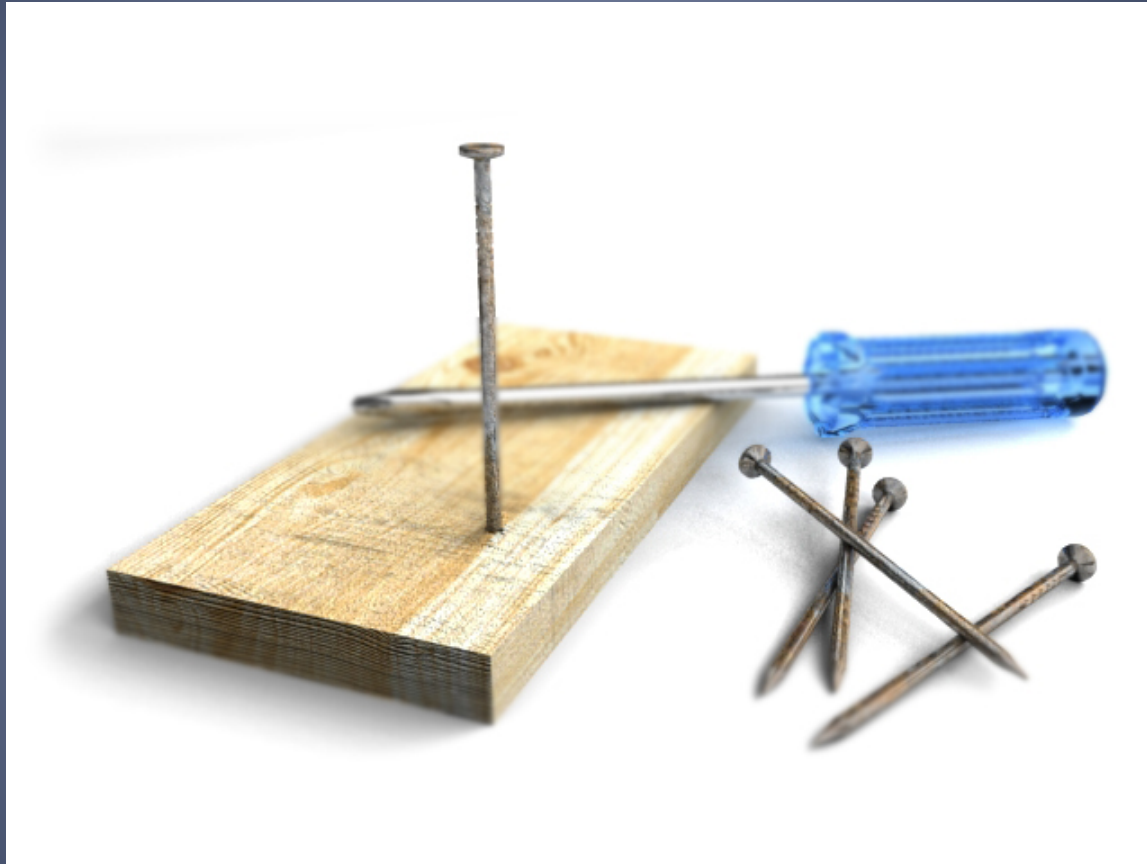




Consequences



Cell phones



Cell phones

- + Two way communication
- + Many allow internet, texting, etc.
- + Everyone has one
- + Can ping your location



△ **Battery life**

△ **Limited coverage**





Cell phones

You should **ALWAYS**
carry a cell phone

AND

You should also consider
a PLB





Why carry satellite based device?

Will make you a better risk manager



Overview of Satellite Communication Devices

PLB/ EPIRB

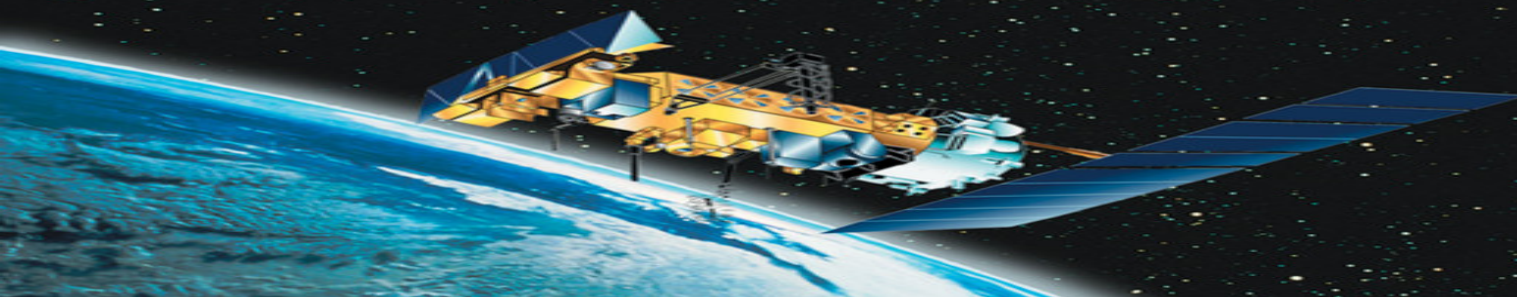
Phones



SEND



Overview: Satellite Networks



Government

vs.

Private

COSPAS/ SARSAT

- International system for SAR
- SOS relayed through NOAA and Air Force
- Most reliable coverage of any network



Iridium

- 66 satellites

- Orbit from pole to pole (better global coverage)

Global Star

- 48 satellites

- Does not cover poles or sub-Saharan Africa

- Bankruptcy!

- Had multiple problems with first satellites launched

Voice Comms: Satellite Phone

- + Allows 2-way verbal communication
- + Many allow internet, texting, etc.
- + Can provide global coverage if on Iridium network

△ **Reception varies**

△ **Need practice to use it**

△ **Costs: \$500- \$1000+**
Plus subscription fees



Voice Comms: Satellite Internet Hotspot

(Global Star Sat Fi, Iridium GO!)

- + Creates satellite hotspot within 100' radius. Can link phones, laptops, tablets, etc.
- + Verbal communication, text, Internet, GPS tracking, SOS alert
- + Can link several devices to one hotspot

△ **Need clear view of sky/ limited coverage**

△ **Connection can be painfully slow**

△ **Costs: \$700- \$1000, plus data plan**



Personal Locator Beacon (PLB)

(McMurdo Fast Find, ACR ResQLink)

- + Relays SOS message and your location
- + Devices uses COSPAT/ SARSAT system
 - + Transmits a homing signal
- + Transmission is 3-12x stronger than SEND
- + No paid annual subscription
- + Most RELIABLE and ECONOMICAL option

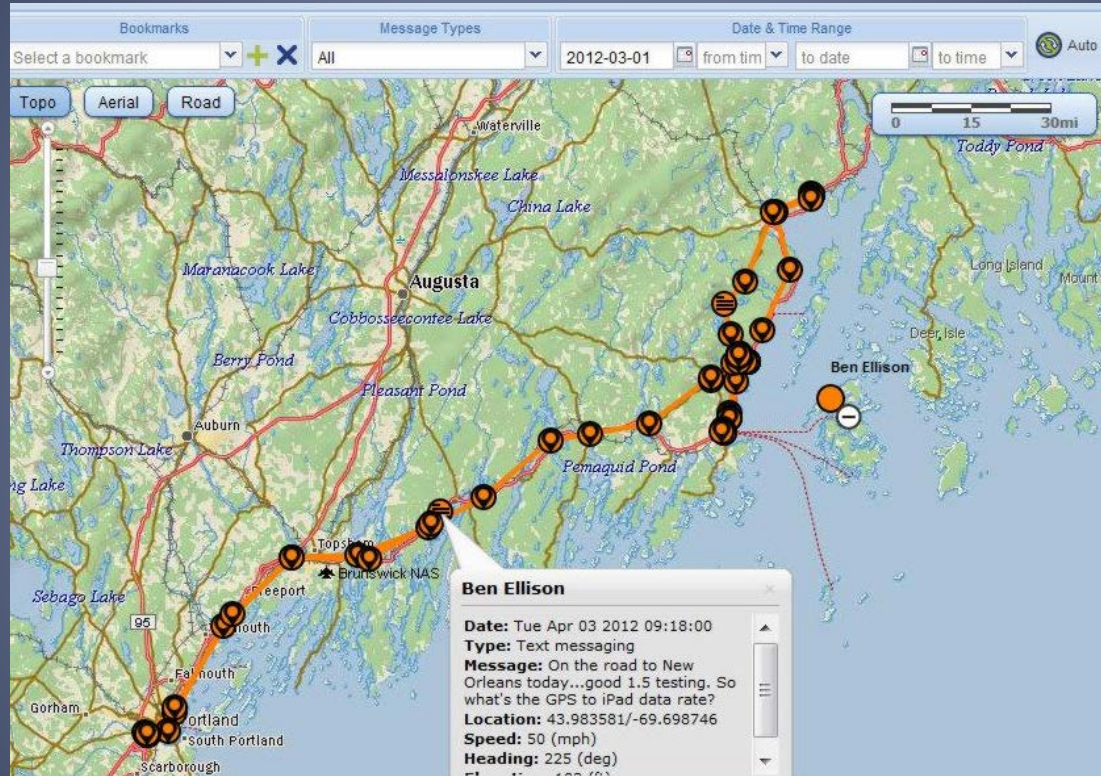
△ Must register device

△ One way, limited communication



SEND Devices (SPOT, In Reach)

- Uses **commercial satellite system** & **private** mission control center
- All devices **allow GPS tracking** and **send SOS** messages



- All devices **require a paid subscription** to work



SEND Devices

SPOT Devices:

- Global Star network
- One way comms; one message
- Spot Assist button
- Low transmission power (.4 watts)



- Cost: \$550 over 3 years

De Lorme In Reach:

- Iridium network
- Two way texting
- Pairs with smart phone
- Confirms sent message
- 1.5 watt transmission power



-Cost: \$950- \$1200 over 3 years



Which Satellite Device is Best?



<http://www.outdoorgearlab.com/Personal-Locator-Beacon-Reviews/compare?>

<http://www.backcountrychronicles.com/satellite-messengers/>

Success Story: Dome Peak



Success Story: Dome Peak



Success Story: NOLS

CBSNEWS

Video US World Politics Entertainment Health MoneyWa



early

0:44 / 2:20

AUTOPLAY ON SHARE CC



AP / July 26, 2011, 4:21 PM

Teen thought he would die in Alaska bear attack

Now What?

As Individual?

As Trip Leader?

As an Organization?





-Review your existing emergency plan.

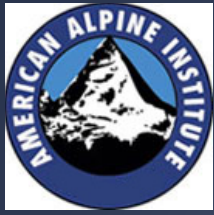
-Start a conversation.

-What is your responsibility as an educational institution tasked with “getting people outside safely and responsibly?”

-Do your current practices align with your mission and organizational values?

-What are other organizations around you doing?





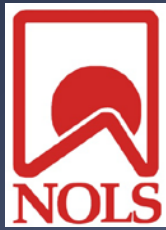
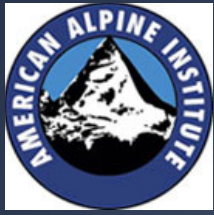
**OUTWARD
BOUND**



“The ability to communicate in case of emergency is expected.”

-Seattle area AMGA guide examiners





**OUTWARD
BOUND**



“A large majority of organizations are using these devices. They should either go with the flow, or have a strong rationale to defend not having them.”

-NOLS Director of Risk Management





ACCIDENTS

IN NORTH AMERICAN MOUNTAINEERING 2014



KNOW THE ROPES: SNOW CLIMBING

Write a position statement.



Implementation:

- **Assess** needs
- Determine **budget**
- Dedicate person(s) to be **in charge**
- Select and **purchase** devices
- Register, keep **track** of, **maintain** devices
- **Train** your **leaders**



Review every five years.



Some Final Thoughts . . .



Tips for Rescue:

Before you leave home:

- Seek **training**
- Carry the **right gear**
- Carry devices that work and ***know how to use them***
- Leave a **trip plan**





Everett Mountain Rescue

Trip Plan



To: (name) _____, (phone) _____

If you have not heard from me by (time) _____ on (day) _____ of (month) _____, call Search and Rescue at 911, report me as overdue. Be prepared to provide Search and Rescue with ALL of the information in this trip plan.

Activity Type (check all that apply)					
Hiking	<input type="checkbox"/>	Bicycling	<input type="checkbox"/>	Whitewater Kayak	Other: _____
Climbing	<input type="checkbox"/>	Hunting	<input type="checkbox"/>	Sea Kayak	
Skiing	<input type="checkbox"/>	Fishing	<input type="checkbox"/>	Dirt Bike / ATV	
Snowshoeing	<input type="checkbox"/>	Boating (power)	<input type="checkbox"/>	Snowmobiling	

Participant Name(s)	Age	Emergency Contact (Name and Phone)	Medical Issues

Trailhead	Date	Time	Trailhead Name / Location	Intended Destination
Departure				
Intermediate				
Return				

Tips for Rescue:

In the Field:

- PLB or SPOT: only use for **life or limb** emergency
- STAY PUT!**
- Call (or text) 911 yourself**
- If calling, use **SOAP** note



Wilderness First Responder SOAP Note

Name _____ Date _____

Location _____

Subjective/Summary/Story (age, sex, chief complaint, OPQRST, MOI/HPI).

Objective/Observations/Findings (Describe position found. Describe injuries).

Patient Exam

Vital Signs

Time _____
LOR _____
HR _____
RR _____
SCTM _____
BP _____
Pupils _____
Temp _____

History

Symptoms _____
Allergies _____
Medications _____
Pertinent Medical History _____
Last Intake/Output _____
Events recent _____

Assessment (List Problems) _____

Plan (Plan for each problem) _____

Anticipated problems _____

Tips for Rescue:

For helicopter rescue:

Storm proof surrounding area

Gather group

Make your party visible

**Only approach helo
if directed by crew**



Tips for Rescue:

Be prepared for SELF RESCUE

Be CONSERVATIVE



Ways To Get Involved:



-Like us on Facebook

-Donate

-Come **VOLUNTEER** with us!





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