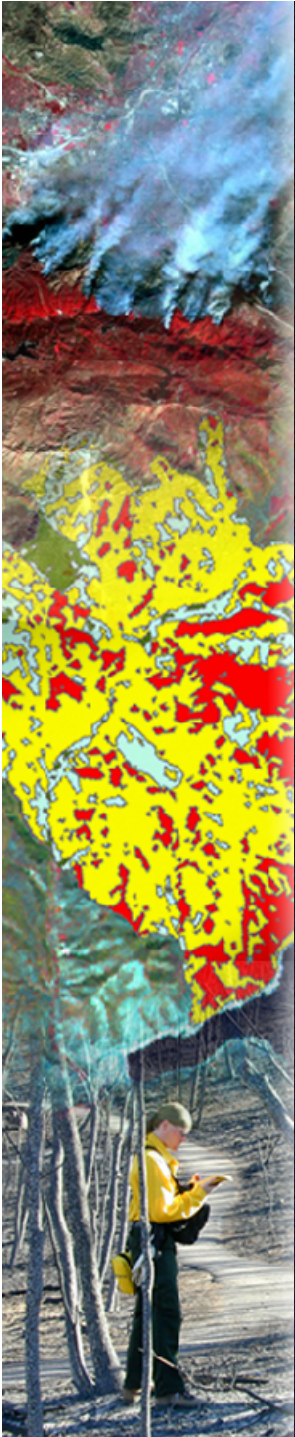


Editing the BARC to Create a Map of BURN SEVERITY



ALWAYS REMEMBER YOUR KEY OBJECTIVE:

To **quickly** develop an **accurate** map of:

- Soil burn severity (soil scientist)
- Vegetation burn severity (forester)
- Watershed response (hydrologist)

For use in **emergency** assessment analyses of:

- erosion potential
- flood/runoff potential
- debris flow potential
- forest mortality

Threats to:

- Life
- Property
- Cultural and Natural Resources

BAER Team Objective

Develop a Rehabilitation Plan Within 10 Days



Inventory T&E species habitat affected

Evaluate artifacts and cultural resources

Predict runoff, flooding, threats to water quality

Determine erosion potential, threats to soil productivity

Prepare timber salvage plans and estimate reforestation needs

The BARC is NOT a Burn Severity Map!!!

BARC = Burned Area Reflectance
Classification

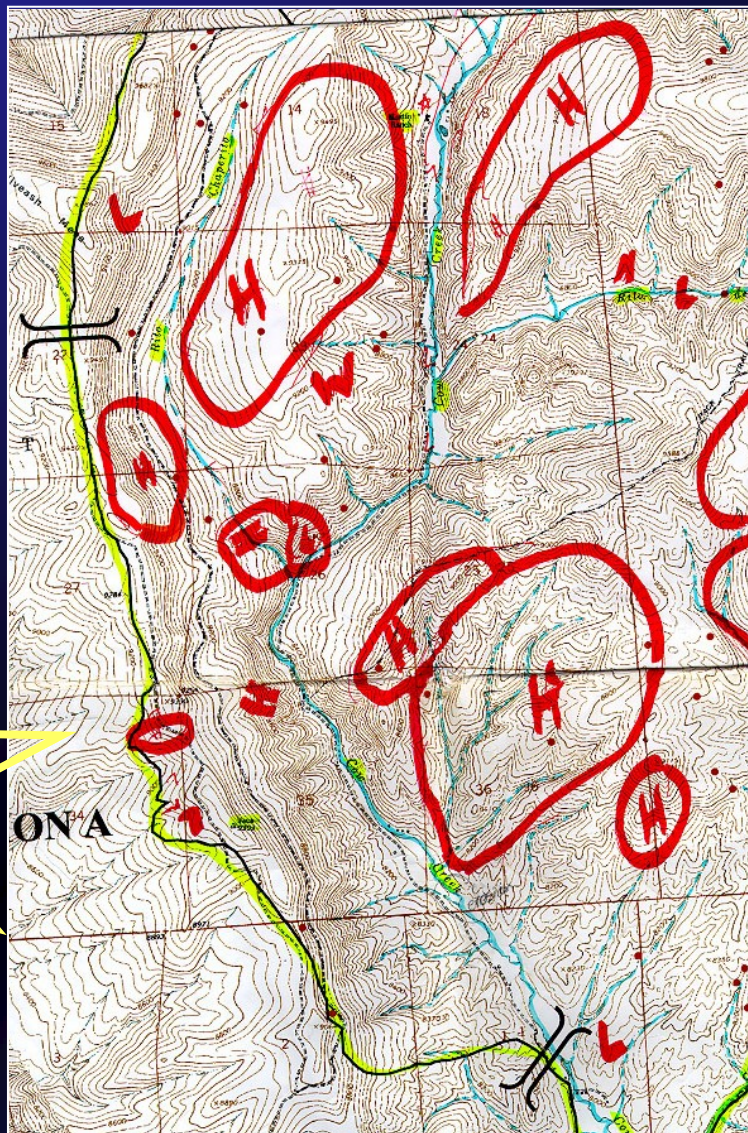
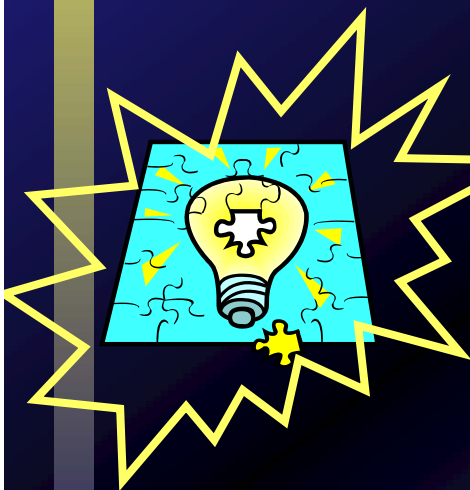
(vegetation condition as indicator)

*The BARC BECOMES a Burn Severity Map
(e.g., soil or veg) only AFTER field
verification and edits are completed...*

The BARC does give us a HUGE boost in quickly developing an accurate Burn Severity Map

Viveash Fire

Santa Fe NF
2000



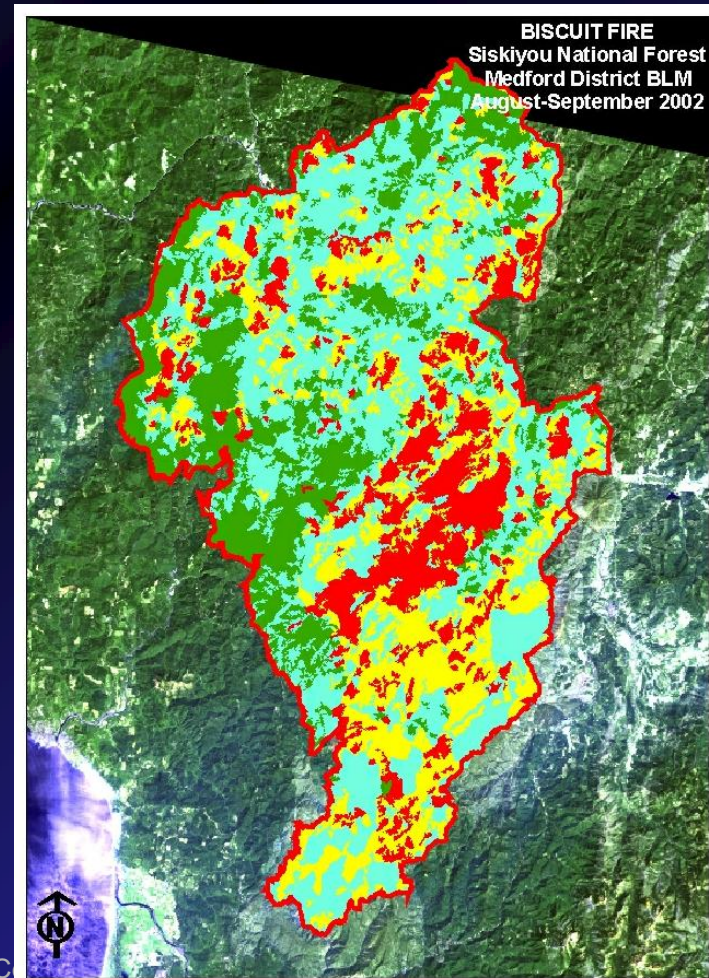
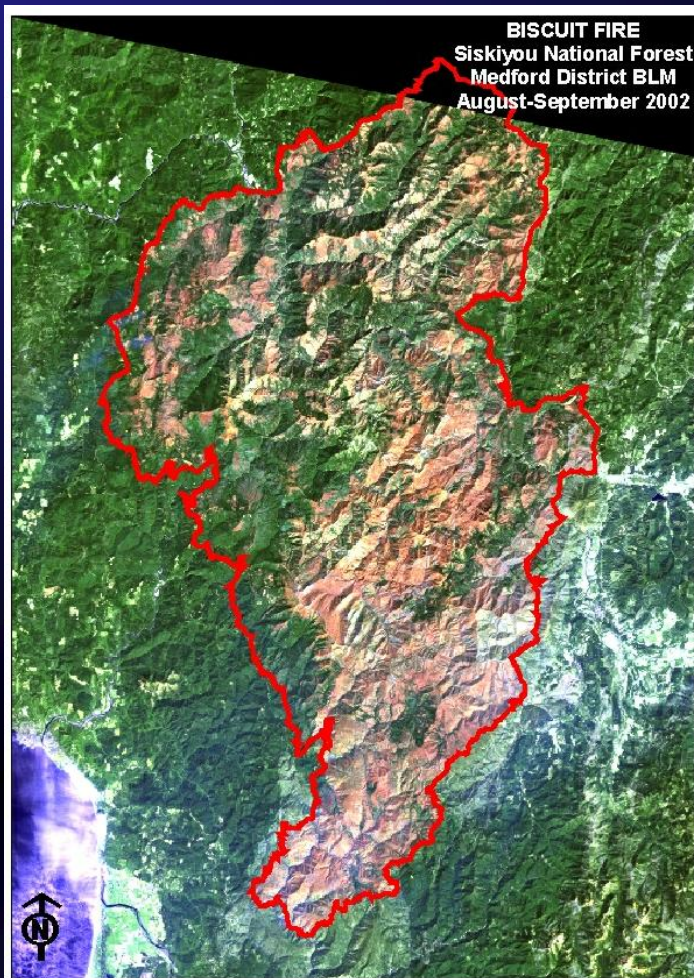
Field and aerial verification are still needed !



- Fly with image, not BARC (less bias)
- Make notes directly on image (H, M, L, M+, H-, etc)
- Compare to BARC back at BAER Den
- Compare to ground notes
- Adjust BARC as needed

BARC reflects post-fire vegetation condition

- Automated Image Classification (Overstory condition as indicator)
- **dNBR** (Differenced Normalized Burn Ratio)
- **BARC** (Burned Area Reflectance Classification)



BARC4 vs. BARC256

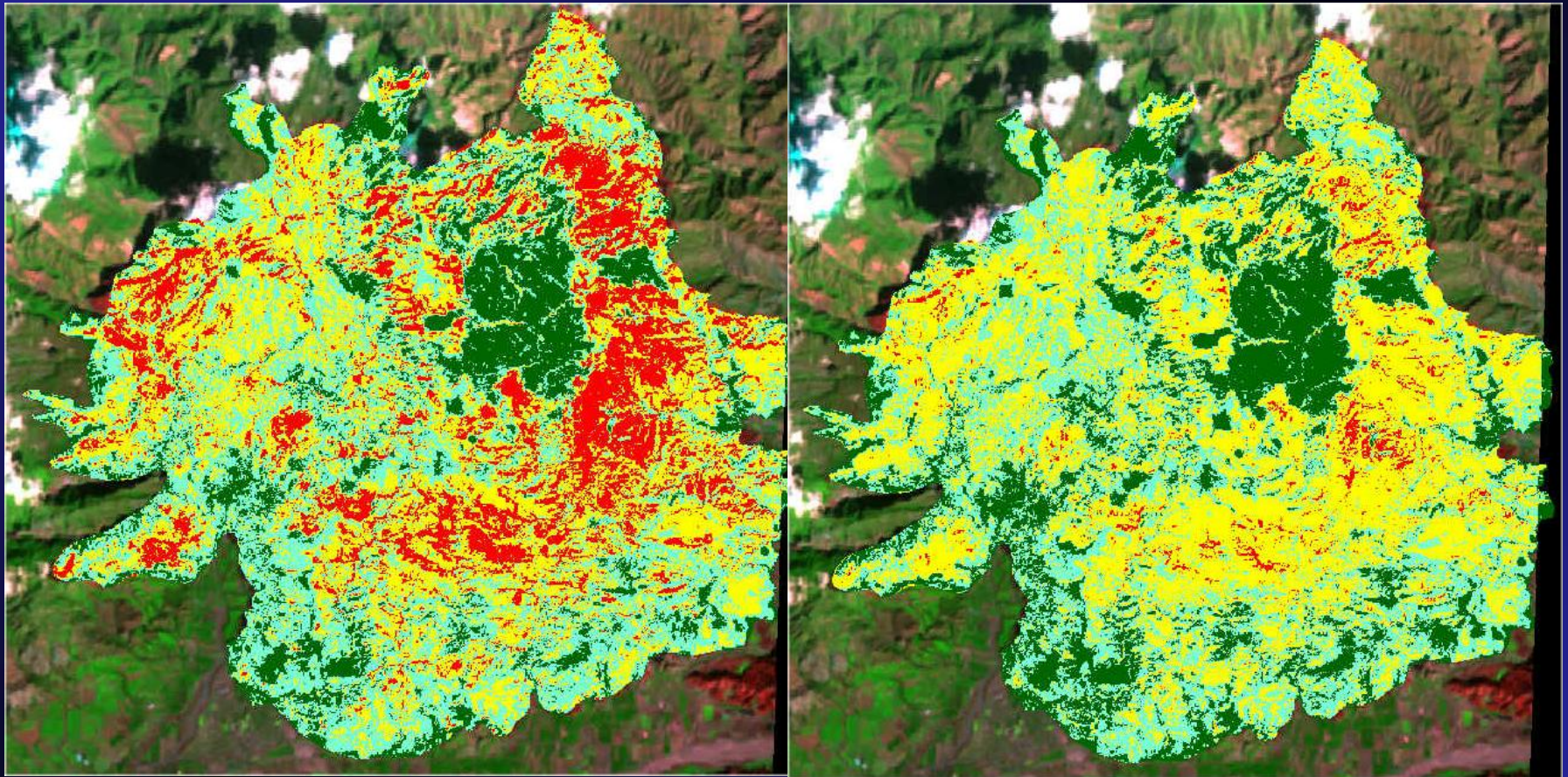
BARC4

- Already lumped into four classes (no need to reclassify)
- Cannot be systematically adjusted
- Works best in forested environments
- Does not *always* accurately depict burn severity (grassland or shrubland communities)

BARC256

- Up to 256 classes
- Color-coded into four colors
- Easy to systematically adjust
- Allows for field adjustments to thresholds in a variety of environments
- Areas of very rocky soils, stark geologic contacts, and large exposed rock areas can still skew classes

Example of Adjusted BARC256



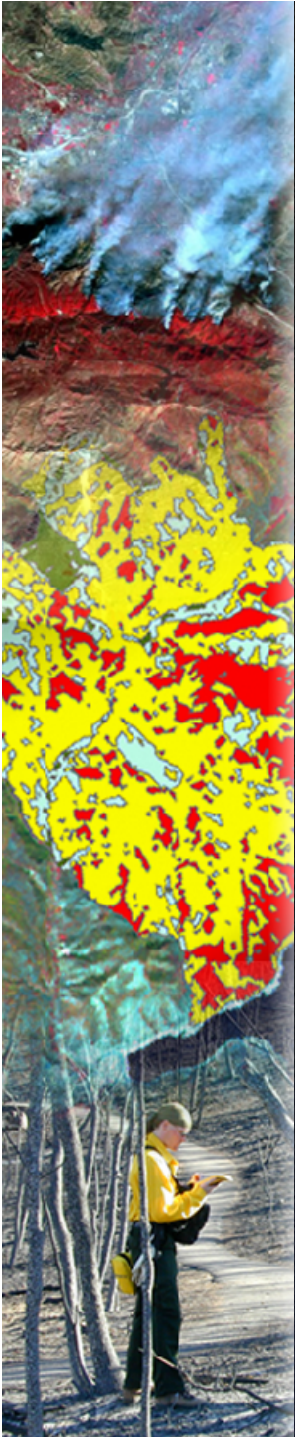
PIRU FIRE

DEMO - BARC Pre-processing

15 min

Pre-processing the BARC to Create a Map of BURN SEVERITY

Exercise

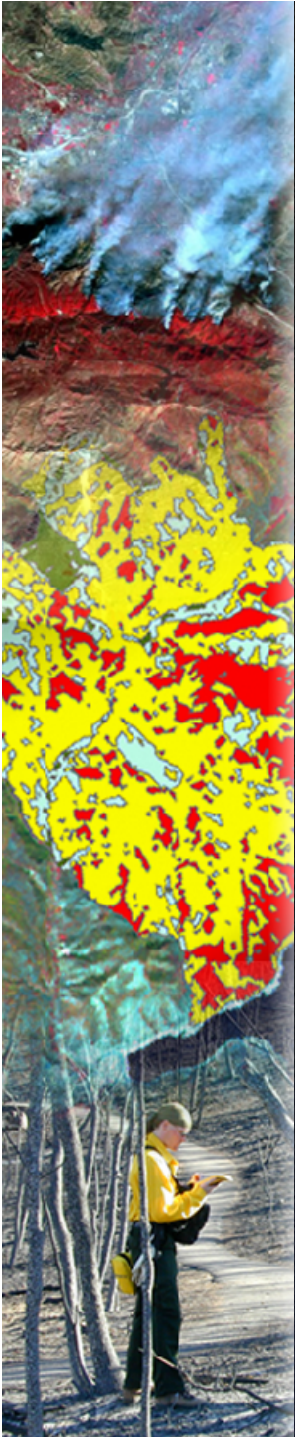


DEMO - Systematic Editing (Threshold Tweaking)

20 min

Systematic Editing of the BARC to Create a Map of BURN SEVERITY

Exercise



Locational Editing of the BARC to Create a Map of BURN SEVERITY

Exercise

