



# 2016 Southern Appalachian Wildfires: Burn Severity and Implications for Watershed Response

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## Overview

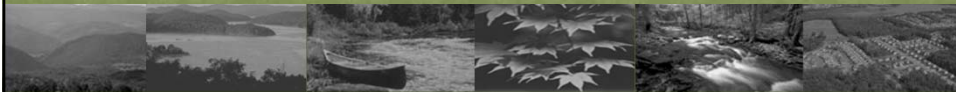
- 2016 Drought
- Chattahoochee NF Fires
- Burned Area Emergency Response (BAER) Policy
- BAER Assessment and Recommended Treatments



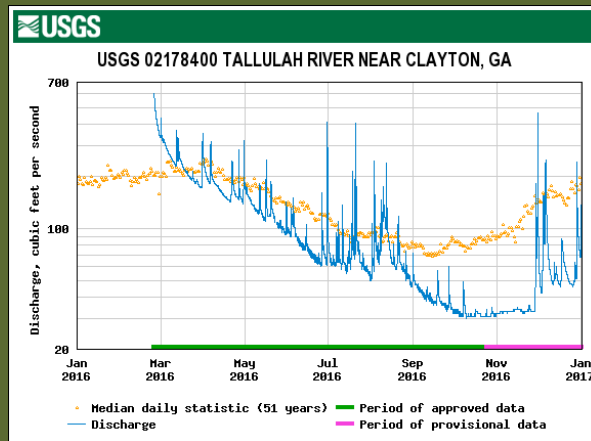


## 2016 Drought: Calendar Year Precipitation

- Chatsworth, GA ~35" (~65% of normal)
- Ellijay, GA ~27" (~44% of normal)
- Clayton, GA ~37" (~52% of normal)

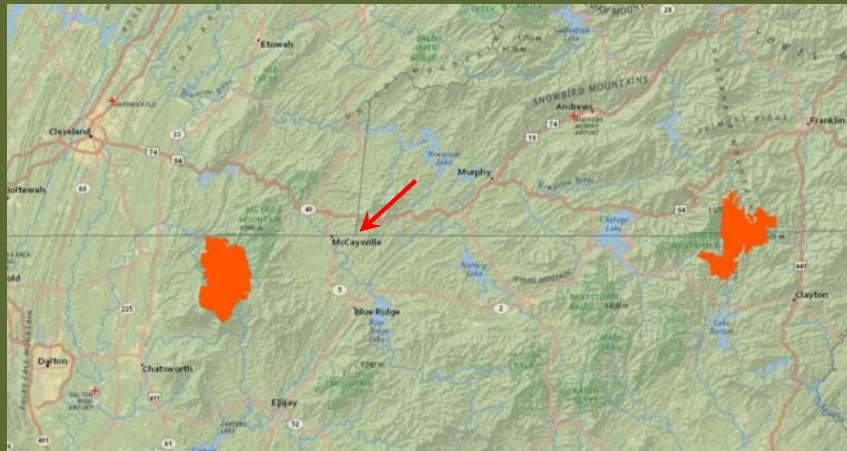


## 2016 Drought





## Chattahoochee NF Fires



## Chattahoochee NF Fires

- Rough Ridge Fire near Chatsworth, GA
  - Started 10/16/16
  - 28,040 acres (perimeter)
  - Primarily in the Cohutta Wilderness
  
- Rock Mountain Fire near Clayton, GA
  - Started 11/9/16
  - 24,750 acres (perimeter, GA and NC)





# Chattahoochee NF Fires



# Burned Area Emergency Response (BAER) Policy





## Watershed Management Policy [FSM Ch. 2520] Post-Fire Evaluation of Critical Values

- Human life and safety on FS lands
- Property
- Natural resources
  - Soil productivity and hydrologic f(x)
  - Critical habitat for special-status species
- Cultural and heritage resources



## BAER Assessment







## BAER Assessment



Field survey of soil burn severity (SBS), validation of Burned Area Reflectance Classification (BARC) remote-sensing.



## BAER Assessment



Vast majority of fire areas characterized by low/unburned conditions. Soil structure un-impacted, significant duff and ground cover intact. Post-fire leaf fall.





## BAER Assessment Results

- Areas of high and moderate SBS were very limited, < 1% within each fire perimeter.
- Even where duff was consumed soil structure was unimpacted as evidenced by intact dense root structure.
- No evidence of mobilized burned material was found, and only very limited areas of surface erosion were seen despite an appreciable rain event.
  - 2" rain 11/29-30, peak intensities ~ 0.7 to 1.9 inches/hour
- \*No post-fire increased peak flow or sediment production was predicted.



## BAER Assessment Results

- \*An overall view of the assessment team was that the fires were beneficial.
- The team Botanist/Ecologist was interested to see thickets of young fire-killed white pine. This species is encroaching hardwood stands on the forest..
- Fire character and effects were what a Forest would target with prescribed fire.





## BAER Recommended Treatments

- Human Life and Safety/Property
  - Hazard signage on roads, at trailheads
  - Hazard tree removal
  - Wilderness closure
  - Trail stabilization
- Natural resources
  - Noxious/invasive weed surveys, eradication
- Cultural and heritage resources
  - No treatments recommended



## BAER Recommended Treatments



Total budget for recommended treatments across both fires was approximately \$65,000, mostly for crew time.







## Questions?



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