

- Grandfather Visitor Center
- Parkway Visitor Center
- Parking
- Picnic Area
- Campsite
- No Camping
- Campfire Permitted
- No Campfires
- Point of Interest
- Summit
- Gap
- Ladders
- Overlook

Grandfather Mountain can host the region's most severe weather, including electrical storms, winds over 100 mph, deep snow and sub-zero cold. Weather can change quickly.

Please use good judgment in taking the following into account:
EQUIPMENT- Trails here are often steep, rocky, uneven and slippery. Hikers should wear sturdy boots and carry a day pack with food, water, first aid supplies, rain gear, flashlight, cellular phone and trail map. Please do not attempt these trails wearing sandals, street shoes, flip flops or smooth-soled footwear.
LIGHTNING- Peaks, ridges,

HYPOTHERMIA- A rain can be as dangerous as an arctic wind storm. Wear appropriate weather garments, even in summer months.
TRAIL CONDITIONS- Backcountry trails are muddy and treacherous in winter often with ice. Hiking under these conditions falls in the hands of well-equipped experts.
WATER- All untreated water should be purified. Giardia, bacteria and other contaminants can be detected. You can purify by boiling it for 10 minutes or using purification tablets through use of a filter.
WATCHING CHILDREN- Children should lead and follow hiking groups with children in the middle. The hiking party should split up, make plans to meet at a prearranged time and place to avoid the possibility of a search for lost hikers.

Mission and Visions



Inspiring conservation of the natural world by helping guests explore, understand, and value the wonder of Grandfather Mountain.

- We are becoming the best field trip experience in North Carolina.
- We make sound, research-based decisions to care for the resources on Grandfather Mountain with future generations in mind.

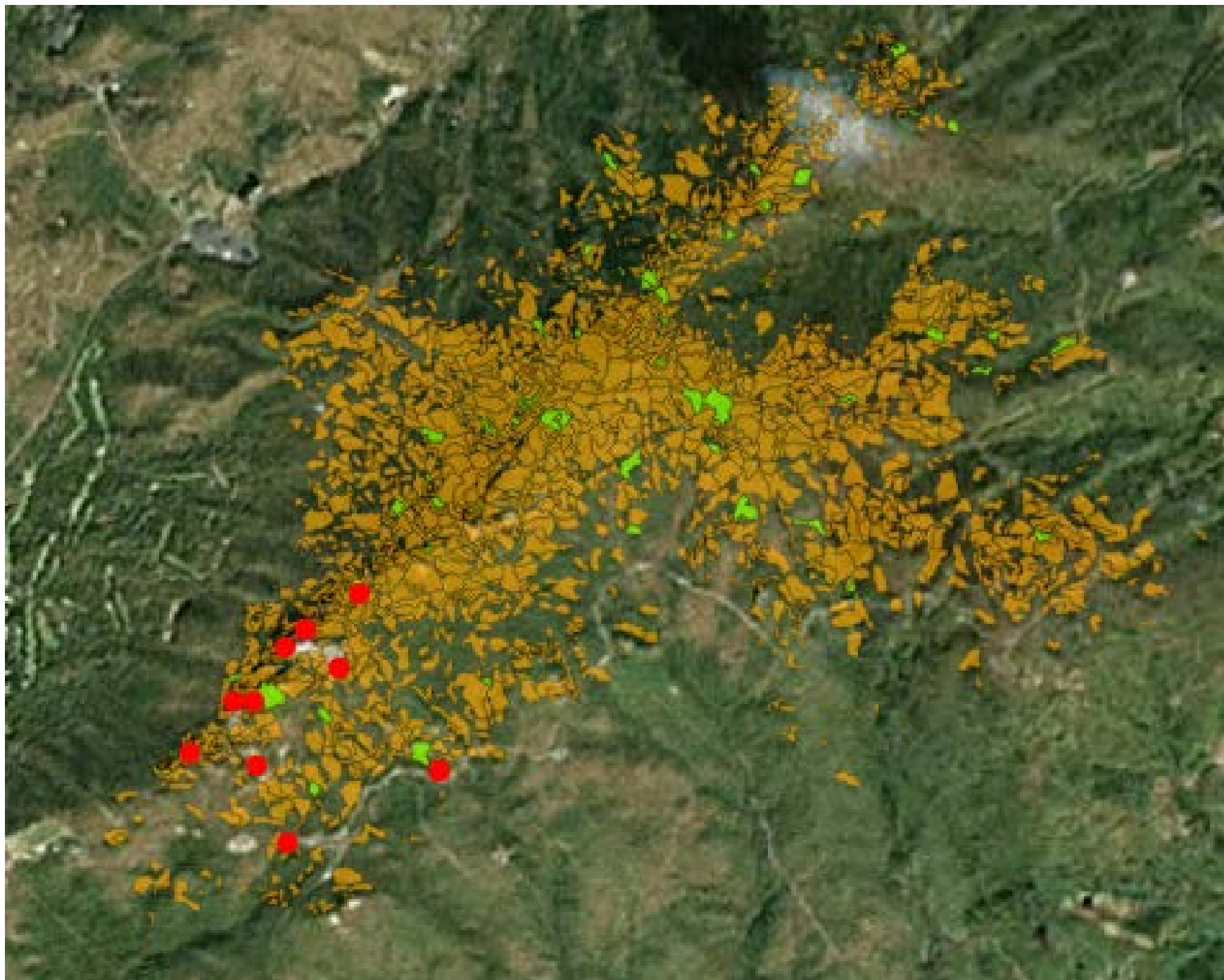
Naturalist Department



Spruce-Fir Forest Research

- Ground-truthing data on the distribution of red spruce and forest composition of areas with red spruce
- Collaboration with Mark Endries and the US Fish and Wildlife





Ground-Truthing

Observed spruce overstory class:

<input type="checkbox"/>	0 Percent
<input type="checkbox"/>	1 – 5 Percent
<input type="checkbox"/>	5 – 25 Percent
<input type="checkbox"/>	25 – 75 Percent
<input type="checkbox"/>	75 – 95 Percent
<input type="checkbox"/>	95 – 100 Percent

Is hemlock present in the overstory?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

Overstory tree composition:

<input type="checkbox"/>	Deciduous
<input type="checkbox"/>	Coniferous
<input type="checkbox"/>	Mixed

Is spruce in the understory?

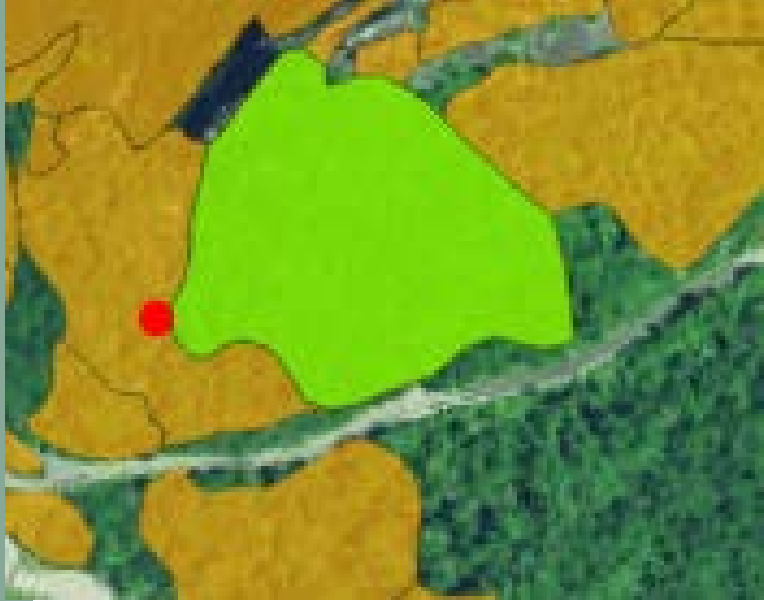
<input type="checkbox"/>	Present
<input type="checkbox"/>	Absent

Does the polygon shape appear to be correct?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No



Bushwhacking and Binoculars



Future Spruce-Fir Research

- Finish ground-truthing
- Combine spruce-fir research with endangered species research
- Plots at high elevations, low elevations, and the ecotone to monitor vegetation composition of forests on Grandfather Mountain



Salamander Research

- Identify and catalog species on Grandfather Mountain
- Night Surveys
- Plot surveys
 - High elevation (~5500 ft)
 - Low elevation (~4000 ft)
- Chytridiomycosis monitoring through NC Wildlife Resources Commission



NestWatch

- NestWatch Citizen Science Program through Cornell Lab of Ornithology and the Smithsonian Migratory Bird Center
- Bird Breeding Biology Data:
 - Nest site locations
 - Habitat species
 - Number of eggs
 - Young and fledglings



Hawk Watch

- Identifying and counting hawks flying over Grandfather Mountain while migrating south for the winter throughout the entire month of September
- Hawk Migration Association of North America



Candid Critters

- Citizen Science Collaboration
- NC Population Data:
 - Deer population trends
 - Location and abundance of coyotes
 - Locations of other species of concern in NC



Endangered Plant Species

- Counting the number of plants in the populations of rare and endangered plants on Grandfather Mountain
- Pink Shell Azalea, Blue Ridge Goldenrod, Heller's Blazing Star, Roan Mountain Bluet
- Natural Heritage Program



Research Collaboration

- Example: North Carolina State University professor Clyde Sorenson has developed a multi-year project that involves collection and identification of bee species at varying elevations.
- Others:

Kalmia buxifolia, WCU

Vaccinium, Duke

Solidago lancifolia, ETSU



Future Research

Northern Flying Squirrel

- Nest boxes were monitored until 2008
- Are Northern Flying Squirrels still on Grandfather Mountain?
 - If so:
 - Where are the squirrels?
 - What habitat are they using?

Fungal Diversity

- General fungal species diversity on Grandfather Mountain

How to start your own...

- Citizen Science Programs
- NC Wildlife Resource Commission Wildlife Diversity Program
- Reach out...
- How have others done similar research?

Questions?



If you would like to include Grandfather Mountain Stewardship Foundation as a research-site, please contact Amy Renfranz at amy@grandfather.com .

