



Unit 17: Equipment

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What to carry?

- It all depends (on a lot of things)
- Local conditions
 - Weather, expected and unexpected
 - Terrain
 - Season
- Mission
 - Duration
 - Goal
- Team (experience, skill, resource type....)
 - No point in carrying stuff you don't know how to use
 - Sharing the load
- Survival: Things on your person.



What should you carry for SAR (training and missions)?

Why?

Discuss.

Expectations

- ASTM 2751-16 (Land SAR Member): Self sufficient for 24 hours; perform duties in expected conditions, including darkness.
- FEMA Resource Types:
 - The ability to be self-supporting for 24 hours
 - Type IV, III, and II Wilderness Search and Rescue Team
 - Type III and Type II Canine Search and Rescue Team
 - The ability to be self-supporting for 72 hours
 - Type I Wilderness Search and Rescue Team
 - Type I Canine Search and Rescue Team



There are some general expectations for what a search and rescue field team member needs to be capable of: ASTM standard for Land SAR Member specifies ability to be self sufficient for 24 hours with the ability to perform functions, including at night.

Resources that seek to conform to FEMA wilderness SAR resource typing again have expectations to be self supporting for 24 hours (or 72 hours).

Discuss (in terms of missions of represented units).

Tradeoffs



- Weight vs:
 - Routine needs (e.g. communications, navigation)
 - Consumable Supplies (e.g. batteries, flagging tape)
 - Mitigation for likely hazards
 - Medical supplies
 - Supplies for overnighting (with or without a subject)



Gear has weight and volume...

Essentials

- “10 Essentials” List may vary.
- On your person.



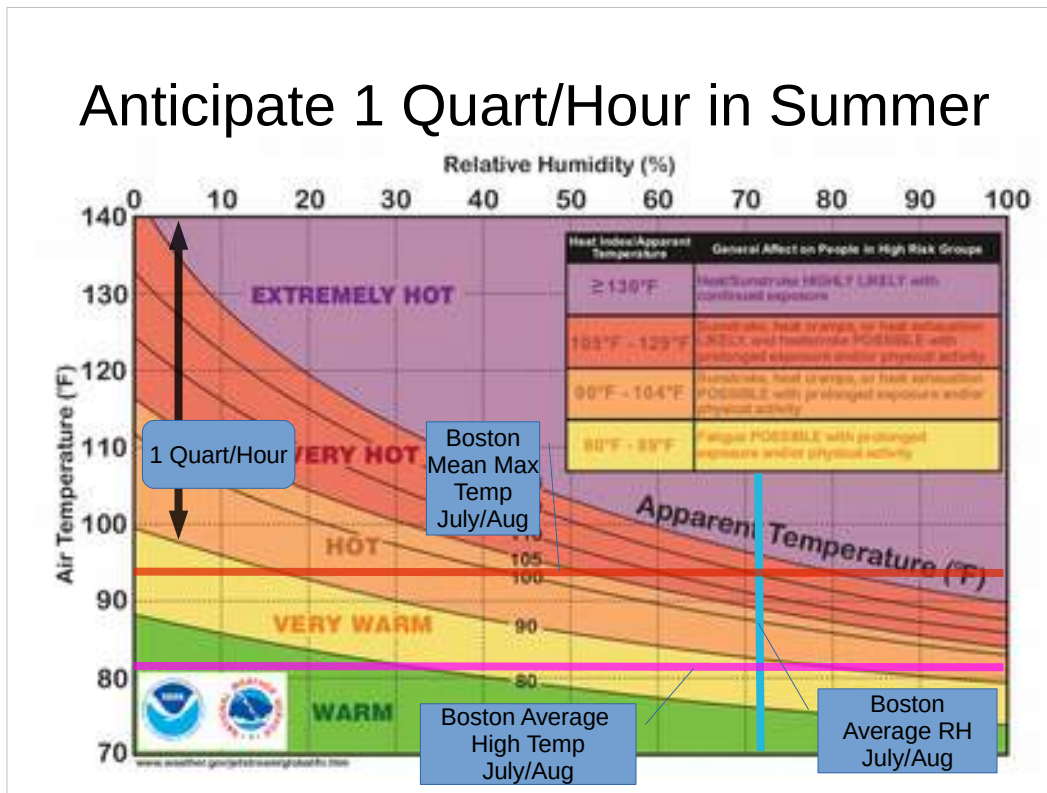
What things do you need to be capable of at all times on a SAR mission or training?

Documentation, navigate, first aid, survival, see at night, etc..

Discuss.

Discuss the importance of these essentials being on your person at all times.

Anticipate 1 Quart/Hour in Summer



Likewise consider local summer averages and extremes.

In July and August in Boston, it is very plausible to be operating in Hot heat index conditions where drinking one quart of water per hour per person is recommended.

This should affect your equipment planning for water carrying needs for summer operations.

Carry out this sort of analysis for the area in which you deploy. What are the typical and extreme summer conditions, and what are the typical and extreme winter conditions.

Food

- High caloric content in low volume & weight
- Water
- Hot Drinks



Estimate your food (and caloric) needs:

Consider:

150-600 cal trail snacks,

2000-3000 cal per day

Hot drinks provide psychological comfort.

Drinks with sugar help you warm up more than hot drinks (minimal added heat relative to your cold body mass, sugar can be burned to generate heat).

Food and Overnight



Overnight, hang food out of reach of critters, particularly bears.

Hanging off a small limb at height and distant from trunk...

Pack For the Mission

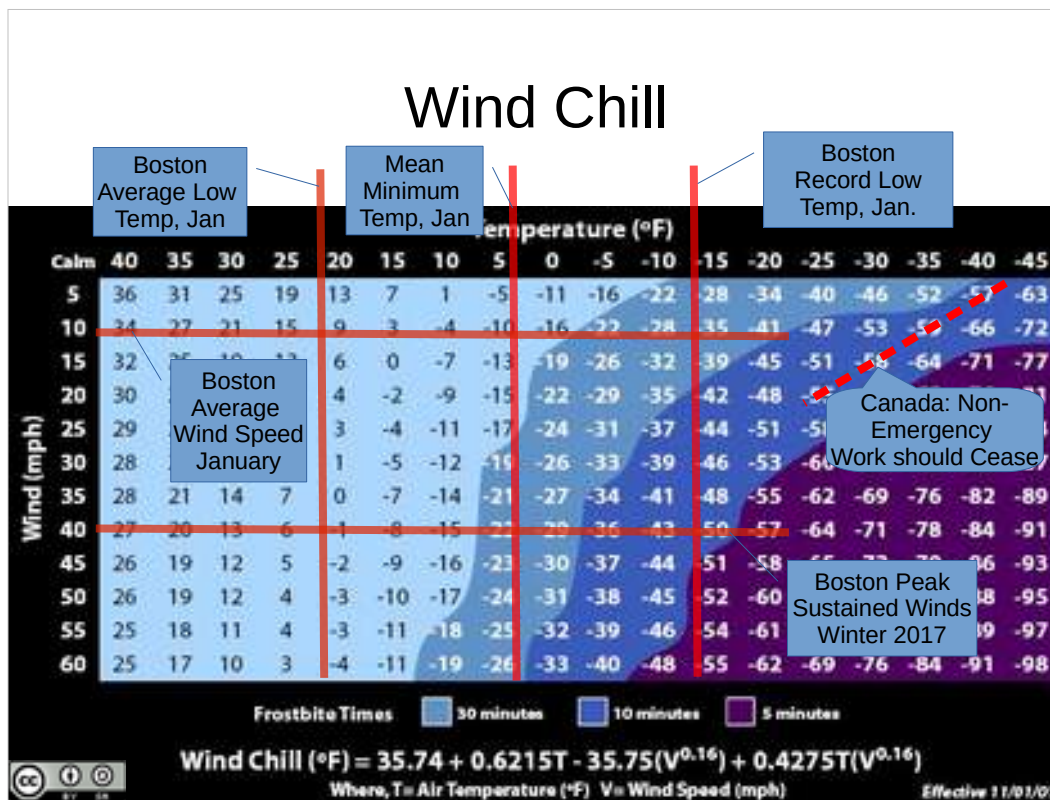
- On Your Person
- Urban/Suburban pack
- 24 hour pack
- 72 hour pack



How do you organize your equipment?

Discuss?

Depends on the mission.



Consider the extremes of local climate.

Here are average wind and low temperatures for Boston in January – Average low temperature and average wind speed put conditions at a wind chill of 9 degrees F.

And mean minimum temperature, record low, and peak sustained winds for one year in Boston: -20 to -50 windchills and frostbite times of 10 to 30 minutes are quite plausible extremes to plan for in winter operations in the Boston area.

Examine the extremes in your local area. Plan your winter equipment and clothing to match.

Factors

- Weather (including temperature)
- Terrain
- Altitude
- Navigation
- Flora and fauna
- Patient care needs
- Travel time
- Duration of incident
- Logistics (including communications)
- Incident management needs



Discuss how different factors might affect choices of equipment to carry.



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