



Name: _____ Date: _____ Class: _____

Title: Monitoring Ozone in National Parks
Student Sheets

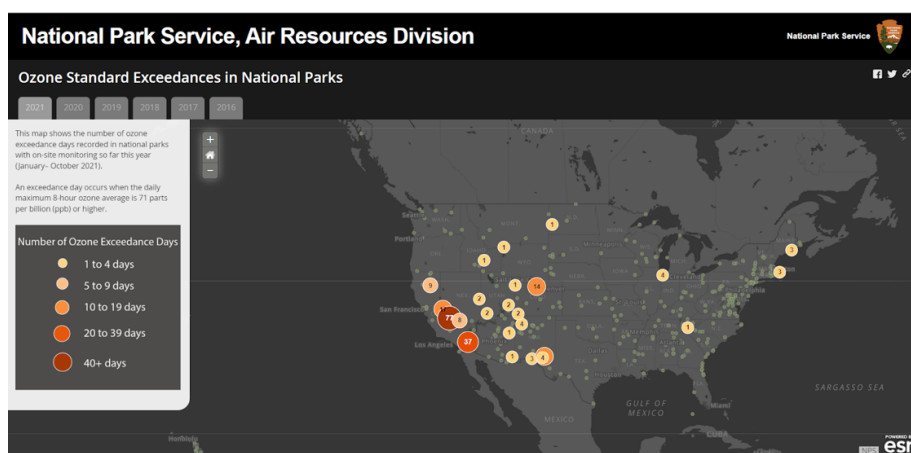
Monitoring Ozone in National Parks

The current National Ambient Air Quality Standard for ozone is of 70 parts per billion (ppb), daily maximum 8-hour average ozone concentration. An exceedance day occurs on each calendar day when the daily maximum 8-hour average is greater than or equal to 71 ppb.

The National Park Service (NPS) monitors ozone in parks around the country. The interactive map shows the number of days that exceed National Ambient Air Quality Standard for ozone by park. This standard is set by the Environmental Protection Agency and identifies the level at which ozone in the air becomes unhealthy.

The map displays the parks and the number of days where ozone levels have exceeded the standard in each year from 2016–2021. Monthly summaries of exceedance days as well as the maximum and 4th highest 8-hour average ozone concentrations are also provided by park.

Click on park circle symbols in the **Story Map Page** to see this information. (Link: <https://storymaps.arcgis.com/stories/1739497290ac444595ed81e66d2729ce>)



Ozone Exceedances in National Parks. Source: nps.gov | https://mynasadata.larc.nasa.gov/sites/default/files/inline-images/NPS_ozone.png



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Question Set 1

1. Which parks have had a year with 10 or more days that exceed ozone standards?

| Name of park | Which months exceed? | Total days exceeding 2016-2021 |
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2. Are any of the parks on the list every year?
3. Of the parks that have exceedance days, which has the most? Does this surprise you? Why or why not?
4. Where are most of the parks that have exceeded the standards generally located?



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5. Do parks with a year of exceedance over 10, exceed every year? What might be an explanation for this observation?
6. What is the similarity between parks and the most common months of exceeding the standard?

Question Set 2 (Answer after reading the Joshua Tree National Park section on page 4.)

1. How does the data from this tile plot support the explanation that most of the ozone detected in Joshua Tree comes from the Los Angeles Basin area?
2. Based on this information, when is the best time to visit Joshua Tree National Park? What evidence supports your answer?



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Joshua Tree National Park

On a clear day visitors to Joshua Tree National Park can see the Mexican border from the mile-high vantage point of Keys View. More often, visitors can barely discern the tip of 10,000-foot-high Mount San Jacinto, about 50 miles away.

The haze that obscures these vistas is the result of smog that blows into the park from surrounding urban areas. Growth in the Coachella Valley, the current real estate boom in the hi-desert, and construction of power plants nearby, all impact air quality in the park. But Los Angeles basin, with a population over 12 million, is the major contributor of ozone and other pollutants that reach the park.

Adapted from [Air Quality - Joshua Tree National Park \(U.S. National Park Service\) \(nps.gov\)](https://www.nps.gov/airquality)

AQI Values, 2016 to 2021

Angeles County, CA

