Urban Greenspaces

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Overview

Urban green spaces are known for improving conditions in urban cities by reducing air pollution, and promoting the overall well-being of city dweller's mental and physical health.

The following analysis investigates the relationship between urban greenspaces and Human Development Index (HDI) levels, exploring the question if more developed countries have more urban greenspaces.

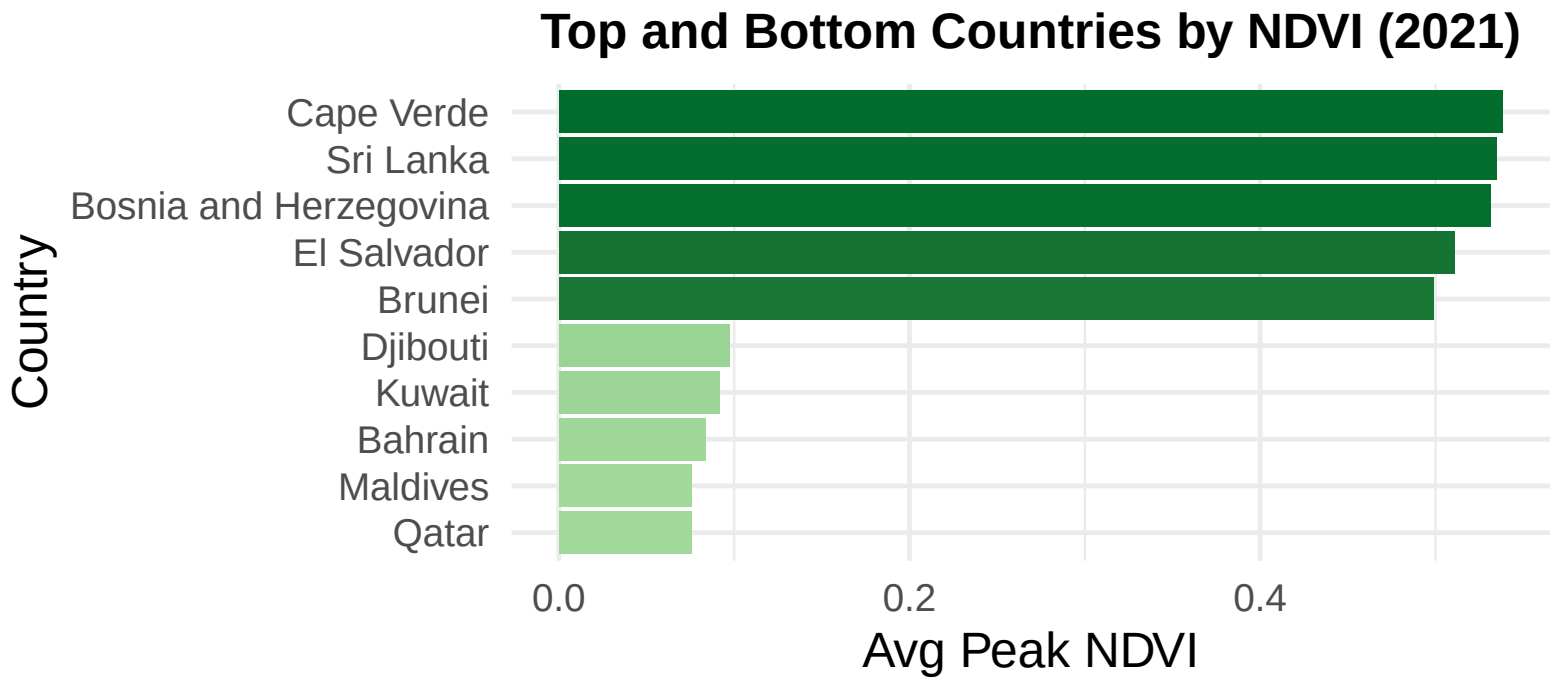
Results

- Differences between countries NDVI and HDI levels
- Cities with higher HDI levels tend to have more urban greenspaces

Data

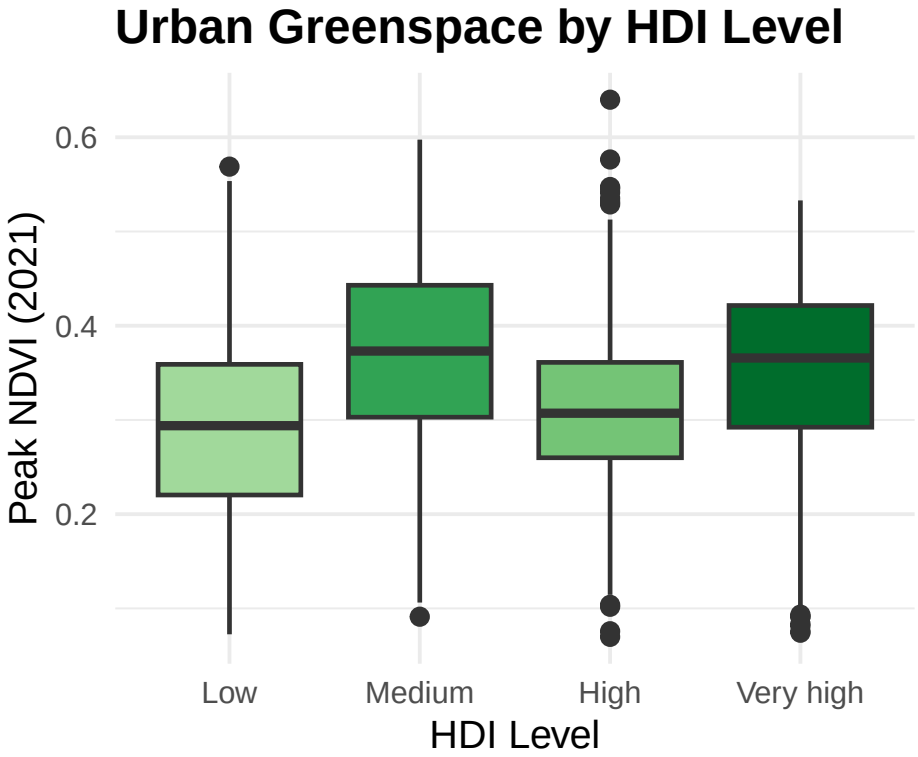
The Global Greenspace Indicator Dataset by Jennifer Stowell from Boston University is a global dataset that tracks how much greenspace exists in over 1,000 cities around the world from 2010 to 2021.It includes both absolute and population-weighted peak and annual NDVI (Normalized Difference Vegetation Index) values.This is a satellite-based indicator of how green an area is.

- NDVI values range from 0 to 1
- Higher values = more vegetation



Urban Greenspace by HDI Level

- Population weighted annual maximum NDVI and HDI from 2021.
- Kruskal-Wallis test shows there is a strong correlation betwee **NDVI rate and HDI level**



Kruskal-Wallis Test Results
Chi-squared: 88.06
df: 3
p-value: <2e-16

Comparison By Region of the world

In analyzing urban greenspaces (NDVI) for different geographical regions, it is clear that Europe and North America have the highest NDVI level.