

Building Weather Aware Kids and Staff

Camp Safety and Activities for All Ages

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Introduction

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Local Knowledge

- Native of Mt. Olive, IL (45 min. NE STL)
- Local sports fan (aside from football)
- Camped many places in the area

Professional Experience

- Air Force
- National Weather Service
 - NWS Grand Rapids, MI ('12-'18)
 - NWS St. Louis ('18-Current)

The Passion!

- If you can imagine it, it can happen.
- If you've seen it, you know it has happened, and it's possible again.

**It can, and will, happen again.
How do you prepare?**

"Knowledge is power. Power is change." - Tony Horton



Joplin, MO - May 2011

Overview

This presentation covers...

Step 1 - Know Before You Go

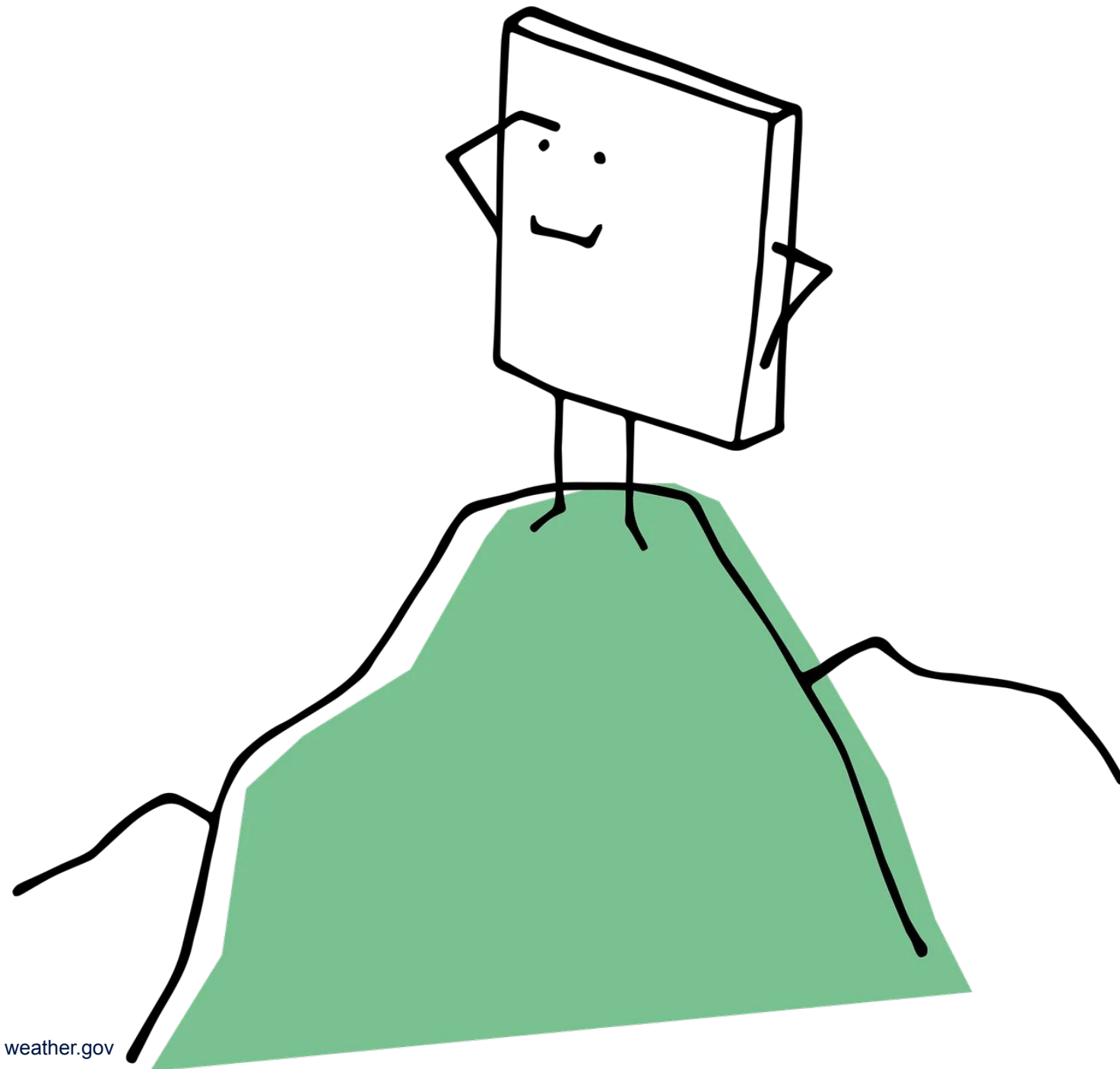
- The Campers and Community
- “Location! Location! Location!”
- Resources for Communication

Step 2 - Forecast and Hazards

- Sources for weather information
- Hazards that may impact you
- Thresholds for impacts

Step 3 - Safety Applications

- Plan, Prepare, and Act!
- Establish Emergency Procedures
- Spread your knowledge

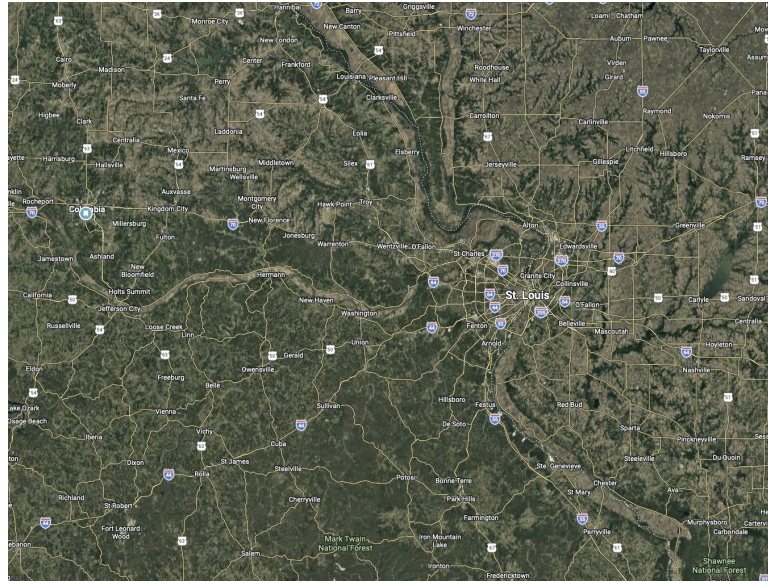


Step 1 - Know Before You Go



The Camping Community

- First, know who is involved in your immediate camp group
- Gain perspective on individual needs
- Highlight any special needs in case an emergency warrants specific attention



Location

- Where are you camping?
- What exists outside your camping spot for additional resources, if needed
- Become familiar with the layout of the land



Communication Resources

- Is cell service available in the area you're camping?
- Who do you contact at the campground for emergencies and how?
- Have multiple ways to receive weather information

Know Before You Go

Your Camping Community

Disclaimer - Some information is not in my purview, but weather hazards will change the way you approach any situation.

- Demographic Information
 - Useful in understanding what knowledge each participant may be able to invest to the camp
 - Youth vs. Adult
 - Native vs. Transplant
 - High Functioning vs. Learning Hurdles
- Individual Needs
 - Special cases require more attention and planning
 - Forming buddy systems can mitigate potential dangers
- Emergency Cases
 - Highlight critical information ahead of time
 - We call it the “unexpected,” but if it weren’t possible, we wouldn’t consider it at all



Know Before You Go

Location! Location! Location!

- Where you're camping
 - What are some of the more obvious hazards?
 - What are the hidden hazards you may be missing?
 - Are any camp patrons locals to the area? They're good leverage!
- Learning the Local Area
 - Grocers, health supplies, or other special suppliers
 - Identify where emergency services are located
 - Layout of the Land
 - Evacuation routes, if needed
 - Beware of low water crossings
 - Trees and hills inhibit line of sight
 - Cardinal directions: where is north, south, east, and west?



Know Before You Go

Communication Resources

- Remote Communication
 - Cell providers continue to expand their network
 - What providers are available among camp goers?
 - Is one service better than another?
 - Dedicate them as the primary emergency coordinators
- Campground Emergency Contact
 - Does one exist?
 - Contact the campground ahead of time
 - Record information and make it easy to access
 - Establish secondary and tertiary contacts regardless
 - Emergency meeting location and backup location
- Multiple Resources for Weather Information
 - Beware: Not all sources are official; priorities differ between them
 - Cell, radio (comms/broadcast), television, NOAA Weather Radio
 - There are more out there...

Step 2 - Forecast and Hazards



Sources for Weather Information

- National Weather Service
- Local broadcasts should carry greater weight, both in the sense of radio and TV
- Local officials



Hazards

- Consider the season
- Location and season have major implications on the possible threats
- Highlight the greatest threats



Thresholds

- Acclimation - Every person responds to sensible weather changes differently
- Establish thresholds based on the individuals who are at the greatest risk
- Create a plan

Forecast and Hazards

Sources for Weather Information

- National Weather Service
 - weather.gov includes and interactive map (2.5km grid spacing)
 - weather.gov/stlouis for “local” information
 - Forecasts, watches, warnings, advisories, and more!
- Local Radio and Television
 - A number of local entities to leverage
 - These change by location
 - The value of local knowledge cannot be stressed enough
- Government Officials
 - Municipal, County, State, and Federal resources
 - Emergency Management are often the key decision makers
 - Emergency responders can answer many questions
- **Warning: Social media should NOT be your primary source for reliable weather information. It's a place for false narratives to thrive!**



Forecast and Hazards

Hazards

- Seasonal Considerations
 - Summer: Heat, drought, fire, severe weather
 - Winter: Cold and winter precipitation
 - Fall/Spring: Cross reference with both summer and winter
- Again, Location Matters
 - Soil conditions and makeup
 - Elevation changes (flash flooding)
 - Response times and modes will be impacted
- Highlight the Greatest Threats
 - Our region is impacted by all seasons
 - Almost any hazard is possible, but some are more probable and favored at specific times of the year
 - If there's a threat, what would you do?

Forecast and Hazards

Watch, Warning, and Advisory

Watch: Large Area, Long Duration



Ingredients = Potential

Homemade Pizza Dough:

Ingredients:

- 1 tsp sugar
- 1 cup warm water
- 2 ¼ tsp dry yeast
- 2 ¼ cups flour
- 1 tsp salt
- 1 tbsp olive oil

Homemade Pizza Sauce

Ingredients:

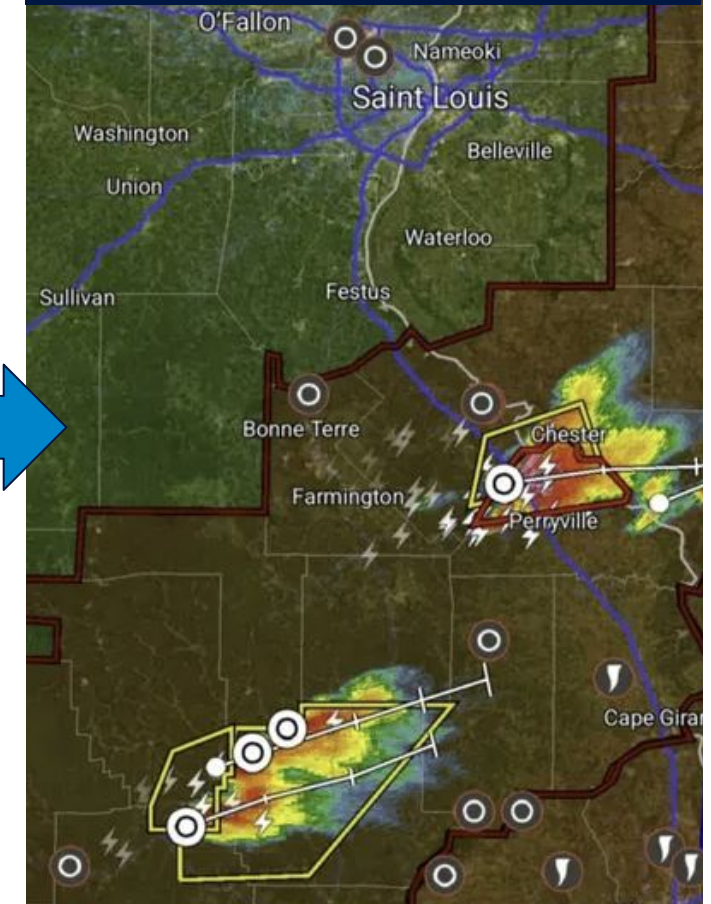
- 1 can whole tomatoes
- 3 tbsp olive oil
- ¼ cup finely chopped onion
- 3 cloves garlic, minced
- 2 tsp dried oregano
- 1 tsp dried basil
- ¼ tsp red pepper flakes
- Salt & sugar to taste

Homemade White Pizza Sauce

Ingredients:

- 3 tbsp butter
- 3 cloves garlic, minced
- 2 tbsp flour
- 1 cup cream
- ¼ cup whole milk

Warning: Imminent Threat



Forecast and Hazards

Why rely on NOAA Weather Radio?

Analysis of the Conditions



Local Forecasters and Application



Warning Product Dissemination





Forecast and Hazards

Hazard	Products	Definitions
Heat	• Extreme Heat Watch • Heat Advisory • Extreme Heat Warning	• Advisory: 4+ days with heat index values at 100° or 1+ day with 105° • Watch: Extreme heat possible • Warning: Heat index of $\geq 110^{\circ}$, 4+ days of 105°, and/or 2+ days with minimum heat index $\geq 75^{\circ}$
Severe Weather	• Storm Prediction Center (SPC) Outlooks spc.noaa.gov • Weather Prediction Center (WPC) Hazard Outlooks wpc.ncep.noaa.gov • Severe Thunderstorm and Tornado Watches/Warnings • Decision Support Services (DSS) coverage for lightning	• Severe Thunderstorm ○ >58 mph wind gusts ○ 1" hail or larger ○ Tornado potential • Tornado ○ Any credible evidence ○ Radar indications ○ Ground confirmation • All lightning is hazardous
Cold	• Extreme Cold Watch • Winter Storm Watch and Warning • Winter Weather Advisory	• Watch: Extreme cold possible • Warning: Wind chill $\leq -20^{\circ}$ • Be aware of hypothermia potential - A silent, real hazard
Hydrology	• Flood Watch and Warning	• Watch: Flooding is possible • Warning: Flooding is imminent

Step 3 - Safety Applications



Plan, Prepare, Act!

- Planning requires the background information
- Preparing means you know the thresholds and fail points
- Acting uses all of the above to make reasonable decisions and take appropriate actions



Emergency Procedures

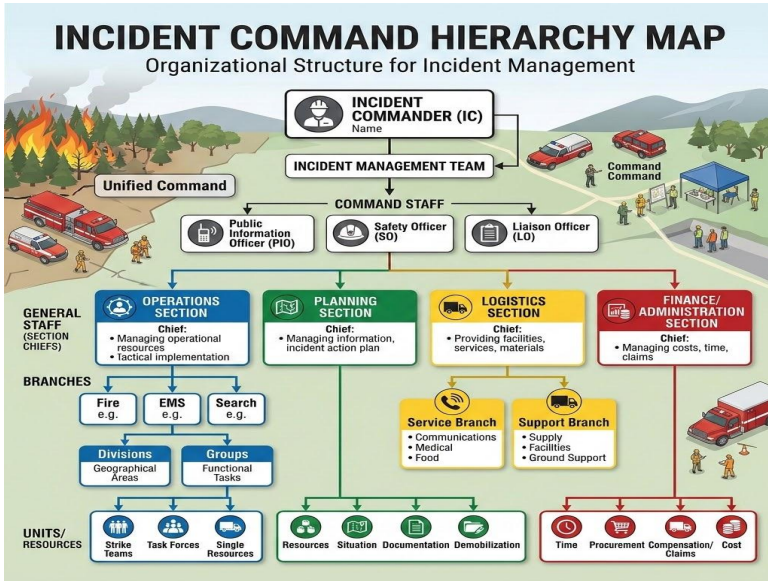
- Stems from the planning, preparing, and the potential actions that may become necessary
- Share it, ask questions, and continue to improve on it
- Include everyone's input



Sharing the Knowledge

- The more everyone knows, the better all steps will be performed
- One person cannot take on all of the responsibilities
- Leverage all specialities

Ideas for Activities



Design a Camp Hierarchy

- Make it sound exciting
 - “Incident commander”
 - “Section Chief”
- Promotes learning the emergency response system



Map Activities

- Children love to draw!
- Can they identify their location on a map?
- Familiarize themselves with the campground layout



Improving Communication

- Often the single greatest fail point in all operations
- What is acceptable and what shouldn't be encouraged
- Don't cry, “Wolf!”

Ideas for Activities



First-Aid and Buddy Care

- Everyone can benefit from first-aid and buddy care
- Create two-person teams who will look out for one another



Building a Shelter

- Challenge them to think of creative ways to build shelter
- Ask them questions about what they might need in their shelter
 - How do you stay warm?
 - How can you make the shelter more visible?



Seek Fair and Other Activities

- Emergency management entities often organize readiness and safety fairs
- Create a long list of camping items and have them choose 10 items they would take and why... this challenges their survival thought process



Questions?

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