
My NASA Data - Interactive Models

Creation of Urban Heat Islands Story Map



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.
- [Explain](#) tab found in the Story Map for more information.

Are you new to Story Maps? Review the link below for a guided tour of this story map by My NASA Data.

While this story map is intended to be used with students who have access to a computing device in a 1:1 or 1:2 setting, teachers may pull various visualizations to use in singularity or may assign parts of this story map without assigning the full resource. Please see our Google Forms and Sheet for tools that can be modified to fit your instructional needs. This Sheet, *Embedded Activities for Upload*, is a template that enables students to complete and upload activities that are featured in the *Student Sheet* (PDF) that cannot be completed in Google Forms.



(**Virtual Teachers:** Make a copy of the Google Form of your choice so that you may assign it directly from your Google Drive into your Learning Management System (e.g., Google Classroom, Canvas, Schoology, etc.). Do you need help incorporating these Google Forms into your Learning



Management System? If so, read this [Guide to Using Google Forms with My NASA Data.](#))

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.

Grade Band

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

Supported NGSS Performance Expectations

- [5-ESS2-2: Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.](#)
- [4-PS3-2: Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.](#)

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- [MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.](#)
 - [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.](#)
 - [HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.](#)

NGSS Disciplinary Core Ideas

- PS3B: Conservation of Energy and Energy Transfer
- LS2B: Cycles of Matter and Energy Transfer in Ecosystems
- ESS2A: Earth Materials and Systems
- ESS3A: Natural Resources
- ESS3C: Human Impacts on Earth Systems

Science and Engineering Practices

- Planning and Carrying out Investigations
- Analyzing and Interpreting Data

Crosscutting Concepts

- Patterns
- Cause and Effect
- Systems and System Models

Related Resources

- [Creation of Urban Heat Islands Story Map](#)
- [Data Literacy Cube Guide](#)
- [Instructional Strategies for the Earth Science Classroom](#)

