

# Climate change and vegetation: Potential future redistribution of trees and forests

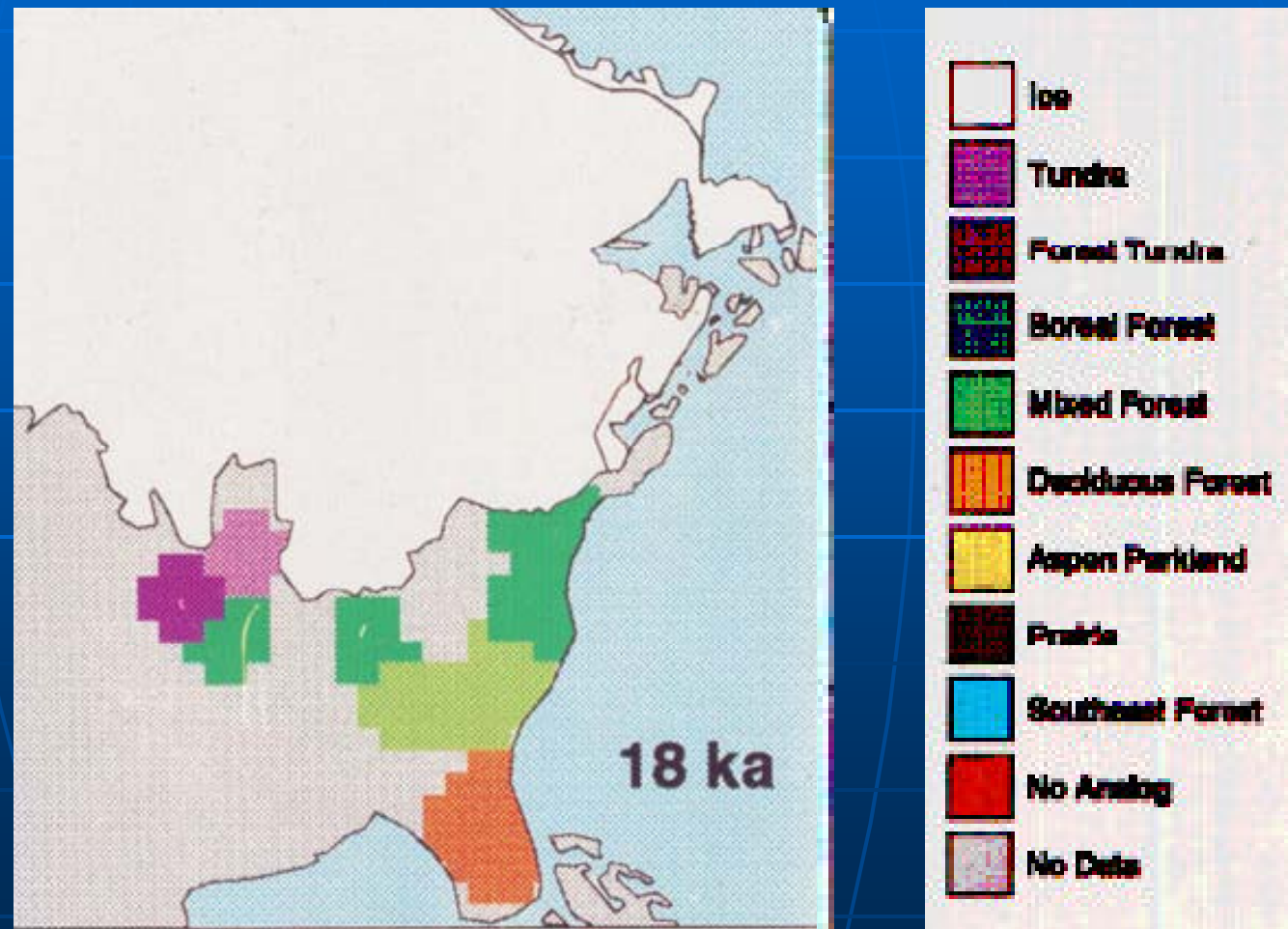
EESI Congressional Briefing, February 11, 2008

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# Take-Away Points

- Tree migration rates are much slower than current climate “migration” rates.
- Limiting step in new areas is production of seedlings from local mature trees.
- A forest management focus on tree establishment could facilitate migration.

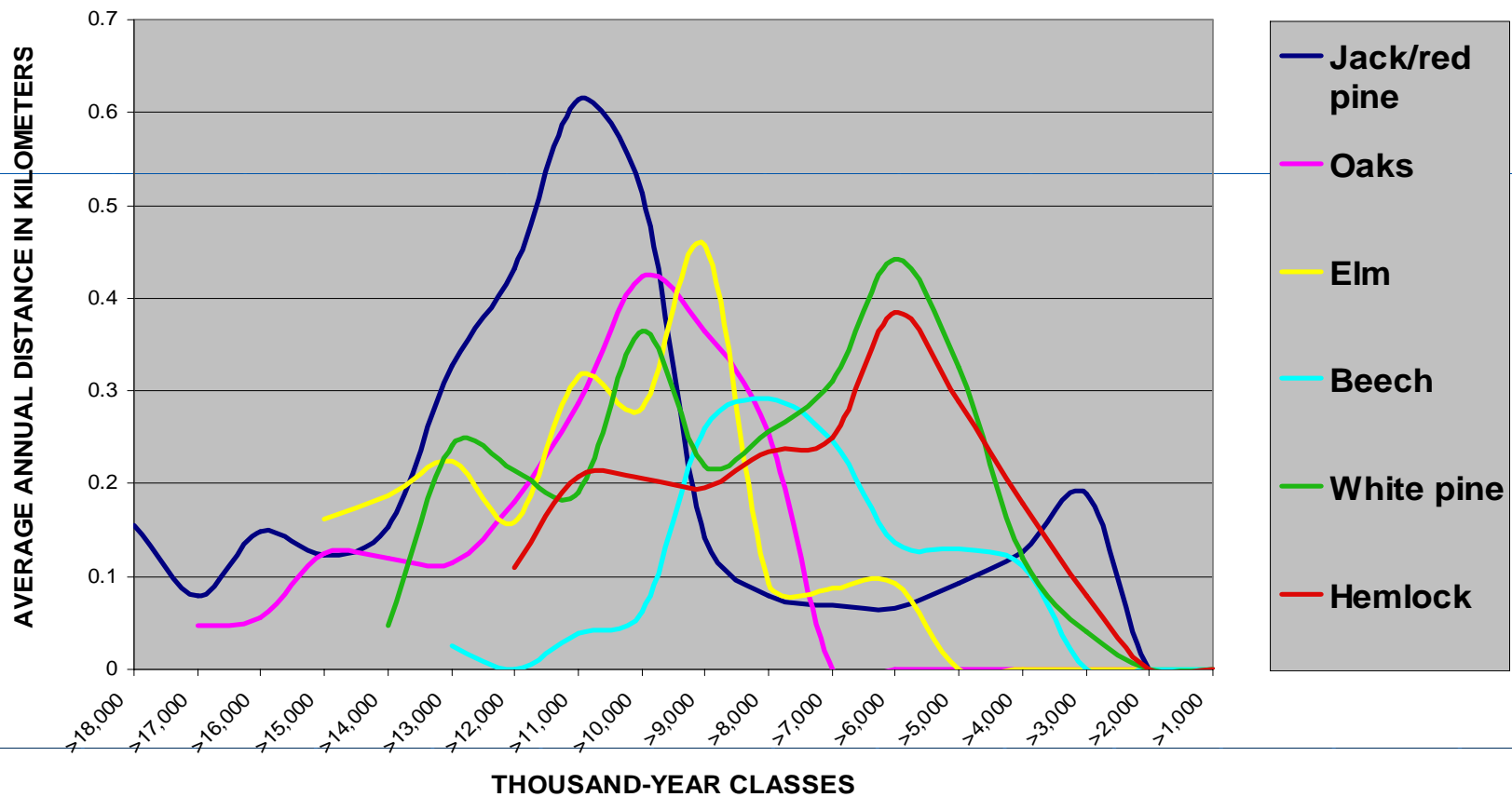
# Potential Redistribution of forest biomes: the past 18,000 years and the next 100 years



J. T. Overpeck, and R. S. Webb,  
1992, *Geology* 20:1071-1074

NOTE: "ka" is a thousand years  
"UKMO" is a future climate scenario by the U.K. Meteorology Office

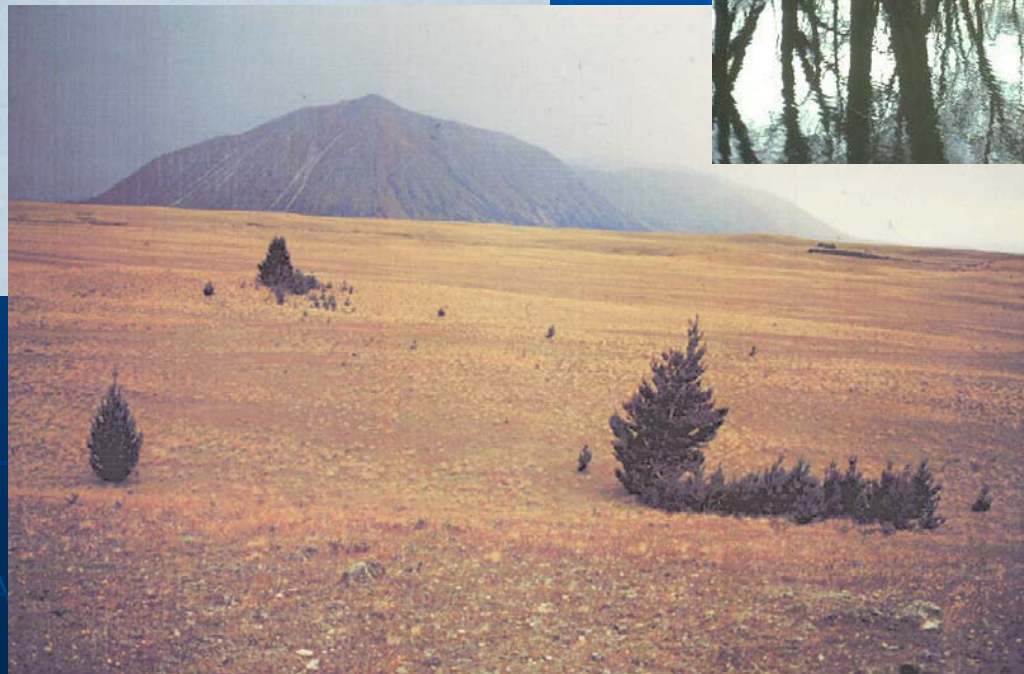
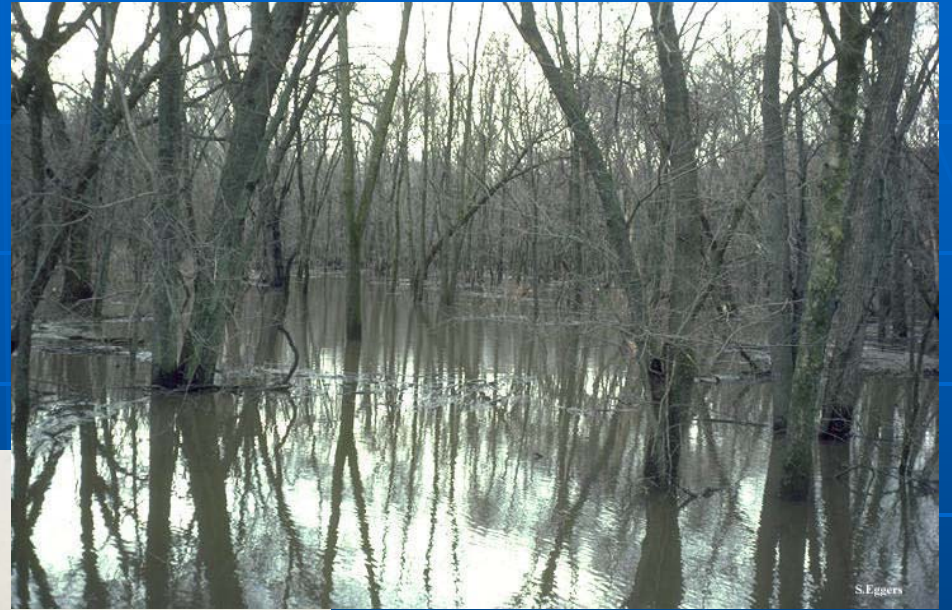
# Holocene migration rates of trees in eastern North America



# Take-Away Points

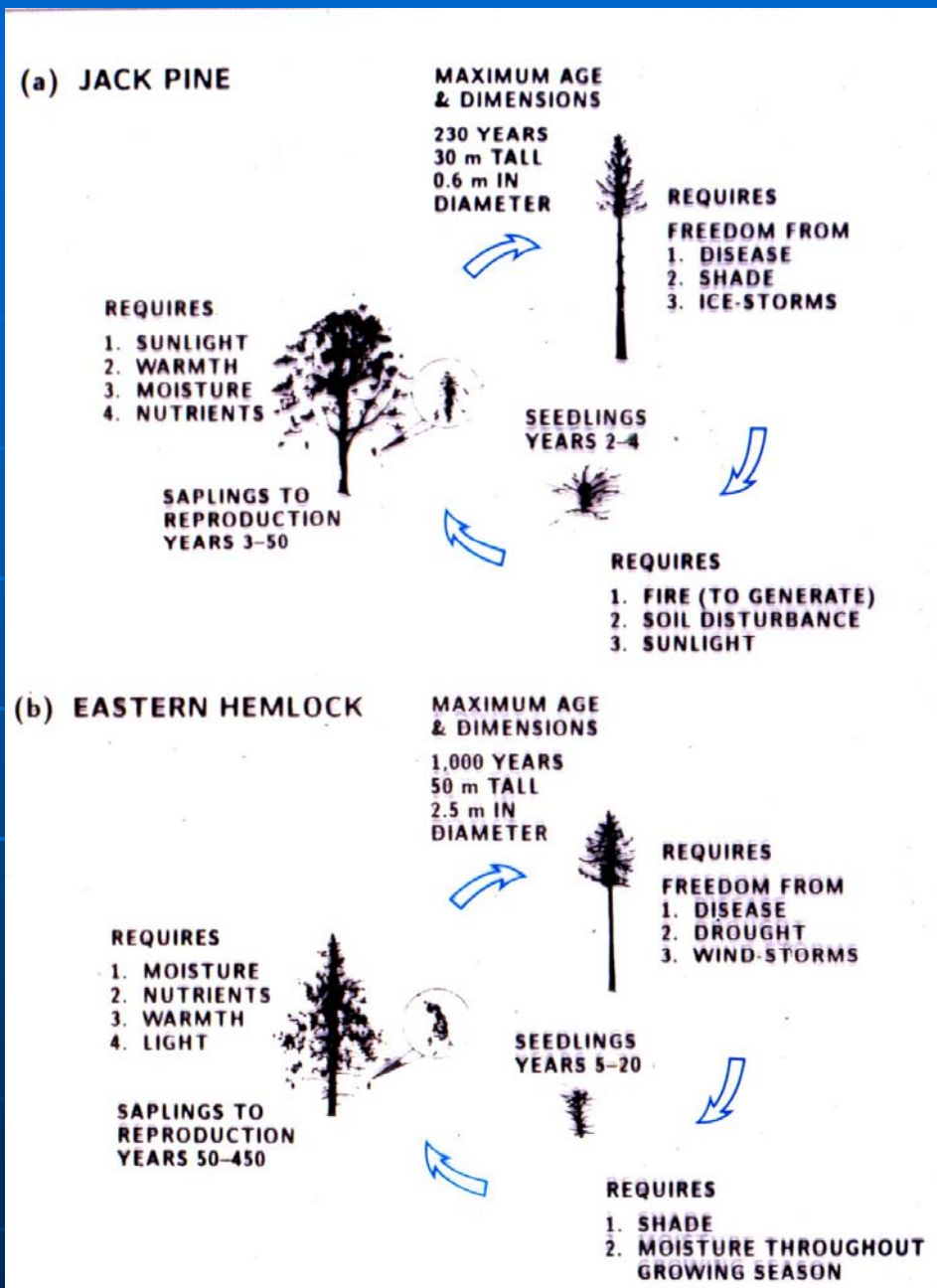
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# Plant Migration: Seed Transport Modes

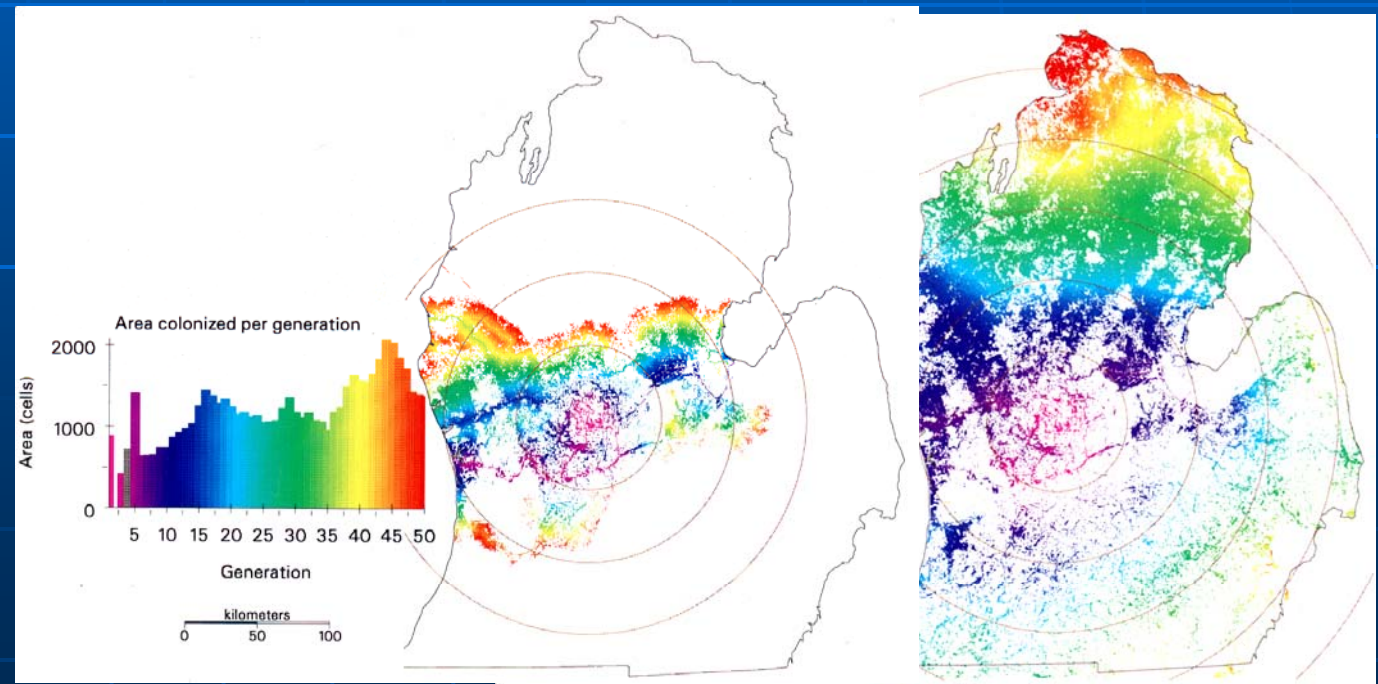


S. Eggers

# Establishment is the most vulnerable life stage



# Simulated Migration via Water, Wind, and Birds on a Future Landscape





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Can "artificial migration" reduce the effects of too slow natural migration?



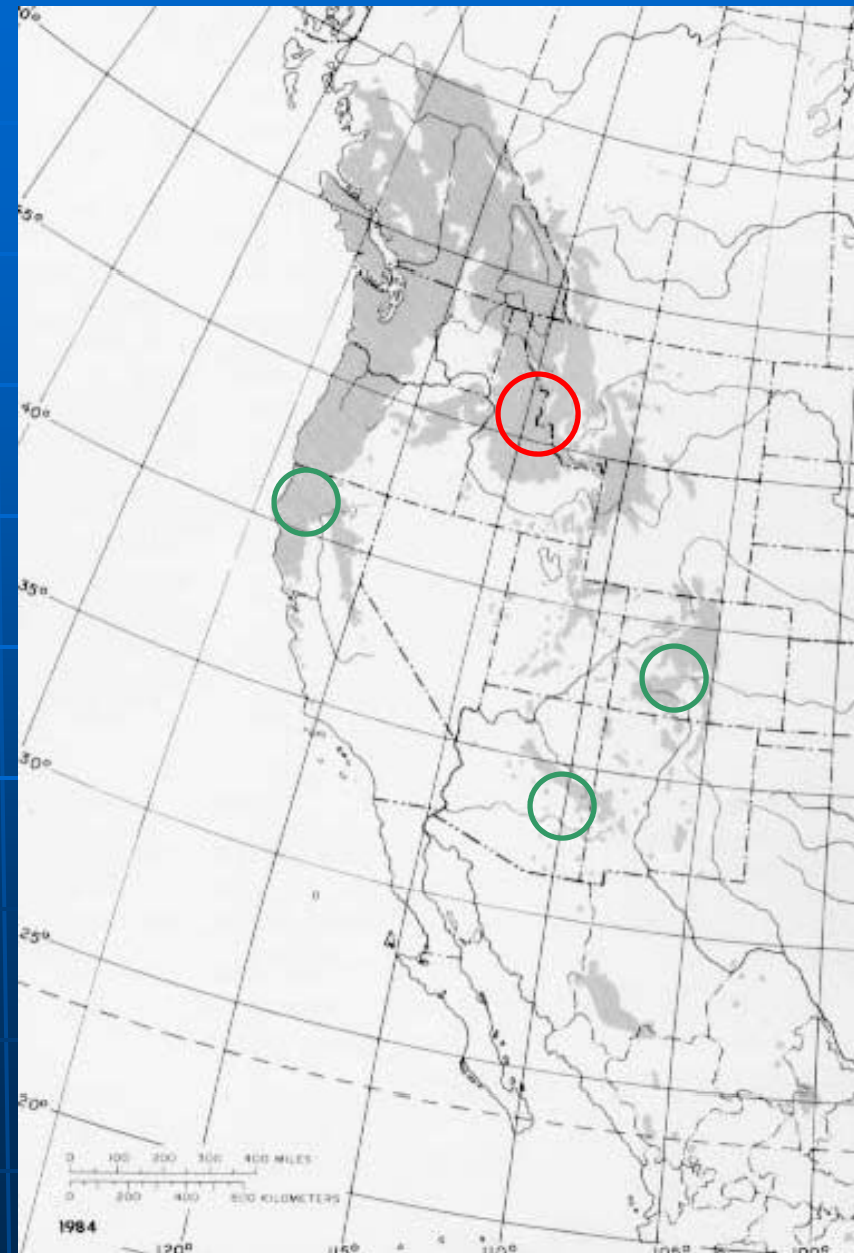
Crossing paths on their respective journeys of destiny, Johnny Appleseed and Irving Ragweed nod "hello"

# Coast redwoods in Avery Park, Corvallis Oregon



# Geographic Range of Douglas Fir

Replace today's northern trees with southeastern and southwestern stocks



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