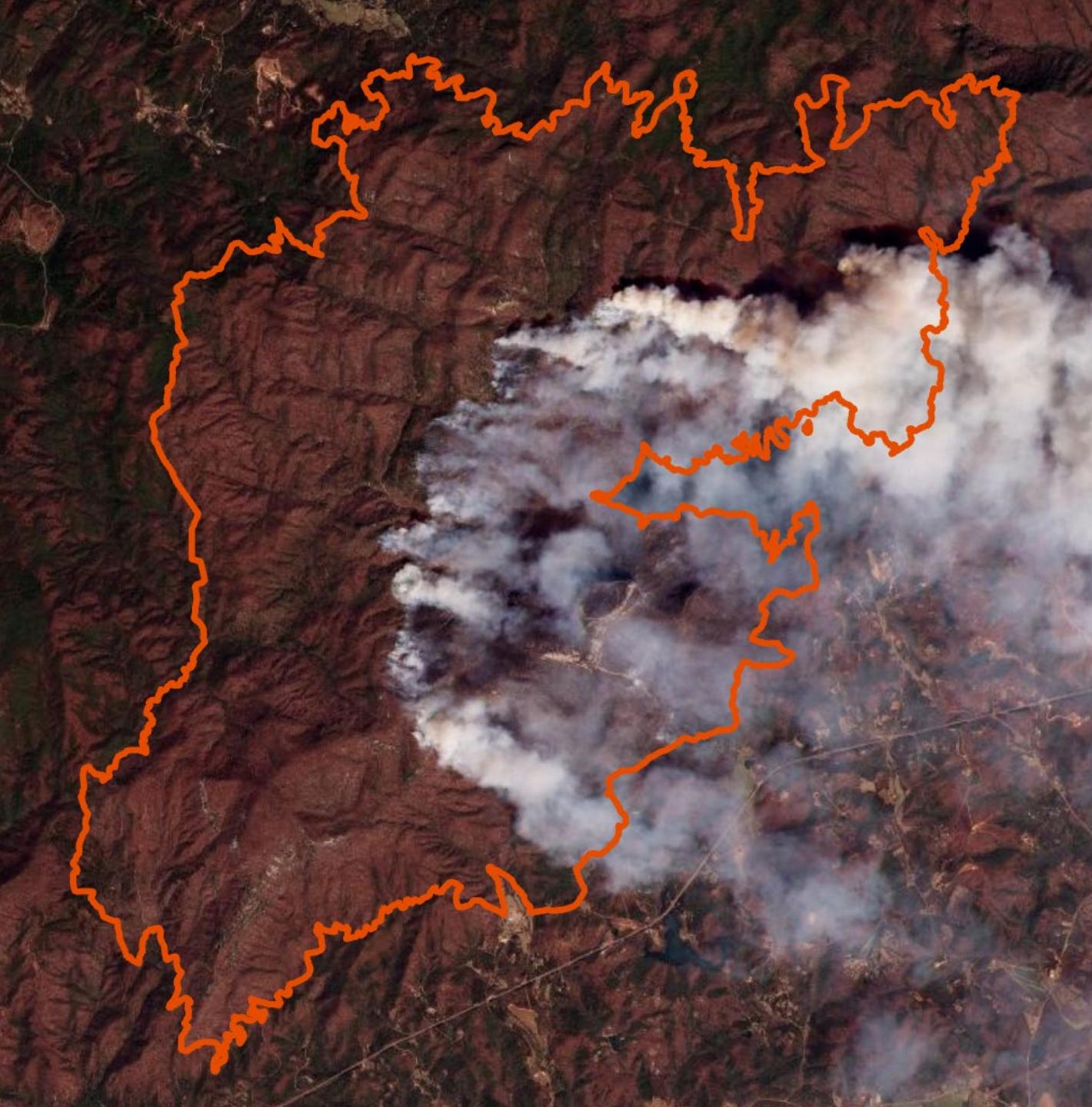


**Southern Apps Post-
Helene Spring Wildfires
2025 AAR**

September 8, 2025

Purpose: Document and discuss observed fire behavior from the spring 2025 season, the first after Hurricane Helene



Southern Apps Post- Helene Spring Wildfires 2025 AAR

September 8, 2025

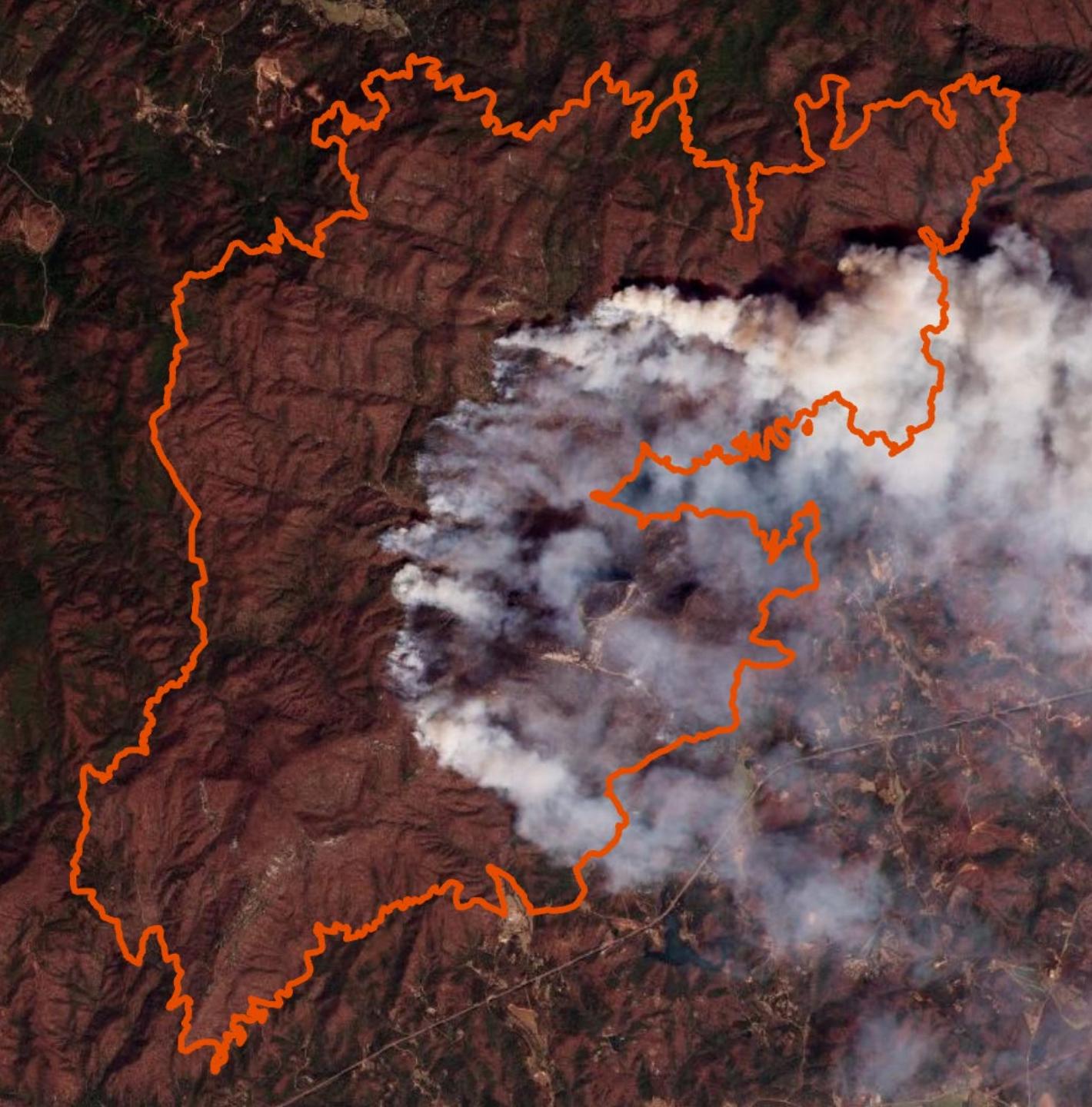
Facilitators

- Jean Lorber (TNC)
- Brett Williams (USFS R8)

Attendees:

- Steve Norman (SRS)
- Austin Williams (Greenville Water)
- Helen Mohr (Firewise coordinator for SCFC, fires in SC and on Grandfather RD)
- John Cook (USFWS FBAN – Rattlesnake Fire)
- Devin Yeatman (TNC-SC)
- Greg Philipp (USFS NFs in NC AFMO)
- Adam Warwick (TNC-NC)
- Lindsey Hosier (CAFMS)
- Gary Wood (Cohesive Strategy)
- Darryl Jones (SC Forestry)





Southern Apps Post-Helene Spring Wildfires 2025 AAR

September 8, 2025

Process

For a single wildfire event:

Discuss major observations of overall fire behavior

Detail observed fire behavior at specific locations

Include relevant information about weather and fuels

Speculate about the drivers of observed behavior and subsequent effects, including Helene damage

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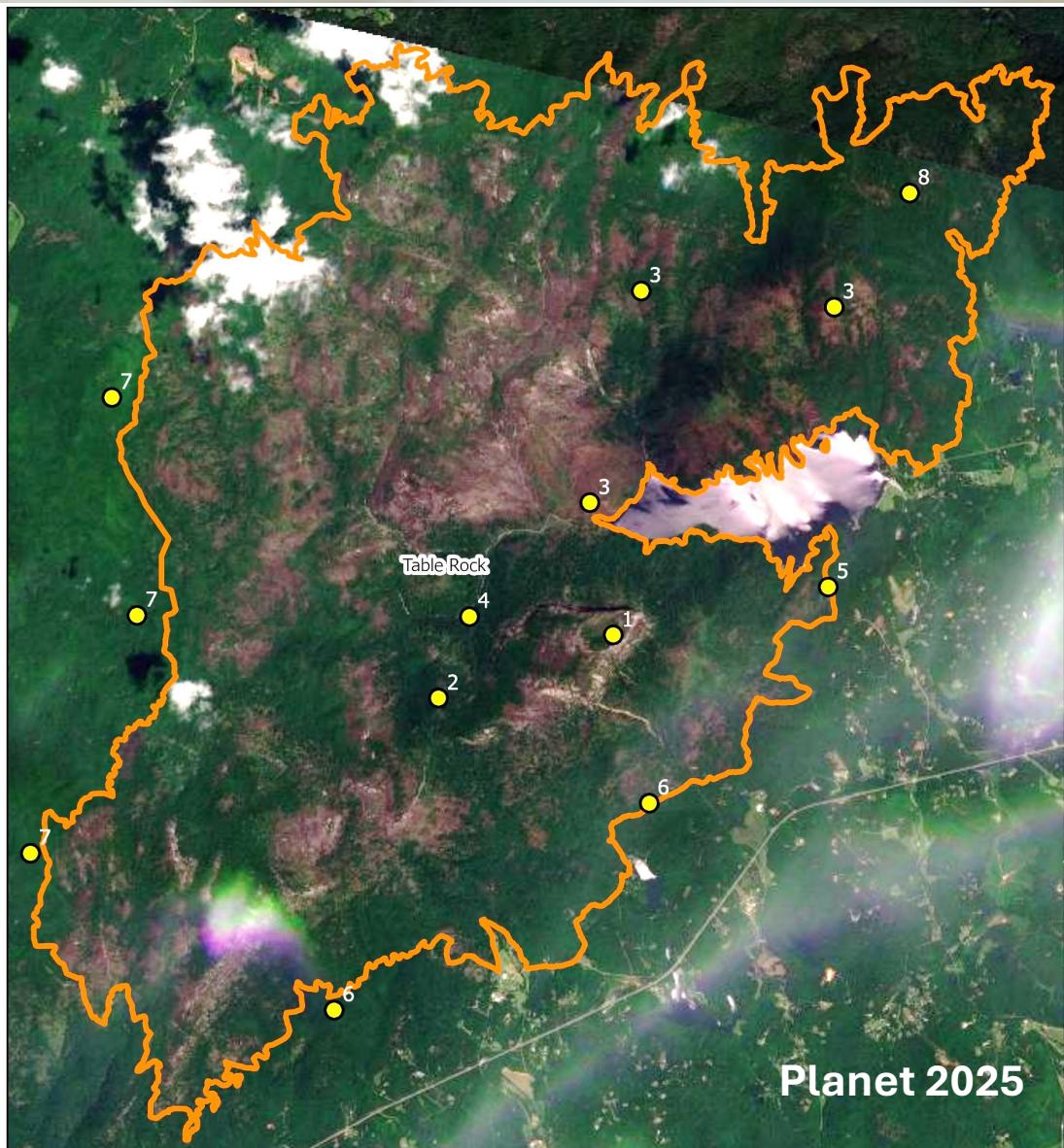


Table Rock wildfire

Late March 2025
14,000 acres

Initial thought about overall fire behavior

- Table Rock behavior was extreme--moved across the mountain faster than almost any previous fire in the east–jumped reservoir and kept moving
- Key drivers: low RH and high winds
- Key driver: lack of RH recovery at night (for a few consecutive days or weeks in advance, Fire and Fuels Behavior Advisory was in effect)
- Possible driver: Impacts from 2016 Pinnacle WF
- Helene damage as driver?
 - Outcomes likely similar with or without Helene
 - Intensity: Might have been bad fire either way due to RH and winds
 - Size: Access is a challenge, so fire footprint would have been similar with or without Helene

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Table Rock wildfire

Late March 2025

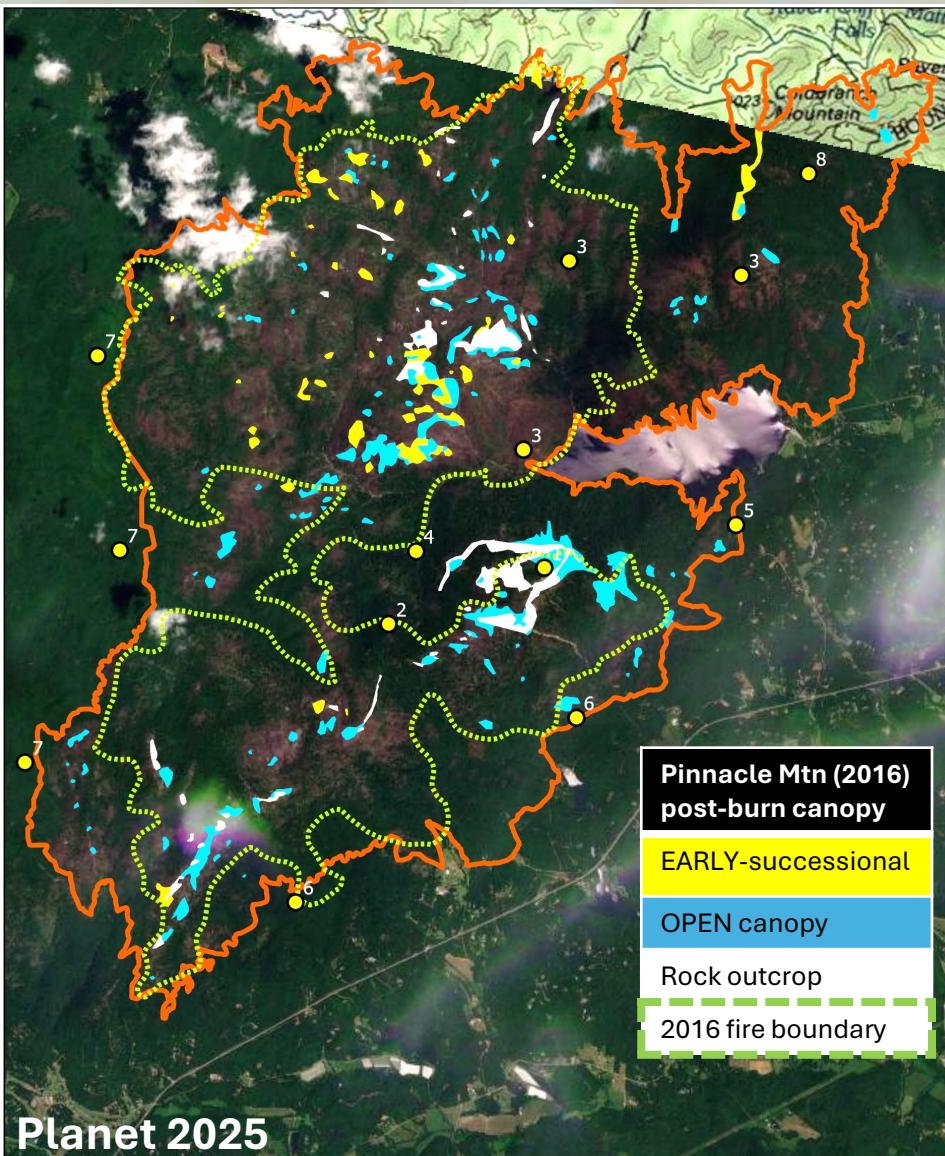
14,000 acres

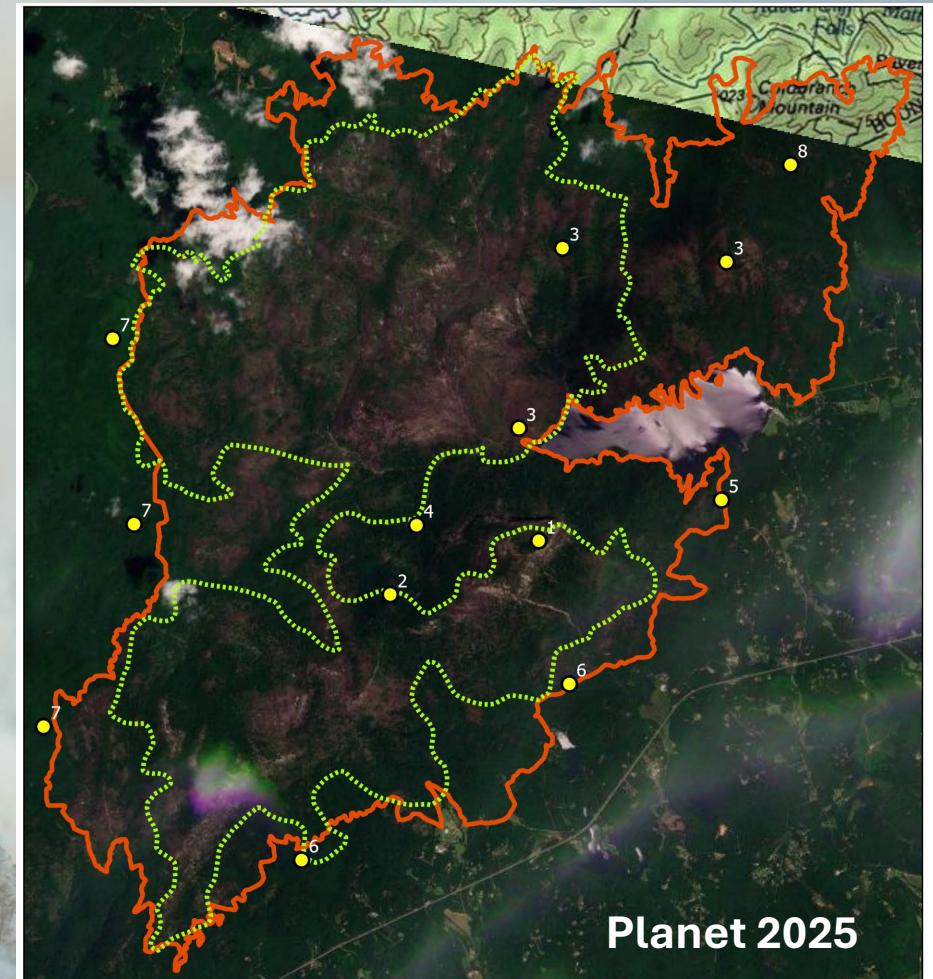
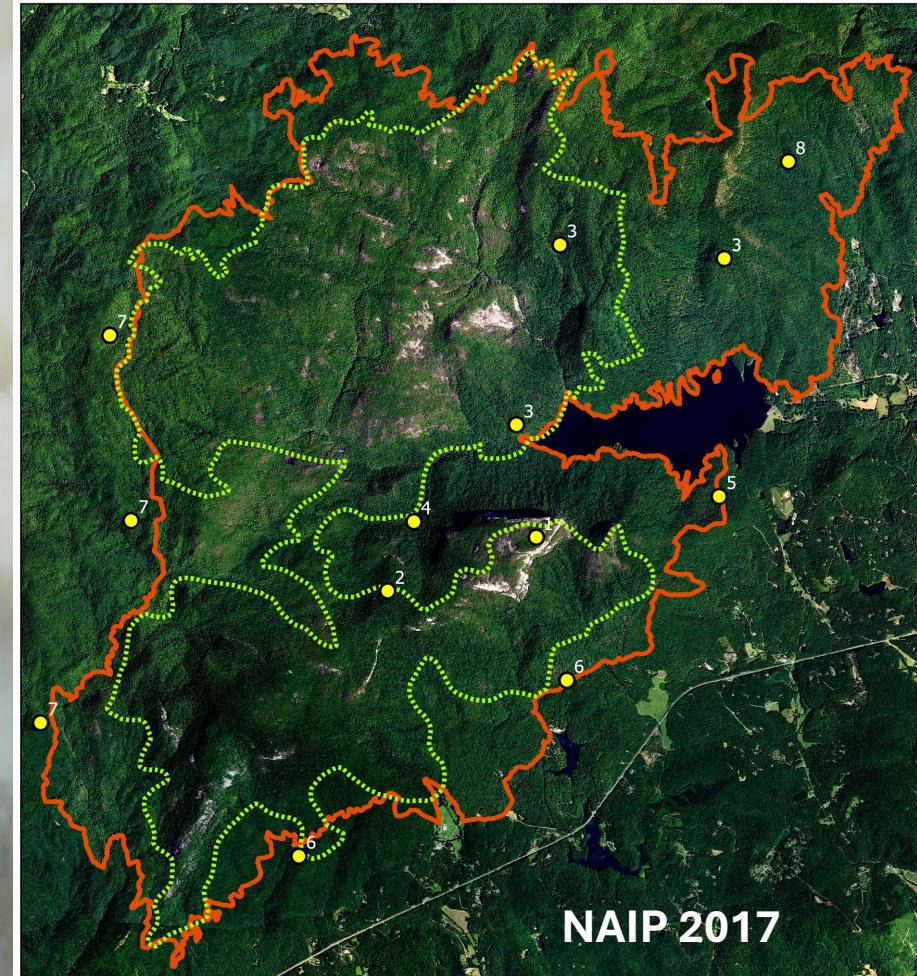
Comparison to 2016 Pinnacle Mtn wildfire (~8K acres)

- Pinnacle – 80% of leaves still on trees while on Table Rock most of the leaves had already fallen – added to drying and exposure
- Pinnacle burned over month or month and a half as compared to Table Rock burning over days/week
- Pinnacle had more duff burning than Table Rock
- Pinnacle was a less intense fire than Table Rock with delayed mortality instead of instant canopy loss

Impact of 2016 Pinnacle Mtn wildfire

- one of the hottest areas was at the peak partially due to a burnout op
- Pinnacle fire behavior looked like a good prescribed burn—mosaic of effects
- Pinnacle creates more open canopy gaps and snags (see page X)





Post-burn imagery in 2016 (left) and 2025 (right)

Pinnacle Mtn wildfire (2016)

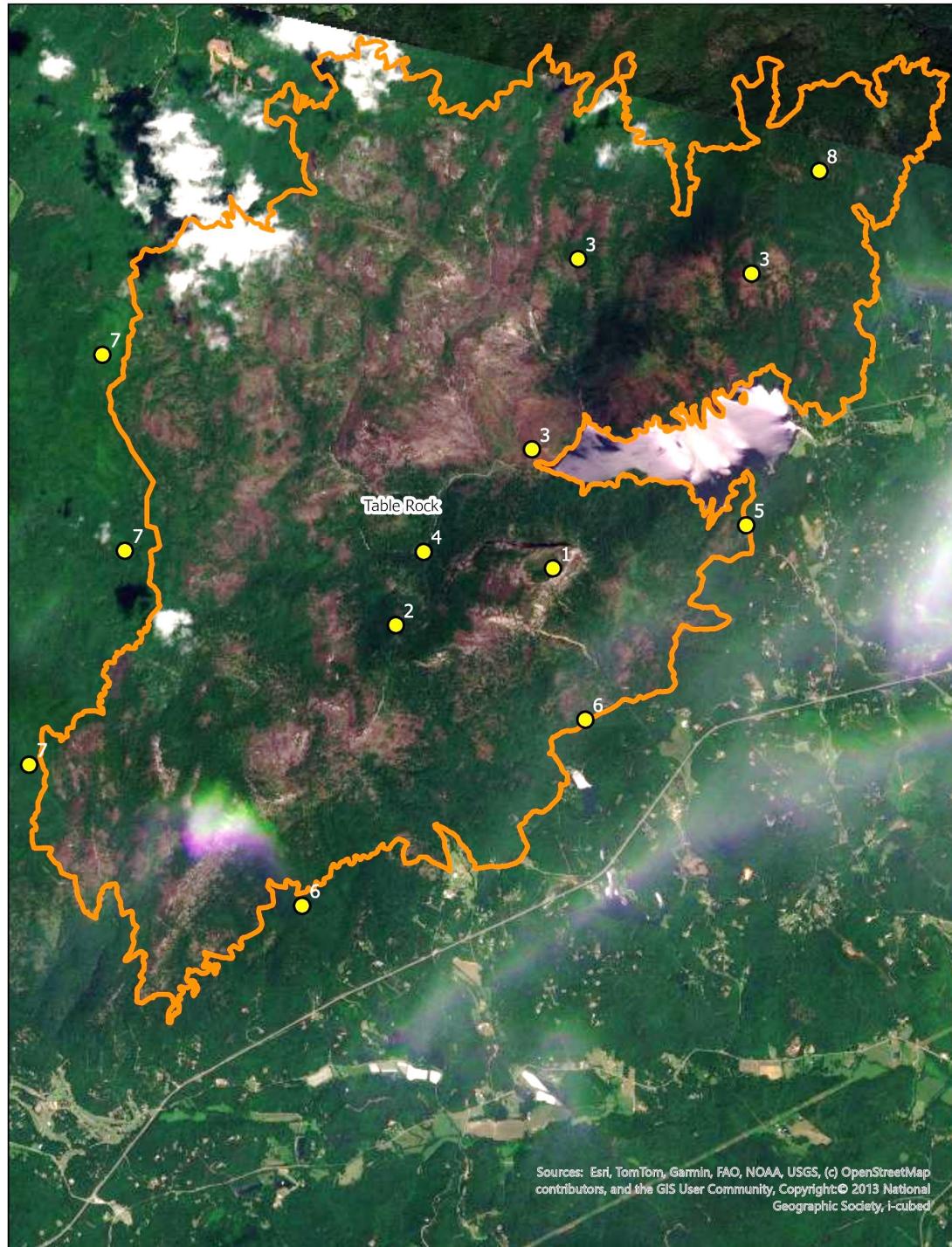
Table Rock wildfire (2025)

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Table Rock wildfire

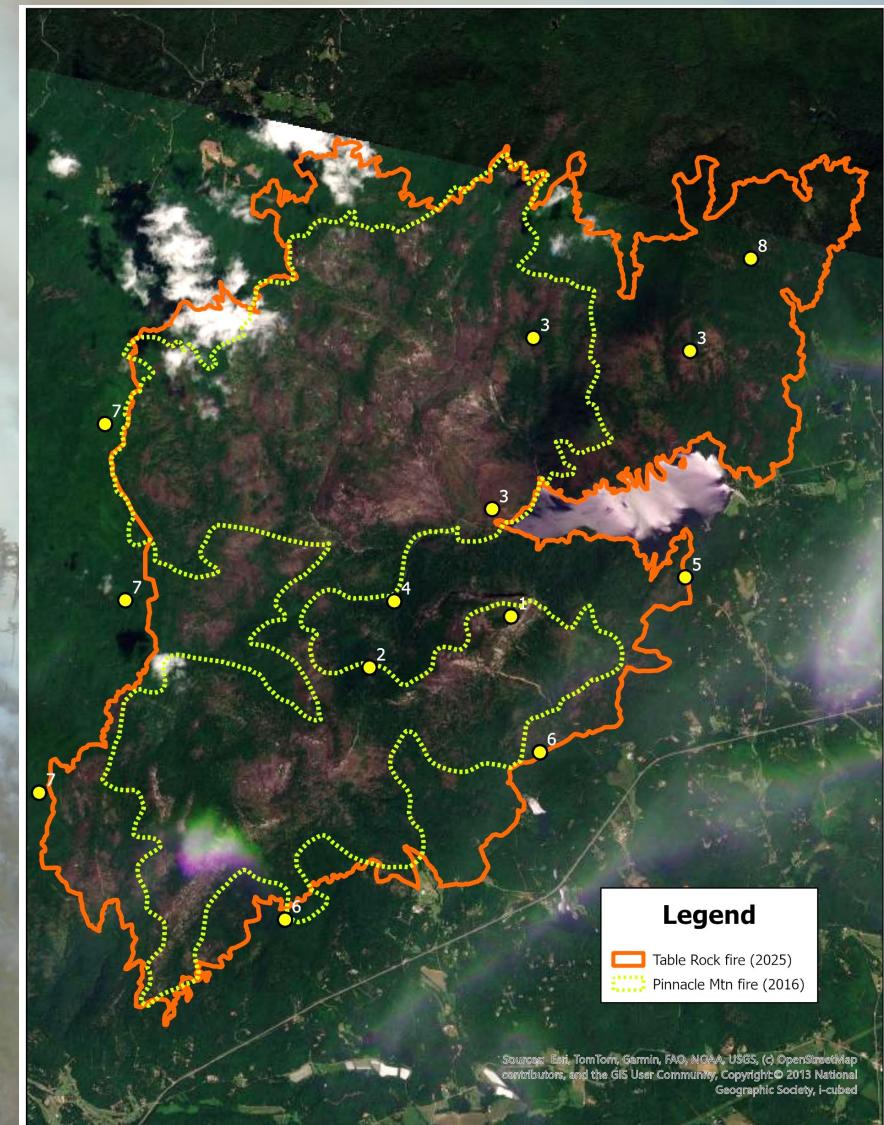
Document and discuss fire behavior at specific locations

Point_ID	
What did fire behavior look like here?	
Weather, time of day details	
Site details	
Fuels details	
Second order effects (use imagery)	
Drivers/causes of fire behavior	
Observer	



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Table Rock wildfire



Point_ID:	1	top of Table Rock Peak
Observer	Helen Mohr	
What did fire behavior look like here?	Multiple snags involved and causing spots in high winds that challenged suppression efforts (snags were older from Pinnacle Mtn and not from Helene)	
Weather, time of day details	Dry and windy/gusty; briefed at 9 am, made it to top around 10:30 or 11:00; 11 – 15 responders (USFS, TNC, Greenville Water, SCFC); RH was low but not lowest day (low 20s)	
Site details	Exposed rock, steep terrain, tough to access and fight fire	
Fuels details	Snags from Pinnacle Rock; mixed hardwood forest with mountain laurel in shrub layer; table mountain pine regen; heavies on ground; top-killed mountain laurel with resprout	
Second order effects	Legacy effects of Pinnacle Mtn Imagery show moderate to high severity	
Drivers/causes of fire behavior	Snags causing spot fires	

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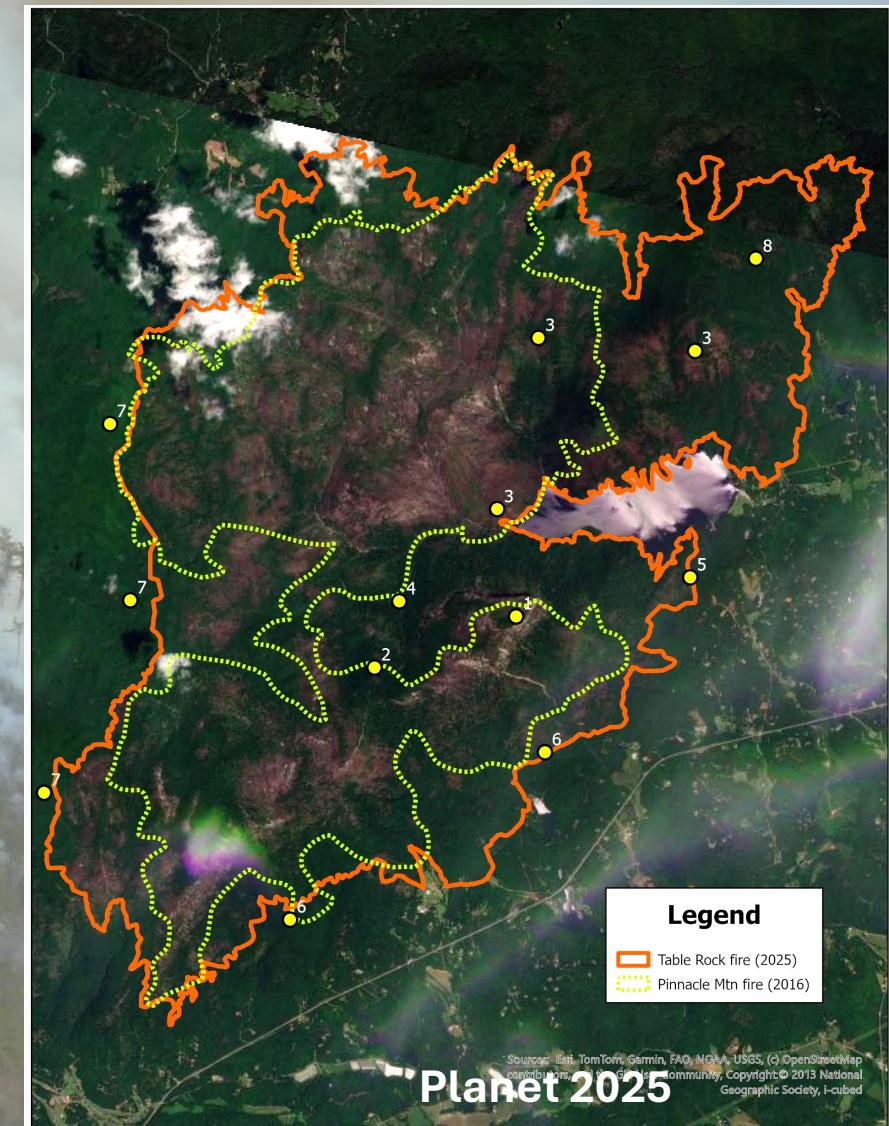
Table Rock wildfire



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Point_ID:	2 Backing and uphill runs west of reservoir (Panther Gap area)
What did fire behavior look like here?	Backed down to Saluda River south of river and then ran uphill north of the river/lake with higher intensity; group torching, high rates of spread, burned to the north and east towards Brushy Knob.
Weather, time of day details	8:30 pm crossed Saluda River
Site details	Confluence of Saluda River and TR Reservoir on North side of river
Fuels details	Closed canopy hardwood forest with some Helene impacts
Second order effects	“Gatlinburg” pattern; fire was most intense on spur ridges and convex portions of hillside with more pine fuels; Adam Warwick surprised by native groundcover response – soil and duff heating was minimal. Imagery shows mixed severities
Drivers/causes of fire behavior	Uphill runs aligned with high winds, low RH

Table Rock wildfire



**Southern Apps Post-
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Table Rock wildfire

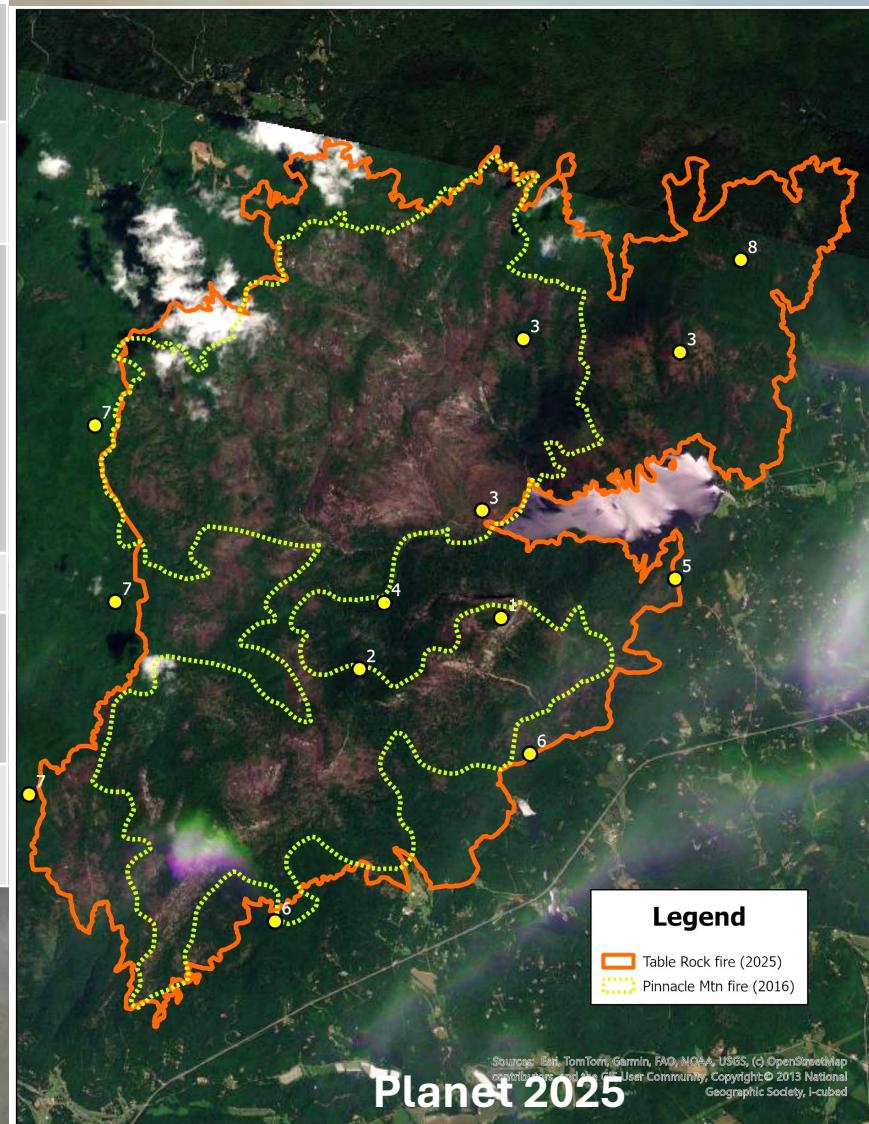


Planet 2025

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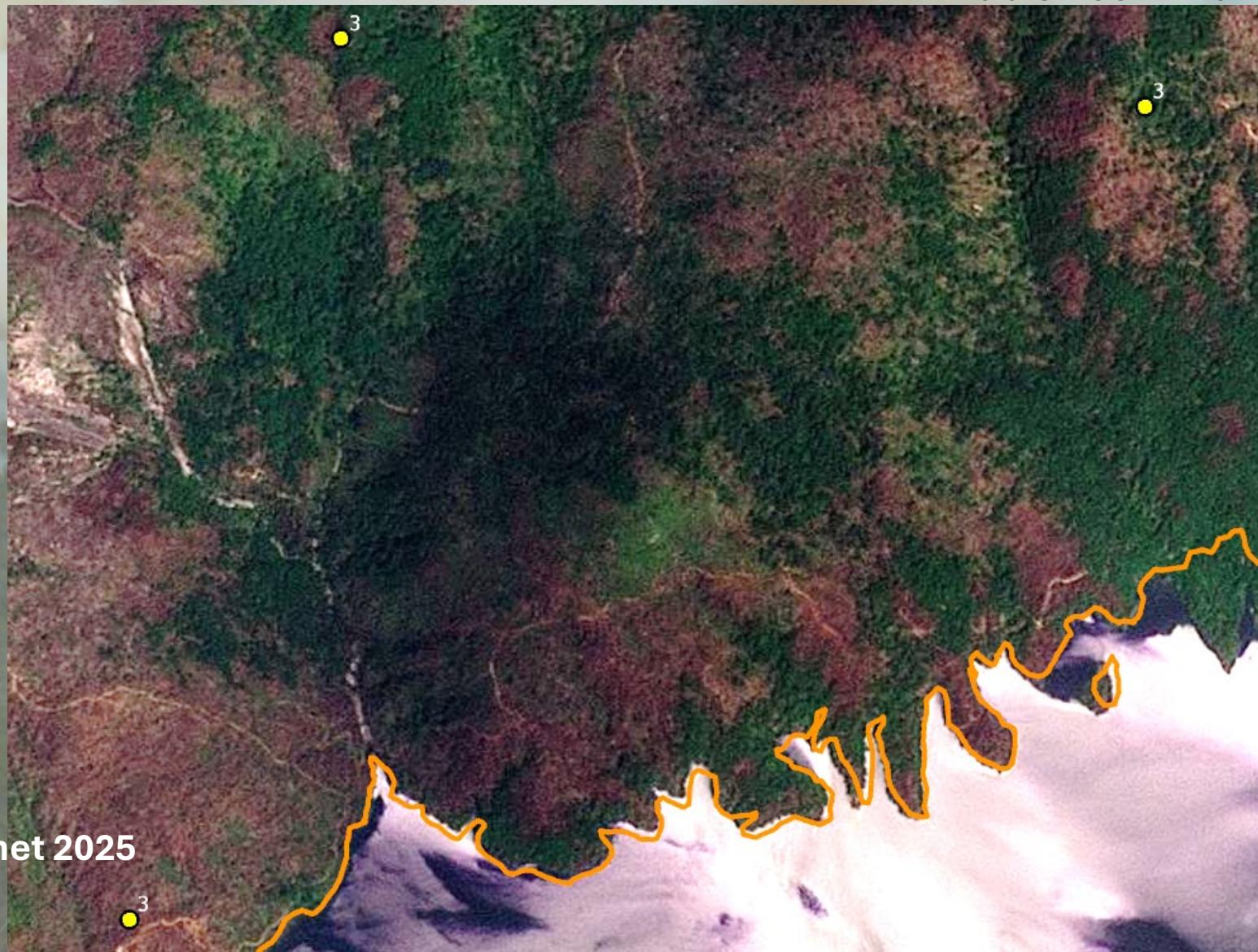
Table Rock wildfire

Point_ID: 3	North of Reservoir
What did fire behavior look like here?	Torching runs Adam Warwick photos
Weather, time of day details	Night-time, low RH and gusty winds
Site details	Upper 1/3 slope primarily affected but did not burn ridges hot, convex spur ridges; water drops from air tankers on ridge to prevent fire spread to homes to the southeast were effective
Fuels details	Closed canopy, mtn laurel, rhodo
Second order effects	Lush groundcover response Imagery show mixed effects, including large patches of high severity
Drivers/causes of fire behavior	Alignment of winds, slope, and low RH/fuel moisture

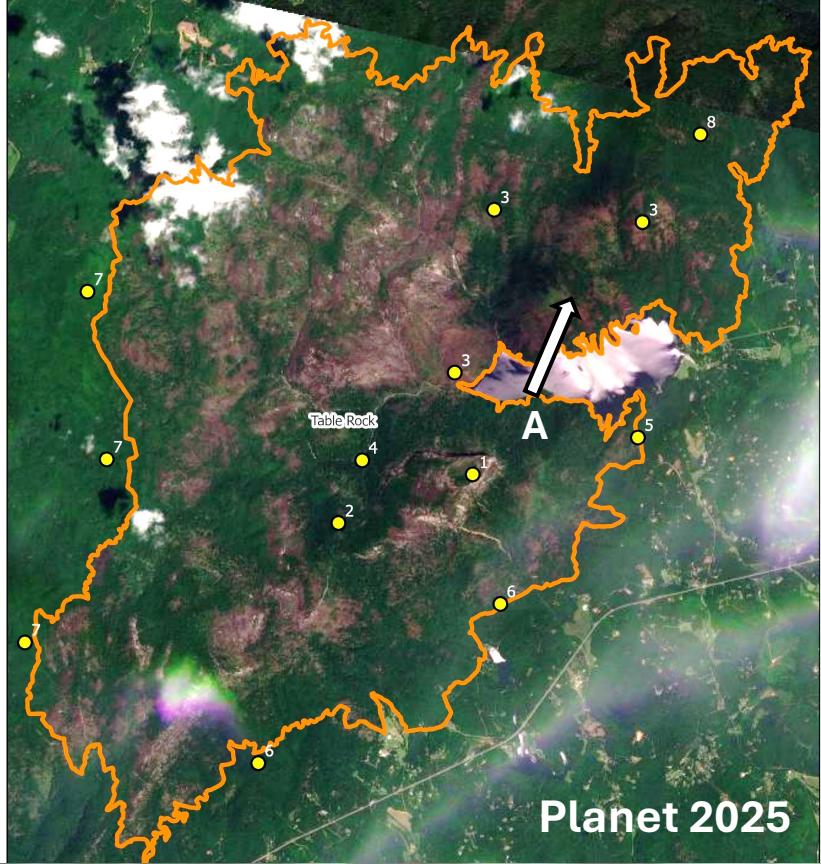


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Table Rock wildfire

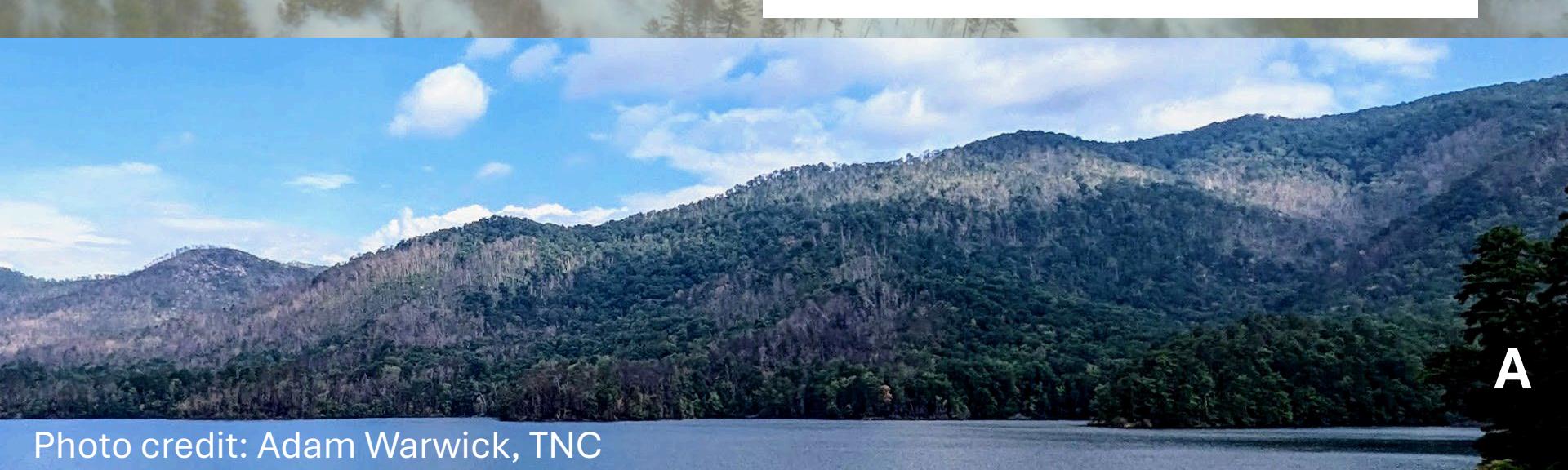
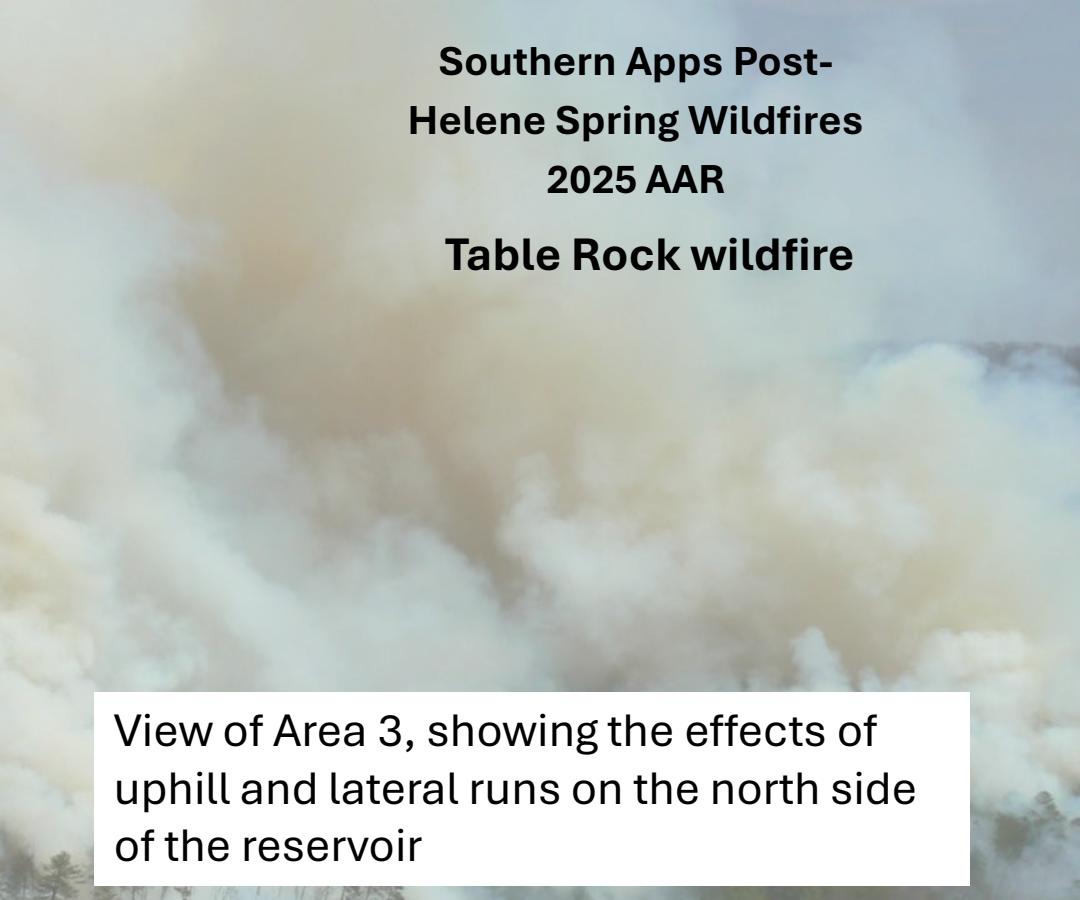


Planet 2025



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Table Rock wildfire



**Southern Apps Post-
Helene Spring Wildfires
2025 AAR**

Table Rock wildfire



View from within Area 3, showing canopy mortality and understory vegetation response



**Southern Apps Post-
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Table Rock wildfire



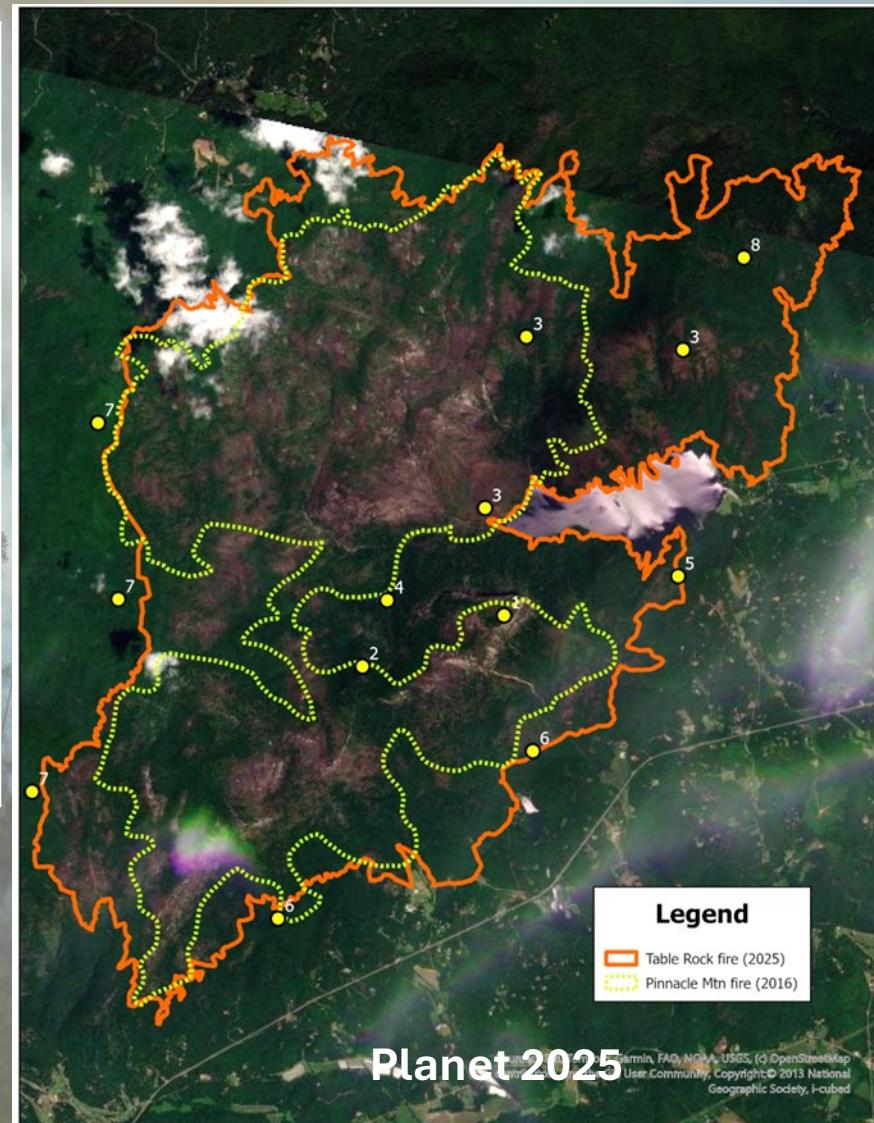
View from within Area 3, showing canopy mortality and understory vegetation response



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Table Rock wildfire

Point_ID:	4: In bottom near Saluda River and north of Panther Gap
What did fire behavior look like here?	Lots of large trees (Hemlock and others) burning up to the tops (80-100')
Weather, time of day details	Evening (in the dark)?
Site details	Bottom, lots of large trees
Fuels details	Tall, dead hemlock trees
Second order effects	Imagery shows low severity
Drivers/causes of fire behavior	Dry riparian fuels and alignment of winds, low RH/fuel moisture



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Table Rock wildfire

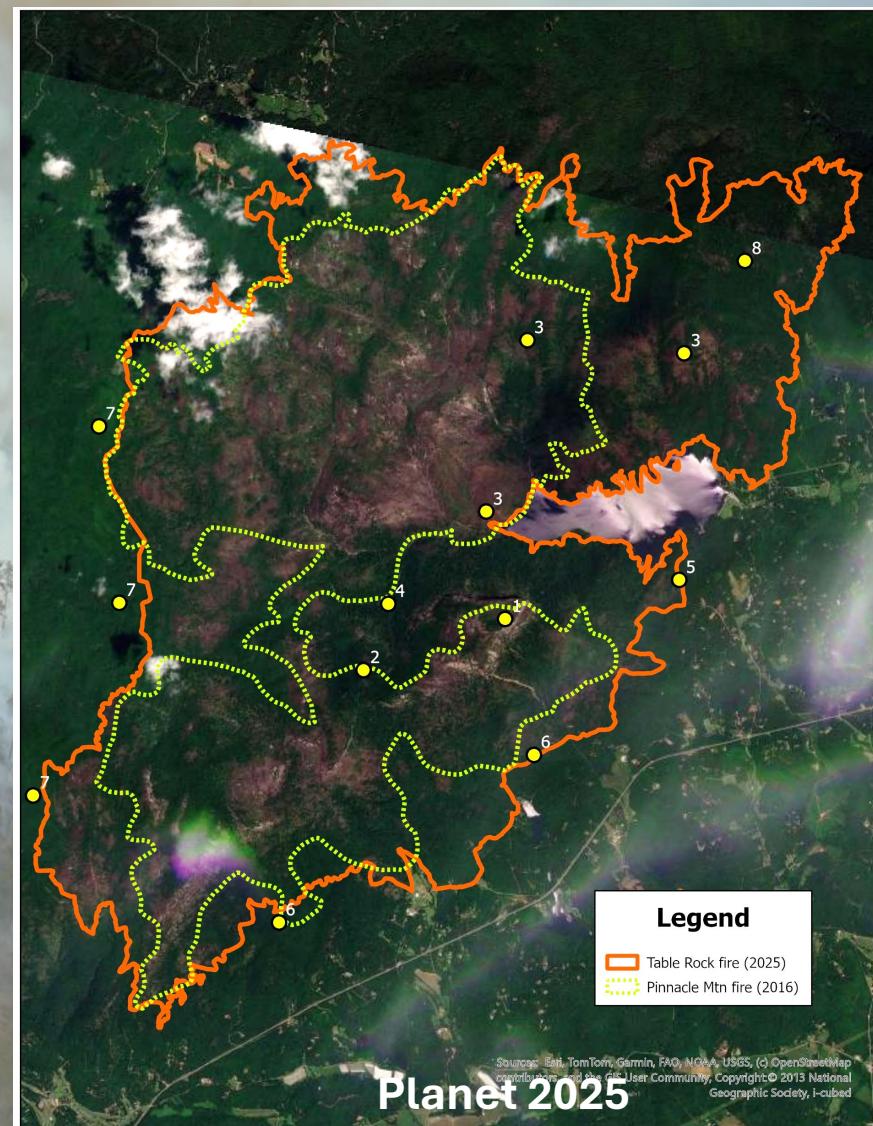


Planet 2025

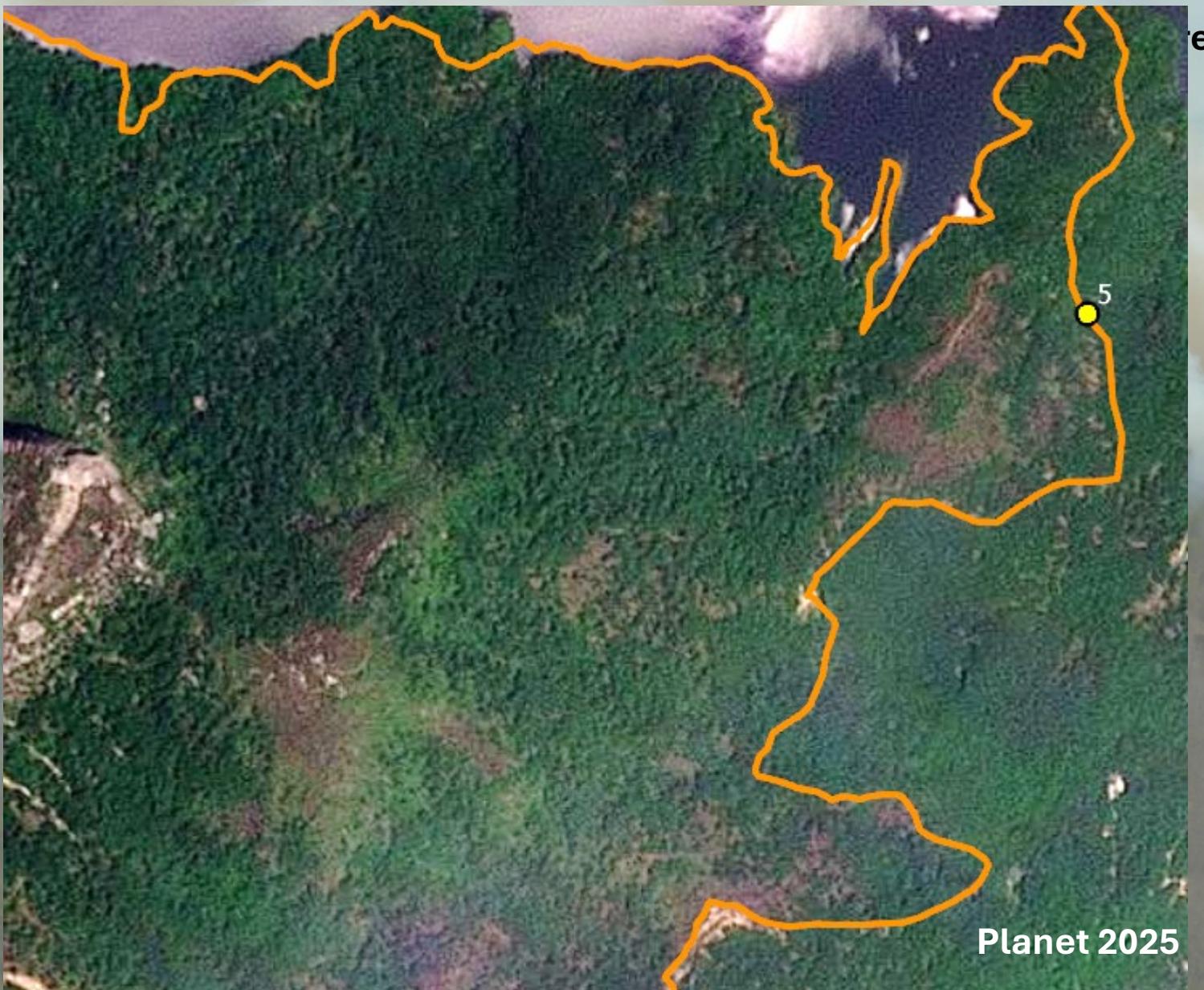
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Table Rock wildfire

Point_ID:	5 – east flank burnout south of TR reservoir
What did fire behavior look like here?	Slow point-source ignitions and still getting spot fires over the line; “super active fire behavior”; fire backed down slope mostly prior to burnout, so not too many intense uphill runs.
Weather, time of day details	Driptorch work receptive before 9 am and then 12 hours of lighting and holding; dry and breezy; 3 days of burnout operation.
Site details	Potentially some antecedent disturbance interior east of this line
Fuels details	Closed canopy with some previous disturbance
Second order effects	
Drivers/causes of fire behavior	Tops from Helene near line – had to adjust firing tactics to keep the tops from catching too hot and too fast



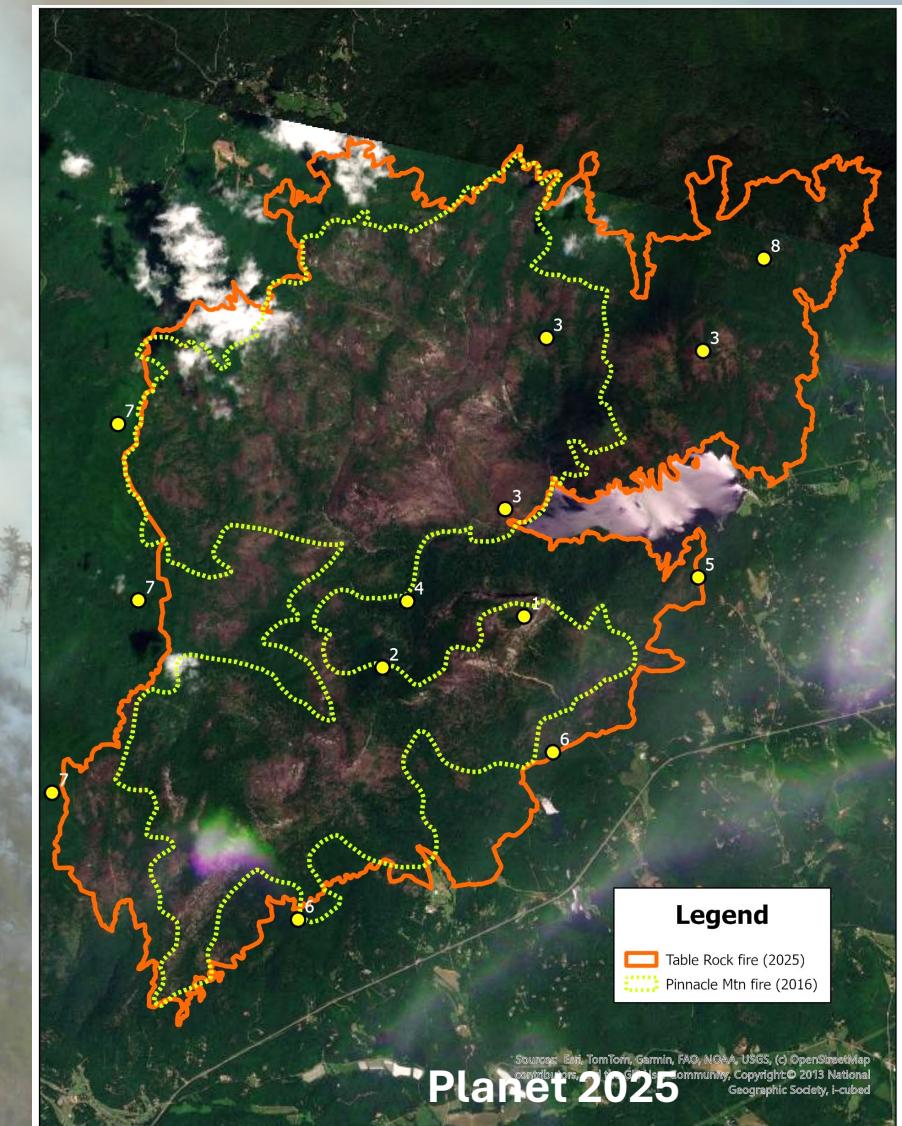
**Southern Apps Post-
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Table Rock wildfire

Point_ID:	6 – powerline cut on south line
What did fire behavior look like here?	Fast-moving flames headed straight in her direction (Helen Mohr) required them to seek safety zone
Weather, time of day details	3:00/mid-afternoon
Site details	Difficult to access, movement slow due to Helene blowdown
Fuels details	
Second order effects	
Drivers/causes of fire behavior	



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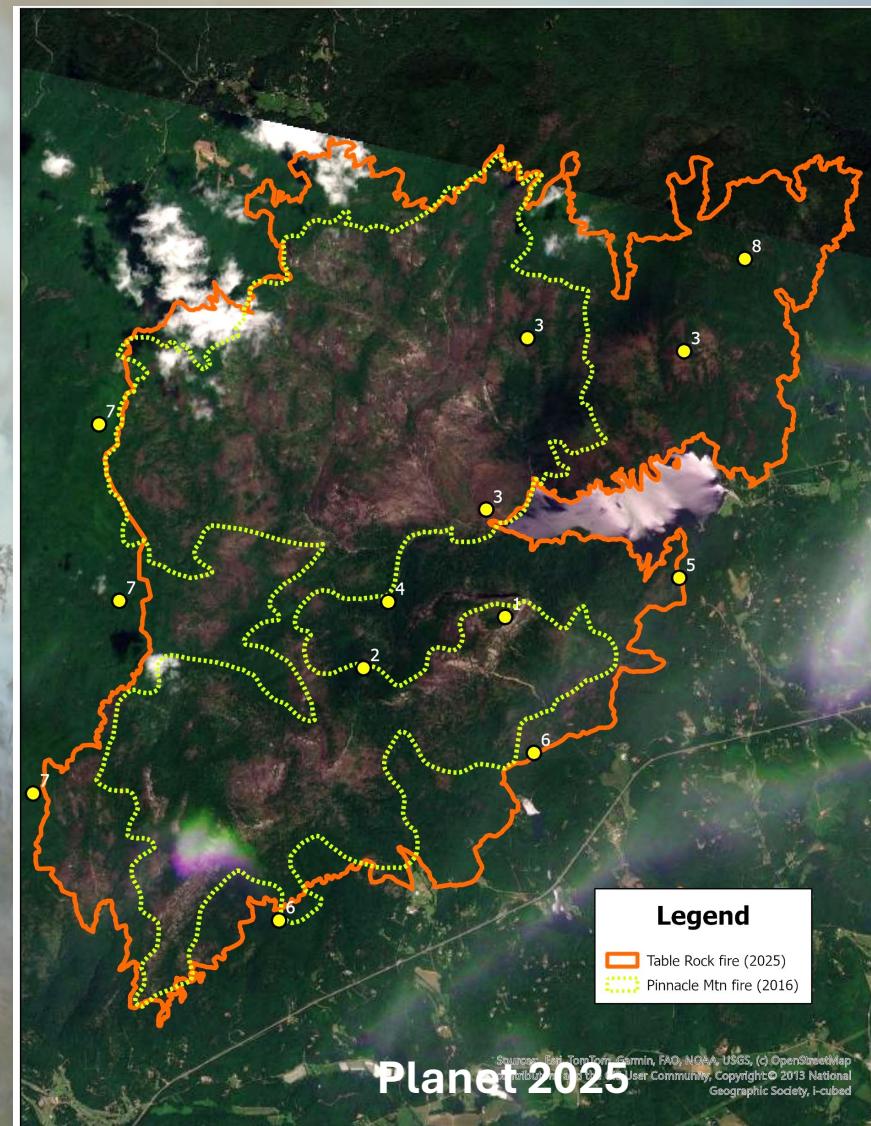
Table Rock wildfire

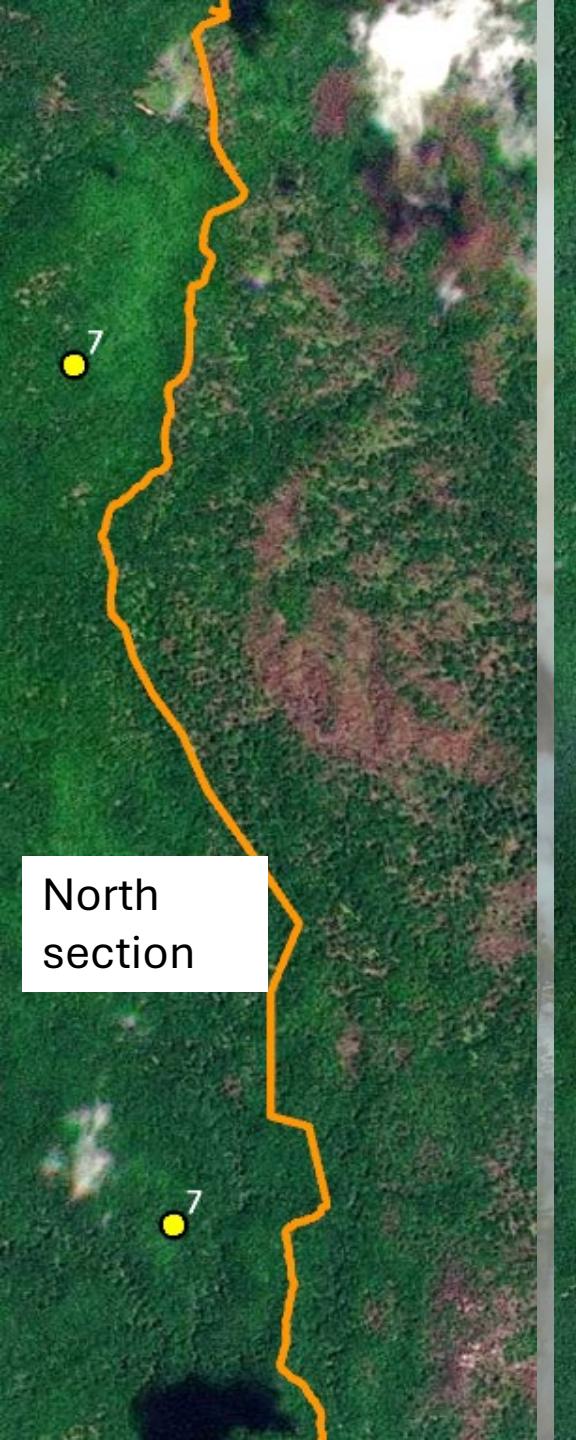


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Table Rock wildfire

Point_ID:	7-west flank
What did fire behavior look like here?	Fire from burnout was mostly moderate but with occasional uphill runs and torching. Helene blowdown impeded access some but was not contributing to fire behavior much.
Weather, time of day details	Friday or Saturday: Lit off during firing operation by Blue Team, rain was forecast, so wanted to light western fire break ahead of rain; high RHs (50% or more); frequent spot fires; helo lighting ridges interior
Site details	Heavy Helene blowdown on portions of west flank
Fuels details	Heavies down from Helene were not involved much in terms of fire behavior
Second order effects	
Drivers/causes of fire behavior	High RH moderated fire behavior, but still lots of spotting





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Table Rock wildfire

Lessons learned:

- Are there new thresholds indicating large fire growth and affecting decision-making? (Adam Warwick comments below)
 - Streams that used to hold no longer hold fire
 - Longer distance spotting from oak leaves
 - Challenges with burnouts and having to go slower
 - Letting fire back to lines more
 - Could mean smaller burn units from an Rx POV, may need more people, and slower blackline
 - Changing tactics with retardant drops – more drops on green side
 - Eliminating jackpots along historic firelines and how to prioritize fuel jackpot removals
 - May require attempting to keep fires smaller in the near future.
 - More sun and wind reaching forest floor – canopy structure change
- Able to conduct a burn day after rain these days when it used to take 3 days of drying (Helen Mohr)
 - Seems like more wind in our cold fronts recently
 - Could also be related to repeat prescribed burn
 - Average fuel moistures, but extremely low RH day and night for multiple days/week
- Table Rock validated need for air tanker/SEAT contract (Darryl Jones)
 - Crews and aircraft were not available at time of Table Rock
 - Never needed hand crews every season, but planning to have in place going forward
 - Darryl looking for metrics to trigger resource plus-ups
 - Fires typically start in North Carolina first and that triggers Darryl to start to plus up on readiness



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Black Cove wildfire

Only had time for a brief discussion

Black Cove WF located on Greenriver Game Lands site

- Lots of roads blown out and hard to access
- Would be good to get Armin Weise involved in future call on Black Cove and Greenriver Gamelands

Hemlock forests fuels are changing

- Hemlocks in riparian areas used to be fireproof, but now catching easy and throwing spots, so creeks are not holding as strong as they used to – standing hemlocks with broken tops are watchout fuel type (Greg Phillip)
- Jamie Tyson on Grandfather has some bad experiences with hemlocks and fires jumping creeks
- When bark was tight, fire wouldn't ignite. Rind in flaky bark from Helene winds and will readily ignite now
- Tops are broken out in many hemlocks and rest of tree standing – become fully involved with fire under dry/windy conditions now

We need a standing fuels advisory for this fuel type in the Southern Apps.



A large forest fire is visible in the background, with thick, billowing smoke rising into the sky. The smoke is a mix of white, grey, and brown, creating a dramatic backdrop. In the foreground, there are dark, silhouetted tree trunks and branches. The overall scene conveys a sense of environmental impact and change.

Next steps

Webinar in Fall 2025?

Questions/comments:
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Brett.Williams@usda.gov