

Paul RuteMiller

Virginia SoL ES.1 part a; ES.12 parts a, c, d

Activity Outline – “Wildfire: Changing Climate”

- I. Introduction to PINEMAP and myself – **5 mins total**
  - A. Who am I and what’s my role today? – **3 mins**
    - i. Senior at Virginia Tech studying Forestry & NRC
      1. Concentrations in Urban Forestry and Recreation Mgmt
      2. Specific interest: improving urban communities through trees, and wildfire management
    - ii. Today I’m here to focus on how abiotic factors influence wildfire and how wildfire changes atmospheric composition
      1. Present modes of heat transfer (SOL ES12.d)
  - B. What is PINEMAP? – **2 mins**
    - i. Fellowship: Pine Integrated Network: Education, Mitigation, and Adaptation Project
    - ii. Research projects throughout the south to study multiple aspects of trees such as climate change, carbon storage, etc
    - iii. My summer work with the USFS near Raleigh, NC
      1. Looked at root differences in loblolly pine clones and carbon storage
- II. Wildfire basics – **15 mins total**
  - A. What is wildfire? – **5 mins**
    - i. Brief YouTube video
    - ii. Definition
    - iii. PINEMAP’s relevance to wildfire
      1. PINEMAP projects focus on carbon storage
      2. Wildfire releases carbon
  - B. Wildfire as a severe weather phenomena -**10 mins**
    - i. Weather’s impact on wildfire (mention radiation, convection, conduction for the ES12 SOL)
  - C. Explanation of relative humidity/temp and how it relates to wildfire potential - **5 mins**
- III. Main activities – **25 mins total**
  - A. Belt-weather kit – **15 mins**
    - i. What is it? What can be measured?
    - ii. How to use explanation inside, go outside, have a kid explain it and what it measures outside
    - iii. Use
  - B. Light a fire with the tornado kit (optional if time permits) – **10 mins**
    - i. Do you think a fire would light in this humidity you measured?

IV. Take-away points – **5 mins total**

A. Radiation, convection, conduction

B. Importance of accuracy/precision of measurements? (ES1a, ES12a)

**Total: 50 mins**