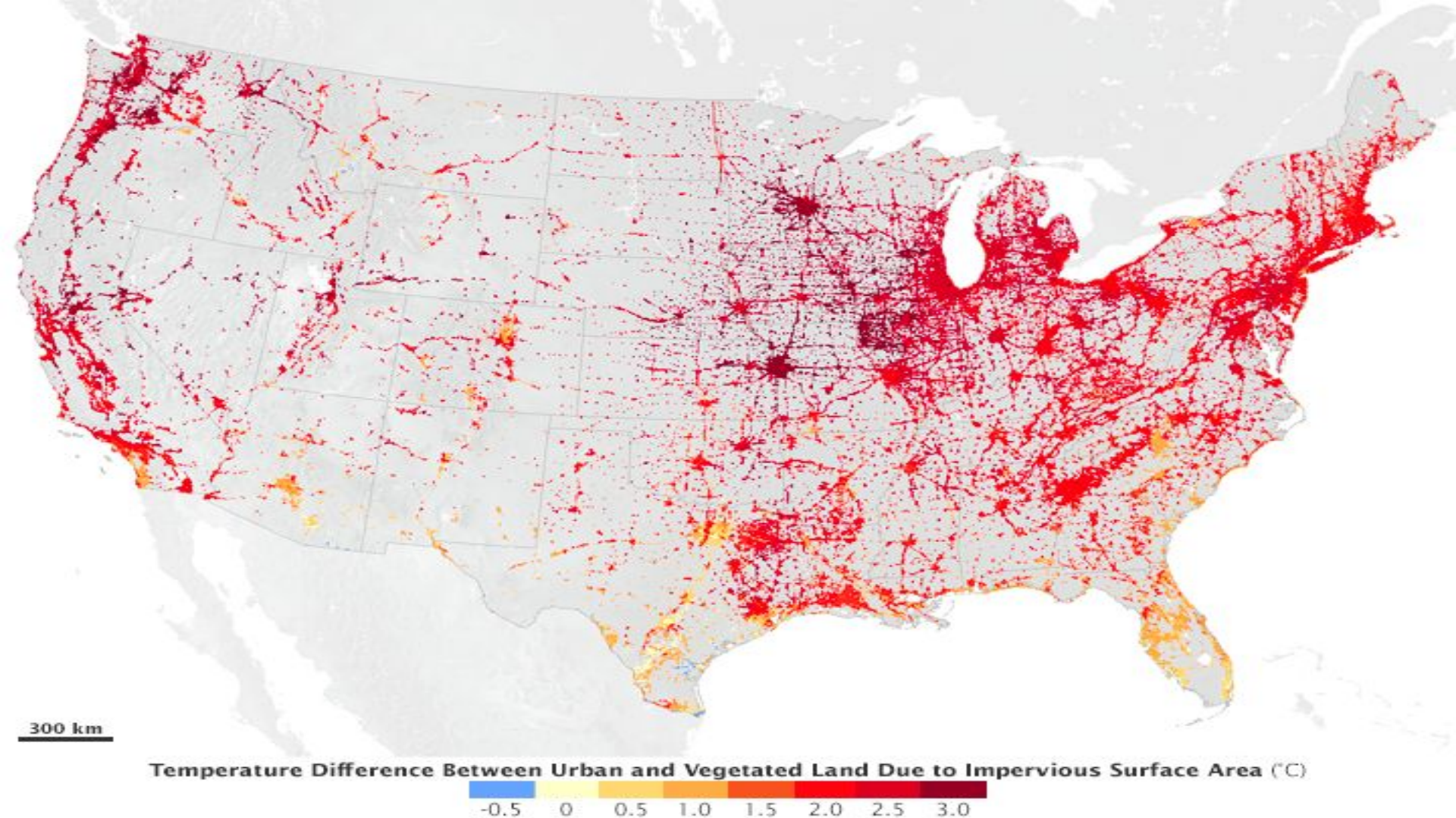
Cities are well-known hotspots

The urban heat island effect has been observed to raise the temperature of cities by 1 to 3°C (2 to 5 °F) compared to neighboring rural and semi-rural areas.

➔ The rise is due to the presence of asphalt, concrete, stone, steel, and other impervious surfaces that absorb heat and disrupt the natural cooling effect provided by vegetation.


300 km
Temperature Difference Between Urban and Vegetated Land Due to Impervious Surface Area (°C)
-0.5
0
0.5
1.0
1.5
2.0
2.5
3.0

According to a new NASA study, the presence or scarcity of vegetation is an essential factor in urban heating.

Urban areas and their surrounding areas had an average summer temperature 1.9°C higher than surrounding rural areas. In winter, the temperature difference was 1.5 °C higher.

“This has nothing to do with greenhouse gas emissions or with anything anthropogenic. It’s in addition to the greenhouse gas effect,”

- *Lahouari Bounoua*, Climate Scientist at *NASA*’s Goddard Space Flight Center


TEAM
KALBOISHAKHI
Minhaz Ali

Who are we?

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What Do We Want?

GREEN BALANCE!!!

WHY?

Shouldn’t we just plant as much as trees as we can?

In a Sense……YES!

But let me ask a question..

Imagine you are on a road where the land on the left has some trees but the right side has very few,

Where would you want to plant trees if you are given chance?

YES!

You would want to balance the vegetated land

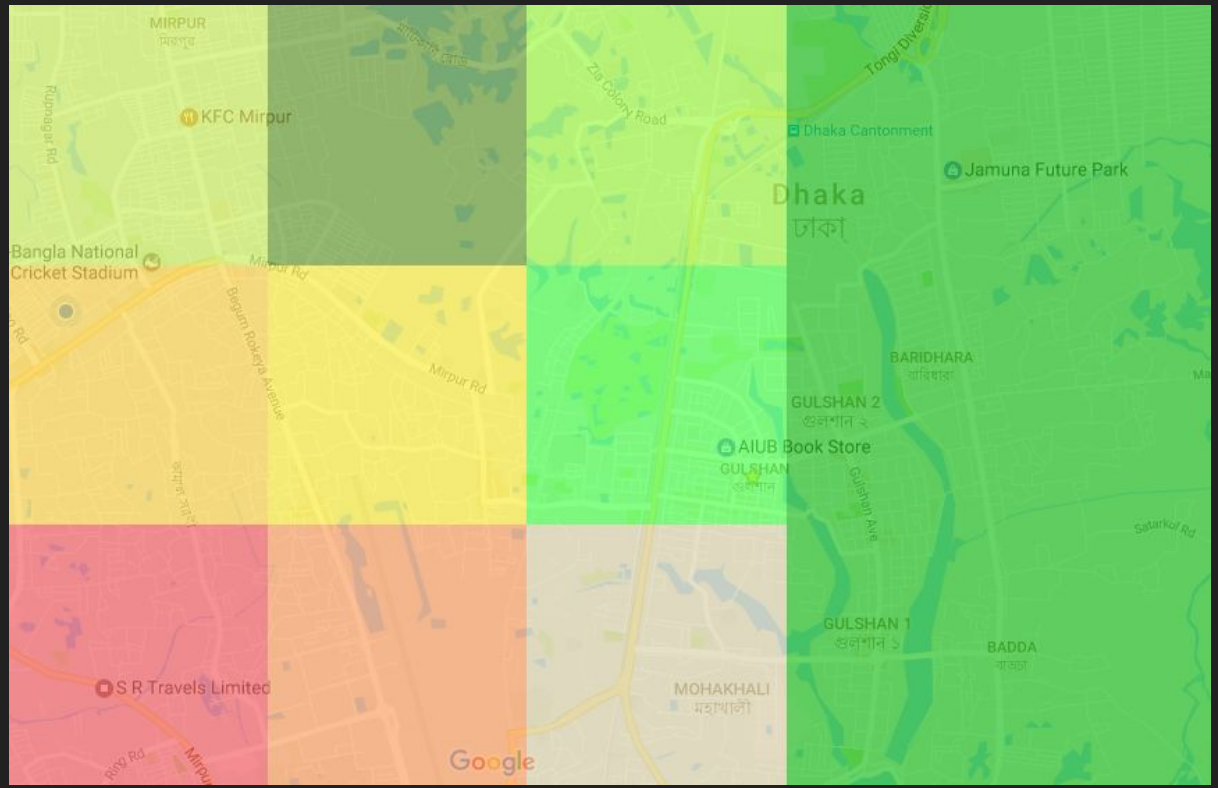
(If there are no other parameters to be considered)

But how would you know which areas need more trees?

Through **Green Balance**

What is it?

Green Balance is a web and mobile application with a geographical map that classifies areas marking them with different colors that represents the amount of trees it has and pollution it causes.



How would it work?

A geographical map will be divided into boxes of 3 or 4 square kilometres which will be marked with different color representing its need of trees.

How do we assign the colors?

- By analyzing
  - Amount of trees in that area.
  - Level of *air* pollution.
  - Temperature.

The app will also show the value of this parameters with normal and present value.

Data Sources and Analysis

- Amount of trees(Land covered with vegetation), Air quality and temperature data are mostly available at different Nasa Earth Data Sources.
- After the analysis of different data, standard colors will be assigned to different categories of areas.
- For example: Areas in the worst state with very few or no trees, high level of air pollution and high temperature would be assigned Red color whilst area with lots of trees with no air pollution and normal temperature would be assigned Green.

But again, Do we really need this?

Can’t we just plant trees wherever we can?

- ➔ If you are an individual with no other interest than planting some trees, then Yes, you don’t need them.

But…...

If……

- You are representing a government, environmental organization, NGO working to fix the environmental problems, you NEED it.
- You are an Architect, City planner, you NEED it.
- Or maybe you are just an individual wanting to build a home or an infrastructure at a green, healthy environment, you NEED it.

What will this change?

- This system will change the way govrnments or environmental organizations work towards solving the environmental crisis.
- Architects will know before working on a project how to approach from a healthy environmental perspective.
- City planners will know which of the areas of their cities need more attention when planting trees.
- It will change or affect the way of finding habitual areas here in earth or maybe on some other planets, who knows?

Our Development Platform

Mobile and Web

- Our Application will be available as Mobile App and Web App.
- We would need NASA’s earth science data in a cotinuous and systematic basis to update the system periodically.

Looking Towards the Future

- In the future we want to analyze the Air of different areas more precisely so that we can incorporate that data to our system.
- We plan to establish a system that will not only show areas with poor environments but will apply artificial intelligence to find and suggest a plan to improve the environmental condition of that area.

Finally,

This app is nothing but a helper that guides approaches of healing the nature.
So, the real work is to be done by the users of the app to create a healthy livable environment.

Thank You