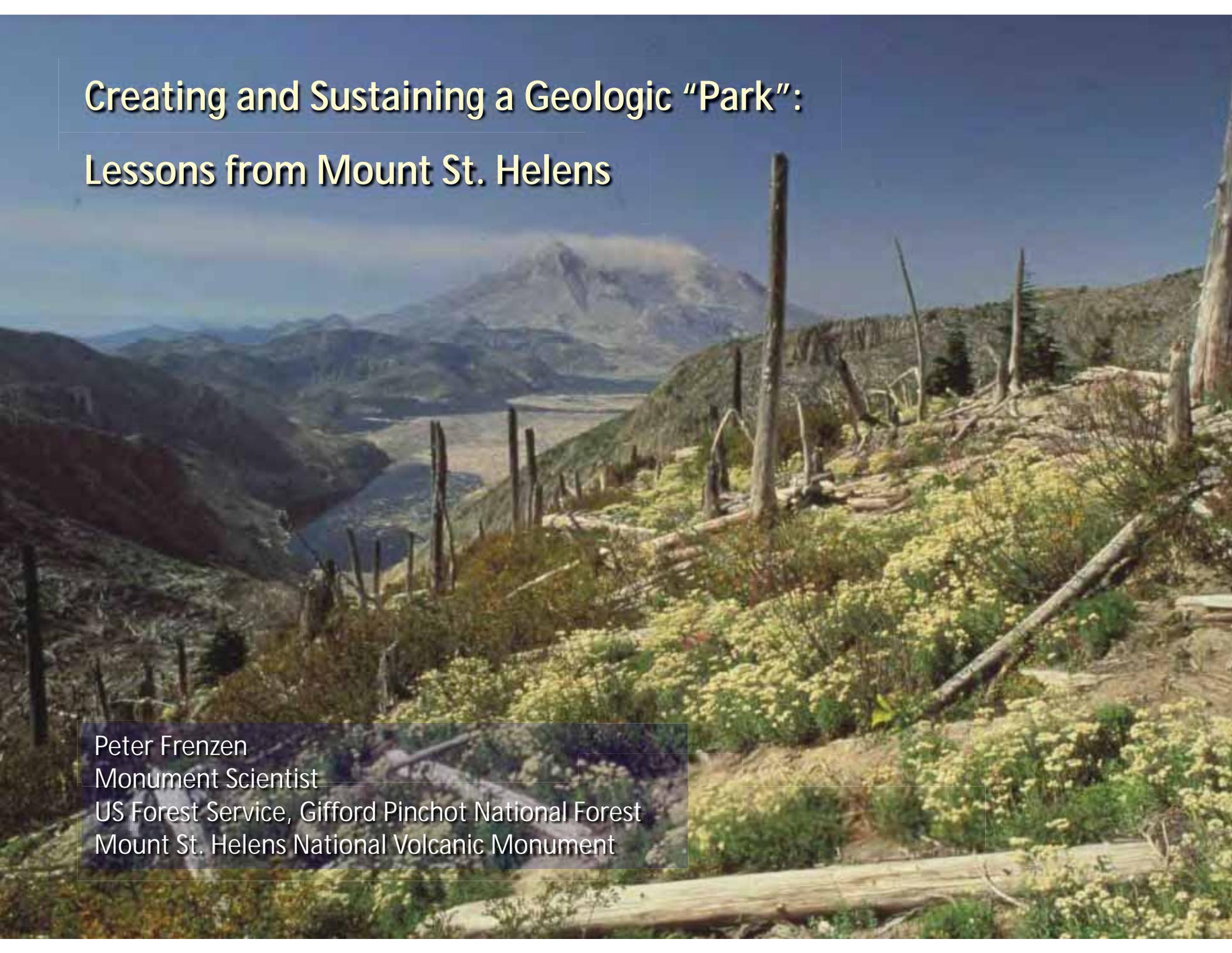


# Creating and Sustaining a Geologic "Park": Lessons from Mount St. Helens

Peter Frenzen  
Monument Scientist  
US Forest Service, Gifford Pinchot National Forest  
Mount St. Helens National Volcanic Monument

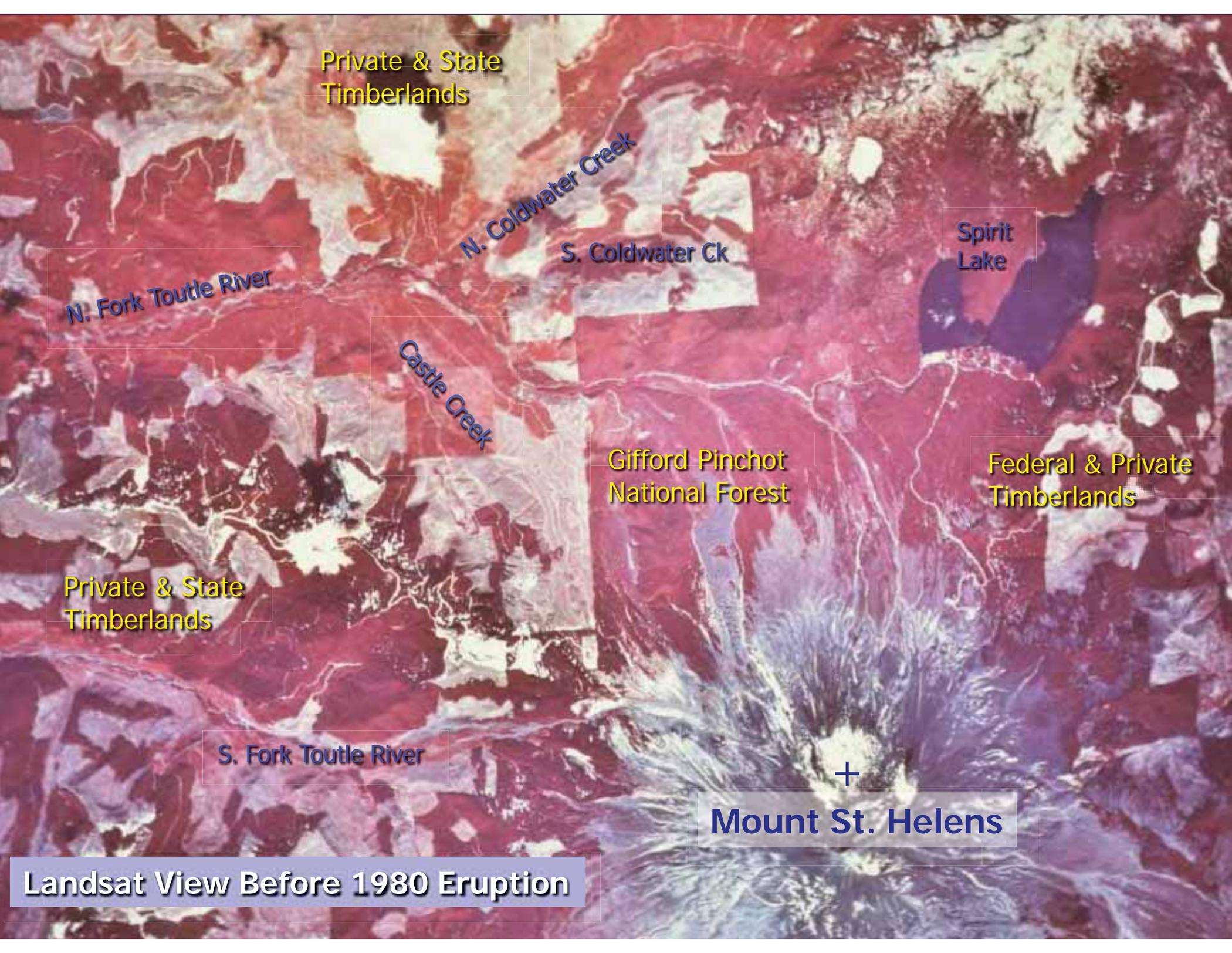


1979



1980





Private & State  
Timberlands

N. Coldwater Creek

S. Coldwater Ck

Spirit  
Lake

N. Fork Toutle River

Castle Creek

Gifford Pinchot  
National Forest

Federal & Private  
Timberlands

Private & State  
Timberlands

S. Fork Toutle River

+

Mount St. Helens

Landsat View Before 1980 Eruption

# Devastating Impacts to Natural Resource Management and Local Timber-Based Economy



N Fork Toutle River

Coldwater Lake

Johnston Ridge

Spirit Lake

Castle Lake

S Fork Toutle River

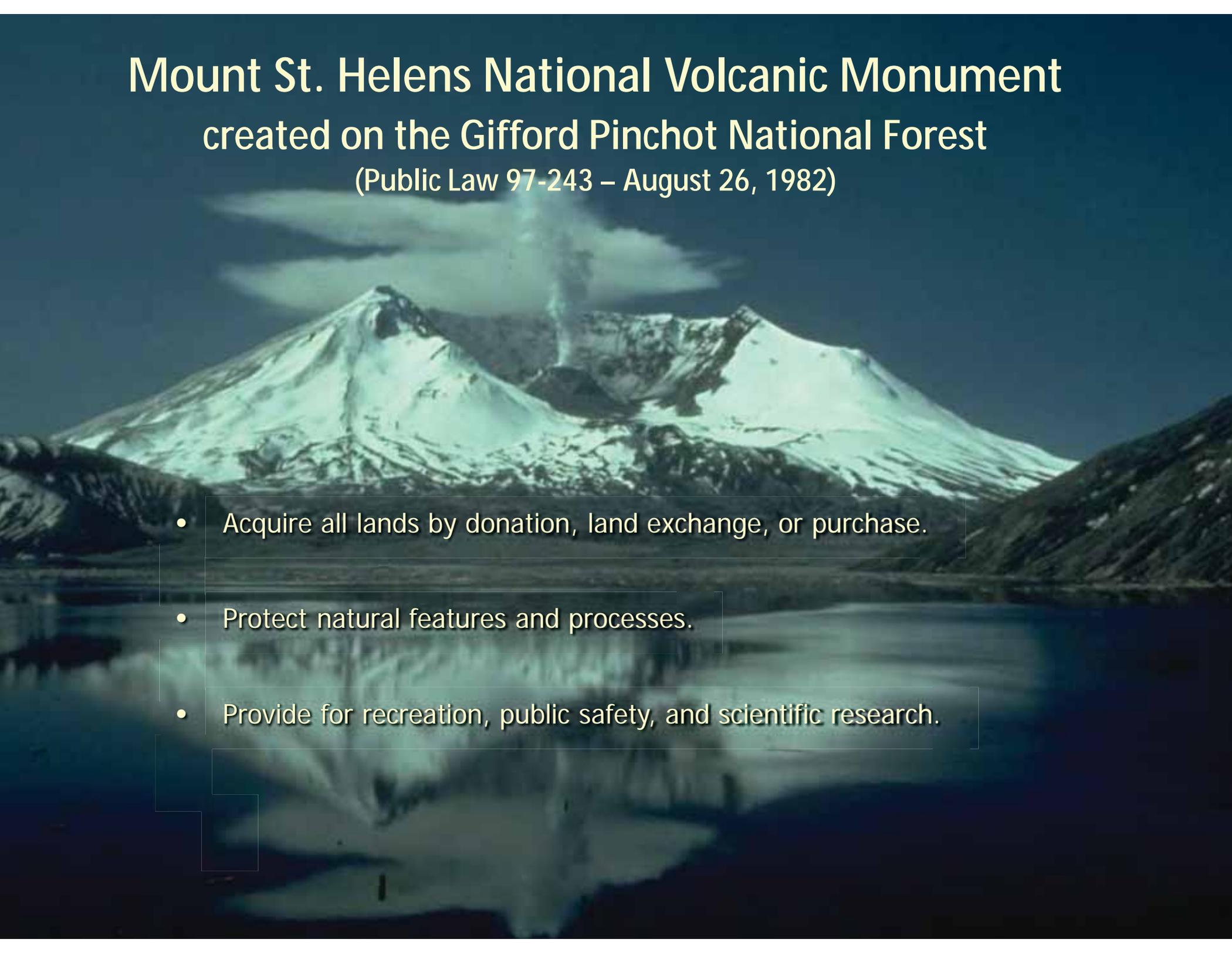
Mount St.  
Helens  
Crater

Landsat View After 1980 Eruption

# Mount St. Helens National Volcanic Monument

## created on the Gifford Pinchot National Forest

(Public Law 97-243 – August 26, 1982)

- 
- Acquire all lands by donation, land exchange, or purchase.
  - Protect natural features and processes.
  - Provide for recreation, public safety, and scientific research.

# Mount St. Helens Recreation

## Recreation Site Facilities

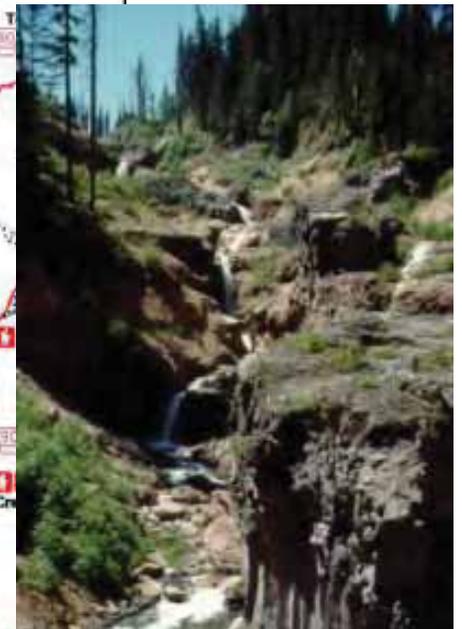
- Visitor Information
- Trail Access
- Campground
- Restrooms
- Horse Access
- Telephone
- Monument Passes sold here
- Barrier Free Access
- Water
- Food Concession
- Picnic Area
- Gas

## Legend

- Paved Road
- Gravel Road
- Trail
- Mount St. Helens National Volcanic Monument
- Monument Restricted Area



44,700 hectares



Substantial federal investment in roads, trails and visitor facilities benefits tourism and a struggling post-eruption economy.

Development of dynamic, visitor-centered interpretive program provides quality experiences and ensures visitor satisfaction.



Message Based Interpretation is an effective tool for reaching diverse audiences.



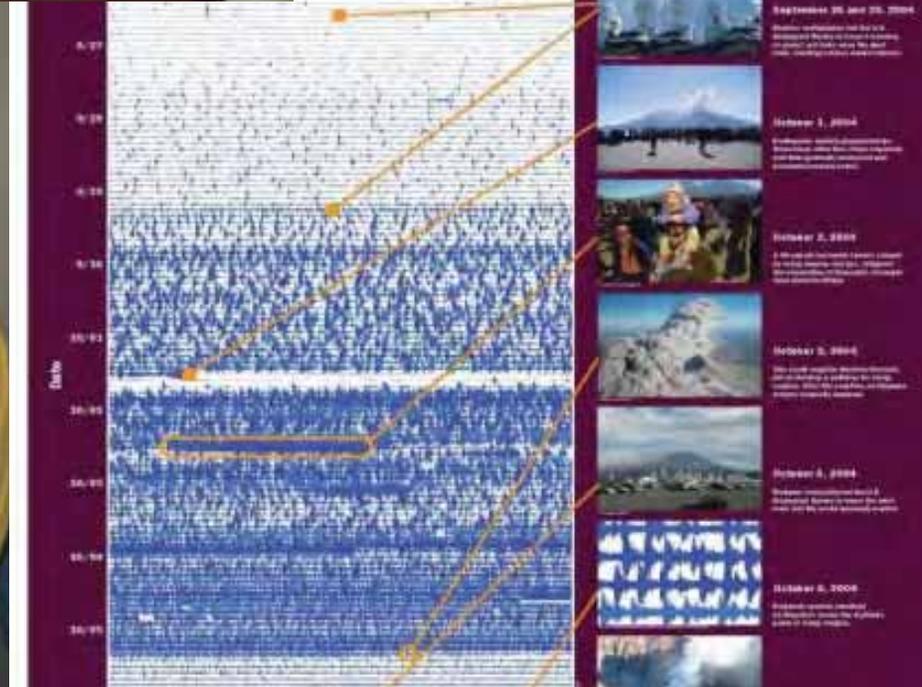
Effective programs are active, engaging, and capture the hearts and minds of visitors .





Strong science partnerships are key to incorporating exciting science discovery in exhibits and programs.

**St. Helens Awakens with Earthquakes**  
 molten rock began rising into Mount St. Helens, fracturing  
 g rock and causing earthquakes. By studying the seismic  
 es of these earthquakes, scientists recognized distinct patterns  
 ided advanced warning of impending volcanic activity.



# Volunteers are Key to Sustainable Programs

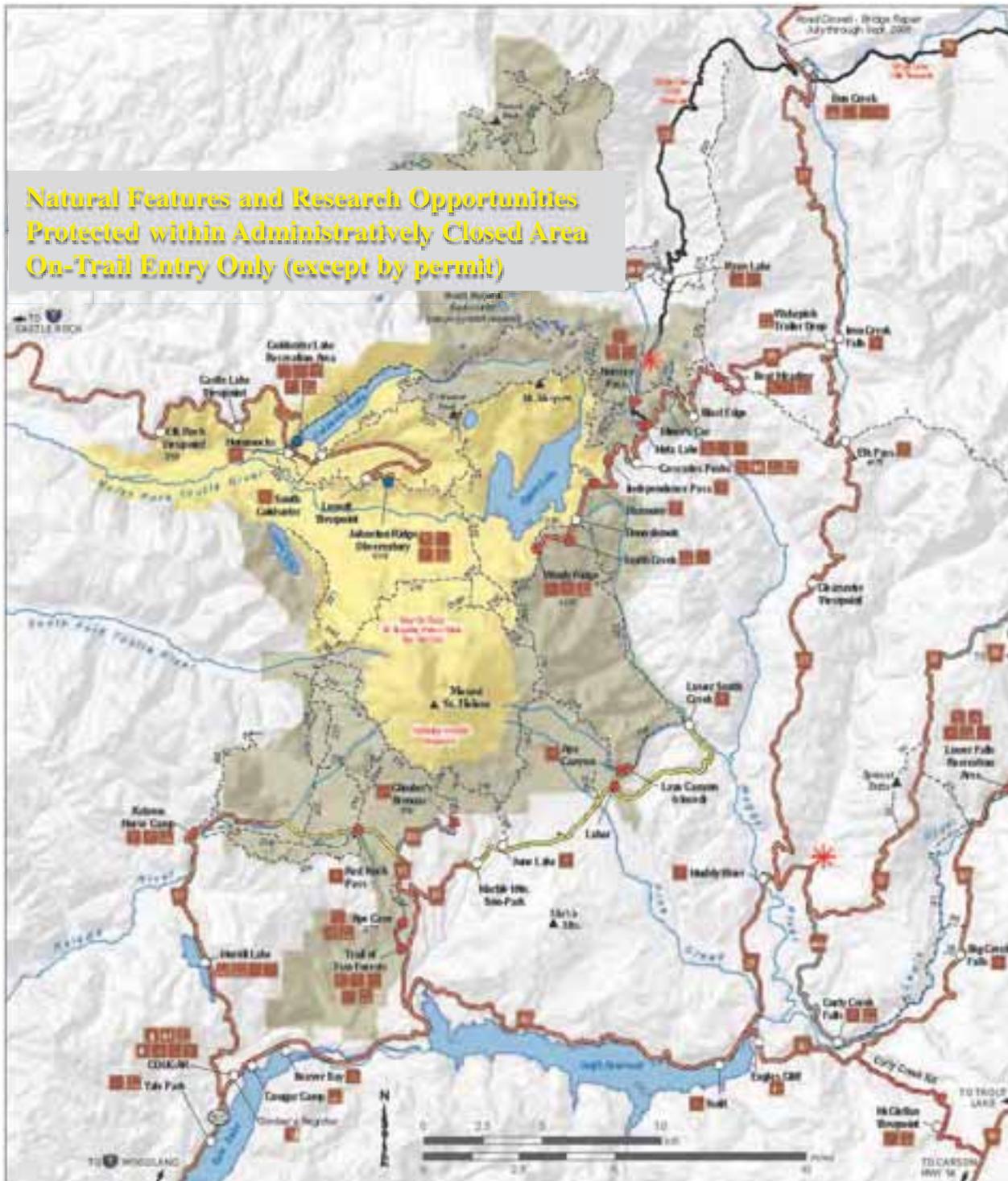




Adjacent Multiple Use Public and Private Lands Pose Interesting Mgmt Challenges



Natural Features and Research Opportunities  
Protected within Administratively Closed Area  
On-Trail Entry Only (except by permit)



Mount St. Helens National Volcanic Monument

# "Stuff Happens" 2004 Eruption Response Poses Unique Challenges



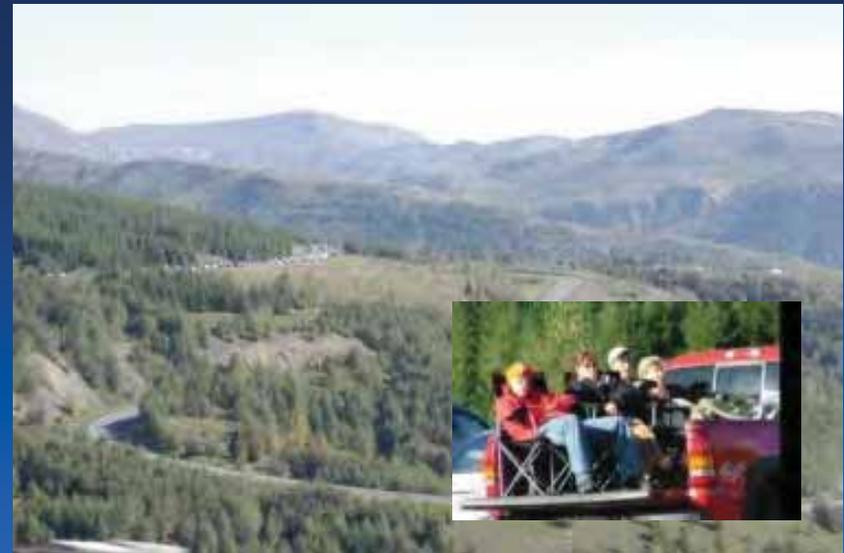
State Highway Closed and Visitor Center Evacuated



Global Media Event Strains Local Resources



Progressive Area Closures Around the Volcano



Thousands Gather Outside Boundary to Wait for Eruption



Mount St. Helens Science and Learning Center  
Connecting People with Nature through Science, the Arts, and Adventure Recreation



Coalition of Scientists, Educators and Non-Profit Partners  
are Working to Repurpose Closed Coldwater Ridge Visitor Center

# Proposed Field Camp for Scientists and Educators

Five-Year Philanthropic Campaign to Finance Construction and Supporting Endowment  
Sample Structures—Preliminary Concept Only

Cabins



Picnic Shelter



Propane Fire Pit



CXT Restroom Building



# Programs Offered by Collaborating Non-Profit Partner (Mount St. Helens Institute)



Volcano Explorers



Teacher's Workshops



Student Activities



Ecological Research Experiences for High School Students



Youth Stream Team

Explore Mount St. Helens and learn about its eruptions and their influence on natural systems. Visit us onsite or online and experience the wonder of this amazing natural laboratory.

**EARTH IN ACTION**

Learn about the 1980 and 2004-2006 eruptions and how ongoing research is advancing our understanding of volcanic processes.

[SEE THE EARTH IN ACTION](#)

**RETURN TO LIFE**

Learn about the return of life to the 1980 blast zone and how long-term studies are transforming our thinking about how ecosystems respond to large-scale disturbance.

[EXPLORE THE BIOLOGY OF MSH](#)

**VOLCANIC EXPLORATIONS**

Join us for onsite classes and activities or online and learn how scientists, artists, and outdoor enthusiasts are learning from and being inspired by Mount St. Helens.

[VOLCANIC EXPLORATIONS](#)

**VISIT MOUNT ST. HELENS**

Information about visitor attractions, viewpoints and trails on the three very different sides of Mount St. Helens (west, south and east).

[VISIT MOUNT ST. HELENS](#)

THANKS TO OUR SPONSOR

**Families**

Brand sponsor of the Mount St. Helens Science & Learning Center

The Mount St. Helens Science and Learning Center is a collaborative effort of the Mount St. Helens Institute and the U.S. Forest Service, Mount St. Helens National Volcanic Monument. Our mission is to connect people with nature through science, art, and adventure recreation.




- Home
- Earth in Action
- Return to Life
- The Human Connection
- Experience Mount St. Helens
- Resources
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**LATEST NEWS**

- Jun 25** Youth Stream Team Connects Students with Aquatic Ecosystems
- Jun 2** Triute Elementary Students Connect with Mount St. Helens
- May 18** Community Leaders Gather to Dedicate Science and Learning Center

**UPCOMING EVENTS**

- Jun 16** Geology Hike and Star Party
- Jun 7** Family Science Exploration Weekend Campout
- Jun 25** Two-Day STEM Workshop for Portland Teachers



[View the Image Gallery](#)

New – Under Construction  
**MSH Science and Learning Center Website**

**MOUNT ST. HELENS**  
**SCIENCE & LEARNING CENTER**

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**EARTH IN ACTION** *the geology of MSH*    **RETURN TO LIFE** *the biology of MSH*    **THE HUMAN CONNECTION**    **EXPERIENCE MOUNT ST. HELENS**



**LATERAL BLAST**

The east-facing westward-sloping "incornered" a 500 high (150 mph) blast that blew down and scorched 220 square miles (500 square km) of forest.

Duration: 3 minutes

[Sleeping Giant](#)    [Tomlinson Mount](#)    [Sleeping Giant](#)    [Dielis Bald](#)    [Lateral Blast](#)    [South Fork](#)    [Aldy](#)    [Lakes](#)    [Hemlock Grove](#)    [Life Returns](#)




Learn about the 1980 eruption, understand why it happened, and see how the forest is recovering. Mount St. Helens National Volcanic Monument is a unique natural laboratory for studying volcanic processes and ecosystem recovery.



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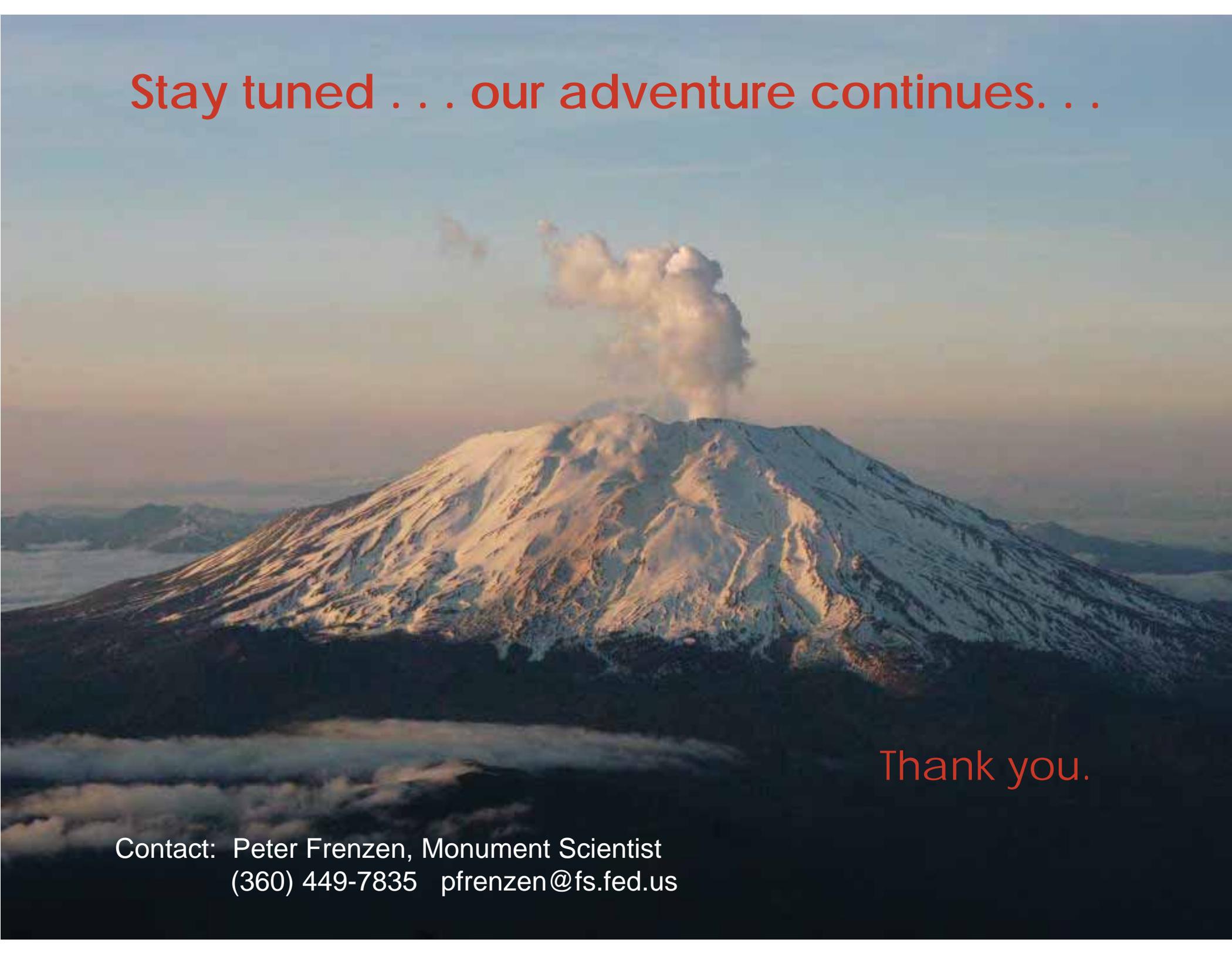
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Stay tuned . . . our adventure continues. . .



Thank you.

Contact: Peter Frenzen, Monument Scientist  
(360) 449-7835 [pfrenzen@fs.fed.us](mailto:pfrenzen@fs.fed.us)