SEASONAL RECREATION VISITATION

Methodology and Findings

Joshua Tree and Yosemite National Parks | 2021–2025

Joshua Tree peaked in spring and Yosemite in summer. Park teams can use these historical patterns to decide when to review seasonal staffing and visitor services. Across all 10 park-years, monthly counts matched both National Park Service reported totals exactly.

Data and Methodology

The analysis uses four National Park Service workbooks, one annual and one monthly recreation visit report per park. It covers five complete calendar years and excludes preliminary 2026 observations. The NPS counts recreation visits, so one person can contribute multiple visits.

The R workflow reads the first worksheet of each workbook, identifies columns by their report headers, standardizes visit counts, and reshapes monthly records to one row per park, year, and month. It calculates the five-year mean, minimum, and maximum for each calendar month and plots annual totals from the cleaned annual records.

Seasonal and Monthly Measures

Pooled seasonal shares divide each park's visits in a season by its total visits over 2021–2025. Years with more visits contribute more to that pooled share. Winter groups January, February, and December within the same calendar year. Spring is March–May, summer June–August, and fall September–November.

Mean monthly percentages divide each month's count by the same park-year's annual total, then average that calendar month's five percentages with equal weight. Mean monthly counts average the five visit counts for the same calendar month.

Data Validation

The cleaned data contained 10 annual records and 120 monthly records, with one annual record and 12 distinct monthly records per park-year. In all 10 park-years, the sum of the 12 monthly counts matched both the count in the annual report and the total printed in the monthly report. Both comparisons returned a difference of exactly zero visits for every park-year.

The workflow checks for invalid counts, gaps, and duplicates and stops if reconciliation fails. The 12 mean monthly percentages sum to 100% for each park within numerical tolerance.

Reproducibility

The reconstructed R workflow uses readxl, ggplot2, and scales. From the extracted project root, run: Rscript --vanilla Code/00_Run_All.R
Five CSVs and four PNGs are checked and saved to Output/Reconstructed.
See Code/README.md for running from another folder and setting an output path.

National Park Service Visitor Use Statistics · NPS visit definitions and reporting FAQ

Visitation Findings

Joshua Tree and Yosemite National Parks | 2021–2025

Joshua Tree	Yosemite
Spring · 33.56% 5,141,192 recreation visits	**Summer · 41.04%** 7,901,072 recreation visits
March · 410,905 Mean recreation visits in the peak month	**August · 537,020** Mean recreation visits in the peak month

Winter was second at Joshua Tree (29.35%) and fall was second at Yosemite (28.62%). The lowest mean months were July at Joshua Tree (about 136,502 visits) and January at Yosemite (about 115,014). At Yosemite, August led July (535,577) by 1,443 average visits.

Yosemite's annual recreation visits rose each year, from 3,287,595 in 2021 to 4,278,413 in 2025. Joshua Tree reached its five-year high of 3,270,404 visits in 2023 and recorded 2,932,644 in 2025.

Practical Significance

Park teams could review staffing and visitor information ahead of spring at Joshua Tree and consider both July and August when reviewing summer services at Yosemite. Location-specific staffing or capacity decisions require current site-level and daily data.

Limitations

• Five years describe the study period. Averages can conceal year-to-year variation, and extending the results to other parks or future years requires additional evidence.

• Park-wide counts can include repeat visits and cannot measure visitor experiences, motivations, or crowding at specific sites or times of day.

• Weather, closures, accessibility, and management policies were outside the analysis. The patterns are descriptive and cannot establish causes.

• Exact reconciliation establishes consistency between reports. The counts depend on NPS estimates and park-specific counting procedures.

Seasonal percentages use all visits to each park over the five years. Monthly peak counts are five-year means rounded to the nearest visit.

Independent rounding leaves Joshua Tree seasonal shares at 99.99% in total.

Exact workbook download dates and park-specific export links are undocumented.

See the package provenance record for workbook names and source details.

SEASONAL RECREATION VISITATION

Monthly Counts and Seasonal Shares

Joshua Tree and Yosemite National Parks | 2021–2025

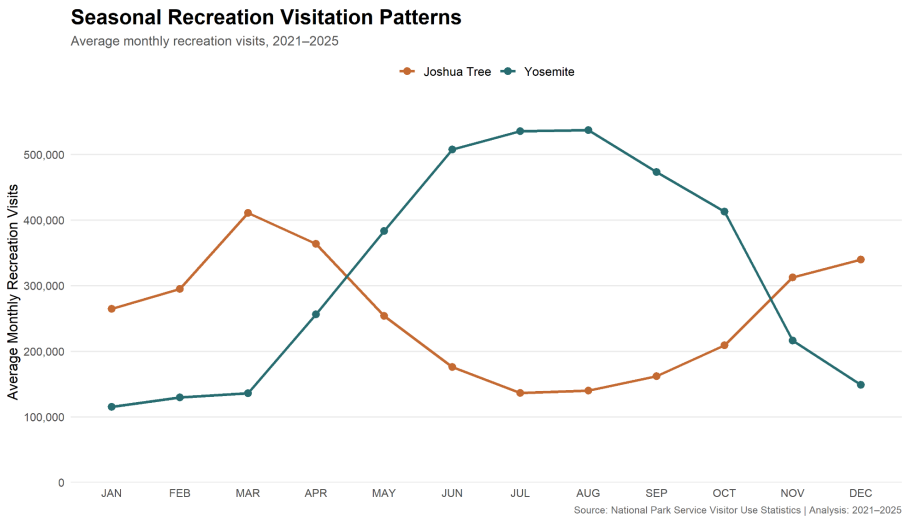

Figure 1. Seasonal Recreation Visitation Patterns. Each point averages the same calendar month's recreation visit counts across 2021–2025. Joshua Tree peaked in March at about 410,905 visits and Yosemite in August at about 537,020.

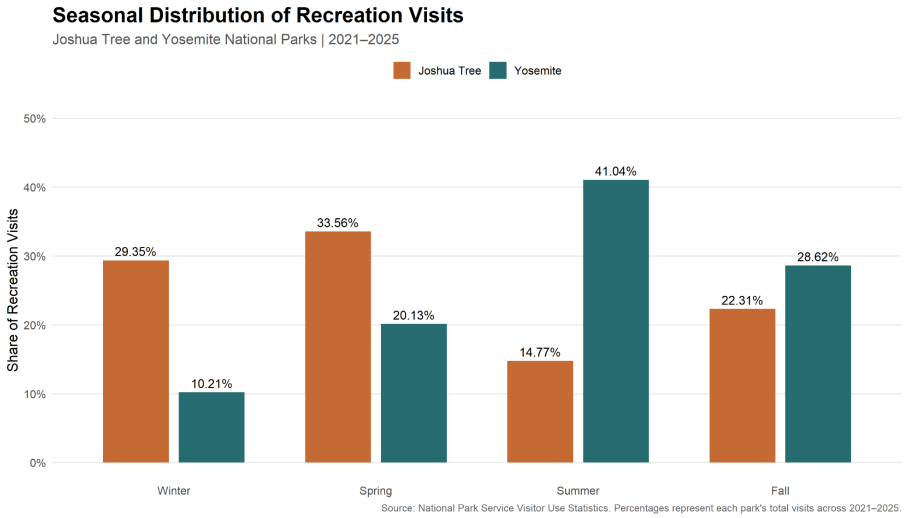

Figure 2. Seasonal Distribution of Recreation Visits. Each bar divides the season's visits by all visits to that park over 2021–2025. Winter groups January, February, and December within the same calendar year. Spring is March–May, summer June–August, and fall September–November.

Source for both figures: National Park Service Visitor Use Statistics, 2021–2025.

SEASONAL RECREATION VISITATION

Monthly Shares and Annual Trends

Joshua Tree and Yosemite National Parks | 2021–2025

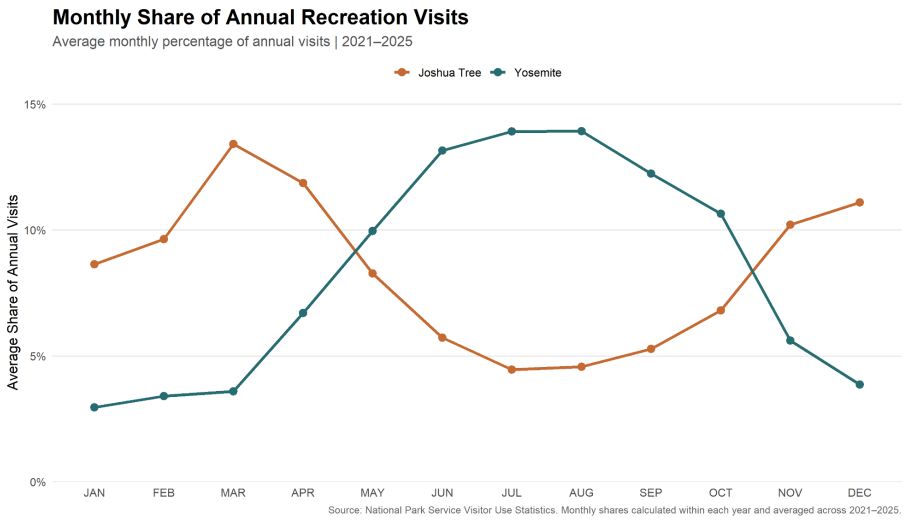

Figure 3. Monthly Share of Annual Recreation Visits. Each point averages five monthly percentages. Each percentage uses the annual total for the same park and year, giving all five years equal weight.

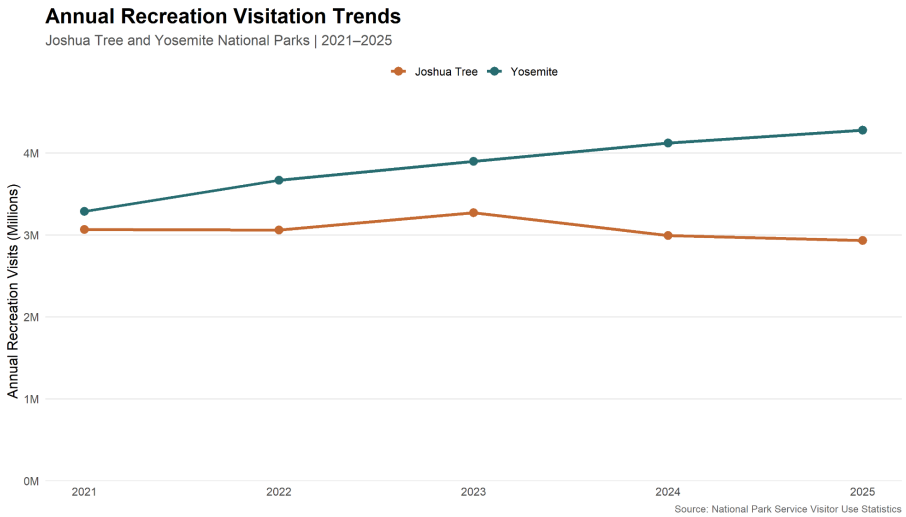

Figure 4. Annual Recreation Visitation Trends. The chart shows calendar-year totals in millions of recreation visits. Yosemite increased each year, and Joshua Tree recorded its highest count in 2023.

Source for both figures: National Park Service Visitor Use Statistics, 2021–2025.