

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

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## 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!!](#)

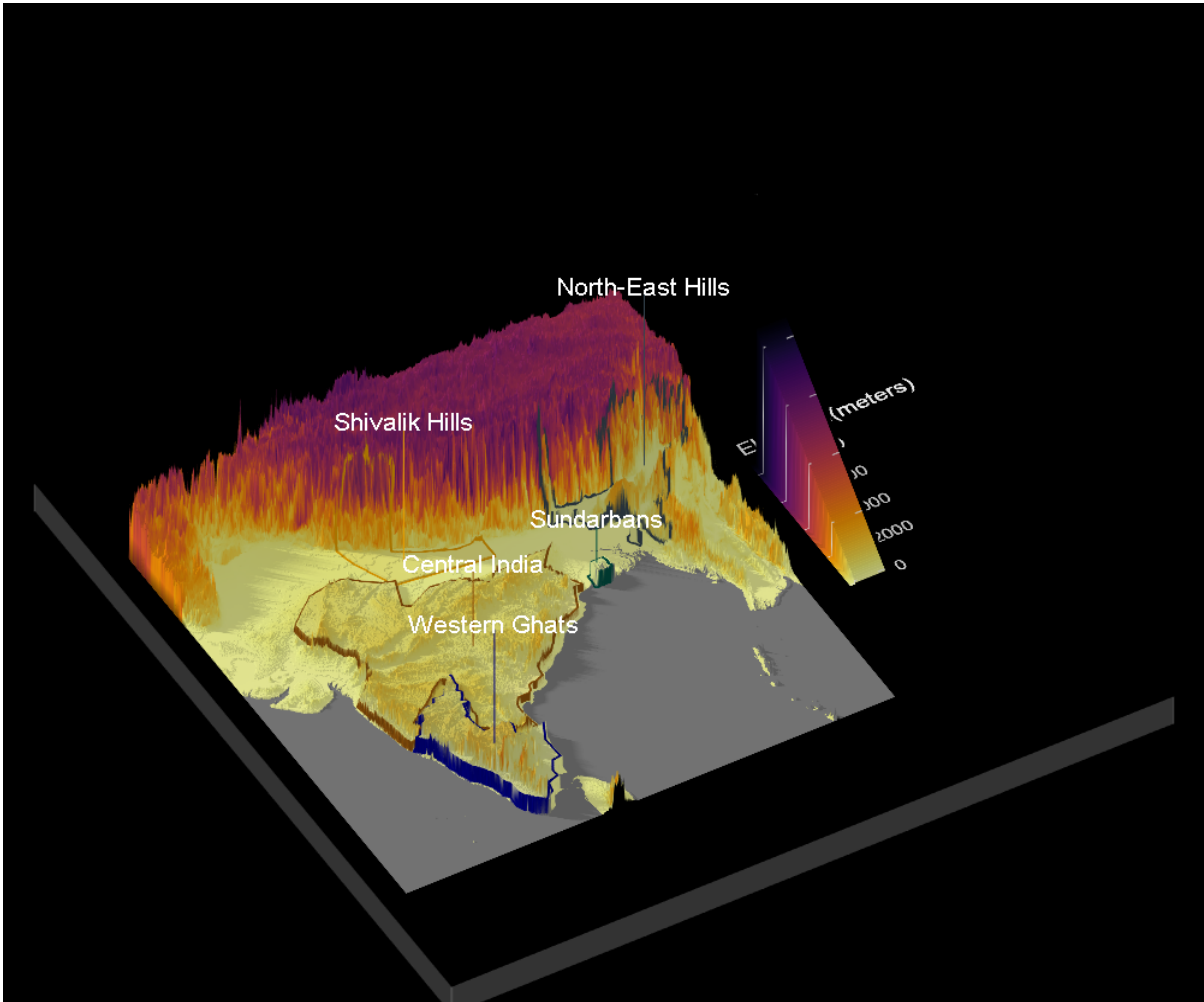
## Data

- 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

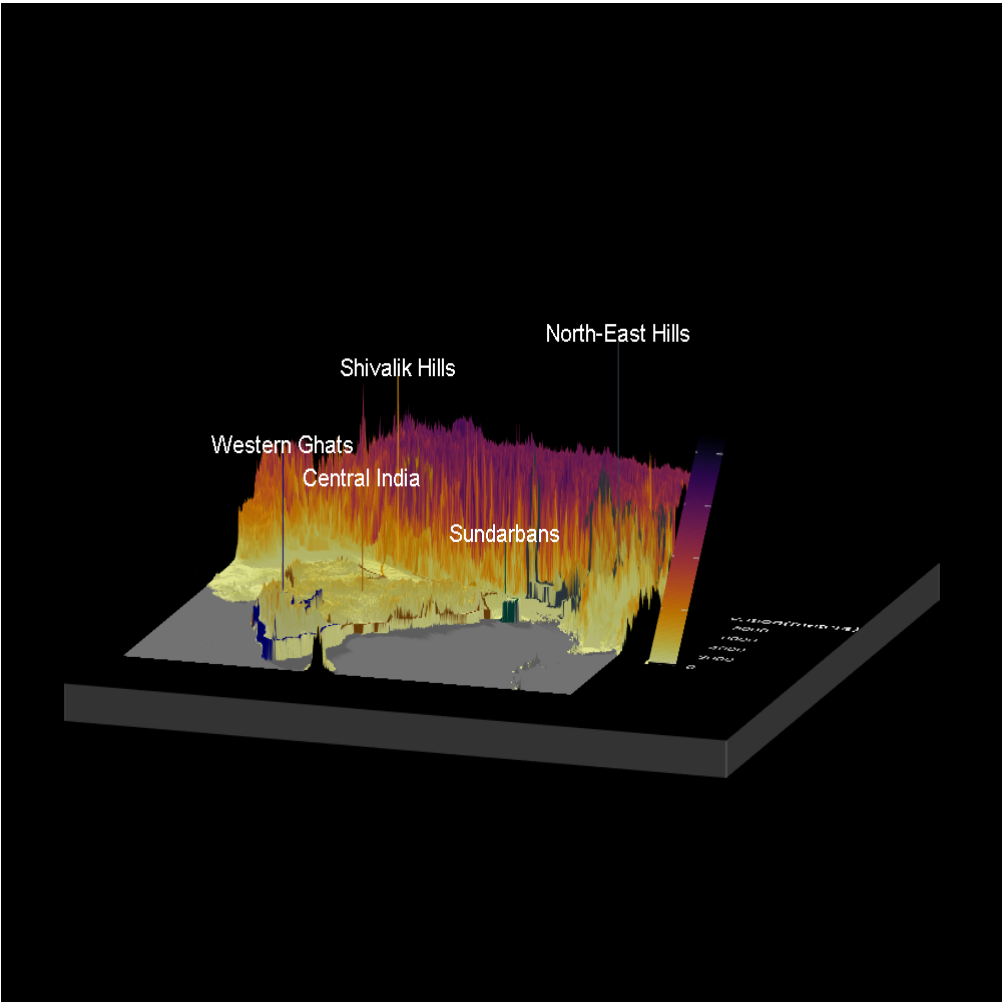
## Visualisations (Glimpse!)

- 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.

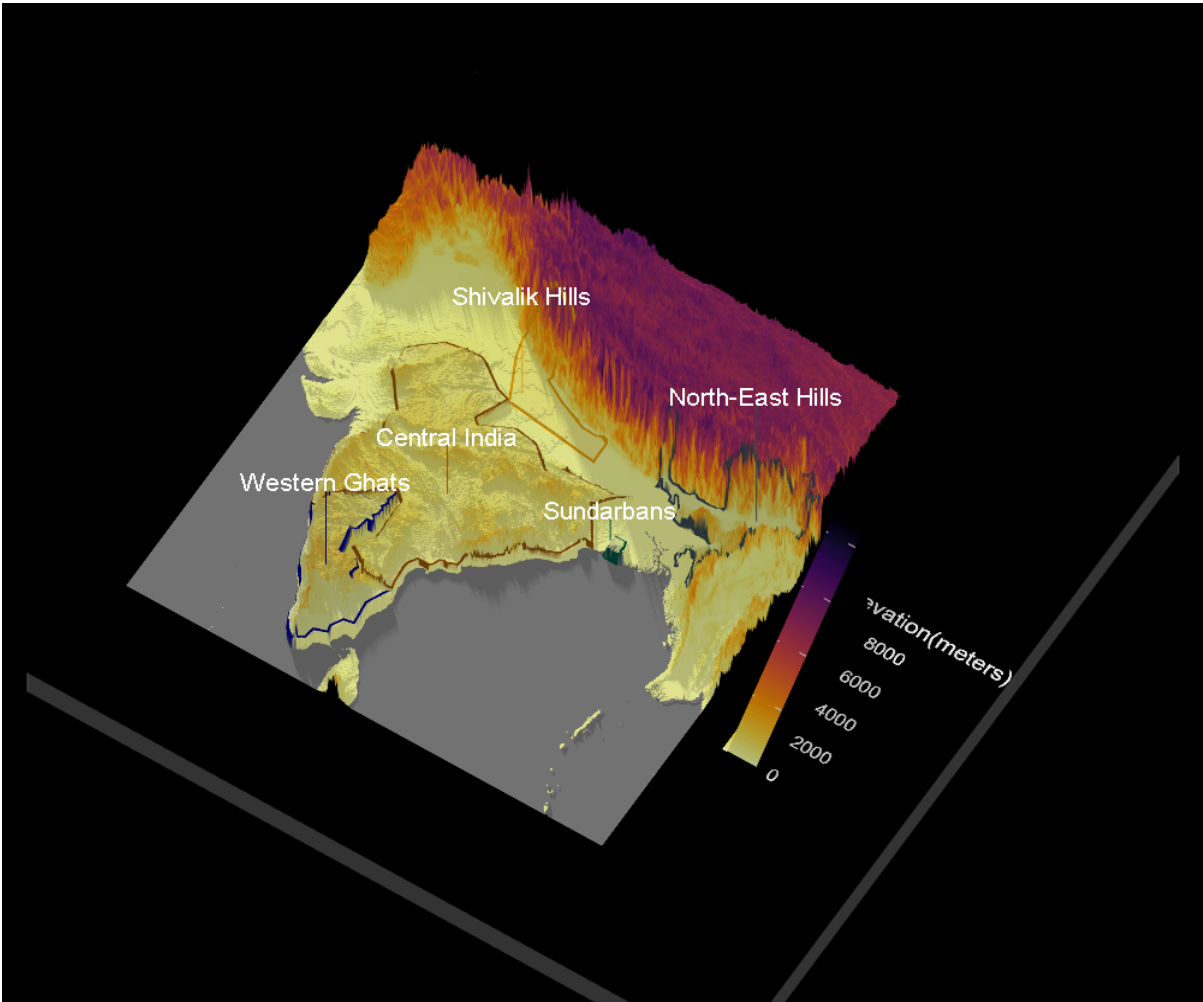
3D Plot - Perspective 1



3D Plot - Perspective 2

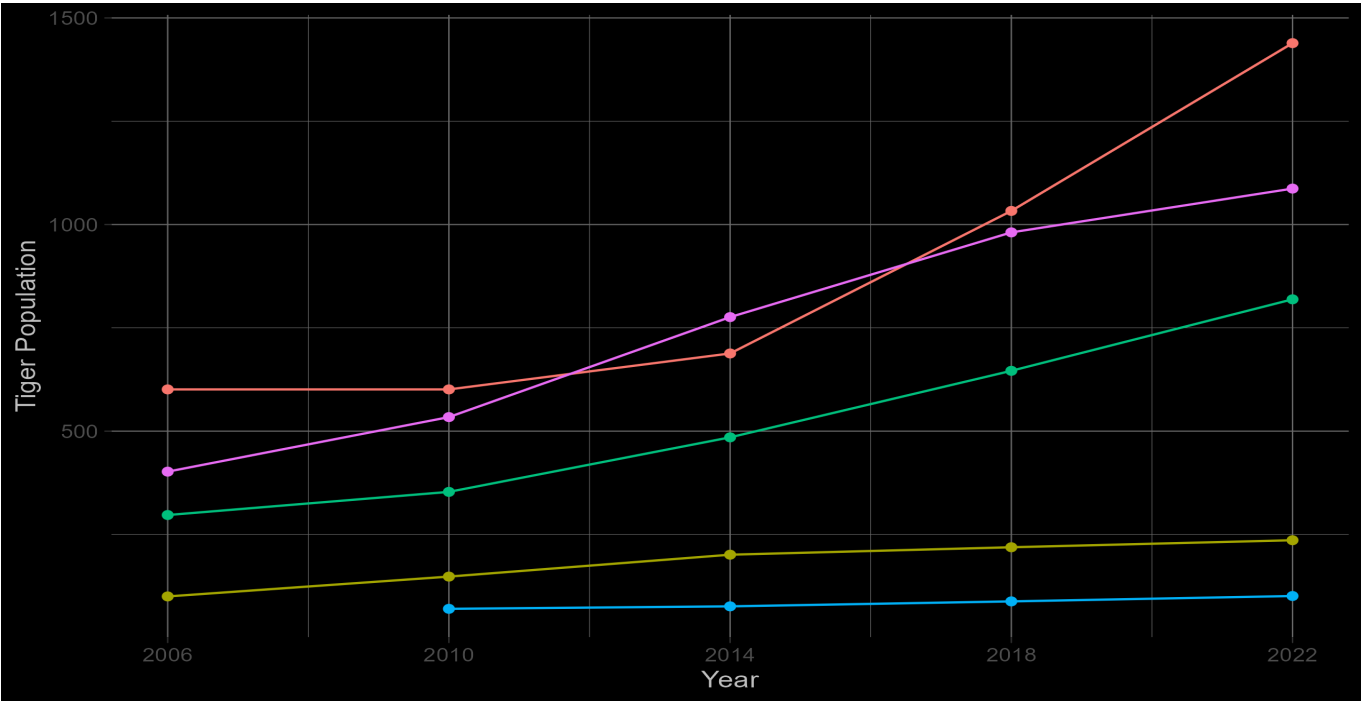


3D Plot - Perspective 3



- 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.
- **tiger-viz.Rproj**: The *R* project 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).