2021 Forest Health Update

Reporting on the 2020 activity

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Background

- The DFFM conducts an annual aerial survey of dead and dying trees.
- DFFM certified arborists, entomologists, and service foresters ground truth data and provide land managers and the public with information.
- In times of significant drought, trees become increasingly stressed and thus more susceptible to insect and disease infestation.
    - Specifically, bark beetle caused tree mortality increases following times of drought.

Forest Health Conditions in 2020 - RECAP

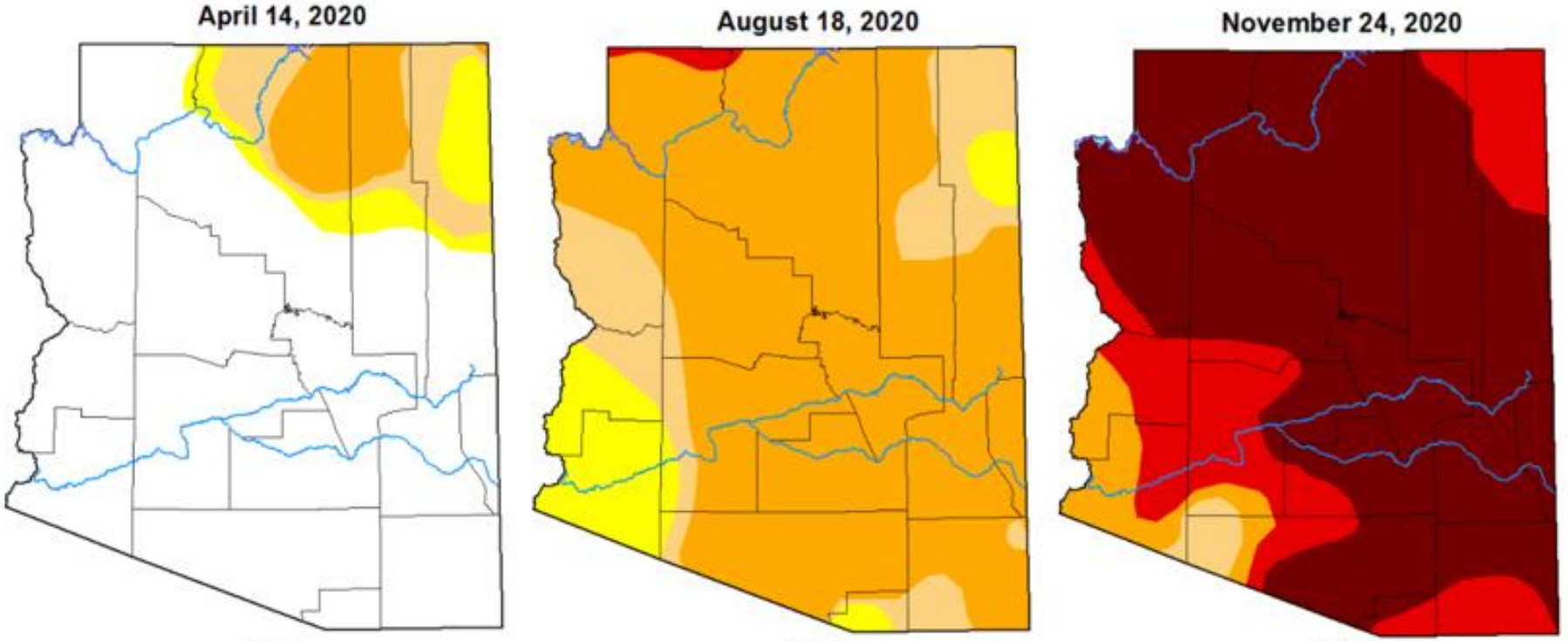
- There was a decrease in total acres of bark beetle caused tree mortality
    - The majority of bark beetle damage occurred in ponderosa pine forests
- There was an increase in damage caused by forest insect defoliators and sap feeding insects
- Due to the lack of monsoonal moisture and the La Niña winter there was an increase in abiotic stress caused by drought.

Forest Health Conditions in the FALL of 2020 - RECAP

- There was a lack in monsoonal moisture, along with La Niña winter conditions, which increased abiotic stress caused by drought
- Due to this lack in moisture and increased drought stress, forest health professionals around the state began noticing an increase in mortality from bark beetles in the fall and winter of 2020.

U.S. Drought Monitor

Arizona



Author:
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National Drought Mitigation Center

Author:
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Western Regional Climate Center

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Richard Heim
NCEI/NOAA

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

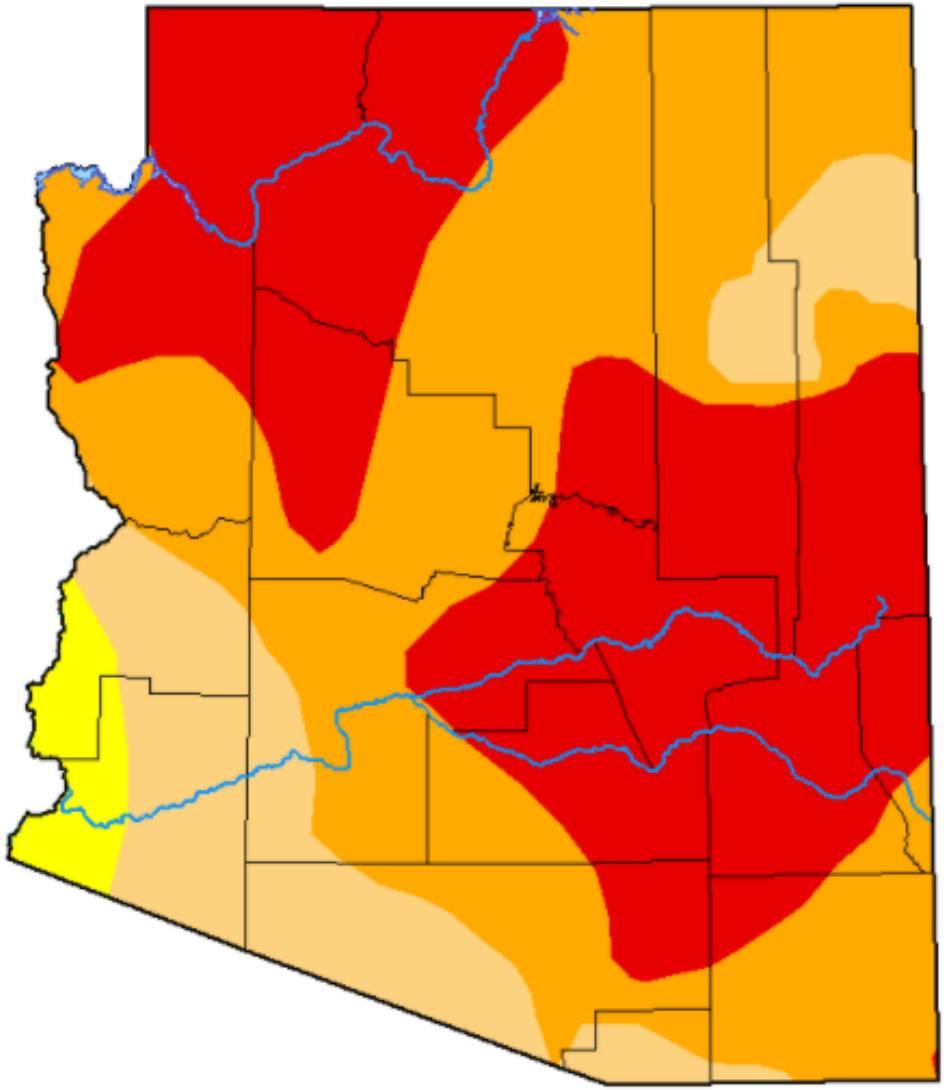
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

droughtmonitor.unl.edu

Forest Health Conditions in 2020 - RECAP

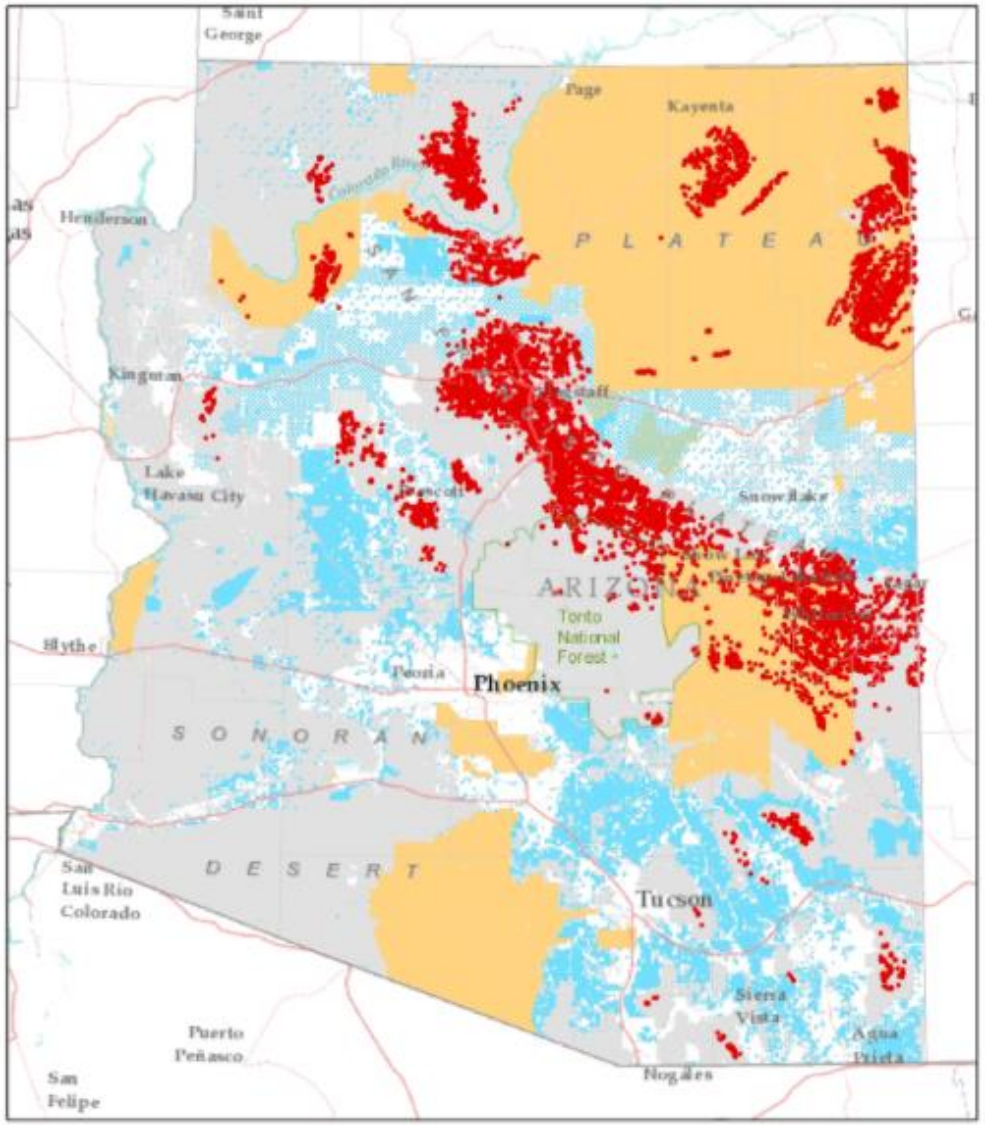
- **81,031 acres with** bark beetle caused tree mortality (survey season July-September)
- This was an **82% decrease** in bark beetle cause tree mortality from 459,239 acres in 2019
- However, bark beetle caused tree mortality increased after the survey season, and we will inevitably see an increase in damage for the 2021 season

Summer - 2020

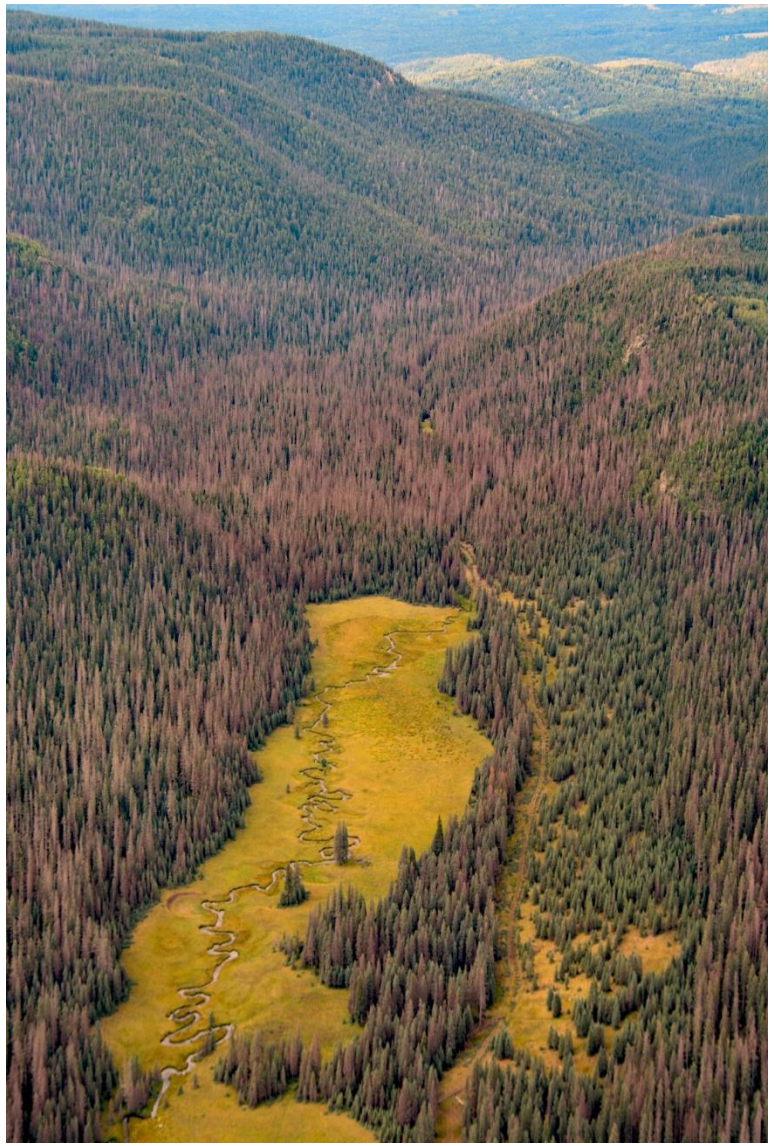


https://droughtmonitor.unl.edu/

ADS Insect and Disease Locations - 2020



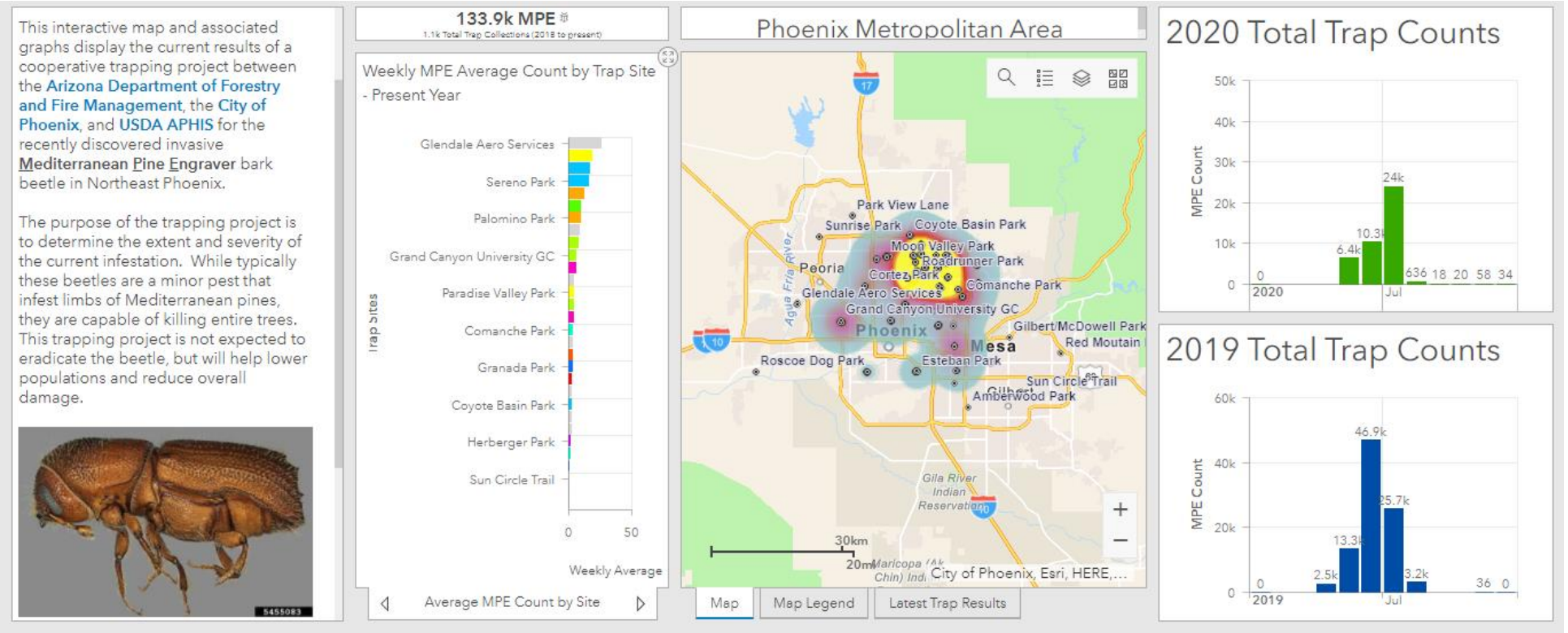
Forest Health Conditions in 2020



- Forest and woodland vegetation are showing signs of improvement.
    - But due to latent drought stress after the survey season, we are anticipating a significant increase in insect and disease mortality in the 2021 survey season.
- Moisture improves tree health, and therefore lets hope for a better monsoon season.

Urban Forest Health Conditions – Summer 2020

- There was an increase in Mediterranean pine mortality caused by the Mediterranean Pine Engraver bark beetle throughout the Phoenix Metropolitan area



Urban Forest Health Conditions – Summer 2020

- Also an increase in Aleppo Pine Blight activity was seen throughout the Phoenix Metropolitan area.

Tree Number	RPP35	Picture taken in 2019
Combined Crown Rating	5	
Mite Condition	Light	
DBH	12	

Tree Number	RPP35	Picture taken in 2020
Combined Crown Rating	2	
Mite Condition	Light	
DBH	12	

Thank You

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