Tiger Terrains and Timelines: Visualizing India's Tiger Territories 🐯

Background

- The recent report on the status of tigers by the National Tiger Conservation Authority (NTCA) of India estimates a significant increase in the tiger population across the country.
- The tiger-populated habitats within the nation have been categorized into 5 landscapes viz.
  - Shivalik Hills and Gangetic Plains,
  - Central Indian and Eastern Ghats,
  - Western Ghats,
  - Northeast Hills and Brahmaputra Flood Plains, and
  - Sundarbans

Aim

- The present work aims to visualize these landscapes as an interactive 3D model using spatial data, and the tiger population using a line plot.
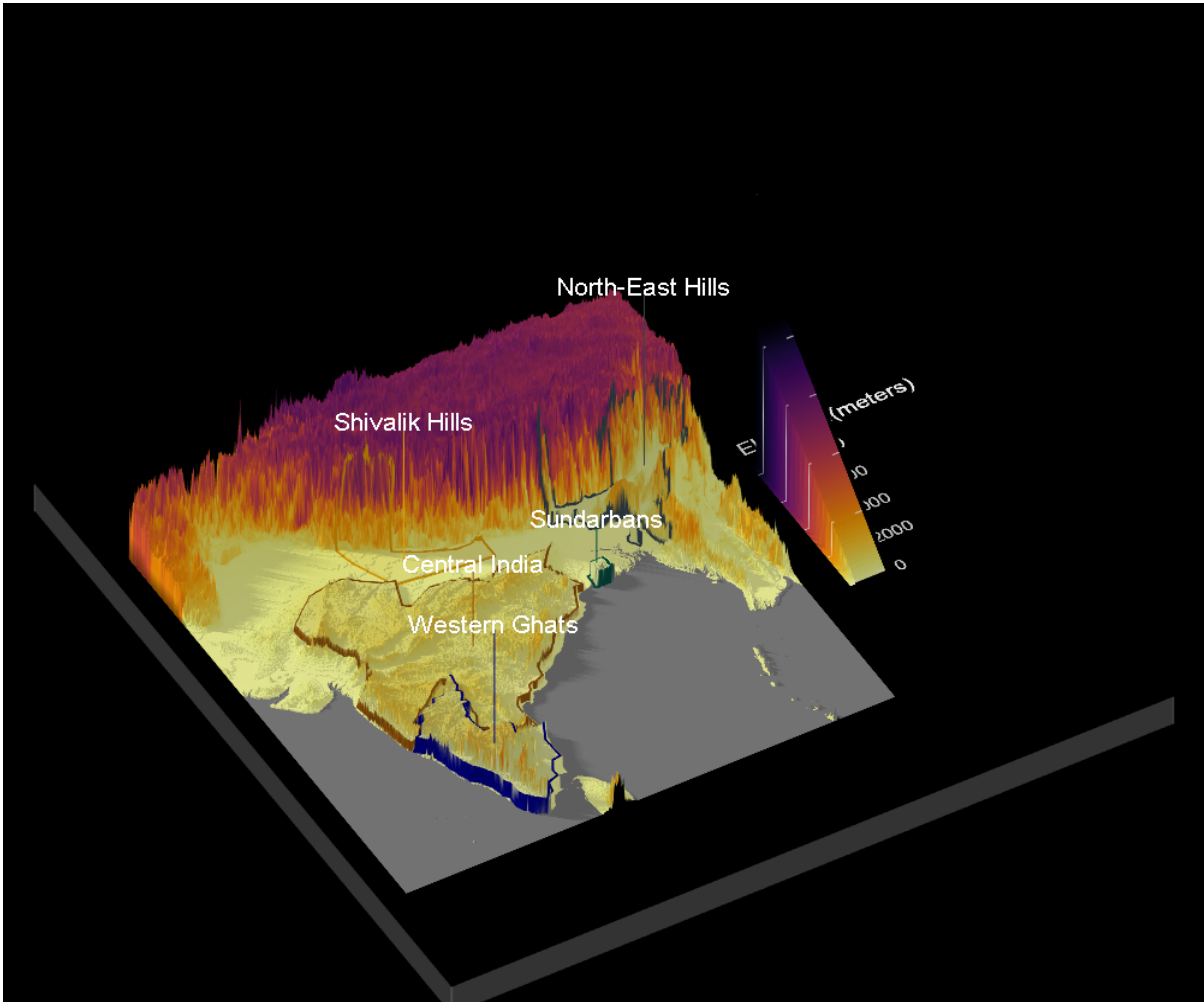
[Check the dashboard now!!](#)

Data

- The [NTCA report](#) - obtained from [NTCA official website](#)
- [Spatial data](#) of India
- The `xlsx` files titled `central_ind_data.xlsx`, `north_east_data.xlsx`, `shivalik_data.xlsx`, `sundarbans_data.xlsx`, and `west_ghats_data.xlsx` contain the latitude and longitude coordinates of each habitat which were mapped manually from the NTCA report
- The `line_plot_data.xlsx` file was developed based on the Tabular data in `Table 1.3.2` of the NTCA report
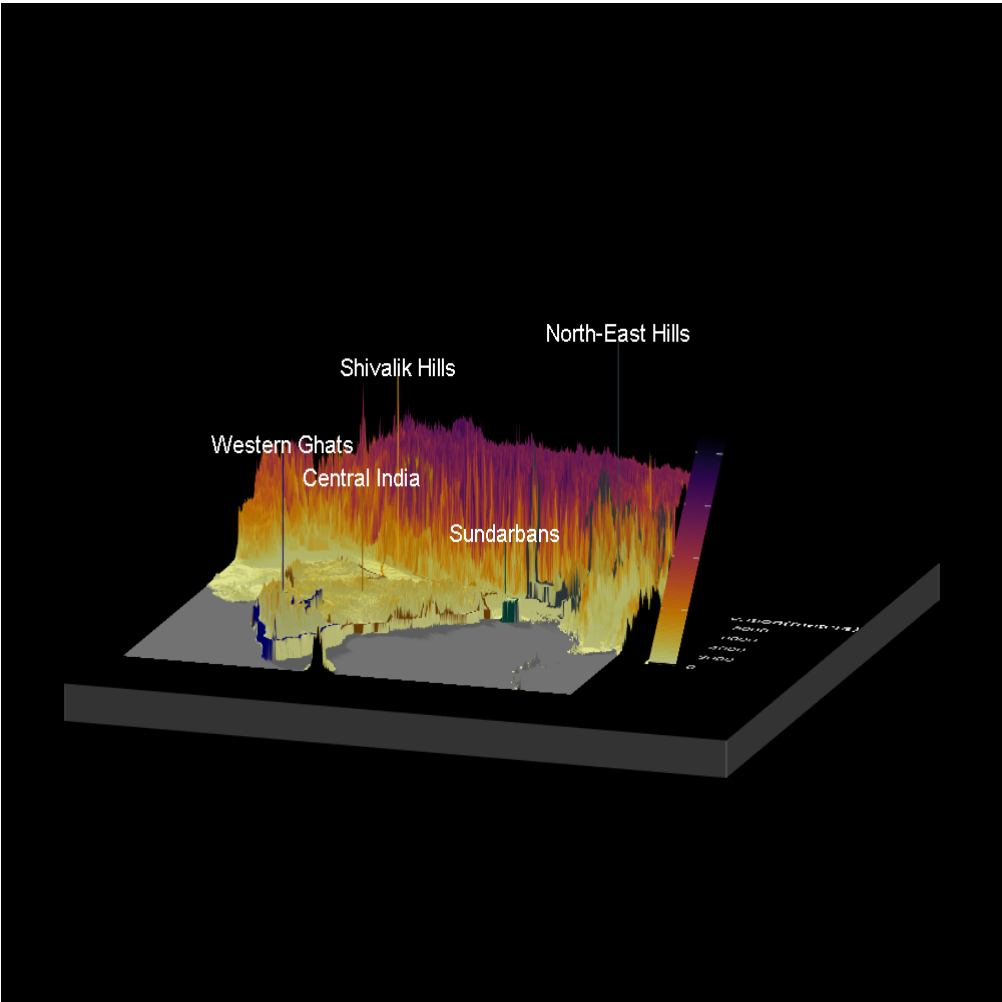
Visualisations (Glimpse!)

- For the 3D plot,
  - the Indian terrain spatial data available online was used.
  - Then, the latitude and longitude coordinates of the landscapes mapped manually using the NTCA report were plotted over the terrain.
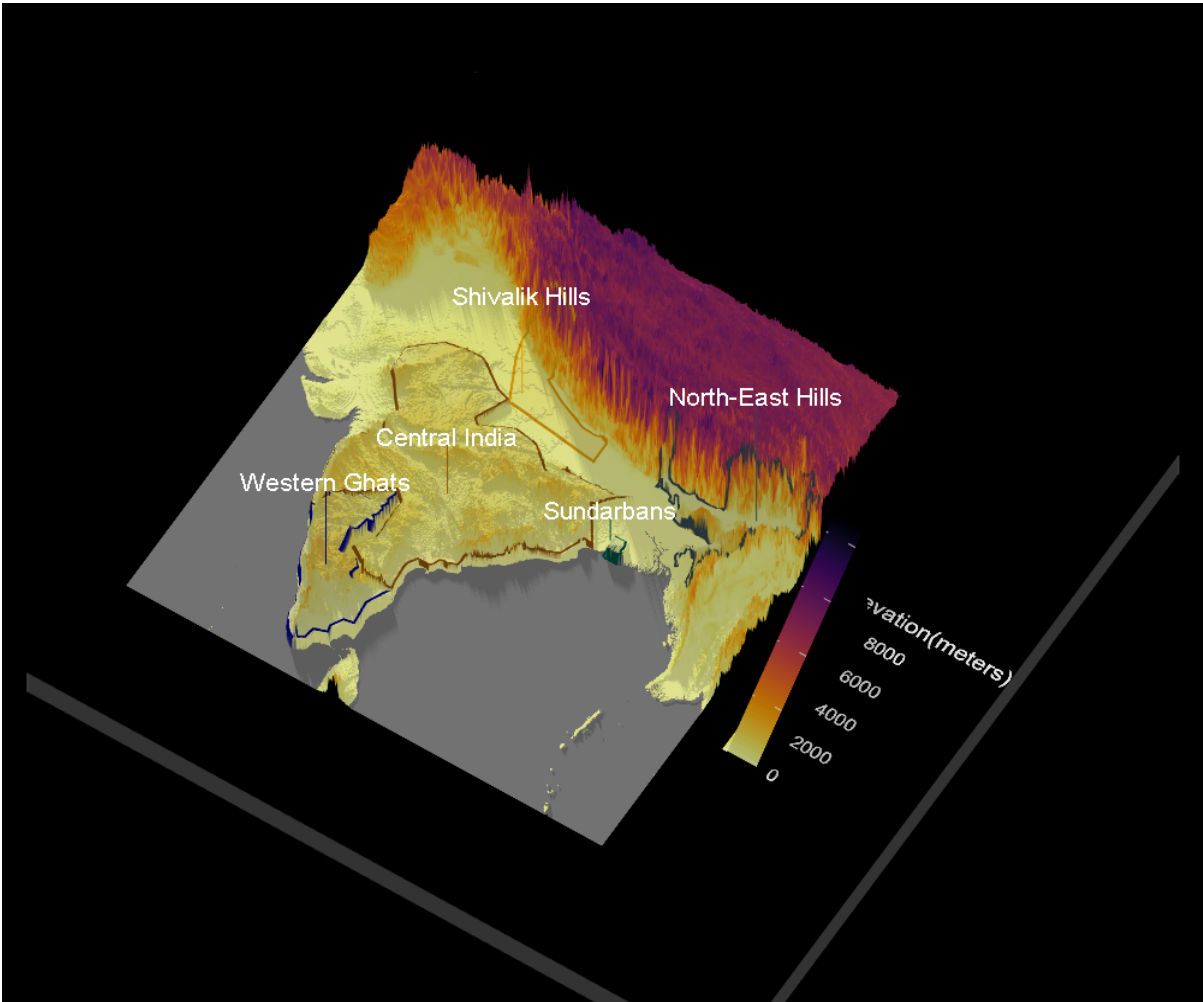 - This mapping process was the most challenging task.

3D Plot - Perspective 1
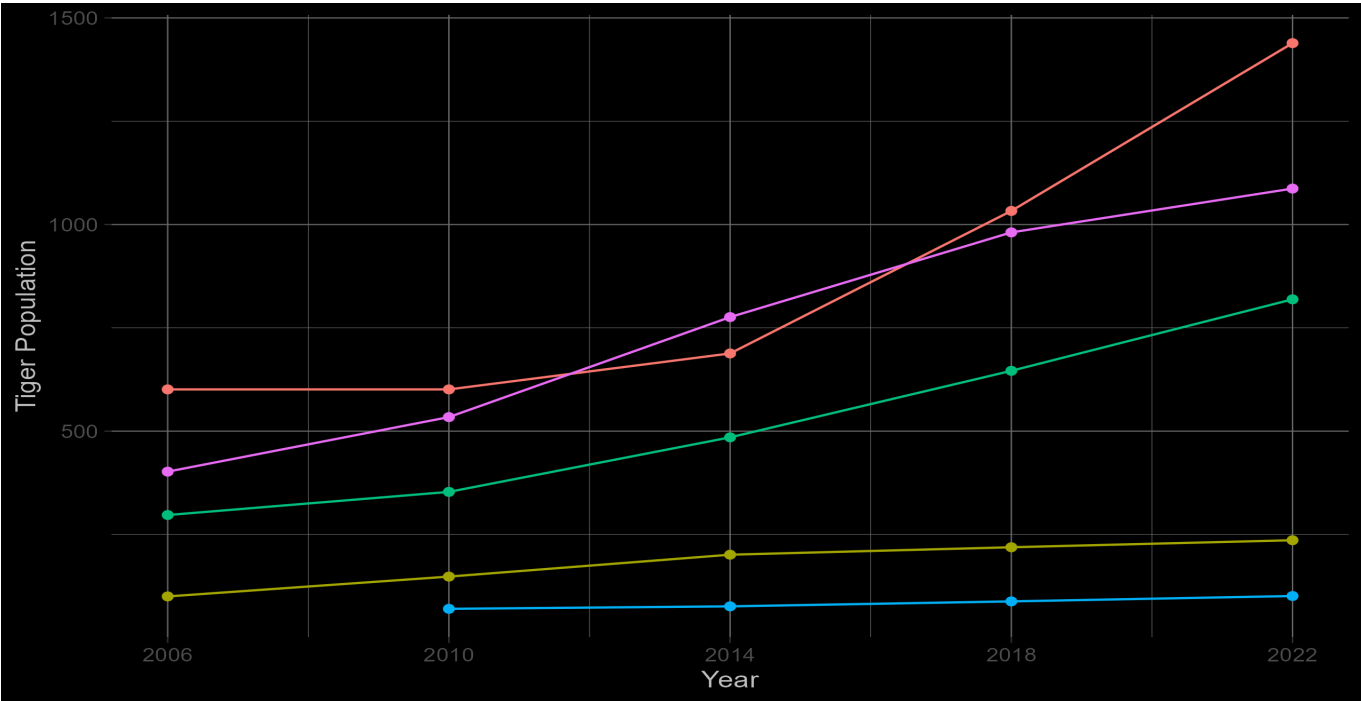
3D Plot - Perspective 2

3D Plot - Perspective 3

- Further, the tiger population estimates from the report were extracted and presented as a line plot in plotly (the plot below is a static version!).

Line Plot

- It can be observed from the plot that there has been an increase in the number of tigers since 2006.
- Hopefully, the conservation efforts will continue to yield much better results. 🤞🤞

Repo Organization

The following are the folders involved in the Project repository.

- **dashboard.qmd:** The source code file.

- **data/:** Used for storing any necessary data files for the project, such as input files.

- **figures/:** Used for storing the output images.

- **sandbox/:** This is the workspace for *Brainstorming* (Does not impact the workflow).