

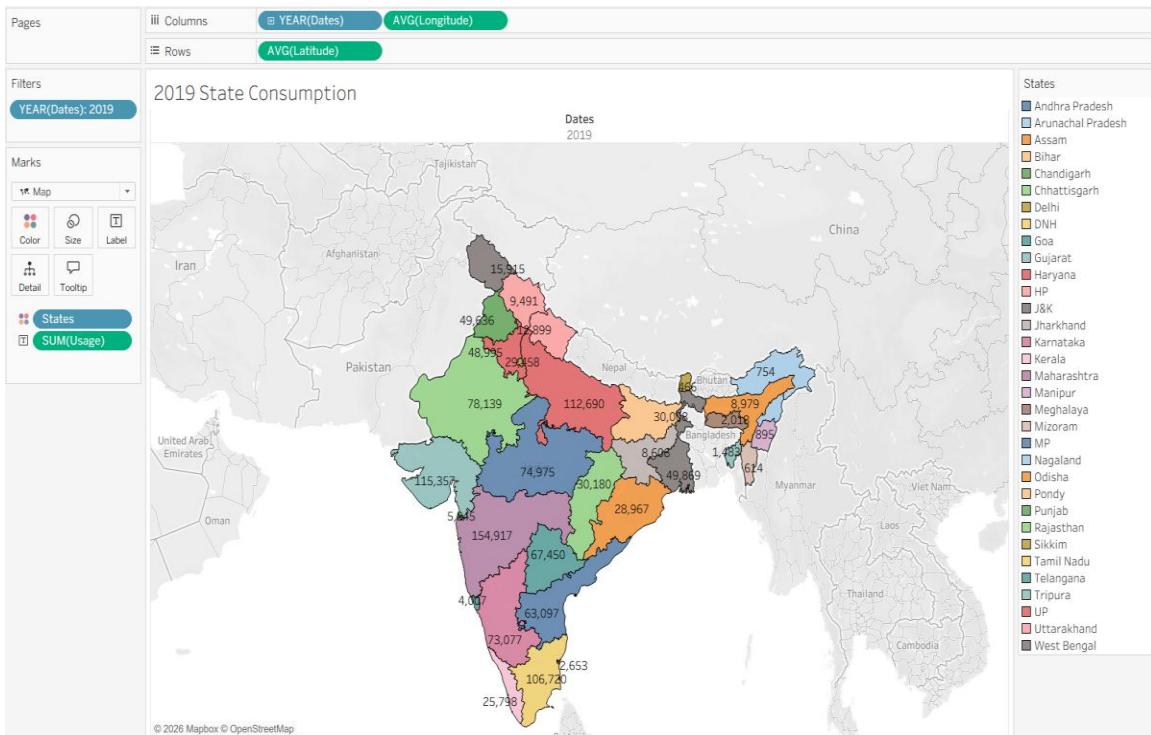
Plugging into Future Project

Preprocessing Steps

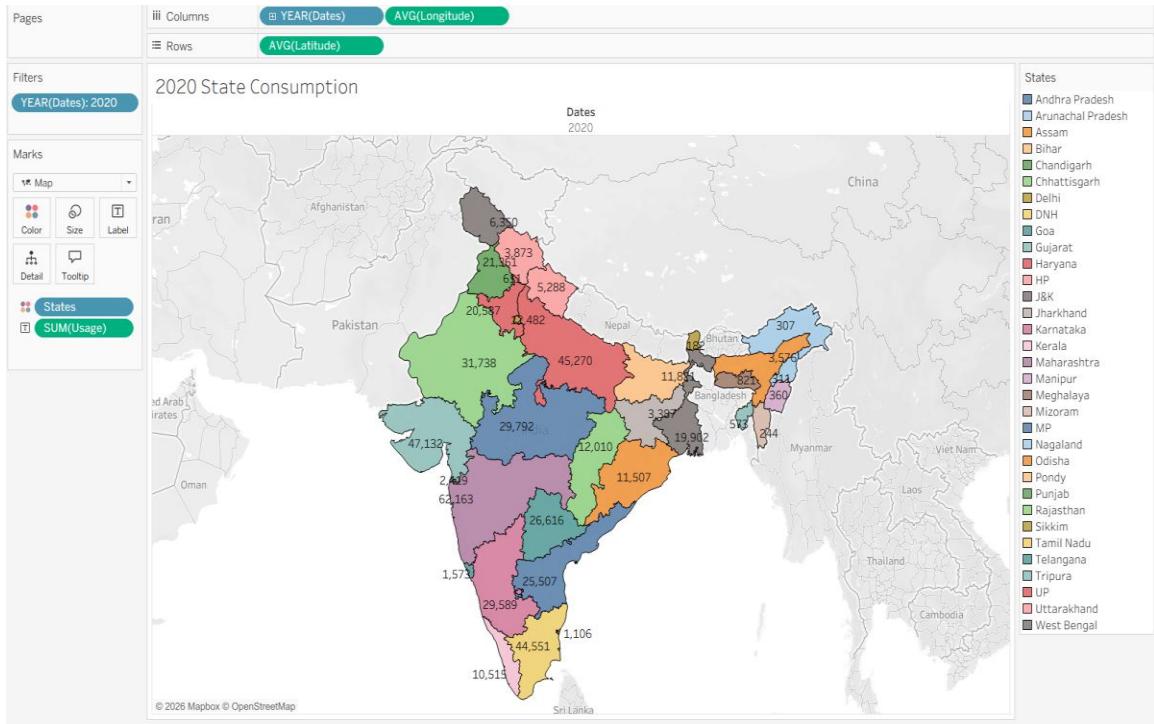
1. Imported electricity consumption dataset (CSV format).
2. Checked and handled missing/null values.
3. Standardized column names and data formats.
4. Converted year and month fields into proper date formats.
5. Aggregated data using SUM and GROUPBY (state, region, year, quarter).
6. Created calculated fields (Total Consumption, Regional Totals, Top/Bottom Rankings).
7. Filtered dataset for specific years (2019, 2020).
8. Separated pre-lockdown and during-lockdown data for comparison.
9. Prepared data for visualization-friendly structure (JSON format via Flask).

Business Questions with Visualization

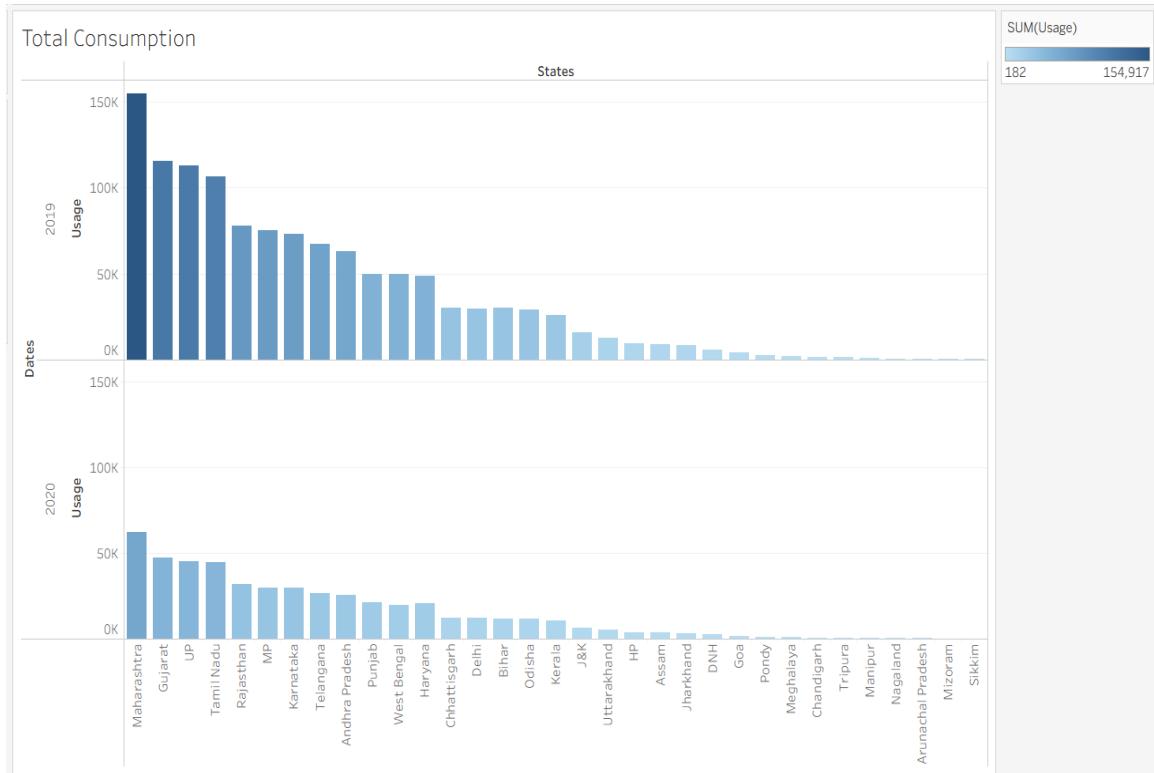
1. What was the state-wise electricity consumption in 2019?



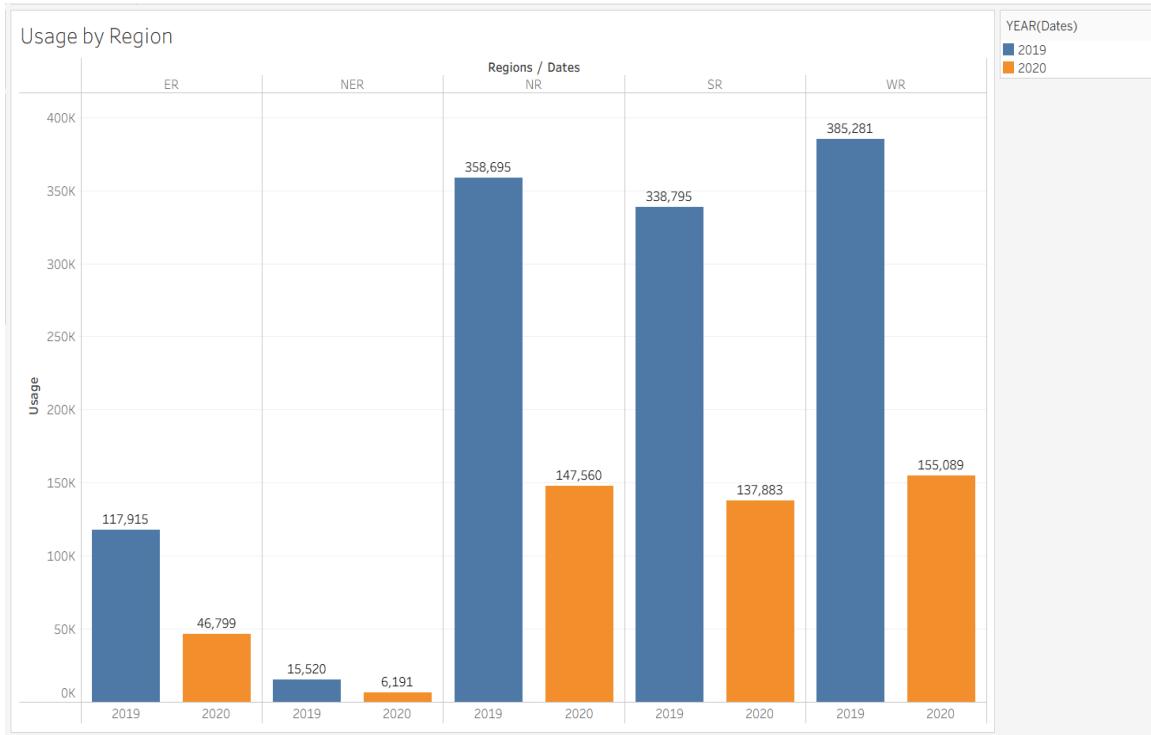
2. What was the state-wise electricity consumption in 2020?



3. What is the overall total electricity consumption?



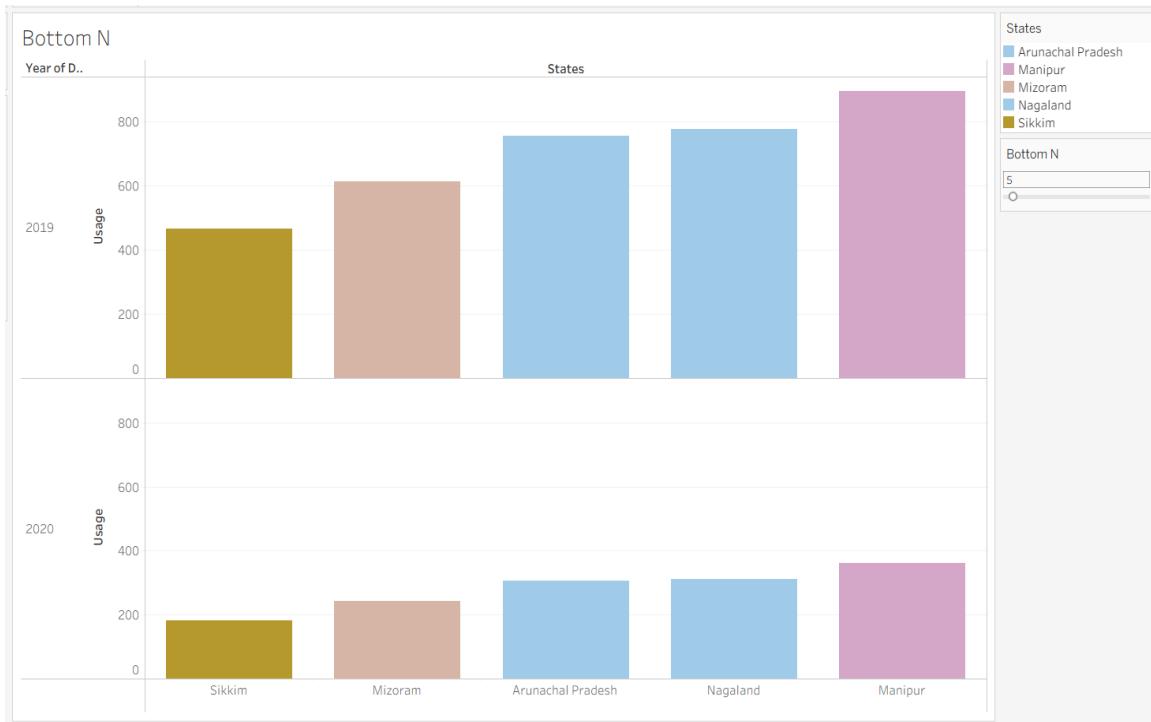
4. How does electricity usage vary by region?



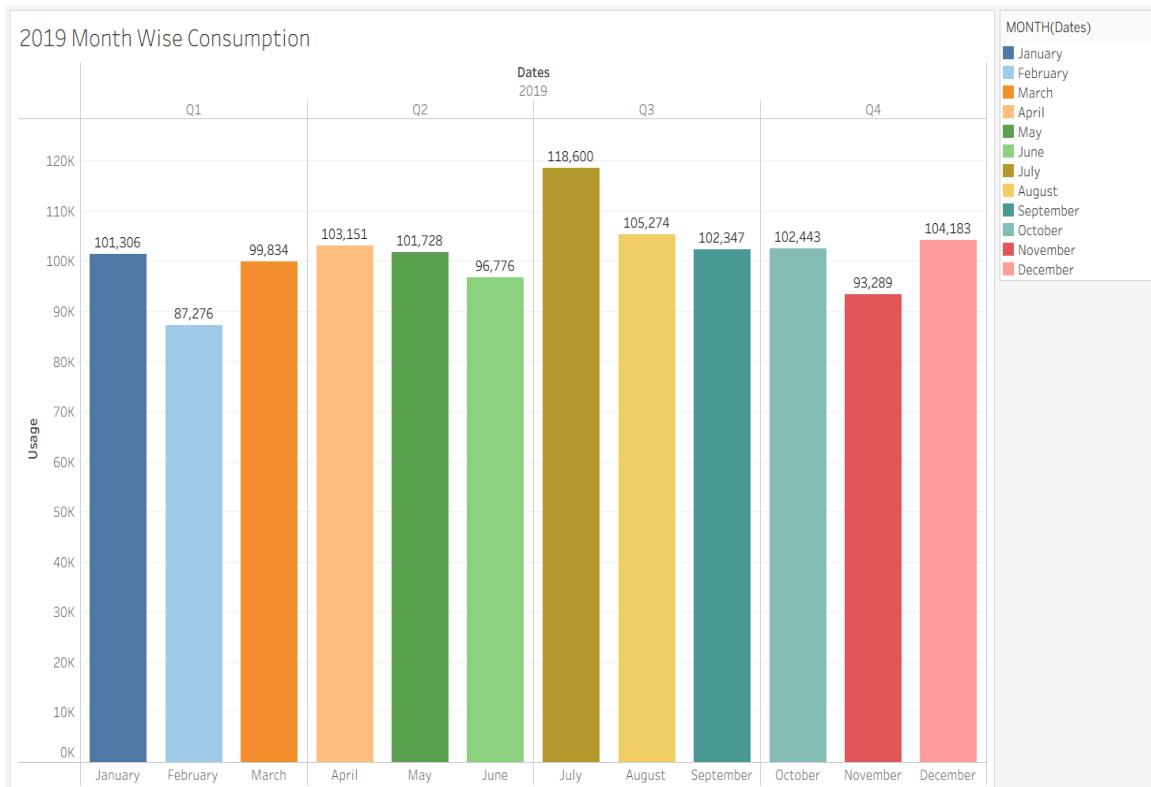
5. Which states have the highest electricity consumption?



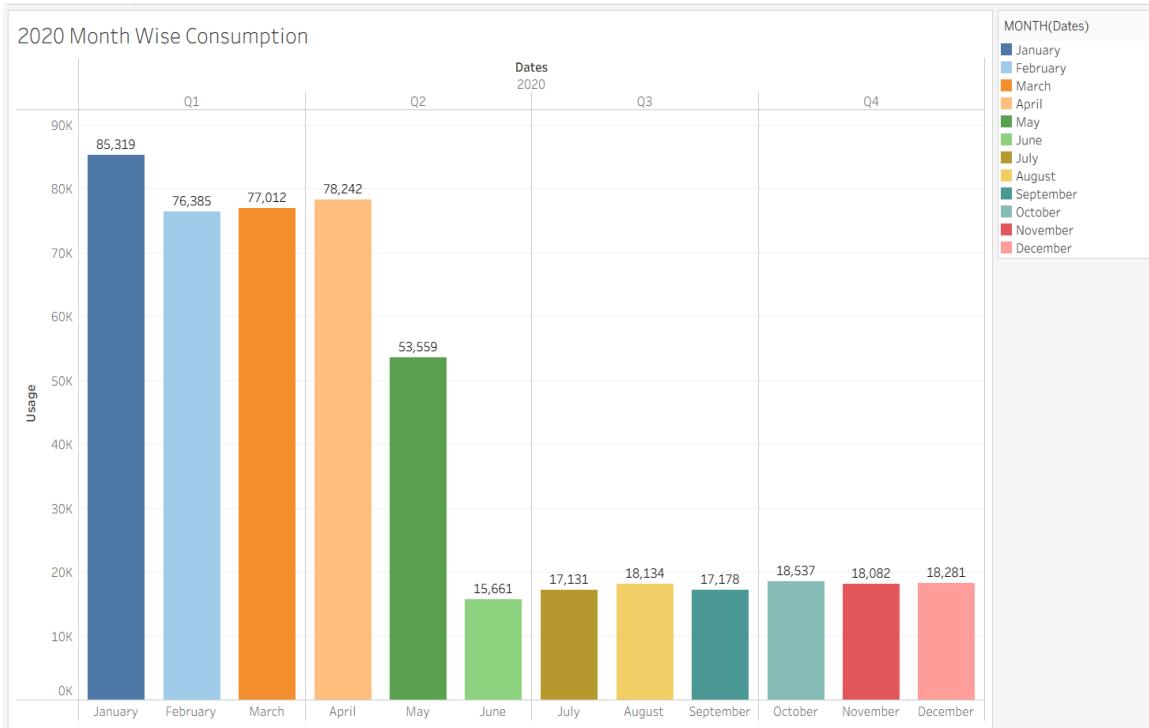
6. Which states have the lowest electricity consumption?



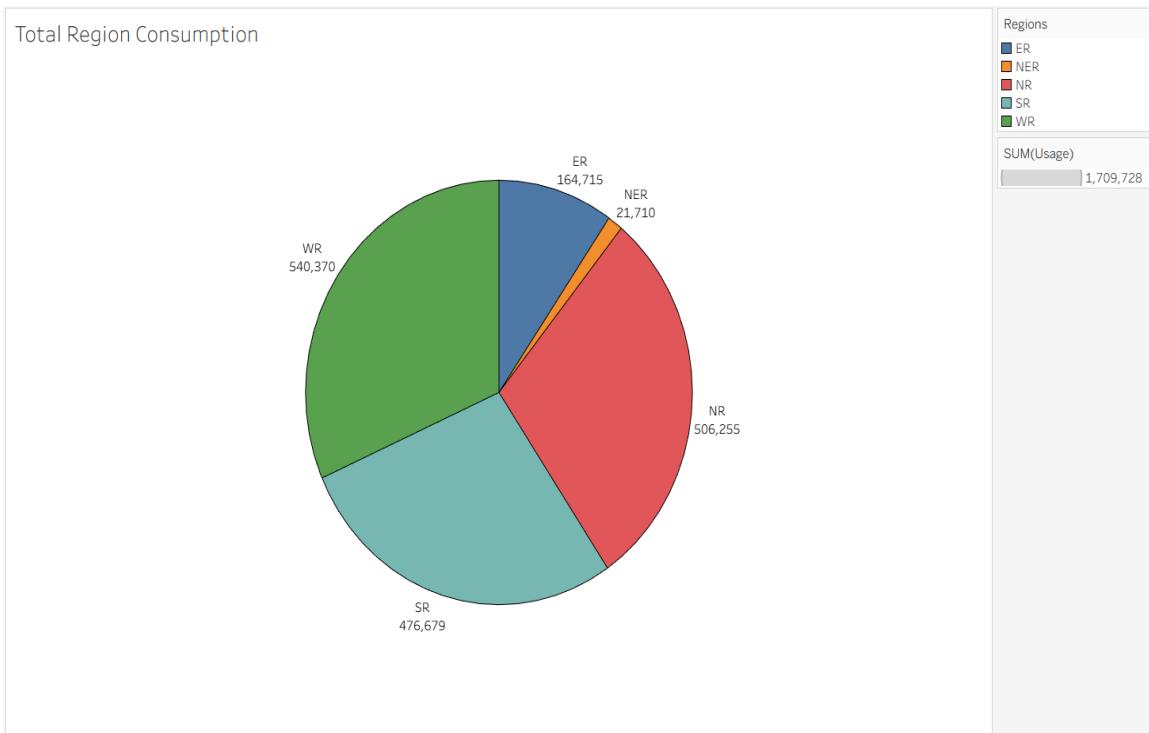
7. What was the month-wise consumption in 2019?



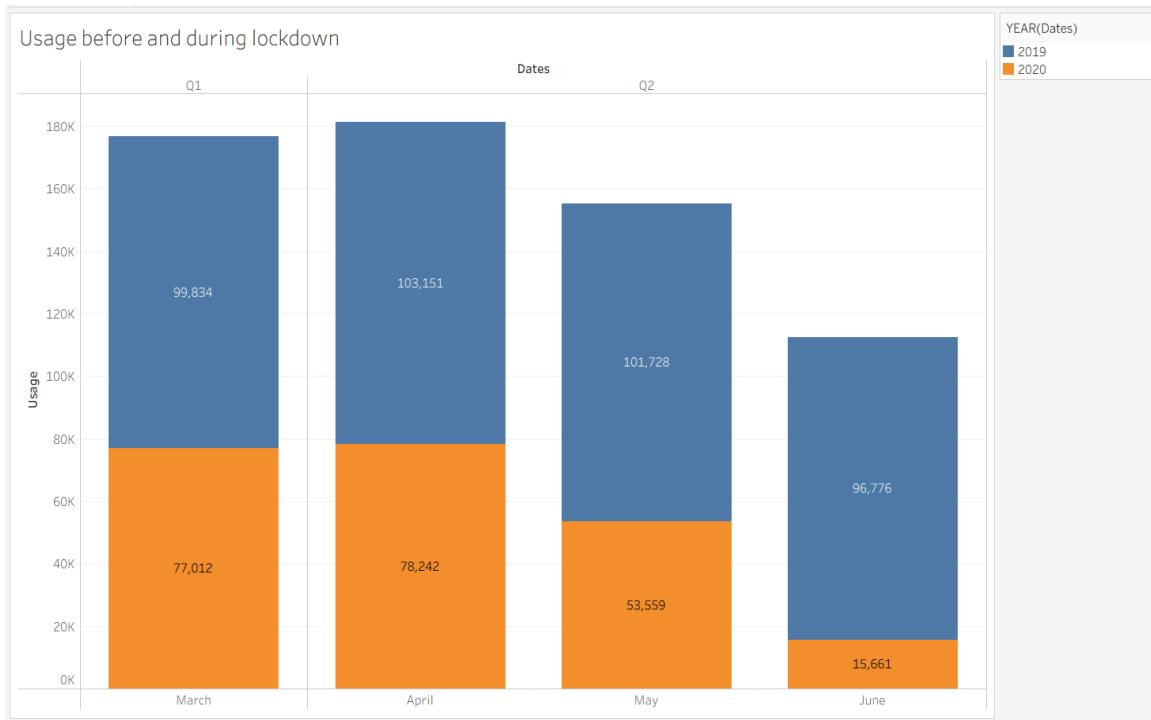
8. What was the month-wise consumption in 2020?



9. What is the total consumption by region?



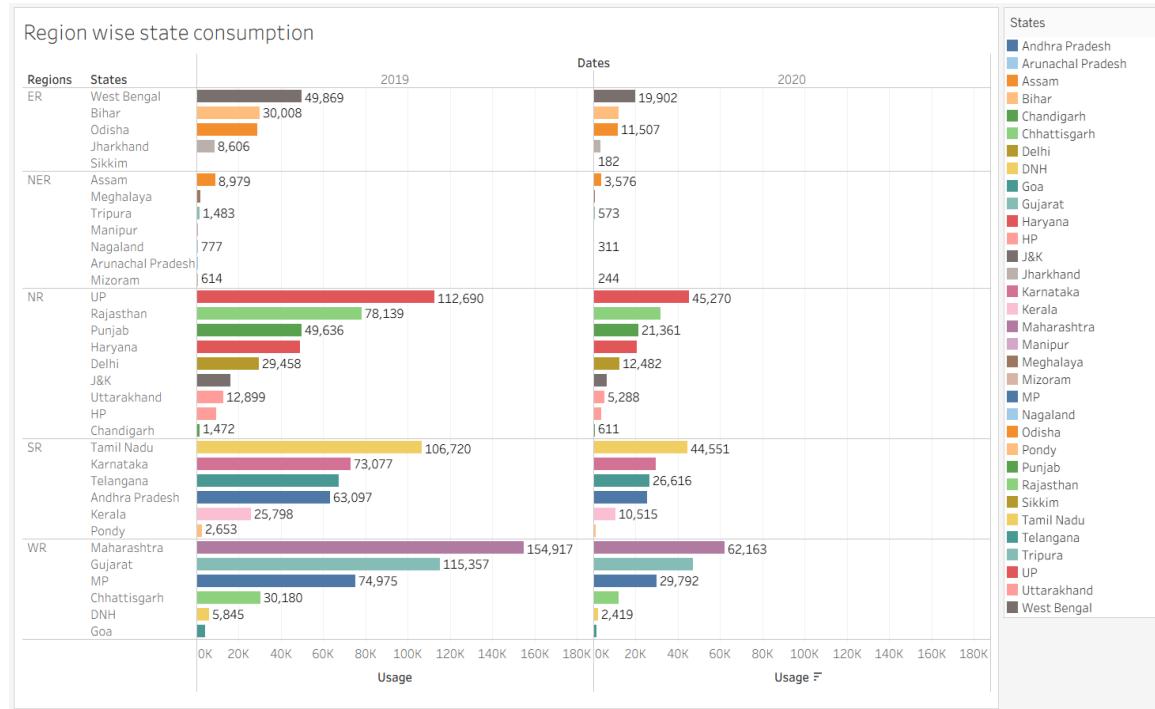
10. How did electricity usage change before and during lockdown?



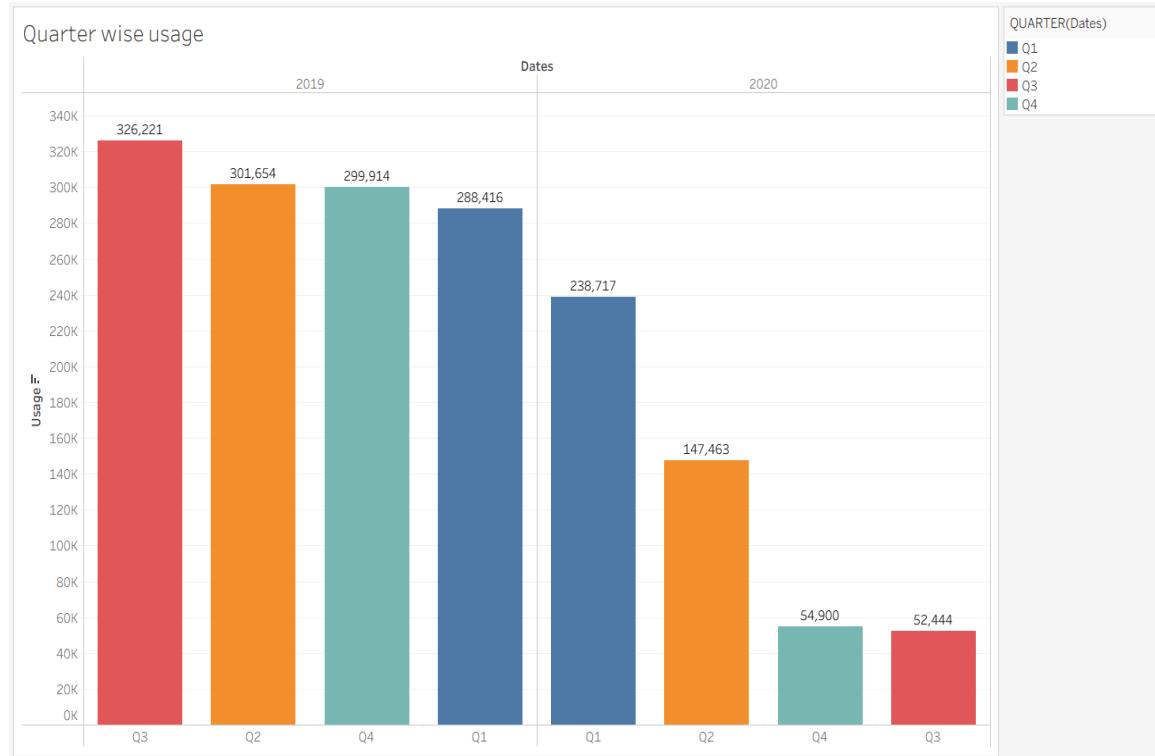
11. Which month recorded the highest consumption?



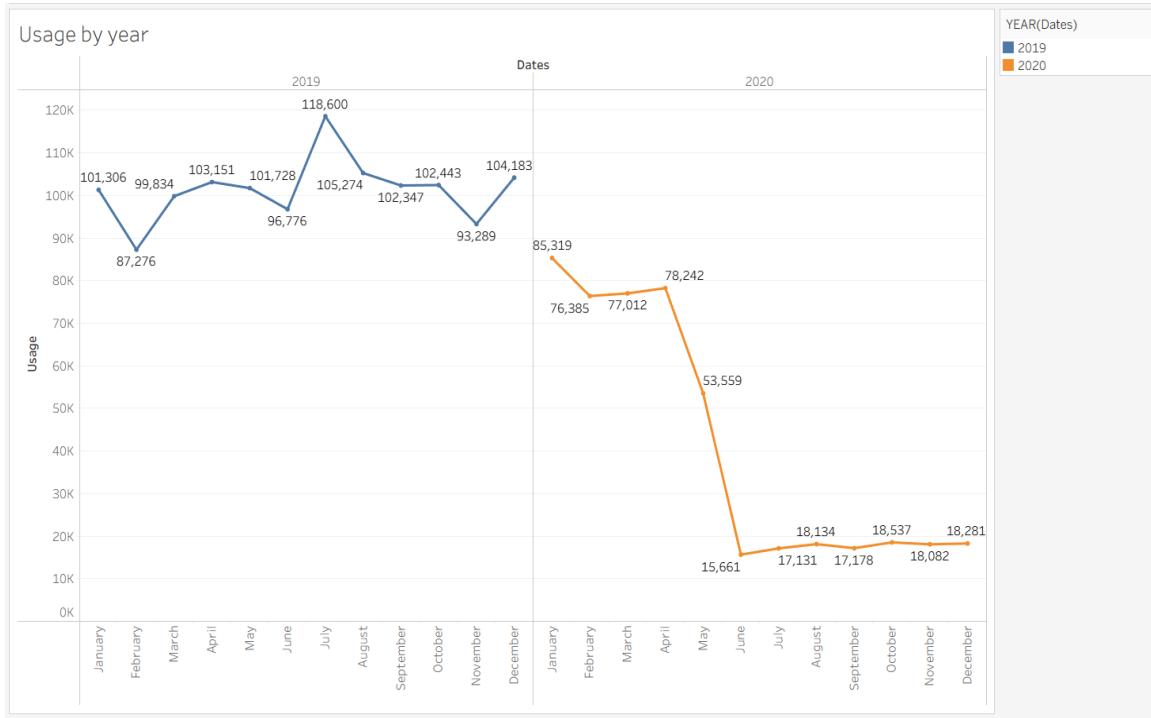
12. How does consumption vary state-wise within each region?



13. What is the quarter-wise electricity usage?



14. How has electricity consumption changed year-wise?



15. Which metro city states consume more electricity?



16. How does electricity consumption change year-wise across regions?

