Uncharted eXcursions LLC

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Your guides: Tiago, Sasha, Tania, & Joel

Project Overview: Eco-Tourism Expansion

Countries experiencing reforestation are of interest to us as potential leads for new tours that eco-tourists would find interesting

Which countries worldwide are experiencing reforestation?
...AND have high tourism rates?

Source, Examine, & Clean Datasets

Design & Load SQL Database

SQL Analysis & Deriving Insights

Dataset Source & Description

Datasets	Source	Description	Purpose
1. Forest Area Dataset	Food and Agriculture Organization of the United Nations	Contains data on forest area (in hectares) from 1990 to 2020 across various countries.	To examine the trend in forest coverage & find out where are the most forests per area
2. Deforestation Dataset	on Kaggle	Provides the percentage of deforestation by country.	To examine the percentage of re- or deforestation
3. Tourism Dataset	World Population Review	Contains top visited countries by tourism	To compare visited countries against forest percentage
4. Country Codes Dataset	on GitHub	Provides ISO country codes and coordinates.	For matching country data across different datasets

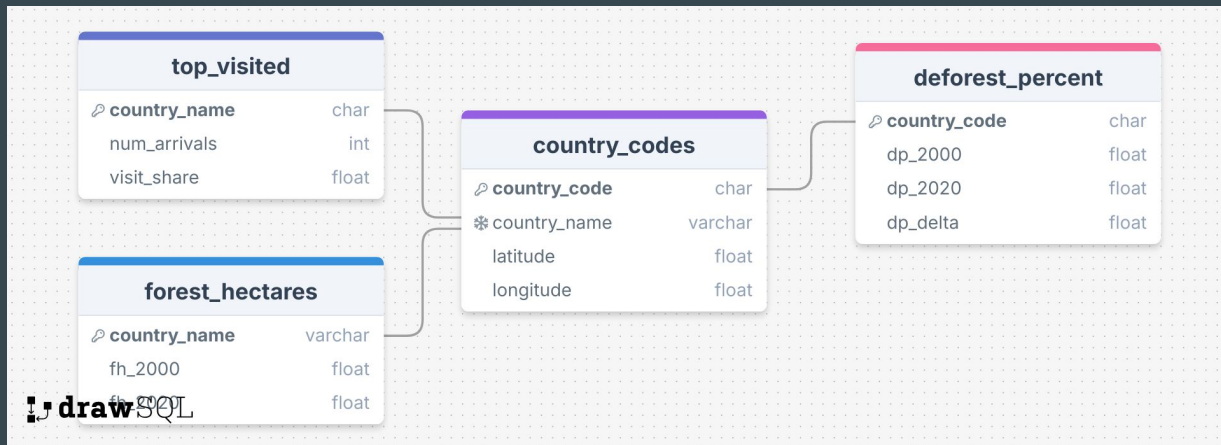# Data Acquisition Challenges & Enrichment

Dataset Challenges

- Difficulty in finding compatible datasets
- Country names are not normalized across datasets
- Missing and incomplete datasets
  - Eg. Country code and null values in records

Enrichment
- Sanitised datasets
- Transformed datasets
- Supplement datasets by joining

Database Design

→ Define data formats
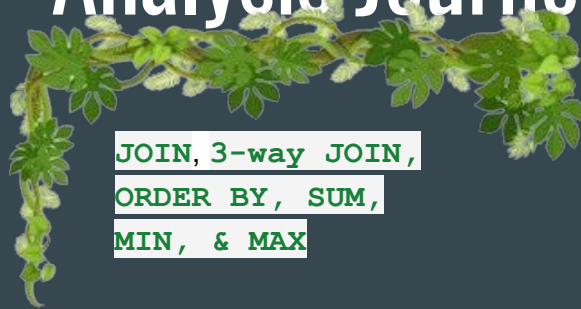
→ 1:1 relationships

→ country_code central tbl

→ Primary: Foreign Key 'situationship'

→ Unique key designation

DESIGN QUIRKS
1. Unstacked tables, 2. Primary k. as foreign k., & 3. Unconventional design

Analysis Journey

`JOIN, 3-way JOIN, ORDER BY, SUM, MIN, & MAX`

SQL Insights & Advanced Analysis

Top Visited Worldwide		
country	visitors	share_of_visit
France	117109000	11.7362
Poland	88515000	8.87064
Mexico	51128000	5.12385
United States	45037000	4.51344
Thailand	39916000	4.00023
Italy	38419000	3.85021
Czech Republic	37202000	3.72824
Spain	36410000	3.64887
Canada	32430000	3.25001
Hungary	31641000	3.17094

Which are the countries worldwide that have high tourism rates?

SQL Insights & Advanced Analysis

Highest Reforestation % Increase	
Country Name	**% Increase**
Guernsey	86.2
Bahrain	80
Iceland	66.7
Djibouti	50
Uruguay	48.7
Burundi	43.4
Cuba	37.4
Kuwait	33.3
Montenegro	32.3
Malta	27.3

Which countries worldwide are experiencing reforestation?

These countries are NOT among the most visited by tourists

SQL Insights & Advanced Analysis

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Most Forest per Area (1000 ha)	
Country Name	Forest per 1000 ha
Brazil	496620
Canada	346928
China	219978
Australia	134005
Indonesia	92133.2
Peru	72330.4
India	72160
Angola	66607.4
Mexico	65692.1
Colombia	59141.9

No matches here either

SQL Insights & Advanced Analysis

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What should we make of this? No clear leads in sight

SQL Insights & Advanced Analysis

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Most Forest per Area

Count...ame	Forest p...00 ha
Brazil	49662...
Canada	346...
China	...8
Australia	...005
Indonesia	...2
Peru	723...
India	72160...
Angola	66607.4
Mexi...	65692.1
Colombia	59141.9

Comparison Analysis:
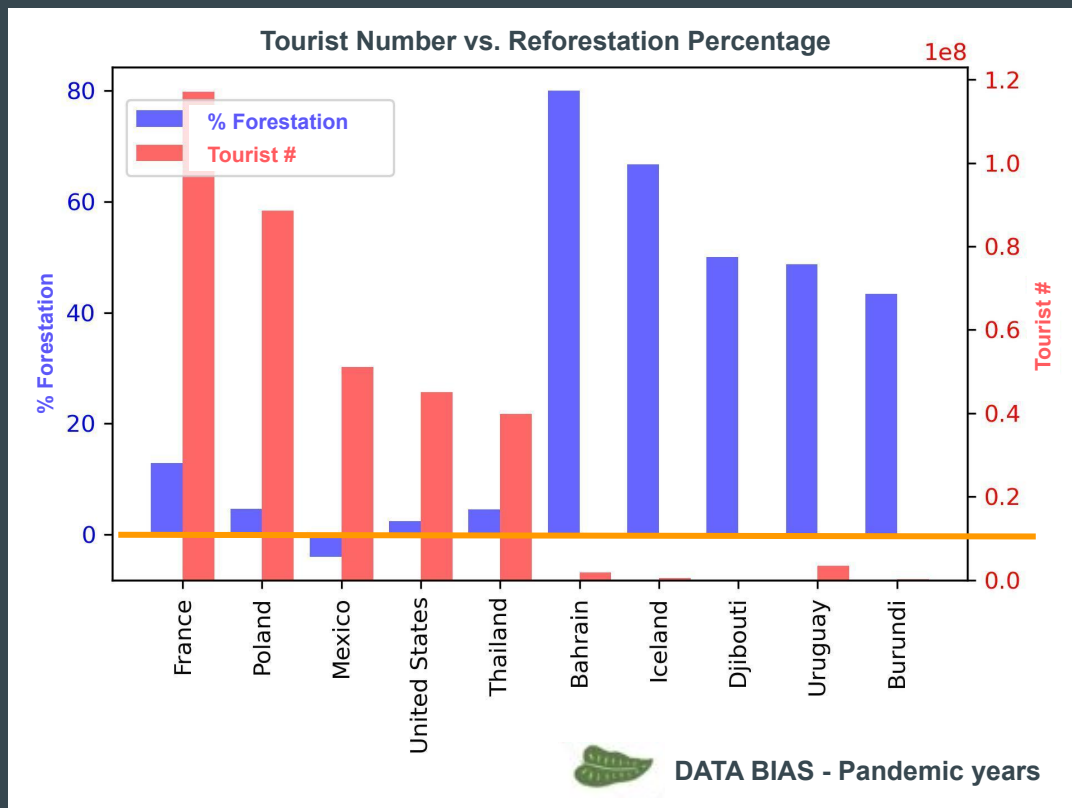Take the top 5 most visited countries & see what their reforestation efforts look like
Vs
The top 5 reforesters* & see what their tourism rates look like

Guernsey is a self-governing British Crown Dependency

Visualisations & Key Insights

Tourist Number vs. Reforestation Percentage

DATA BIAS - Pandemic years
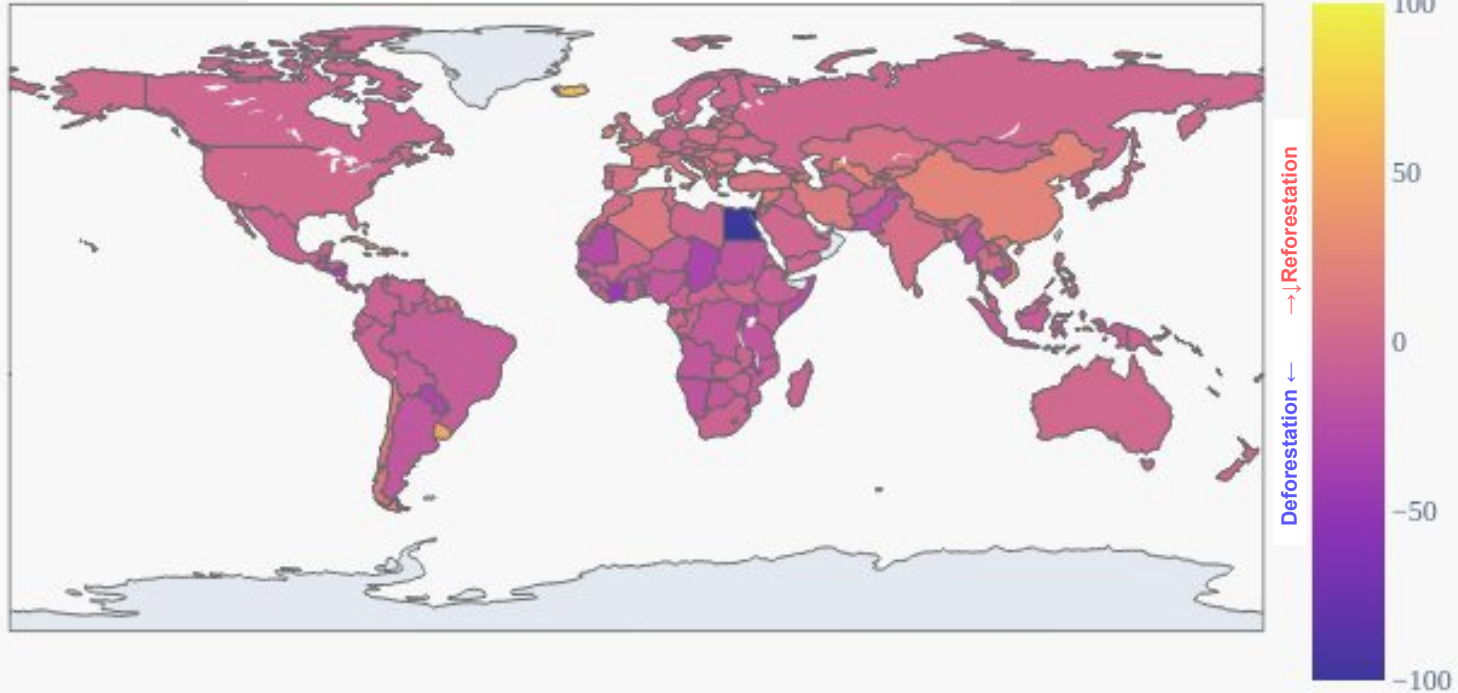
Comparison Analysis Takeaways

Of the most-visited countries (~117M visitors) France has the highest reforestation rate with 12.9%

Of the countries with the highest reforestation rates, Uruguay (48.7%) has the most visits by tourists with 3,480,000

Incl. the above & the top 3 reforested places – Guernsey, Bahrain, & Iceland – round off our top 5 picks for new tour locations

Visualisations & Key Insights

Map Showing Re-/ De-forestation Trends in %

Conclusions & Business Implications

Goal is to to expand our business portfolio to eco-tourists by using tourism + reforestation trends as indicators for potential new tour locations

We found 5 solid leads to kick-start our development & testing phase
- France
- Uruguay
- Guernsey
- Bahrain
- Iceland

Major Obstacle

Obstacles

- Iterate different processes several times (due to inexperience/ learning the procedure)
- Challenges with SQL Data Imports due to
  - hidden details that aren't clear at first glance
  - & schema structure requirements that were overlooked
- Data inconsistencies and validation issues

Time-consuming

Lessons Learned

- Thorough planning of database schema to avoid unnecessary revisions
- Repetition of processes helped gain better understanding and experience
- Always double-check the data before using it

Extra Figures

Top Reforestation Rates
<u>Name – % Reforestation –</u>
<u>Tourists</u>
Bahrain – 80% – 1,909,000
Iceland – 66.7% – 488,000
Djibouti – 50% – 63,000
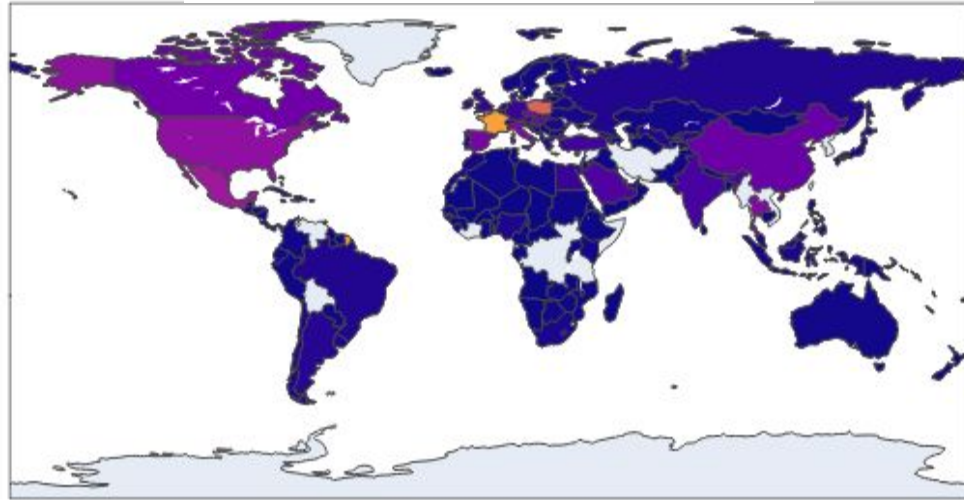Uruguay – 48.7% – 3,480,000
Burundi – 43.4% – 299,000

Top Tourism
<u>Name – % Reforestation –</u>
<u>Tourists</u>
France – 12.9% – 117,109,000
Poland – 4.7% – 88,515,000
Mexico – -4% – 51,128,000
USA – 2.4% – 45,037,000
Thailand – 4.6% – 39,916,000

Top Deforester: Côte d'Ivoire -44.4%

Map Showing Share of Tourism Visits

With That, Our Uncharted eXcursion Ends

Your guides, Tiago, Sasha, Tania, & Joel,

are riding off into the Friday sunset