

Shiny app Visualizations and Descriptions

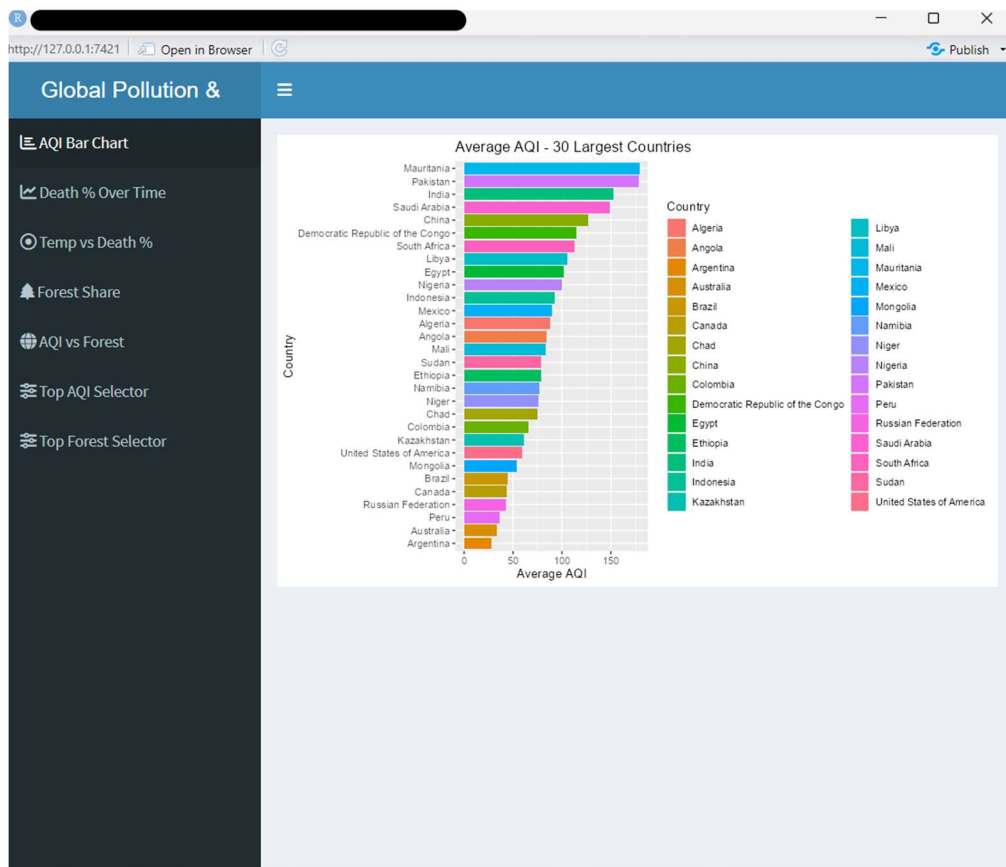
The overall Shiny app framework:

- **Description:** Organizes the visualizations in an interactive dashboard with tabs and sidebar menu, enabling navigation and user control.
- **Library/Technique:** shiny + shinydashboard

Visualizations:

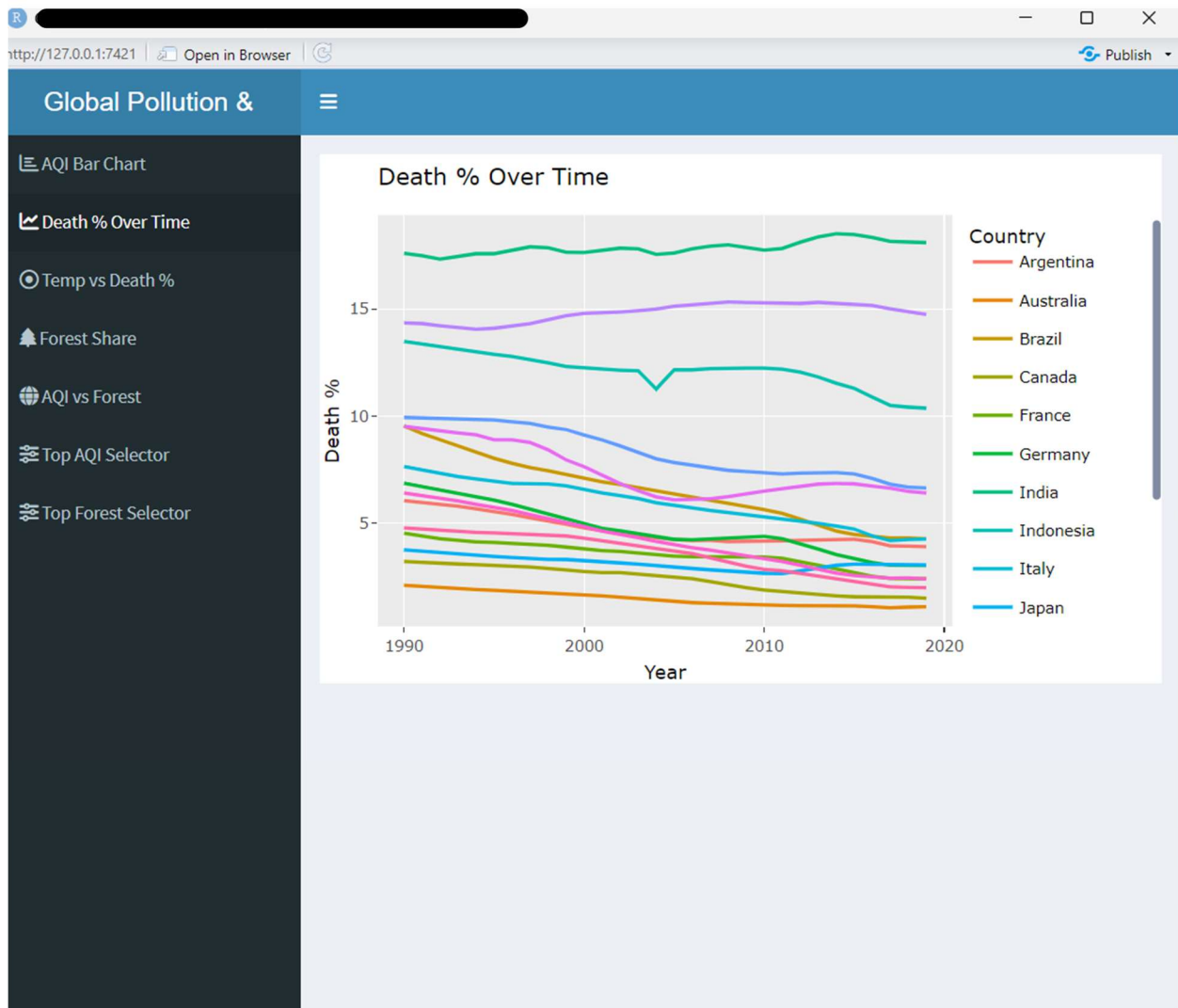
1. Average AQI - 30 Largest Countries

- **Description:** Horizontal bar chart showing the average Air Quality Index (AQI) for the 30 largest countries. Helps compare pollution levels across major countries.
- **Library/Technique:** ggplot2 (bar chart with geom_bar and coord_flip for horizontal bars)



2. Death % Over Time

- **Description:** Line chart tracking the percentage of deaths attributed to air pollution over time for G20 countries. Useful to analyze trends in air pollution-related mortality.
- **Library/Technique:** ggplot2 (line chart with geom_line) + plotly (converted using ggplotly for interactive features)



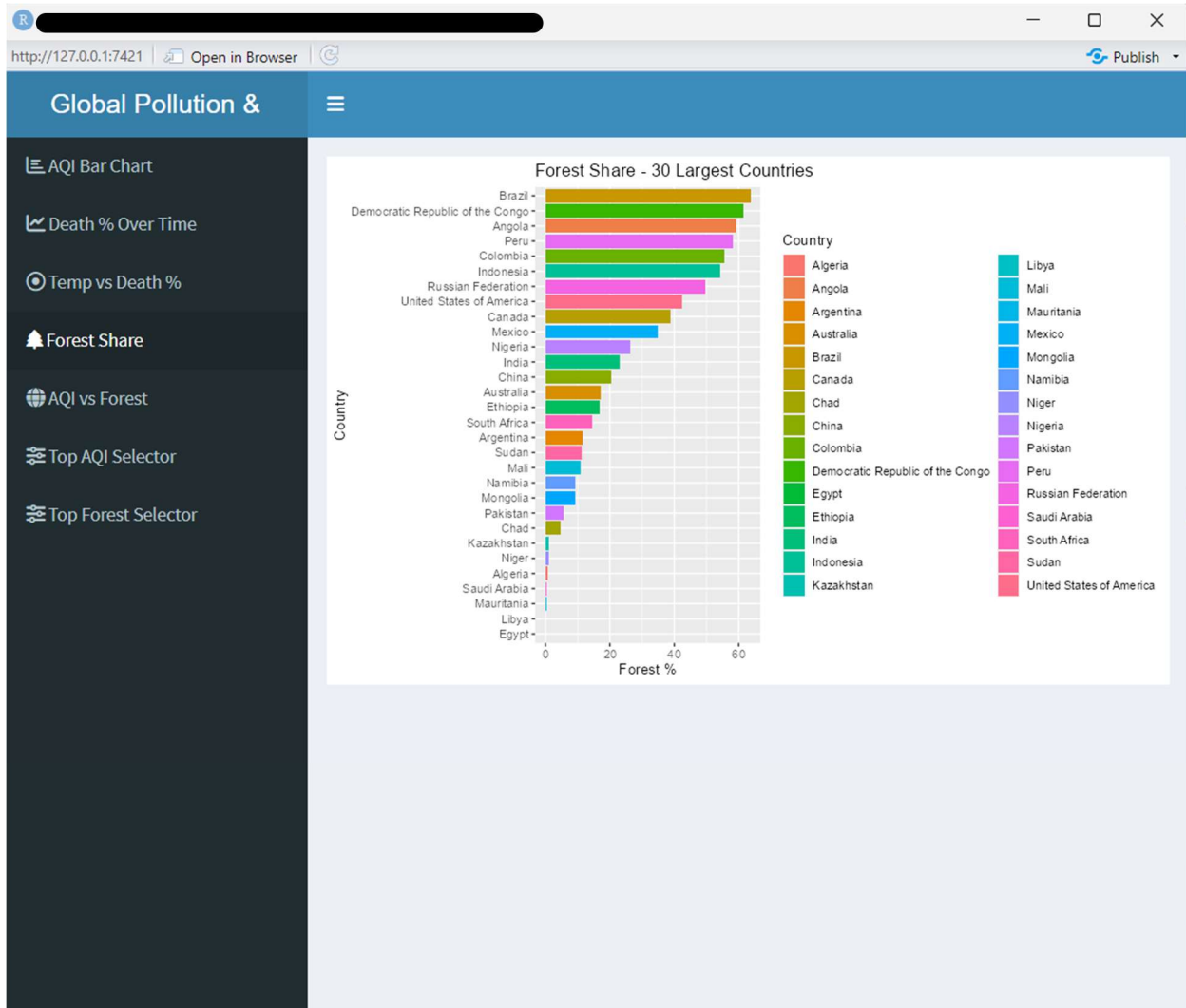
3. Temp Change vs Death %

- **Description:** Scatter plot showing the relationship between temperature change and percentage of deaths due to air pollution across G20 countries. Includes a linear regression trend line.
- **Library/Technique:** ggplot2 (geom_point + geom_smooth(method = 'lm')) + plotly (ggplotly for interactivity)



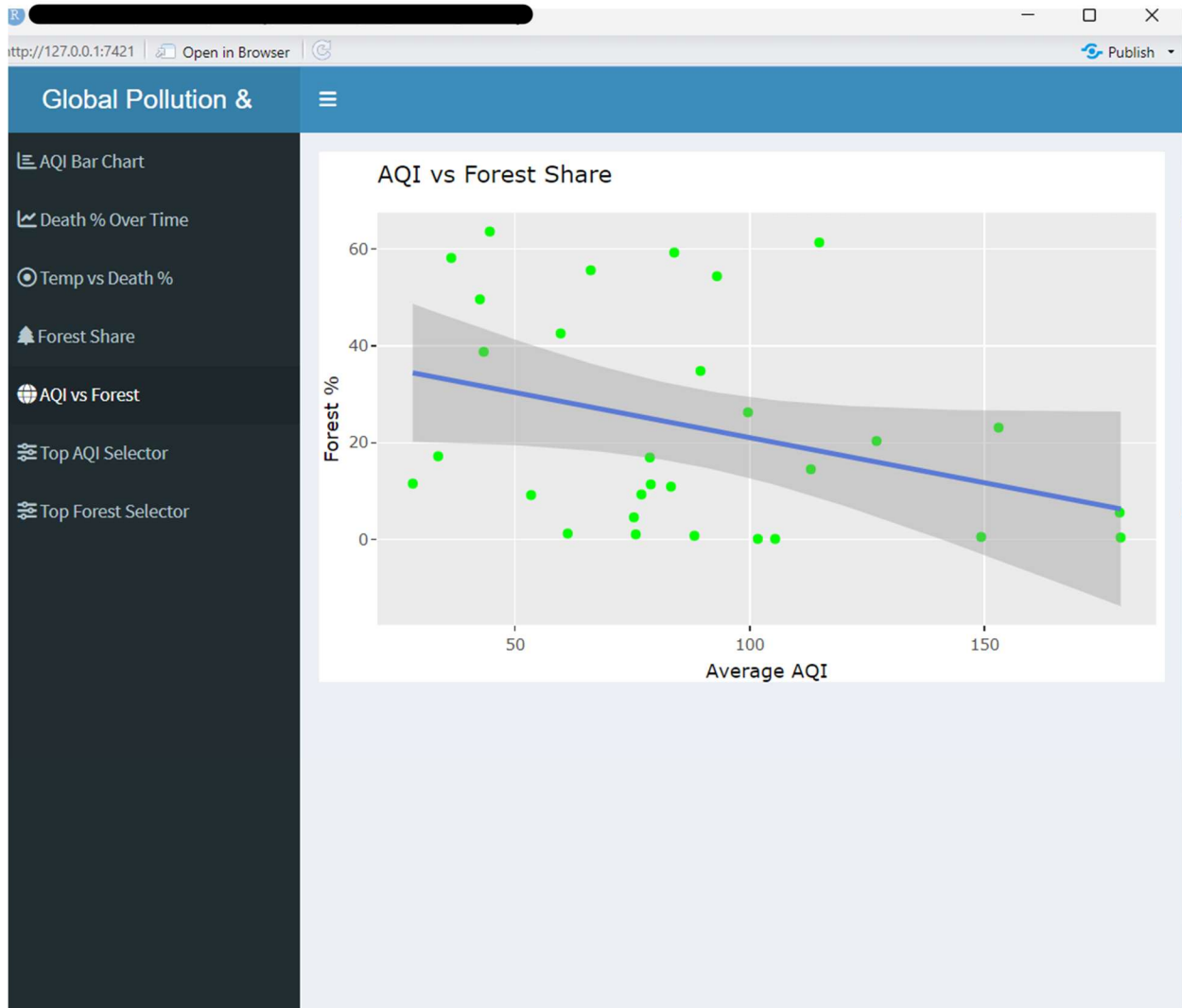
4. Forest Share - 30 Largest Countries

- **Description:** Horizontal bar chart showing average forest area share (%) for the 30 largest countries. This shows how much land is covered by forests relative to total area.
- **Library/Technique:** ggplot2 (geom_bar + coord_flip)



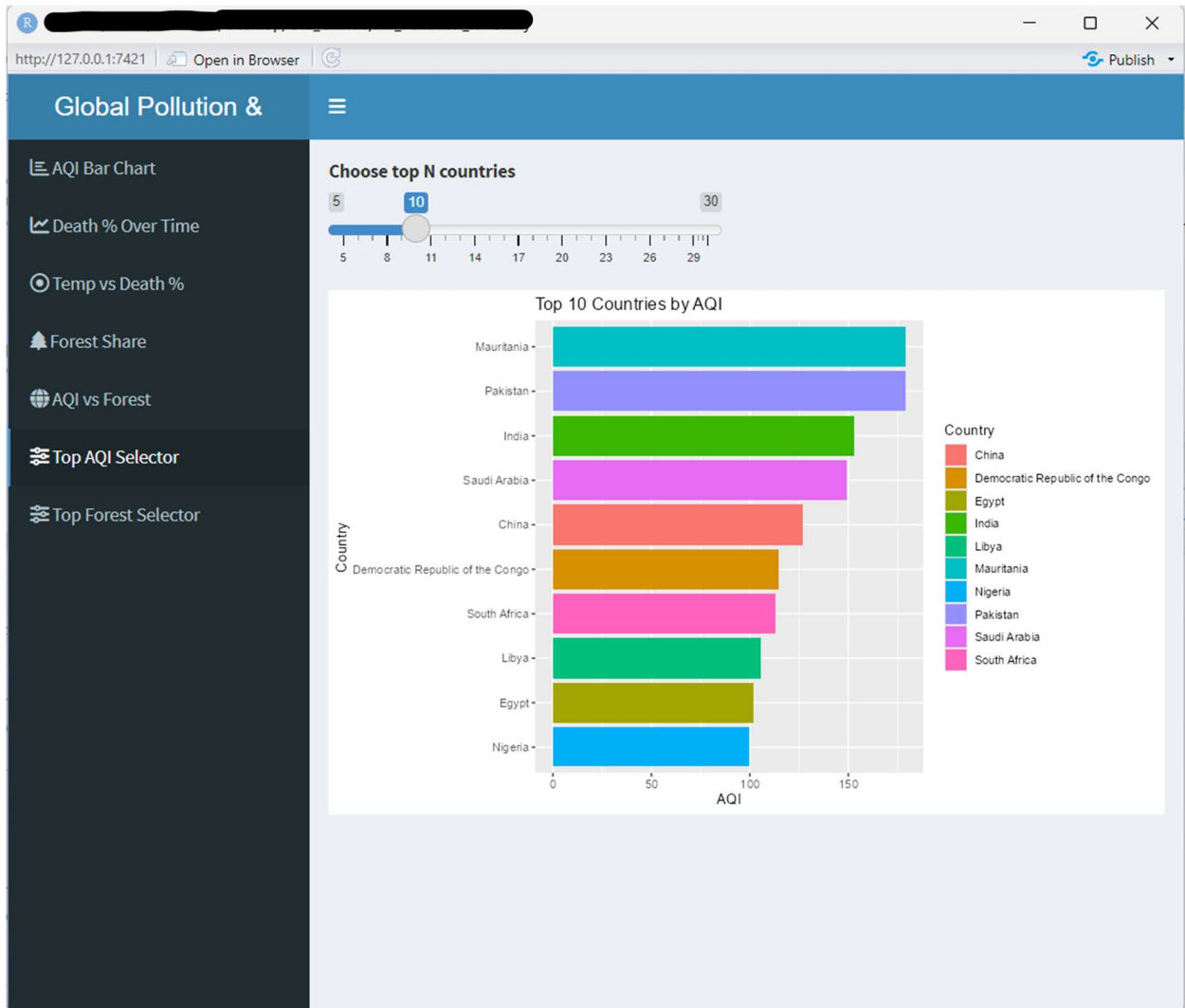
5. AQI vs Forest Share

- **Description:** Scatter plot comparing average AQI values with average forest share percentages for the largest countries. Includes a linear regression line showing correlation.
- **Library/Technique:** ggplot2 (geom_point + geom_smooth(method = 'lm')) + plotly (ggplotly)



6. Top N Countries by AQI (Selector)

- **Description:** Horizontal bar chart that dynamically displays the top N countries with the highest average AQI, where N is chosen by the user with a slider input.
- **Library/Technique:** ggplot2 (geom_bar + coord_flip) + Shiny input control (sliderInput)



7. Top N Countries by Forest Share (Selector)

- **Description:** Horizontal bar chart dynamically showing the top N countries by average forest share percentage, with user input for N via a numeric input control.
- **Library/Technique:** ggplot2 (geom_bar + coord_flip) + Shiny input control (numericInput)

