Drought Effects on Forest Health

Currently:

**Continuing impacts from *Ips* engraver Beetles:**
- Opportunistic beetle that attacks stressed pines
- Winter aerial survey of <25% of state found ~150 significant spots totaling 77 acres
- Increased calls from public for dead pines
- Also seeing black turpentine beetles associated with *Ips*

**Some wilt and mortality related to heat and drought**
- Mostly trees with shallow root systems and trees growing in shallow soils
Drought Effects on Forest Health

Also seeing:

• Increased opportunistic insect and disease activity contributing to oak (and other hardwood) decline
  – Hardwood borers
  – Hypoxylon canker
• Herbicide damage
  – Residual soil active herbicides on sandy soils affecting pines 3-4 years after application
• Reduced effectiveness of systemic insecticides due to decrease in water uptake
• Increase in sapsucking insects (scale and mites) attacking drought stressed trees
Drought impacts fuel
• Above
• Surface
• Underground
Wildland Fire Behavior

Drought impacts fuel
• More difficult to contain the fire
• More difficult to keep it contained
Readings of **401-600** are typical of late summer, early fall.
May 1 – June 30 Fires

<table>
<thead>
<tr>
<th></th>
<th>Coastal Plain</th>
<th>Piedmont</th>
<th>Mountains</th>
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<tbody>
<tr>
<td>Fires</td>
<td>312</td>
<td>256</td>
<td>76</td>
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These are preliminary fire numbers and are not part of the official fire database.

On average, about 70% of fires occur within the first 6 months of the calendar year.

There have been about 15% more fires this year (2011) in the first 6 months when compare to the number of fires we typically have in a calendar year.
Fire Occurrence

Fires through July 19
What’s in the Future

• Expect more fires that normally seen in a year
  – 2001 over 8200 fires
  – 2007 over 7200 fires
  – 2011 ?

• If the drought continues and other parts of the NC become an active player then fires will increase

• However without the weather conditions for fire spread and growth fires will normally be smaller but will require more time to contain and control

• The exception are the foothills and mountains where topography become a factor