Recovery of subalpine forest ecosystems following insect and fire disturbance

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AmeriFlux PI Meeting, Bloomington, IN, October 23, 2018

Map
Satellite
Settings
GLEES (US-GLE)
Chimney Park (US-CPk)
United States
Vancouver
Victoria
Seattle
WASHINGTON
Portland
OREGON
IDAHO
MONTANA
WYOMING
NEVADA
UTAH
COLORADO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
WEST VIRGINIA
PENNSYLVANIA
NEW YORK
VERMONT
NEW HAMPSHIRE
MAINE
MASSACHUSETTS
CT
RI
NJ
DE
MARYLAND
NEW MEXICO
ARIZONA
CALIFORNIA
Sacramento
San Francisco
San Jose
Las Vegas
Los Angeles
San Diego
Phoenix
Tucson
El Paso
Dallas
Austin
Houston
San Antonio
New Orleans
Kansas City
Minneapolis
Chicago
Detroit
Indianapolis
Nashville
Atlanta
Charlotte
Jacksonville
Orlando
Tampa
Miami
Washington
Philadelphia
New York
Toronto
Ottawa
Montreal
Quebec City
NEW BRUNSWICK
BAJA CALIFORNIA
SONORA
CHIHUAHUA
COAHUILA
NUEVO LEON
BAJA CALIFORNIA SUR
SINALOA
DURANGO
TAMAULIPAS
Monterrey
Mexico
Gulf of Mexico
The Bahamas
AMERIFLUX
Map created at ameriflux.lbl.gov
Google
Map data ©2018 Google, INEGI
200 km
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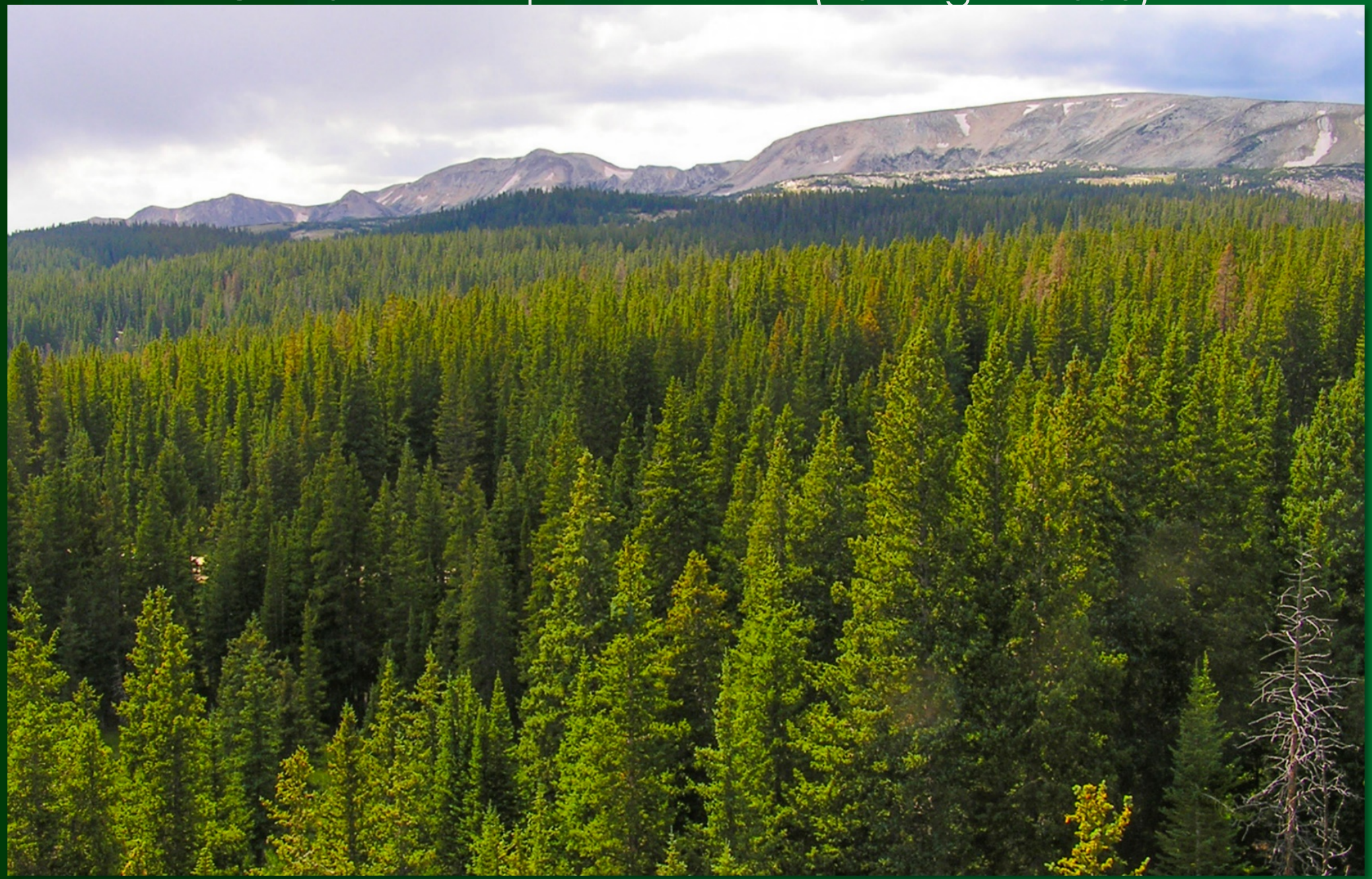
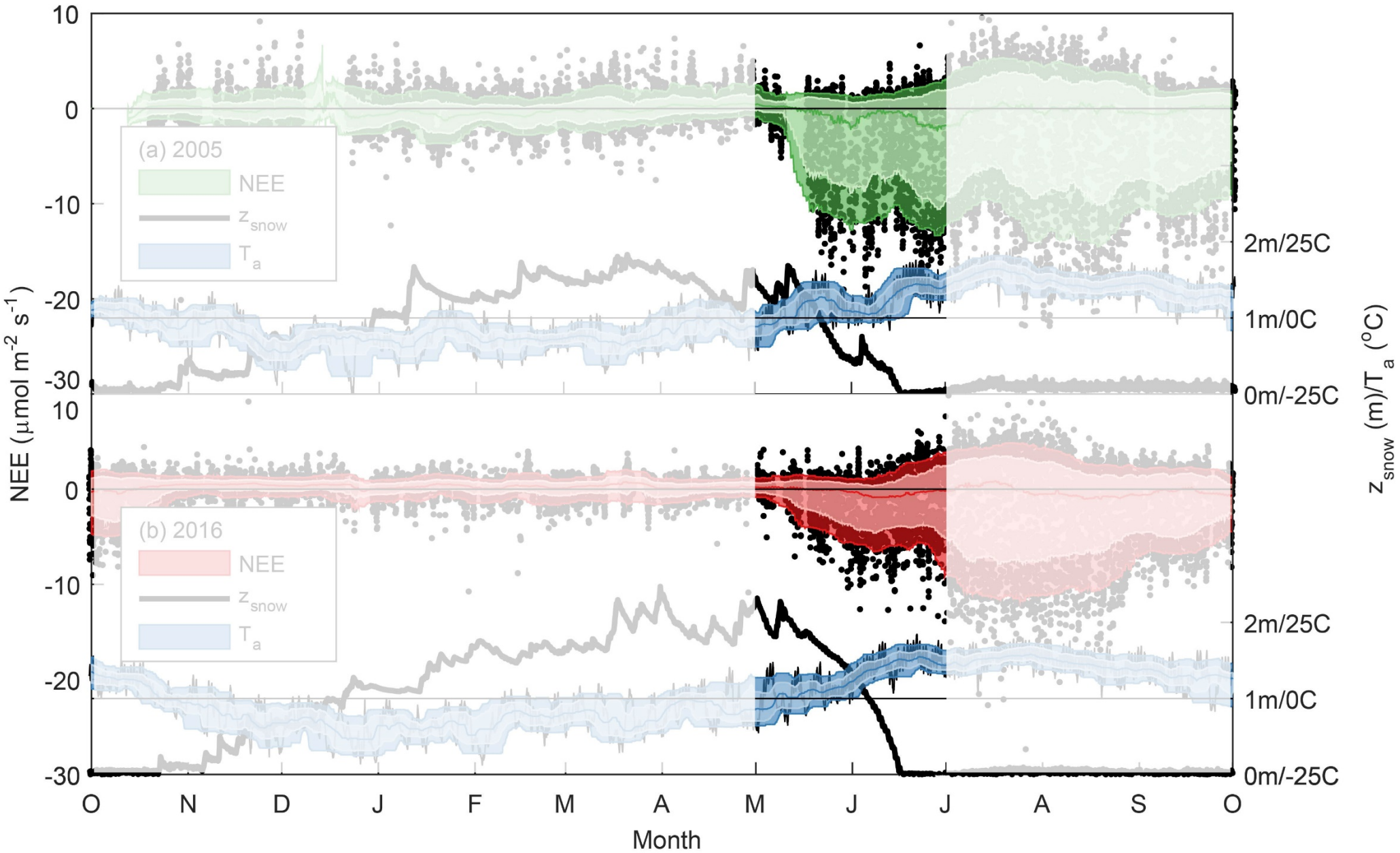
GLEES before spruce beetle (26 August 2003)

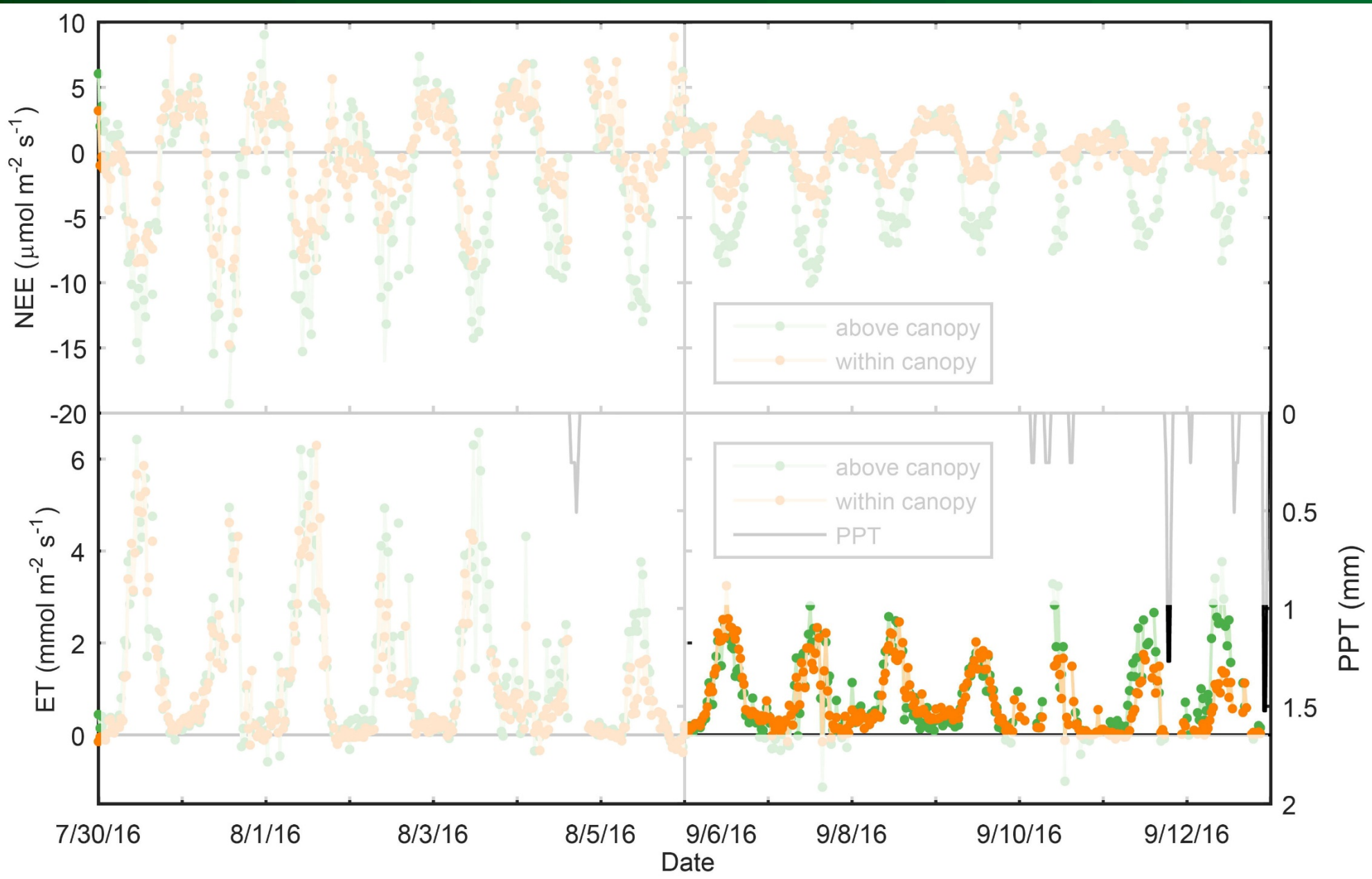


GLEES today (4 September 2018)

GLEES NEE before/after spruce beetle



GLEES subcanopy eddy covariance system



GLEES vegetation resurvey

2010

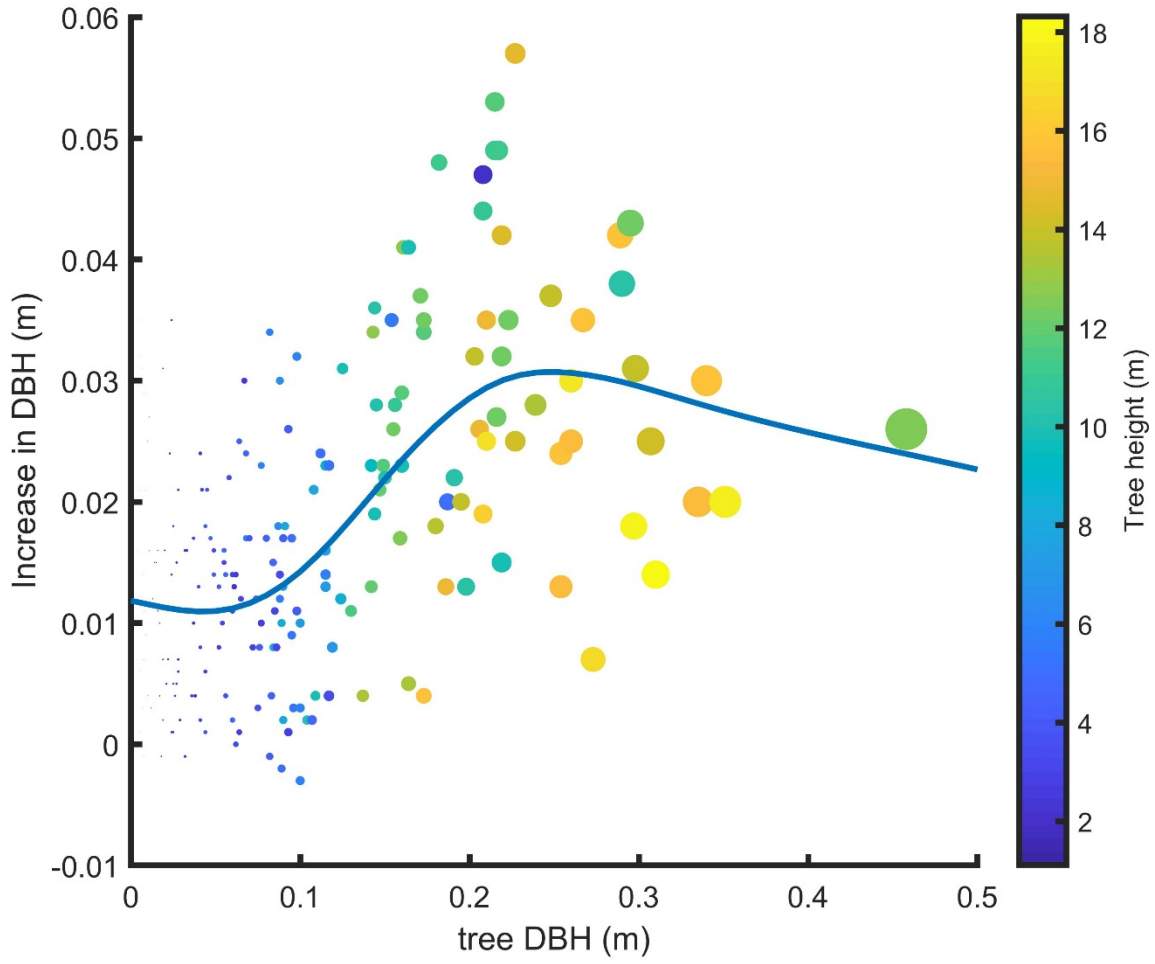
2018

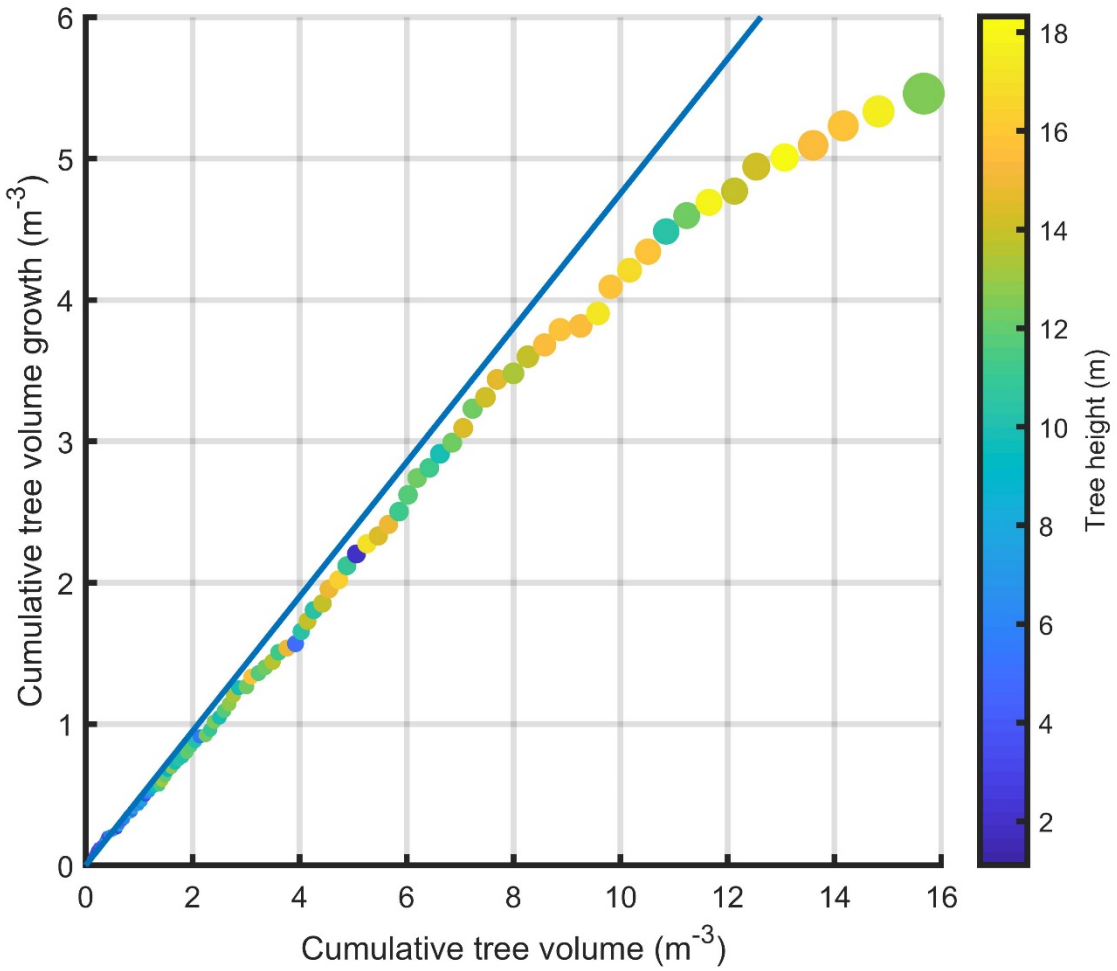
GLEES vegetation resurvey

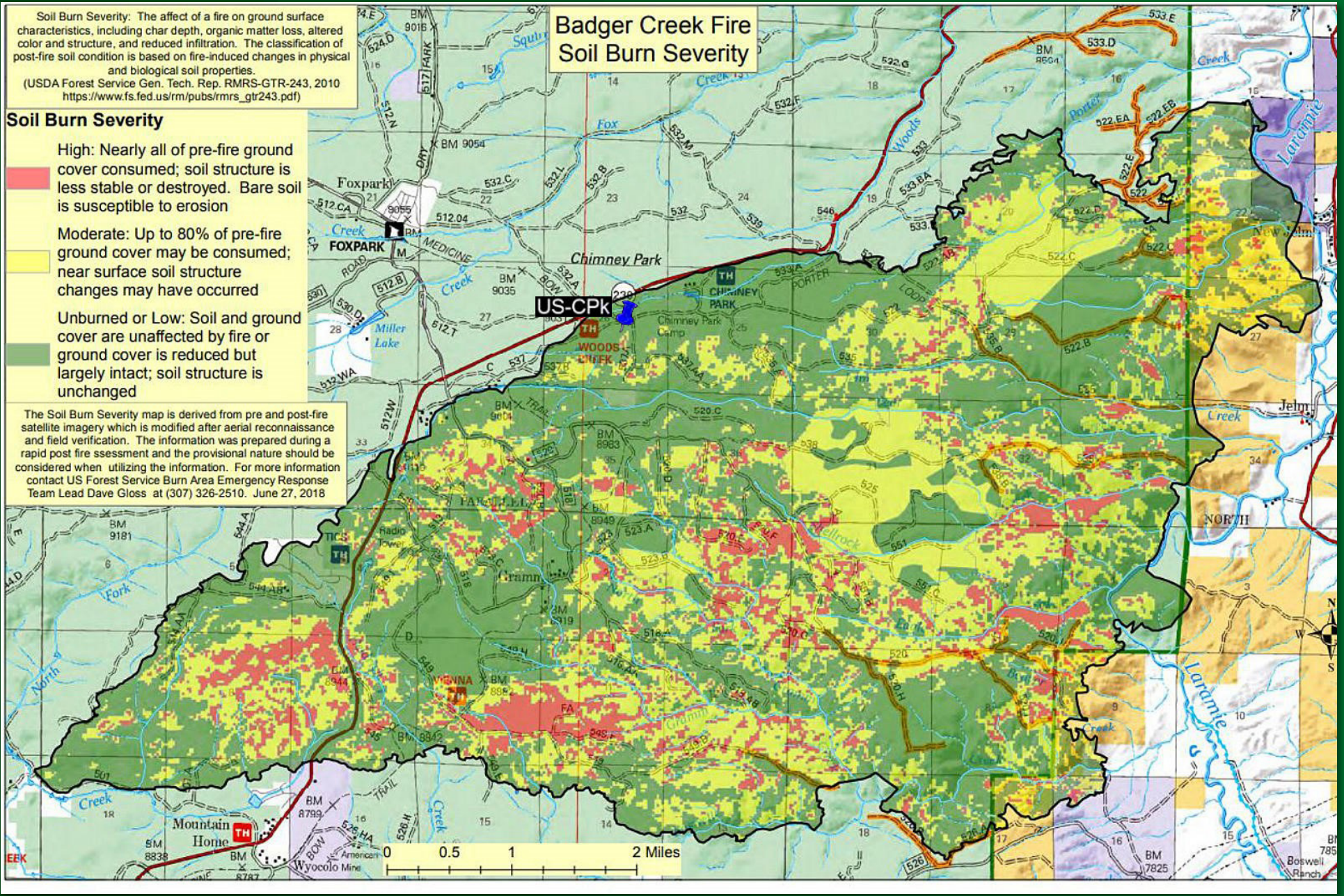
2010 2018

Tree release following spruce beetle

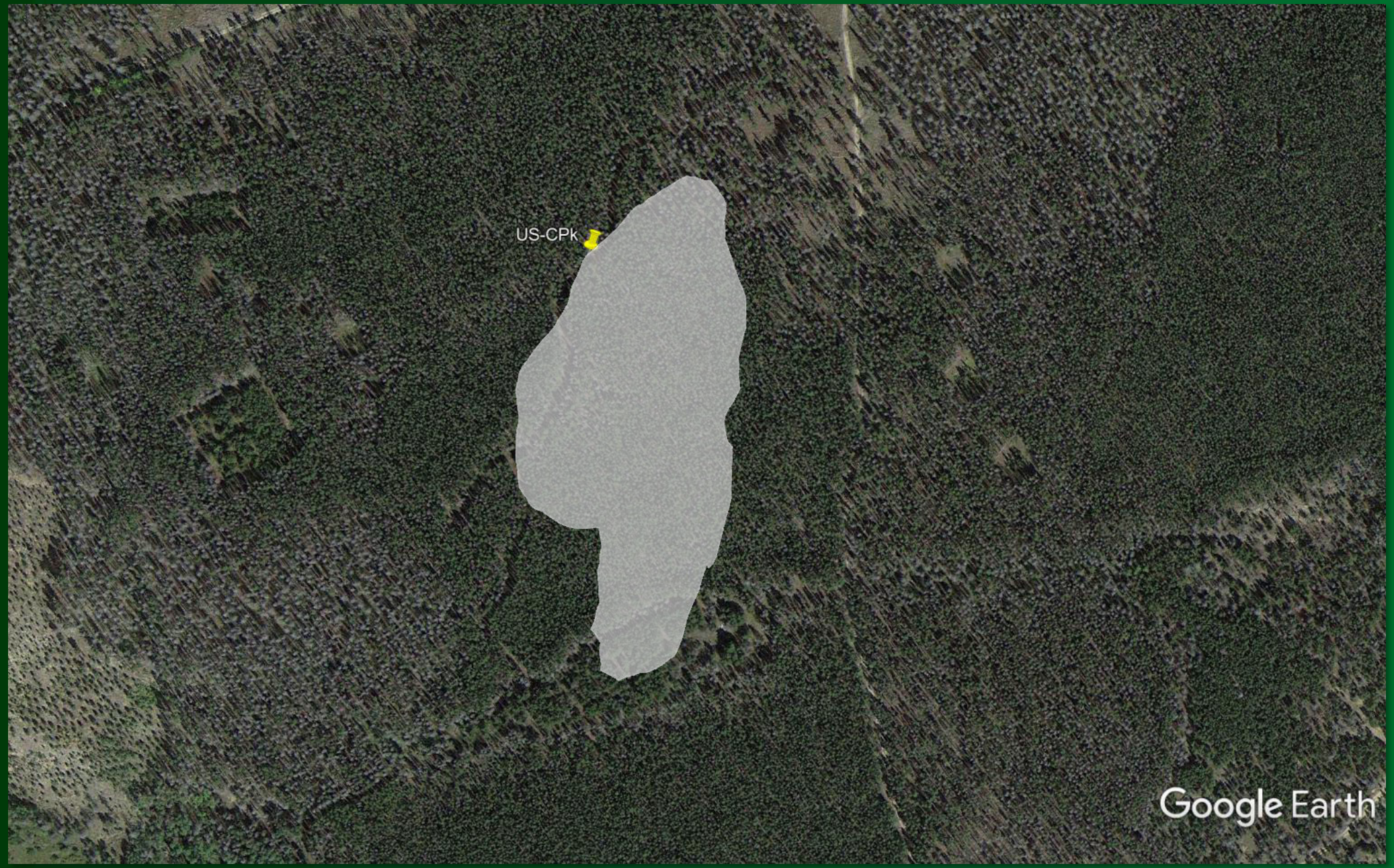
GLEES forest inventory resurvey: 2010 to 2018






Badger Creek Fire
Soil Burn Severity
Soil Burn Severity: The affect of a fire on ground surface characteristics, including char depth, organic matter loss, altered color and structure, and reduced infiltration. The classification of post-fire soil condition is based on fire-induced changes in physical and biological soil properties.
(USDA Forest Service Gen. Tech. Rep. RMRS-GTR-243, 2010
https://www.fs.fed.us/rm/pubs/rmrs_gtr243.pdf)
Soil Burn Severity
High: Nearly all of pre-fire ground cover consumed; soil structure is less stable or destroyed. Bare soil is susceptible to erosion
Moderate: Up to 80% of pre-fire ground cover may be consumed; near surface soil structure changes may have occurred
Unburned or Low: Soil and ground cover are unaffected by fire or ground cover is reduced but largely intact; soil structure is unchanged
The Soil Burn Severity map is derived from pre and post-fire satellite imagery which is modified after aerial reconnaissance and field verification. The information was prepared during a rapid post fire ssessment and the provisional nature should be considered when utilizing the information. For more information contact US Forest Service Burn Area Emergency Response Team Lead Dave Gloss at (307) 326-2510. June 27, 2018
US-CPK
Chimney Park
Foxpark
Miller Lake
Mountain Home
Jelm
0 0.5 1 2 Miles

Chimney Park (US-CPk)/Badger Creek Fire



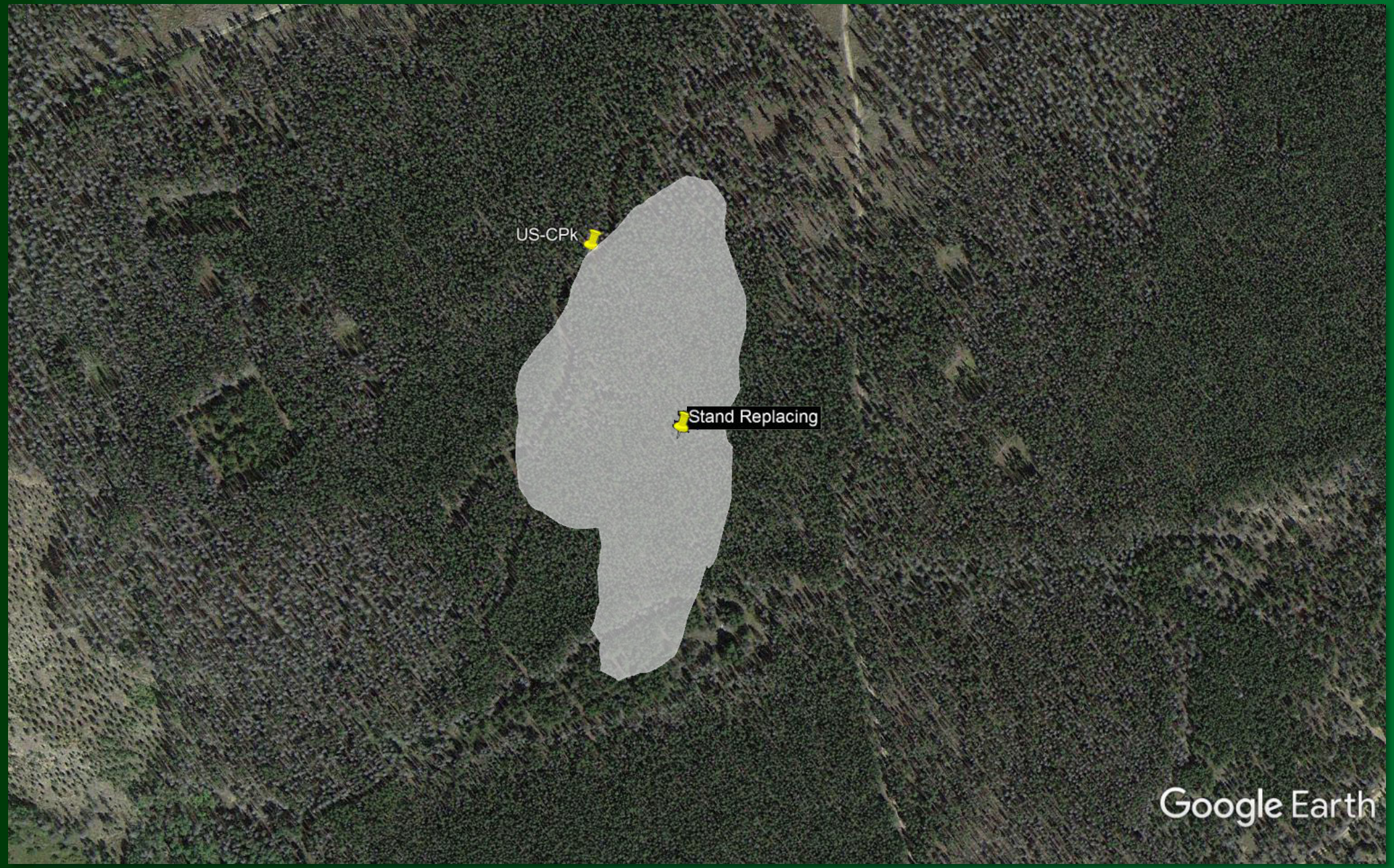
Chimney Park (US-CPk)/Badger Creek Fire

Chimney Park (US-CPk)/Badger Creek Fire

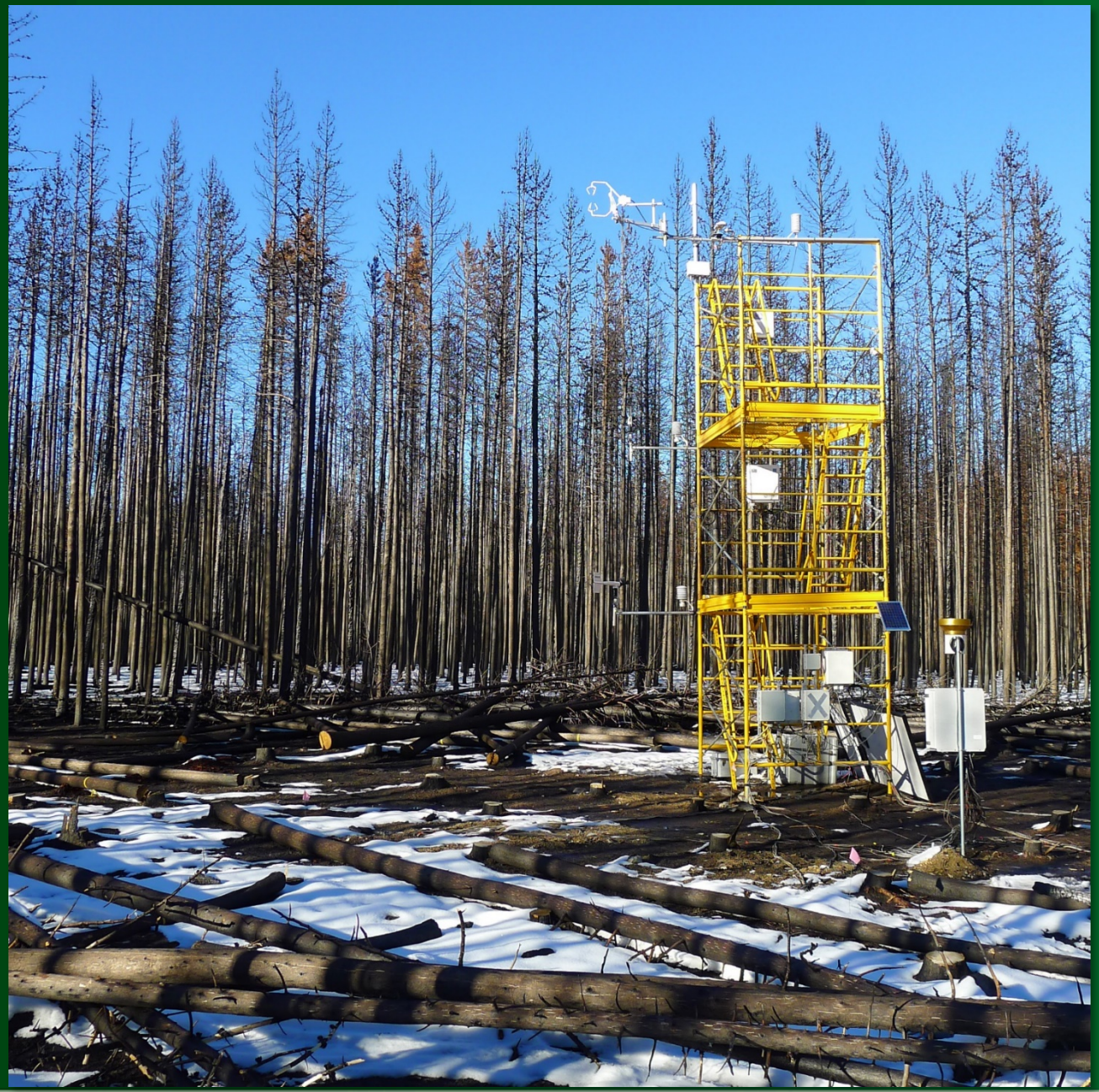
Chimney Park (US-CPk)/Badger Creek Fire

Stand replacing fire/understory fire

Chimney Park (US-CPk)/Badger Creek Fire

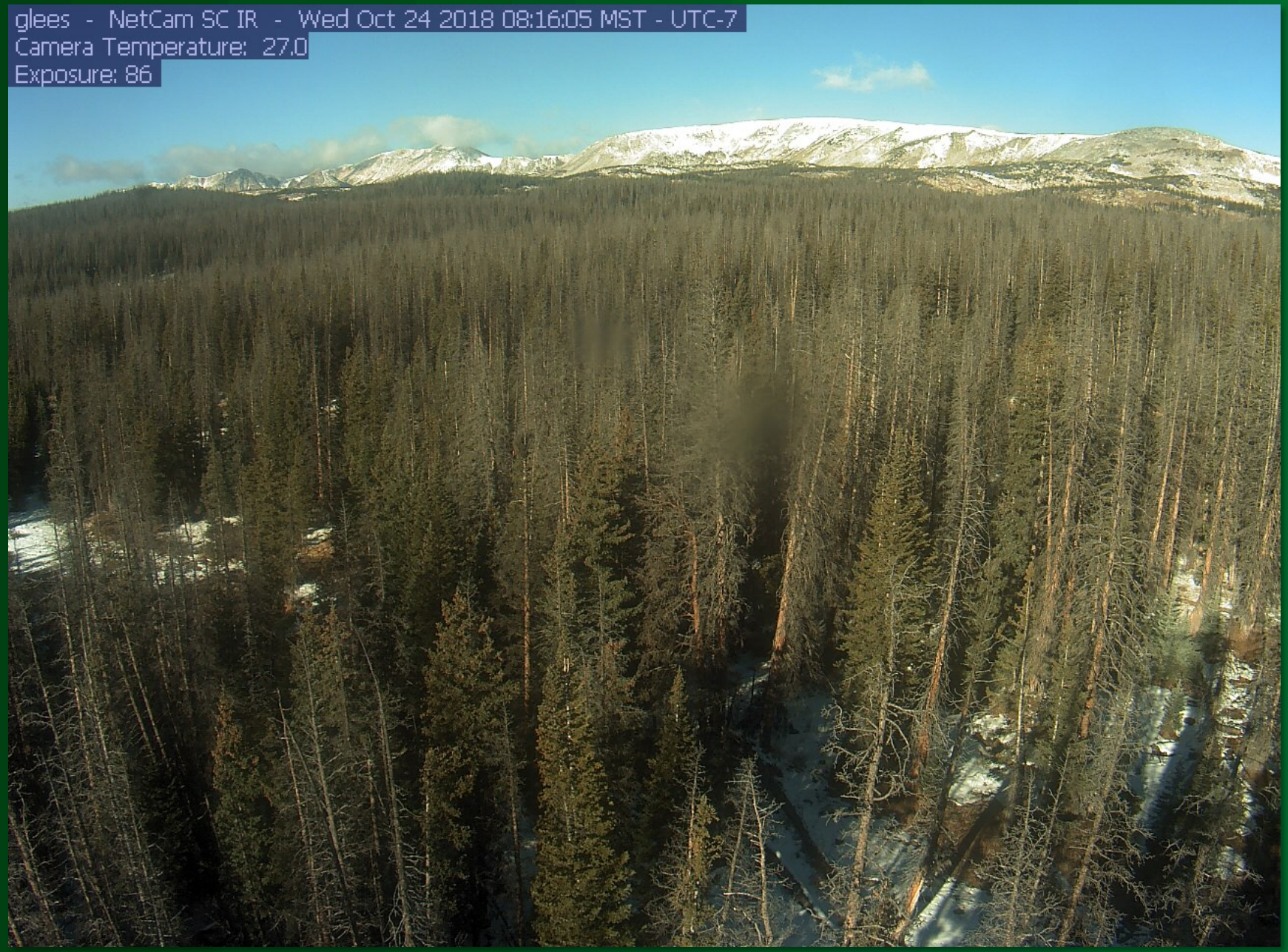


Chimney Park – New tower in the stand replacing burn area



Chimney Park – New tower in the stand replacing burn area

Questions?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Camera Temperature: 27.0
Exposure: 86