

Monitoring Burn Severity Within North Florida Sandhills

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September 11-12, 2008

North Florida Sandhill Working Group

Location-Apalachicola National Forest (ANF)



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Burn Severity

- Ecological Change
- Differs between vegetation types
- Seasonality

Unburned

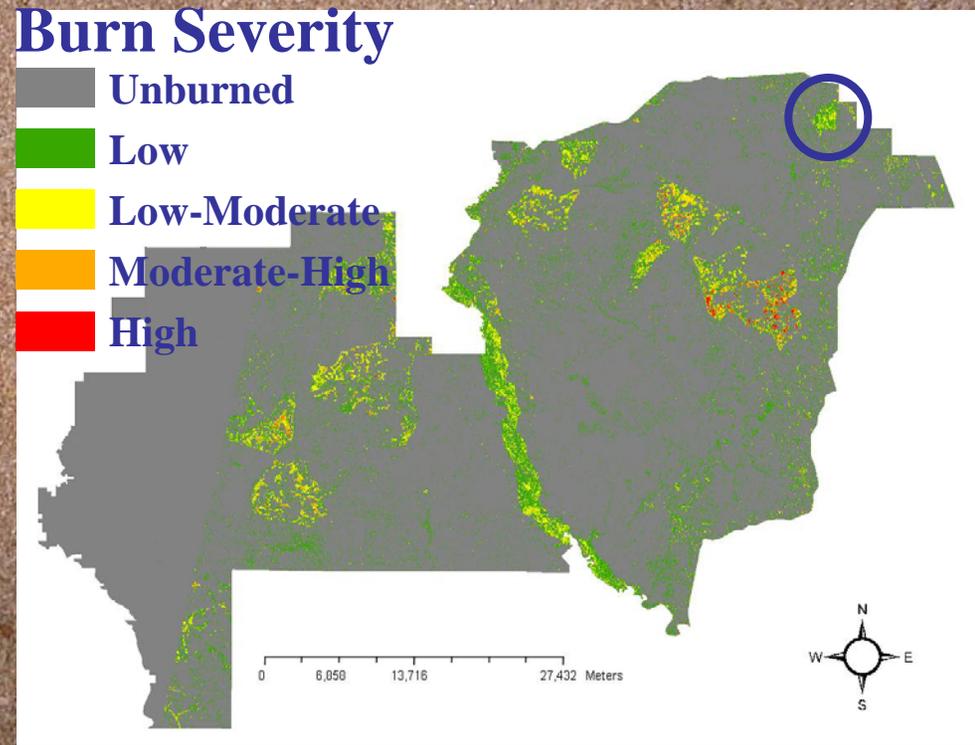


High



Remote Sensing

- Satellite Reflectance
- NBR: Normalized Burn Ratio
- $dNBR = NBR_{\text{prefire}} - NBR_{\text{postfire}}$



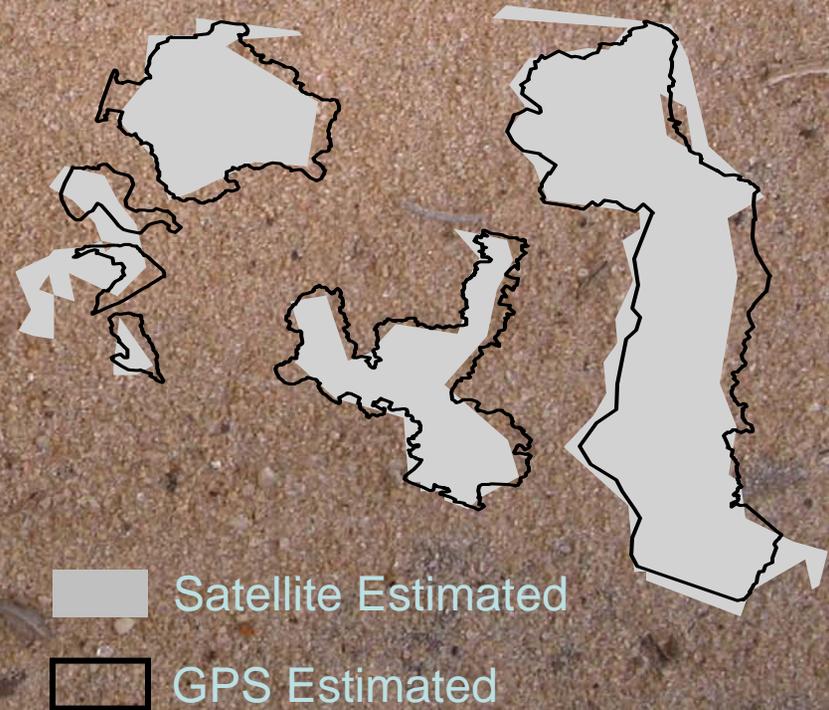
Ground Truthing

- 30 m Plots
- Composite Burn Index (CBI)
- Five Strata
- CBI Score
- 58-79% agreement with satellite data



Applications-Burned Vs. Unburned

- Accurate (94%) for large burned areas
- Cheap/Quick way to estimate burned areas
- Feasible for remote locations



Applications-Burn Severity

- Determine vegetative response
- Monitor ecological change
- Evaluate management objectives

Burn Severity

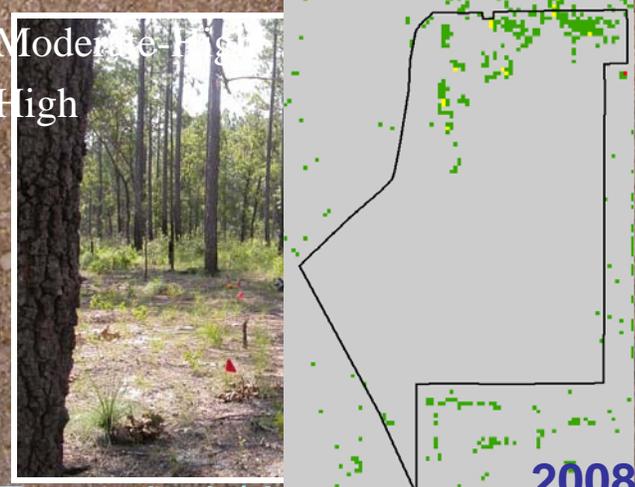
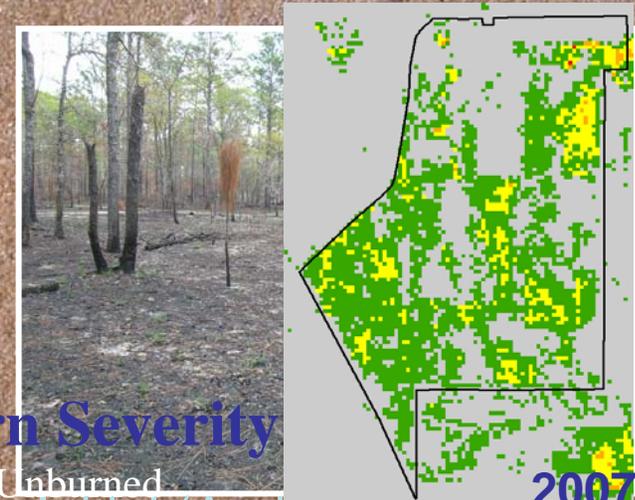
■ Unburned

■ Low

■ Low-Moderate

■ Moderate-High

■ High



VS VS

Conclusions

- dNBR images adequately represents on-the-ground burn severity
- dNBR Imagery can help:
 - determine burned boundaries
 - estimate large-scale ecological change
 - predict fire effects under specific conditions
- Problems
 - Seasonality
 - Time since burn
 - Other sources of land change
- Burn monitoring on State/Federal Land
 - Cost: ~\$150,000-\$200,000

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