

Climate Change: Ecosystem Changes in Austin, TX

Joint Sustainability Committee, July 24, 2019
6 pm, City Hall

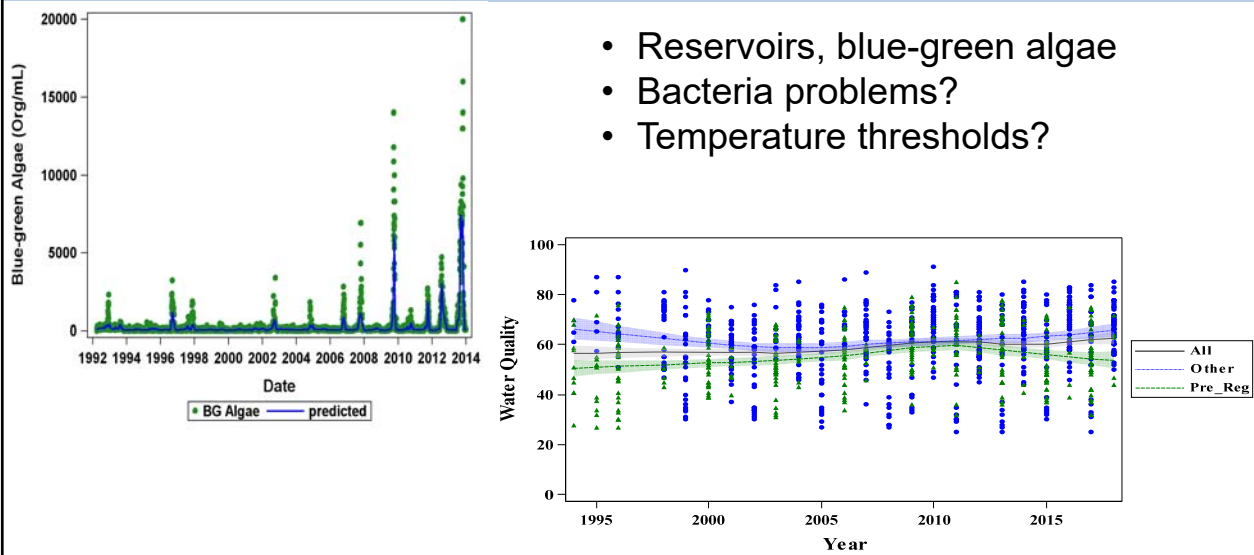


Presentation Overview

- Water Quality Trends
- Projected Climate Change impacts on rainfall and temperature
- Stormflow
- Baseflow
- Riparian Zones
- Uplands
- Trees and Vegetation



Observations on Water Quality Trends



Climate Change Rainfall Projections for Austin

Toward a Climate-Resilient Austin: May 1, 2014 Report to Council

Category	Current	Projected*
Avg. annual temps		+ 9 to 10°
Summer avg. high temp.	94°	98 - 103°
No. summer days over 100°F	13	35 - 80
No. summer days over 110°F	0 (rare)	1 - 20
Annual avg. precipitation	32"	32-33"
No. days/year > 2" rainfall	2	3
Max. 5 day rainfall	6"	8"
Max. consecutive dry days (no precip.)	52	70 - 75

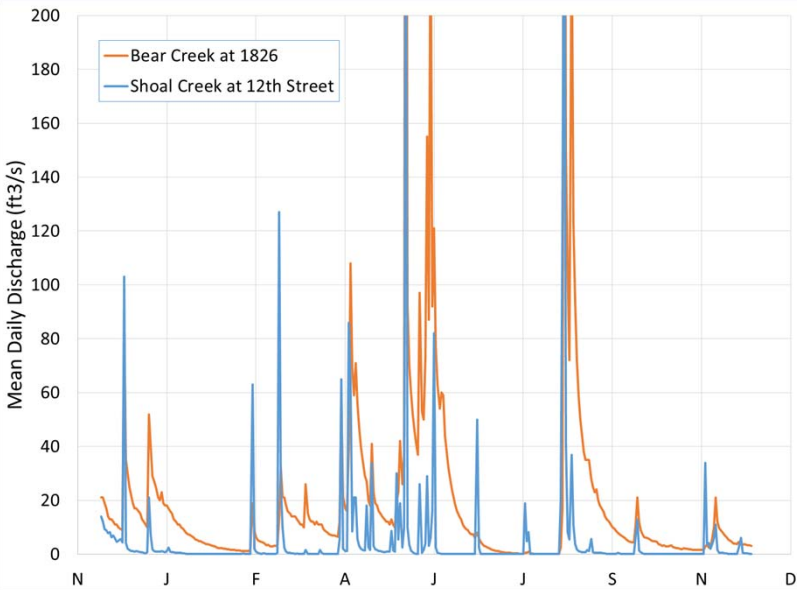
* Projected by end of this century (2071-2100).
Source: http://www.austintexas.gov/sites/default/files/files/Sustainability/Climate/Toward_a_Climate_Resilient_Austin.pdf

Stormflow



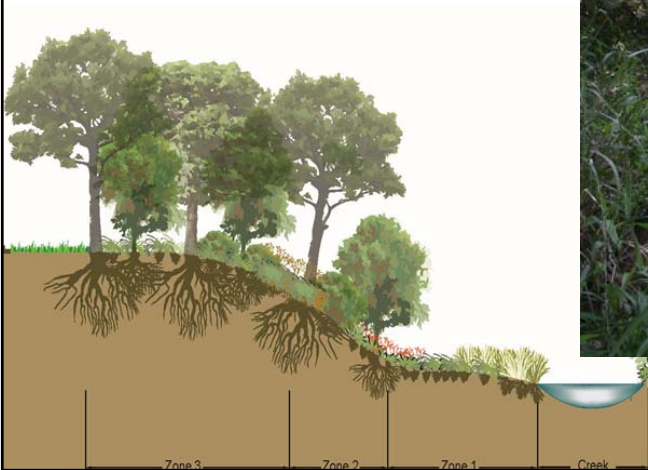
Baseflow

- Flashier Hydrology
- Less baseflow?
- More erosion?
- Disturbance/scour
- Temperature shifts



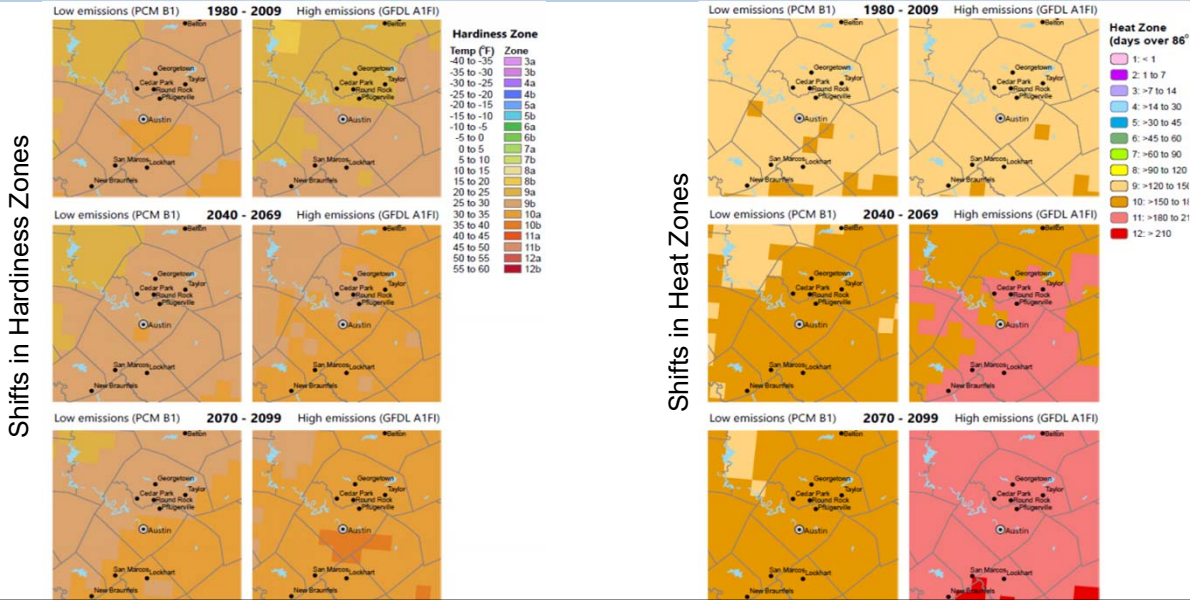
Riparian Zones

- Loss of wetland species
- Invasive species



Impacts to Trees and Vegetation

From Austin Community Forest Vulnerability Workshop, June 2019
<https://forestadaptation.org/learn/AustinnerabilityWorkshop>



Species that Could Benefit from Warmer Temperatures

- Texas Mountain Laurel
- Desert willow
- Texas persimmon
- Berlandier ash
- Mexican white oak
- Retama
- Lindheimer's silktassel
- Huisache
- Anacacho orchid tree
- Montezuma Cypress
- Brasil
- Mexican olive
- Mexican redbud
- Catclaw
- Texas kidneywood
- Mexican Sycamore

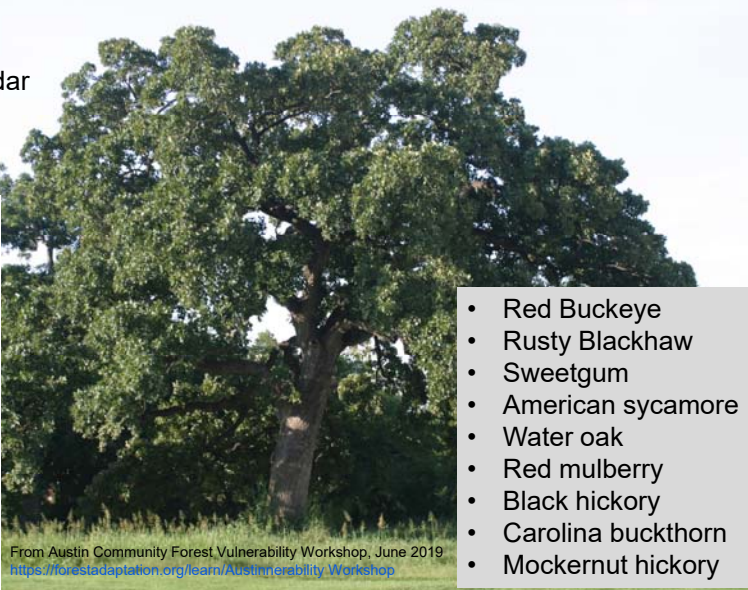


Texas Kidneywood

From Austin Community Forest Vulnerability Workshop, June 2019
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Species that Could be Negatively Affected by Warmer Temperatures

- | | |
|---|--|
| <ul style="list-style-type: none">• Durand oak• White shin oak• Buckley oak• American smoketree• Bur oak• Chinese privet• Eastern redbud• Glossy privet• Roughleaf dogwood• Hackberry• Boxelder• Sugarberry• Osage Orange• Wafer ash• Chinkapin oak• Eastern cottonwood• Winged elm | <ul style="list-style-type: none">• Shumard oak• Gum bumelia• Eastern redcedar• Pecan• Post oak• Black walnut• Green ash• Texas ash• Ashe juniper• Chinese elm• Cedar elm• Western soapberry• Black willow• Mexican plum• Slippery elm• Blackjack oak• Possumhaw |
|---|--|



- Red Buckeye
- Rusty Blackhaw
- Sweetgum
- American sycamore
- Water oak
- Red mulberry
- Black hickory
- Carolina buckthorn
- Mockernut hickory

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