

1 **What affects fire behavior and smoke dispersion**

- Fuel
- Weather
- Topography
- Ignition

2 **Fuels - have**
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- Size
- Shape
- Volume
- Surface area
- Arrangement
- Distribution
- Moisture content

3 **Fuel size – Lag time**

- 1 hour
- 10 hour
- 100 hour
- 1000 hour

4 **Fuel Size Classes**

- 1-hr (less than 0.25")
- 10-hr (0.25"-1")
- 100-hr (1-3")
- 1000 hr (3-8")

5 **Fuel shape**

- Needles
- Leaves
- Limbs
- Logs
- Palmetto
- Peat

6 **Fuel distribution**

- Ground below the surface litter layer
- Compact on the ground Lofted
- Suspended
- Fuel ladder

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8 **Fuel Classification**

- Natural vs activity fuels
- Down and dead woody fuels
- Soil litter and organic layers
- Live fuels
- Fuel strata
- Total fuel vs available fuel

9 **Fuel Volume**
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- The volume of fuel available to burn affects fire behavior and smoke production

- Often referred to as rough
- Age of rough is an indication of volume

10 **Fuel Moisture**

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15 **Fuel Moisture Determination**

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- Ambient temperature
- Relative humidity
- Shading
- Aspect
- % Slope

16 **5 Fuel types**
from dispersion index tables
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- Grass and/or light understory
- Scattered logging debris
- Small dry piles
- Large wet piles (windrows)
- Palmetto-Gallberry

17 **Ignition**
&
Fire Behavior

- Ignition technique
 - Hand torch
 - ATV torch
 - Helicopter
- Ignition patterns
- Acres to be burned
 - Total tons

18 **Now lets look at the BEHAVE fuel models**