

Save the pine-trees! Save the pine-trees! Save the pine-trees!



# FLORIDA PINE RESCUE

*Keeping Florida safe and  
beautiful!*

Save the pine-trees! Save the pine trees! Save the pine trees!



# AUSTRALIAN PINE

(*CASUARINA*)



- Introduced to Florida in the late 1800's
- Can grow up to 100 feet tall!
- Provide shade
- A very beautiful tree

- ! Shade blocks sunlight from native plants
- ! Increase beach erosion
- ! Take over sea turtle nesting areas
- ! Deprives native birds of food and habitat
- ! Frequently blow over, causing major damage during storms

Source: <https://www.evergladescisma.org/the-dirty-dozen/australian-pine/>



# DEFORESTATION!



*..but for a good cause!*



# ALEXNET

Use to identify whether  
a tree is an Australian  
pine or not

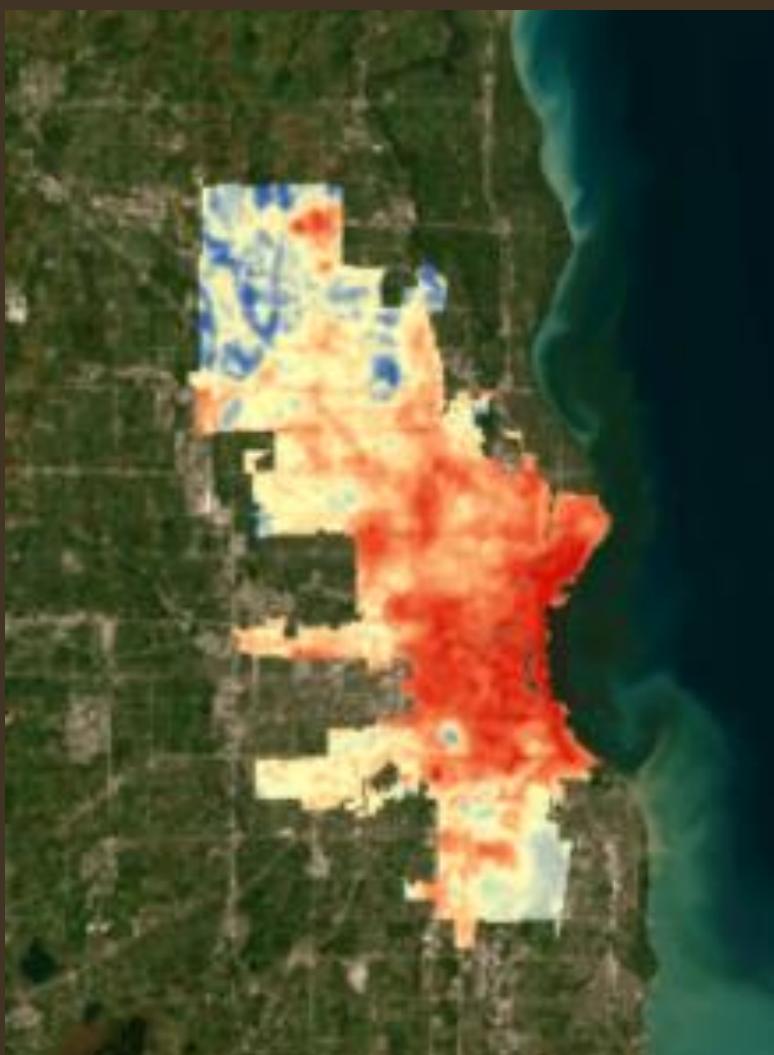
## Procedure



Cypress tree vs. Casuarina tree

# VISUALIZATION VIA HEATMAP

Which areas of Florida have  
the most/least amount of  
casuarina trees?



# HEATMAP VISUALIZATION - INSIGHTS

- How can it be proven that areas with more Australian pines are more susceptible to storm and hurricane damage (correlation)?
- Has this been observed in the past?



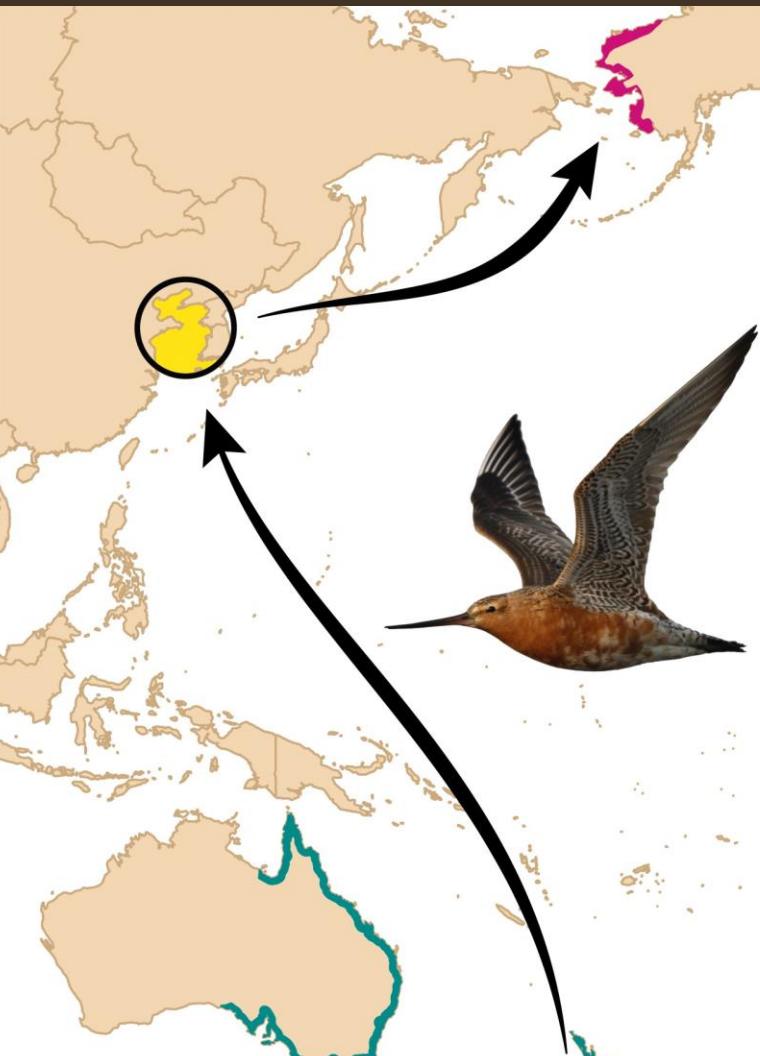


Further study:

## OBJECT DETECTION and RECOGNITION in HURRICANE DAMAGE PHOTO GALLERIES

- Detection – identifying casuarinas in photos
- Localization – tree position to determine damage + extent of damage
- Frequency of occurrence – multiple image galleries
- Major hurricanes

# SIMULATION

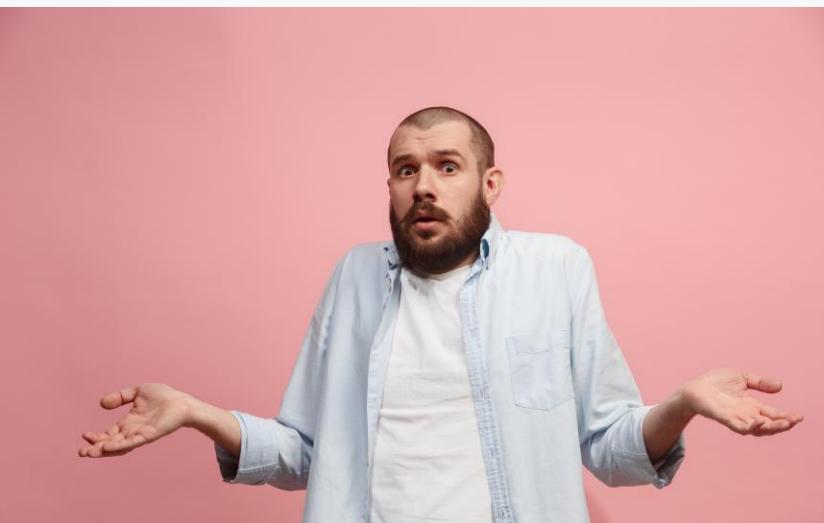


Observe the effect  
of Australian  
pines on an area  
over time

- Beach erosion
- Bird nesting and migration patterns
- Decrease in native flora and fauna populations



# WHAT NOW??

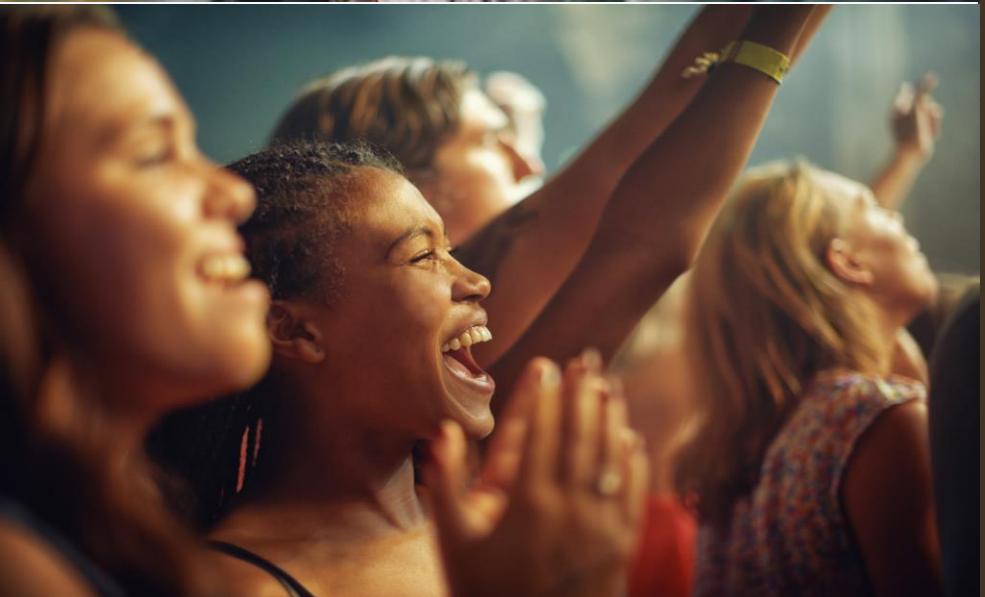


Trade in your damaging,  
invasive casuarina trees X  
for an *upright* or  
*grand piano!*



- Significantly reduce risk of hurricane damage to your property ✓
- Pick up a new, rewarding hobby ✓
- Beautiful and interesting home décor ✓
- Serenade your friends, family, and neighbors ✓
- Cool story to tell ✓
- Make Florida a better place ✓
- Potential family heirloom – your piano will live longer than you! ✓

# Acknowledgements

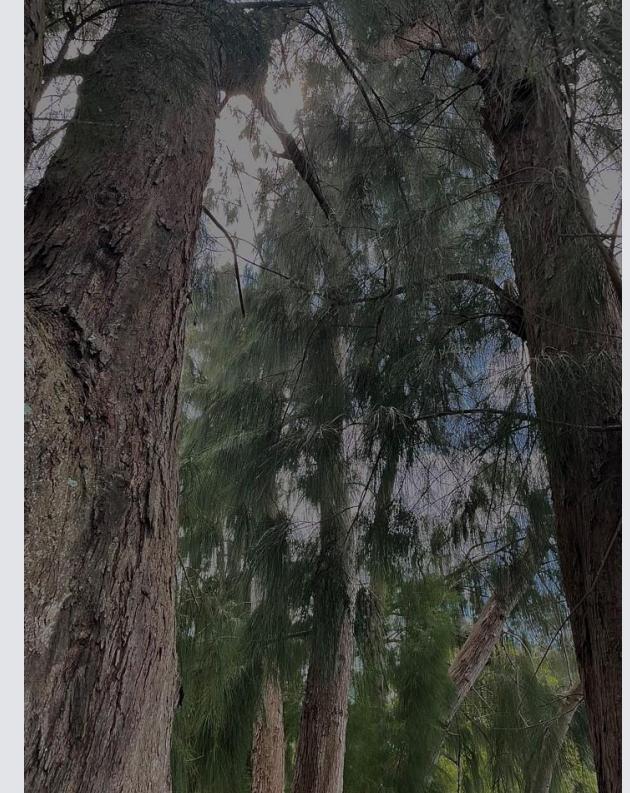


## Storytellers



Daisy (right, black) + Tibi (left, black & white)

## Photos



All casuarina photos (excluding slide 5) are from my family's backyard