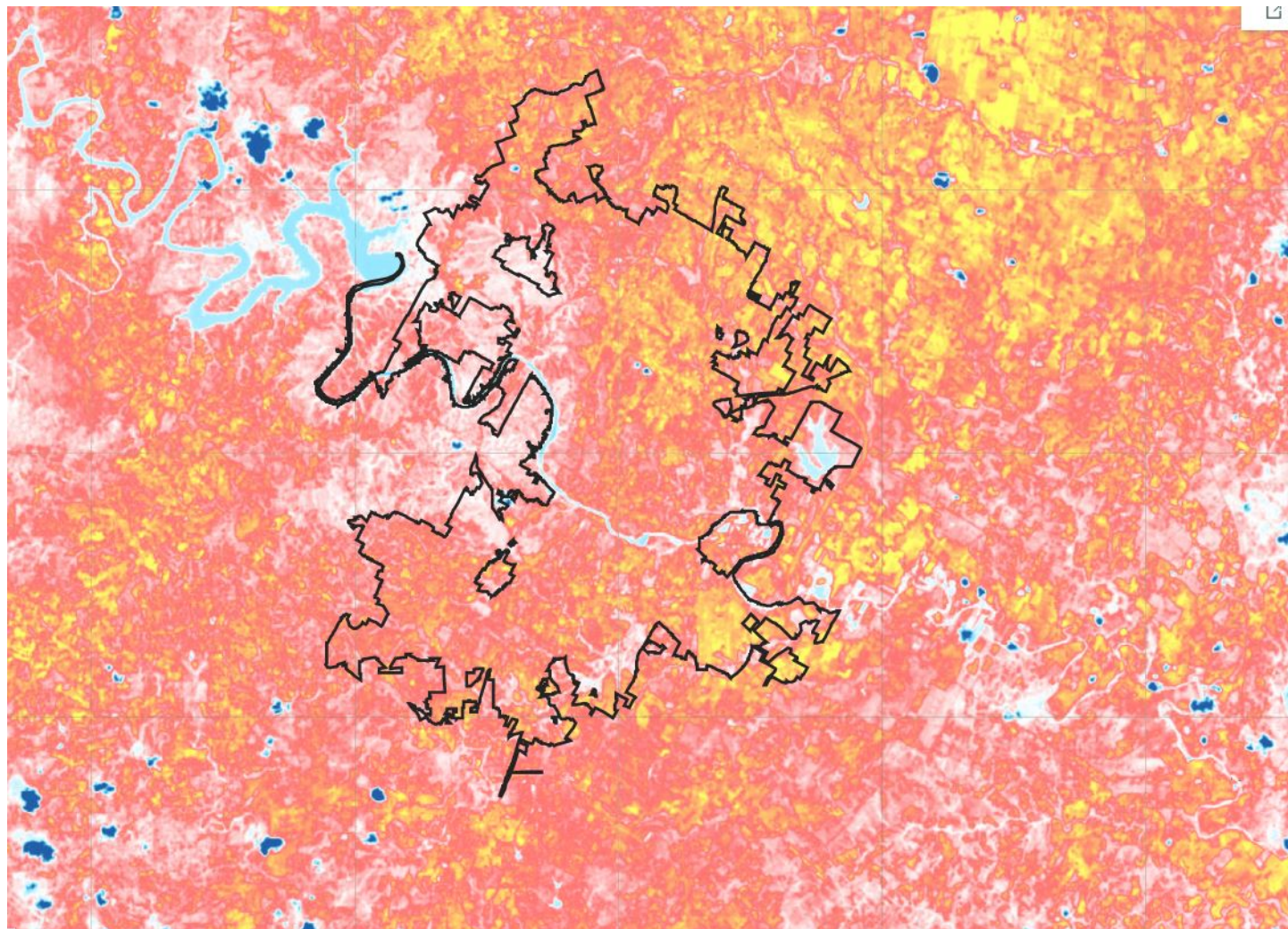


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## My NASA Data - Interactive Models

### Patterns in Earth's Surface Temperature



Heat islands form as vegetation is replaced by asphalt and concrete for roads, buildings, and other structures necessary to accommodate growing populations. These surfaces absorb—rather than reflect—the sun's heat, causing surface temperatures and near-surface air temperatures to rise near these surfaces. Displacing trees and vegetation minimizes the natural cooling effects of shading and evaporation of water from soil and leaves (evapotranspiration).

To learn more, visit:

- The [Urban Heat Island Phenomena](#) page for background information.

Teachers who are interested in receiving the answer key, please complete the [Teacher Key Request and Verification Form](#). We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

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## Grade Band

- 3-5
- 6-8
- 9-12

## Supported NGSS Performance Expectations

- [4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.](#)
- [MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.](#)
- [HS-ESS3-6: Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.](#)

## NGSS Disciplinary Core Ideas

- ESS2A: Earth Materials and Systems
- ESS3C: Human Impacts on Earth Systems

## Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data

## Crosscutting Concepts

- Patterns

## Related Resources

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- [Patterns in Earth's Surface Temperature Interactive Model](#)
  - [Human Impact and the Creation of Urban Heat Islands](#)