

# Extreme Heat Impacts on Communities and Climate Impacts on Resources - A Discussion -

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Summer RTOC – July 28, 2022  
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# Agenda

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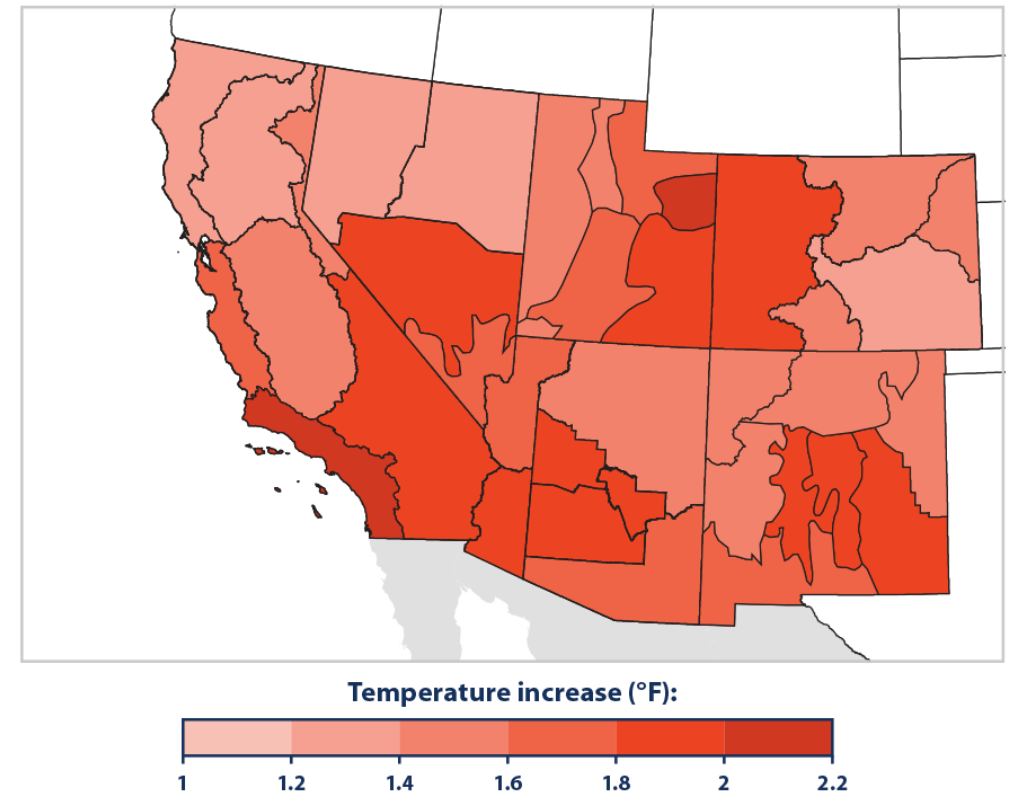


- Extreme Heat
- Climate Impacts on Species Timing

# Extreme Heat or Heat Waves

- Hotter-than-usual days and nights are becoming more common.
- Heat waves are expected to be more frequent and intense.
- See [Climate Science Special Report Executive Summary](#) and [EPA climate indicator webpage](#))
- Extreme heat has impacts on
  - People – especially with chronic conditions.
  - Infrastructure – for example electric grid and pavement.
  - Resources – for example Harmful algal blooms impacting water.

Average Temperatures in the Southwestern United States,  
2000–2020 Versus Long-Term Average

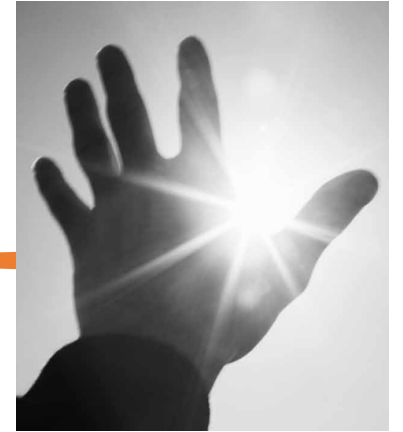


Data source: NOAA (National Oceanic and Atmospheric Administration). 2021. Climate at a glance. Accessed March 2021. [www.ncdc.noaa.gov/cag](http://www.ncdc.noaa.gov/cag).

For more information, visit U.S. EPA's "Climate Change Indicators in the United States" at [www.epa.gov/climate-indicators](http://www.epa.gov/climate-indicators).

# Extreme Heat – related topics

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- **Extreme Heat is related to other topics.**
  - **Green Infrastructure** - such as, using vegetation and permeable pavement and other materials or technologies to let rainwater sink into the ground.
  - **Urban Heat Islands and Urban Forestry** – Focus is on urban areas, some information can be useful for rural communities
  - **Drought** - Heat and drought often go hand in hand.

# Extreme Heat - Adaptations

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**Increase Shade** - 20 to 45 degrees cooler than unshaded areas.

- **Increase plant cover** ('canopy cover')
  - Use multiple layers – ground, shrub, tree
  - Consider the species or subspecies that will work for the future climate.
  - Consider native plants
- **Use 'cool roof' materials**
- **Use 'cool pavement' materials**

**Provide community cooling centers**



What are your experiences  
with extreme heat?

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What ideas do you have?

Next – move to Meyo's slide deck.

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# Resources for Extreme Heat - EPA

There are many resources. They may not meet your specific need but may still be of use.  
EPA has several web pages and documents.

- [EPA Heat Island Effect](#) - The main US EPA website on heat islands with lots of information and fact sheets and further links.
- [EPA Adapting to Heat webpage](#) - web page focusing on actions for building resilience to heat events.
- [EPA Heat Island Compendium - Reducing Urban Heat Islands: Compendium of Strategies](#) (2008)  
Chapter 2 is on [Trees and Vegetation](#)
- [EPA Excessive Heat Events Guidebook](#) (2016)



# Resources for Extreme Heat -

There are many resources. They may not meet your specific need but may still be of use.

- [Heat.gov](#) - A new federal government website with lots of information and links
- [Extreme Heat](#) - Centers for Disease Control (CDC) Website with many links and materials
- [National Integrated Heat Health Information System](#) - web page with heat forecasts and information on at-risk groups and health impacts.
- [Resilience Strategies for Extreme Heat](#) (2017) from the Center for Climate and Energy Solutions  
Excellent introduction to the topic
- [Tree-Mendous Tips for Watering your Trees in Dry Weather](#)  
fact sheets and videos with clear steps are provided
- [List of State Urban Forest Coordinators](#)
- [Vibrant Cities Lab \(w/ USFS\) Urban Forestry Toolkit](#)
- [Climate Change Response Network - Urban Forestry Climate Change Response Framework](#)

# Resources for Phenology – changes in timing for plants and animals.

- [USGS website on species timing - Phenology](#)
- [EPA website – Climate Change Indicators: Leaf and Bloom Dates](#)