

The background of the slide features a wide-angle photograph of a rugged mountain range. In the foreground, a dirt path winds its way through a field of tall, dry grass and scattered small trees or shrubs. The mountains in the distance are partially obscured by a layer of low-hanging clouds, creating a sense of depth and scale.

# Data Journey

## From idea to impact

vizzuality.

Simão Belchior

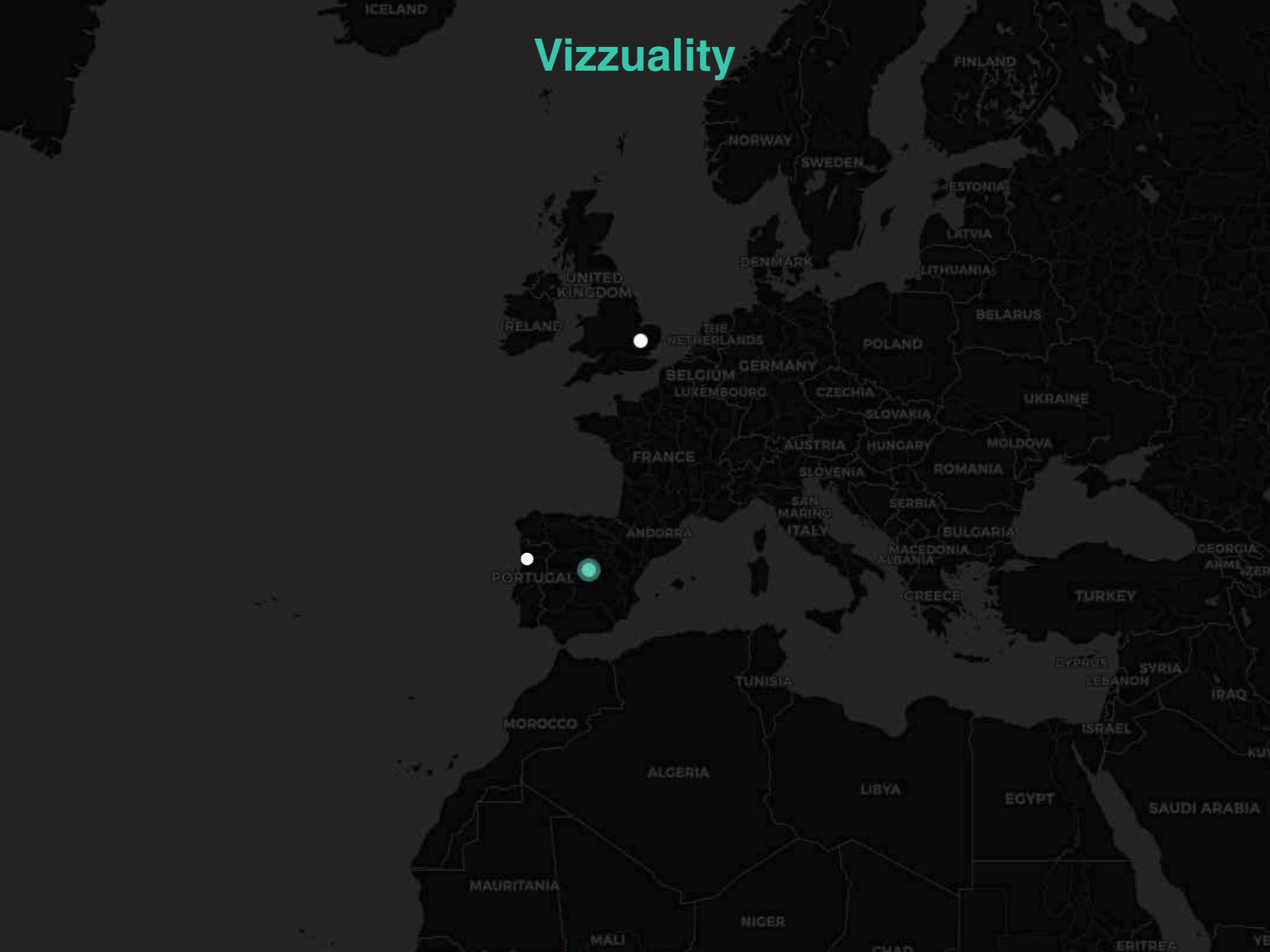
@belchior | @vizzuality

# Beautiful data design for a better world.

We are trusted by the world's most important organisations to create unique tools and applications with a lasting benefit to society and the environment

[OUR WORK](#)

# Vizzuality





**46 People**

**Back end Developers, Business Development, Designers, Front end developers,  
Operations, Project Managers, Psychologists, Researchers, Scientists**



**Front End**

**Front End**

**Back End**

**PM**

**PM**



Google



HUMAN  
RIGHTS  
WATCH



neptisgeoweb

PARTNERSHIP FOR  
RESILIENCE  
& PREPAREDNESS



**SDG16**  
data initiative

Biodiversity  
Information  
Standards  
TDWG



ZOONIVERSE

# CLIMATEWATCH

Climate Watch offers open data, visualizations and analysis to help policymakers, researchers and other stakeholders gather insights on countries' climate progress.

Search across the platform by keyword or by country



Feedback

## Latest updates

Country platforms | 22 Mar 2019

Climate Watch Indonesia  
launched in partnership  
with WRI Indonesia

Data Explorer | 21 Mar 2019

Explore and download  
raw data sets for your  
own analysis

Country Profiles | 21 Mar 2019

Compare targets in  
domestic laws and  
policies with national  
climate plans



# Transparent supply chains for sustainable economies.

 LEARN ABOUT TRASE  
IN 2 MINUTES

RT @WRIFood: 6 Pressing Questions About  
#Beef and #ClimateChange, Answered by  
@WRIFood's @waiterich @TSearchinger  
and Janet Rang... <https://t.co/H952UbEjA1>

[https://trase.earth/flows?state\[isMapVisible\]=false](https://trase.earth/flows?state[isMapVisible]=false)

PROFILE

MAP



<https://trase.earth>



Mapping biodiversity



HIDE ↕

Mapping conservation areas



Mapping human activities



Country borders



PARTNERS ...

©CESIUM CARTO

<https://half-earthproject.org/maps>

# Forest monitoring designed for action

Global Forest Watch offers the latest data, technology and tools that empower people everywhere to better protect forests.

 A video player interface with a play button, volume control, and progress bar.  
STOP VIDEO

pragmagile

# User Research



A dark, grainy aerial photograph of a city at night. The city is densely packed with buildings, and their lights create a complex network of glowing yellow and white lines and clusters. The overall scene is very dark, with the light from the city providing the primary illumination.

# Data Discovery

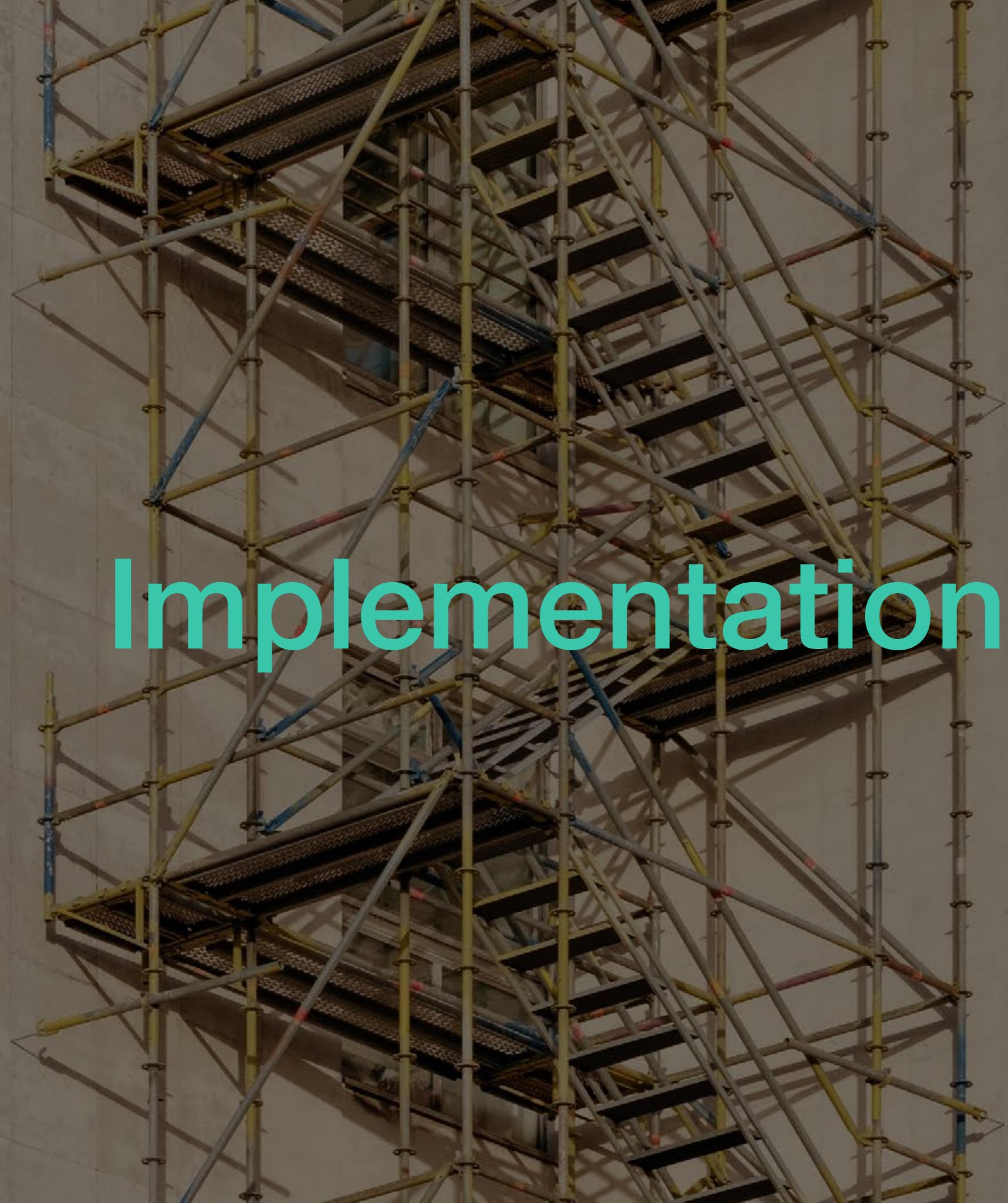
# Wireframes





# Visual Designs

# Implementation



# User Testing



A photograph of a forest path with a teal curved arrow pointing upwards and a teal vertical arrow pointing downwards.

User Research  
Data Discovery  
Wireframes  
Visual Designs  
Implementation  
User Testing

A wide-angle photograph of a rugged mountain range. In the foreground, a dirt path winds its way through a field of tall, dry grass and low-lying shrubs. The path leads towards the base of the mountains. The mountains themselves are a mix of dark, rocky slopes and patches of snow or ice clinging to their peaks. The sky is overcast with heavy clouds.

what about that  
journey?



the case of  
Global Forest Watch's  
Country Pages

A photograph of a large flock of sheep in a green field. In the background, a white Fiat Ducato van is parked. The van has a blue and white logo on its side. The sheep are white with some brown patches. One sheep in the foreground is looking directly at the camera.

# 1. The Problem

# Brazil

SELECT JURISDICTION ▾



Source: Hansen/UMD/Google/NASA

TREE COVER (2000)

**519** MHa

PERCENT TREE COVER (2000)

**62** %

TREE COVER LOSS (2001 - 2014)

**38,336,733** Ha

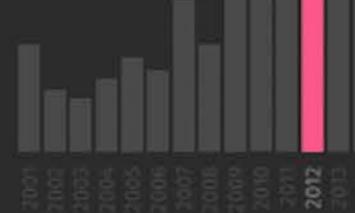
&gt;30% canopy density



TREE COVER LOSS (2001 - 2014)

**180,859** Ha

TREE COVER GAIN (2001 - 2012)

**63,797** HaSUBSCRIBE TO ALERTS AND  
DATA BULLETIN

ANALYZE COUNTRY ON MAP

BROWSE COUNTRY DATA

VIEW DATA ON MAP

DOWNLOAD TREE COVER  
STATS

FOREST CHANGE

LAND COVER

LAND USE

CONSERVATION

PEOPLE, ECONOMY  
& LAWSECOSYSTEM  
SERVICES

RESOURCES

## Forest change

Ha of change ▾



DEFORESTATION RATE -

Ha of tree cover loss ▾

## 2. The Solution



# Brazil

SELECT JURISDICTION 

SUMMARY

FOREST CHANGE

LAND COVER

LAND USE

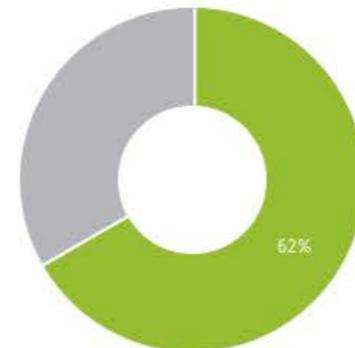
CONSERVATION

PEOPLE, ECONOMY &amp; LAWS

ECOSY.  
SERVI.

## Snapshot

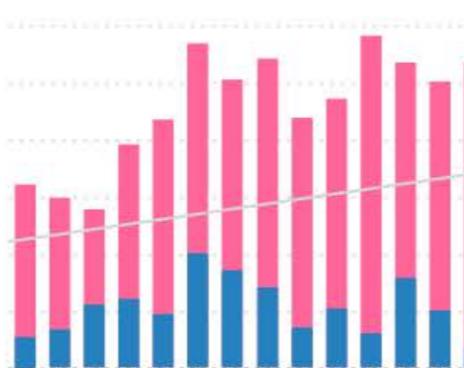
### TREE COVER

[MORE LAND COVER](#) 

1	RUSSIA	761 Mha
2	BRAZIL	<b>519 Mha</b>
3	CANADA	418 Mha

[COUNTRY RANKINGS](#)

### ANNUAL GROSS TREE COVER LOSS

Average:  to  Canopy density >30 % 

● Annual gross tree cover loss

● Trend line

**38,366,733 Ha**

Tree cover loss (2011 - 2016)

View tree cover loss within

 PROTECTED AREAS**34,198 Ha** (2.5%) INTACT FOREST LANDSCAPES BIODIVERSITY HOTSPOTS HIGH CARBON STOCKS

### 3. The Real Problem



# 4. Finding a Solution



## 4.1. Questions

## 4.2. Key Questions

## 2. Tree cover widget

The default view for the tree cover widget should be for 'All Region'. We provide a mapping between the text to select in the Location drop-down and the dataset IDs that need to be called in conjunction with a specific selection.

For the default "All Region" location, we will need to show 3 slices in the donut chart:

- \* Tree plantations
- \* Natural forest (tree cover 2010 - tree plantations)
- \* Non-forest (total area - tree cover 2010)

# 4.3. How to answer those questions

*Notes: below this line are extra notes not needed for Front-end dev*

- adm0 = BRA, adm1 = 4 is Amazonas
- adm0 = BRA, adm1 = 4, adm2 = 141 is Amaturá (many forests)
- adm0 = BRA, adm1 = 12, adm2 = 1434 is Mato Grosso, Cáceres
- adm0 = BRA, adm1 = 14, adm2 = 2404 is Para, Altamira
- adm0 = BRA, adm1 = 16, adm2 = 3135 - largest area of plantations (Turning this on seems to reveal a bug)

In [1]: #Import Global Metadata etc

## 4.4 Making it look good



# 4.5 Build it



CULTURAL  
PROBE

DEVELOP  
PERSONAS

CARD  
SORTING

CUSTOMER  
INTERVIEWS

LISTEN IN ON  
CHAMONIX  
SCENIC CALLS

FOLLOW UP  
VISITS

DO A  
USABILITY  
TEST

USER  
SURVEY

## 4.6 Test it



So what did you  
**build?**

# Brazil

SELECT JURISDICTION ▾



Source: Hansen/UMD/Google/NASA

TREE COVER (2000)

**519** MHa

PERCENT TREE COVER (2000)

**62** %

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>30% canopy density



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## Forest change

Ha of change ▾



DEFORESTATION RATE -

Ha of tree cover loss ▾



Follow along at:

<https://www.globalforestwatch.org/dashboards/country/BRA>

GLOBAL FOREST WATCH

MAP DASHBOARD BLOG ABOUT ENGLISH ▾ MY GFW MORE ...

▼ Brazil

▼ Select a region

In 2010, **Brazil** had **399Mha** of natural forest, extending over **47%** of its land area. In **2017**, it lost **4.37Mha** of natural forest, equivalent to **365Mt** of CO<sub>2</sub> of emissions.

SUMMARY LAND COVER FOREST CHANGE BIODIVERSITY LAND USE CLIMATE

TREE COVER LOSS IN BRAZIL SHOW ON MAP

From **2001** to **2017**, **Brazil** lost **50.9Mha** of tree cover, equivalent to a **9.8%** decrease since **2000**, and **4.21Gt** of CO<sub>2</sub> of emissions.

6.0Mha

4.5Mha

Tree cover loss

Google Map data ©2019 Google, INEGI 500 km Terms of Use

- ✓ Brazil
- ✓ Select a region

x In 2010, **Brazil** had **399Mha** of natural forest, extending over **47%** of its land area. In **2017**, it lost **4.37Mha** of natural forest, equivalent to **365Mt** of CO<sub>2</sub> of emissions.

SUMMARY

LAND COVER

FOREST CHANGE

BIODIVERSITY

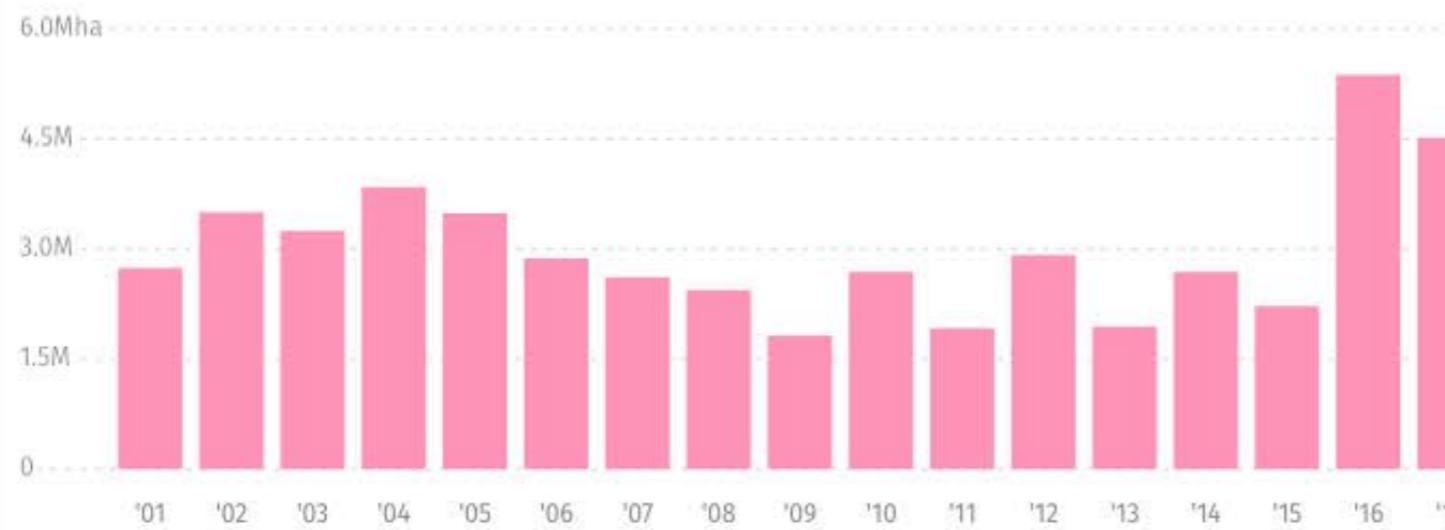
LAND USE

CLIMATE

## TREE COVER LOSS IN BRAZIL

SHOW ON MAP

From **2001** to **2017**, **Brazil** lost **50.9Mha** of tree cover, equivalent to a **9.8%** decrease since **2000**, and **4.21Gt** of CO<sub>2</sub> of emissions.



2000 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account



Google

Map data ©2019 Google, INEGI

500 km

Terms of Use

- ✓ Brazil
- ✓ Select a region

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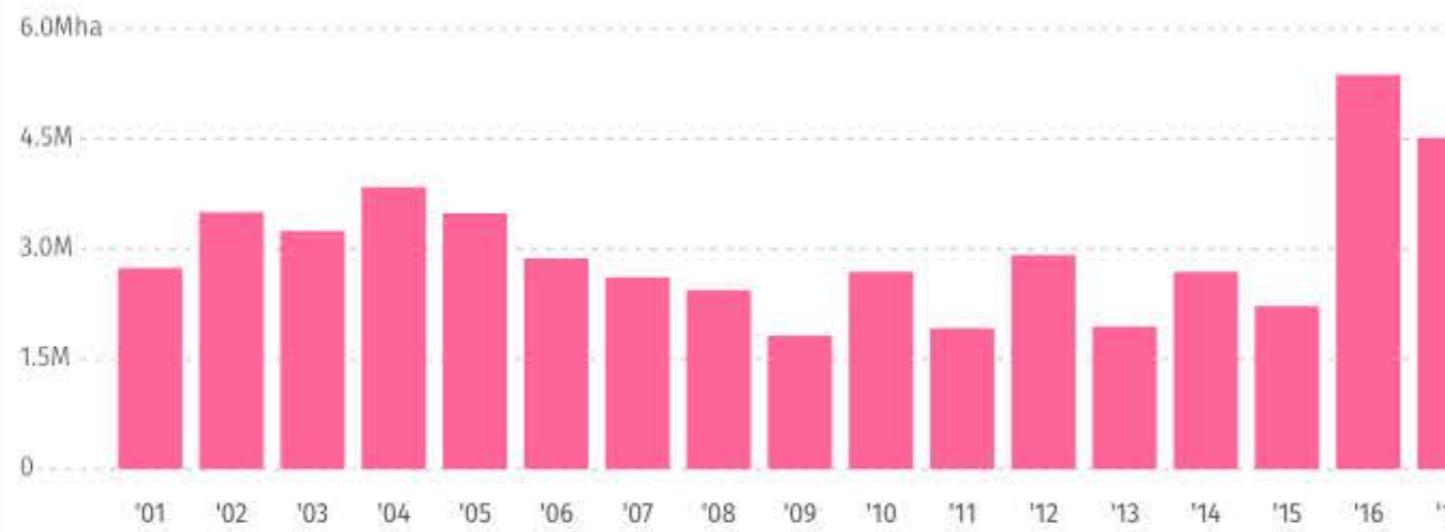
LAND USE

CLIMATE

## TREE COVER LOSS IN BRAZIL

SHOW ON MAP

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Google

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SUMMARY

LAND COVER

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BIODIVERSITY

LAND USE

CLIMATE



Google

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500 km

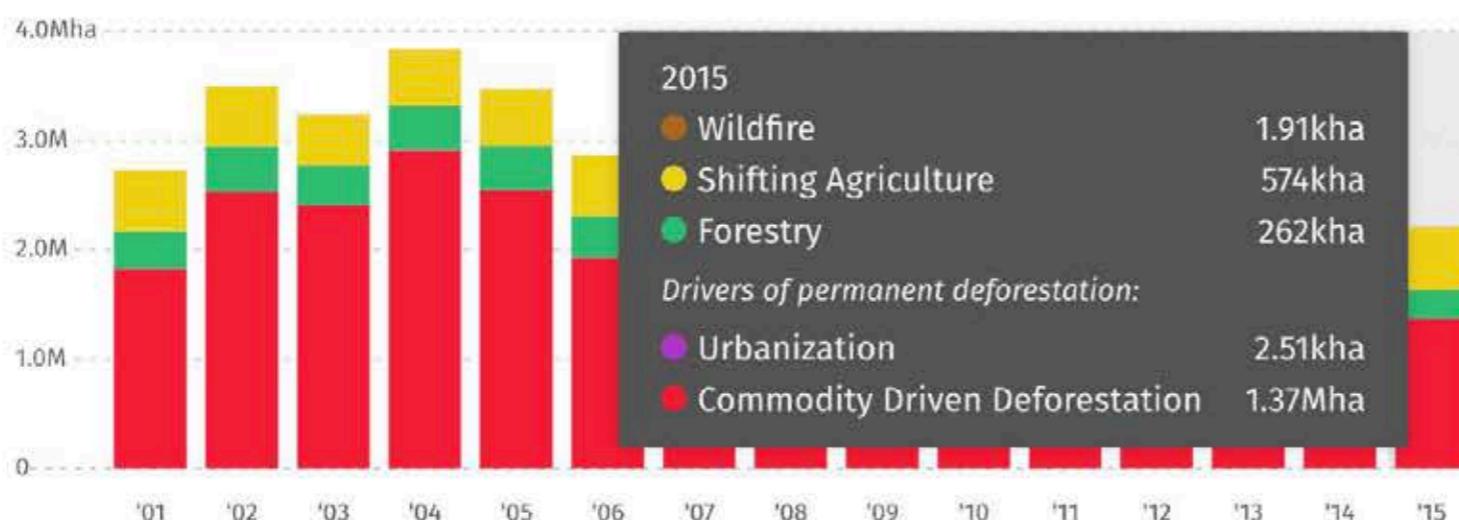
Terms of Use

2010 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account.

#### ANNUAL TREE COVER LOSS BY DOMINANT DRIVER IN BRAZIL

[SHOW ON MAP](#)

In **Brazil** from **2001** to **2015**, 66% of tree cover loss occurred in areas where the dominant drivers of loss resulted in **deforestation**.



2000 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account

#### LOCATION OF TREE COVER LOSS IN BRAZIL

[SHOW ON MAP](#)

In **Brazil**, the top 8 regions were

#### TREE COVER GAIN IN BRAZIL COMPARED TO OTHER AREAS

[SHOW ON MAP](#)

From 2001 to 2012, **Brazil** gained

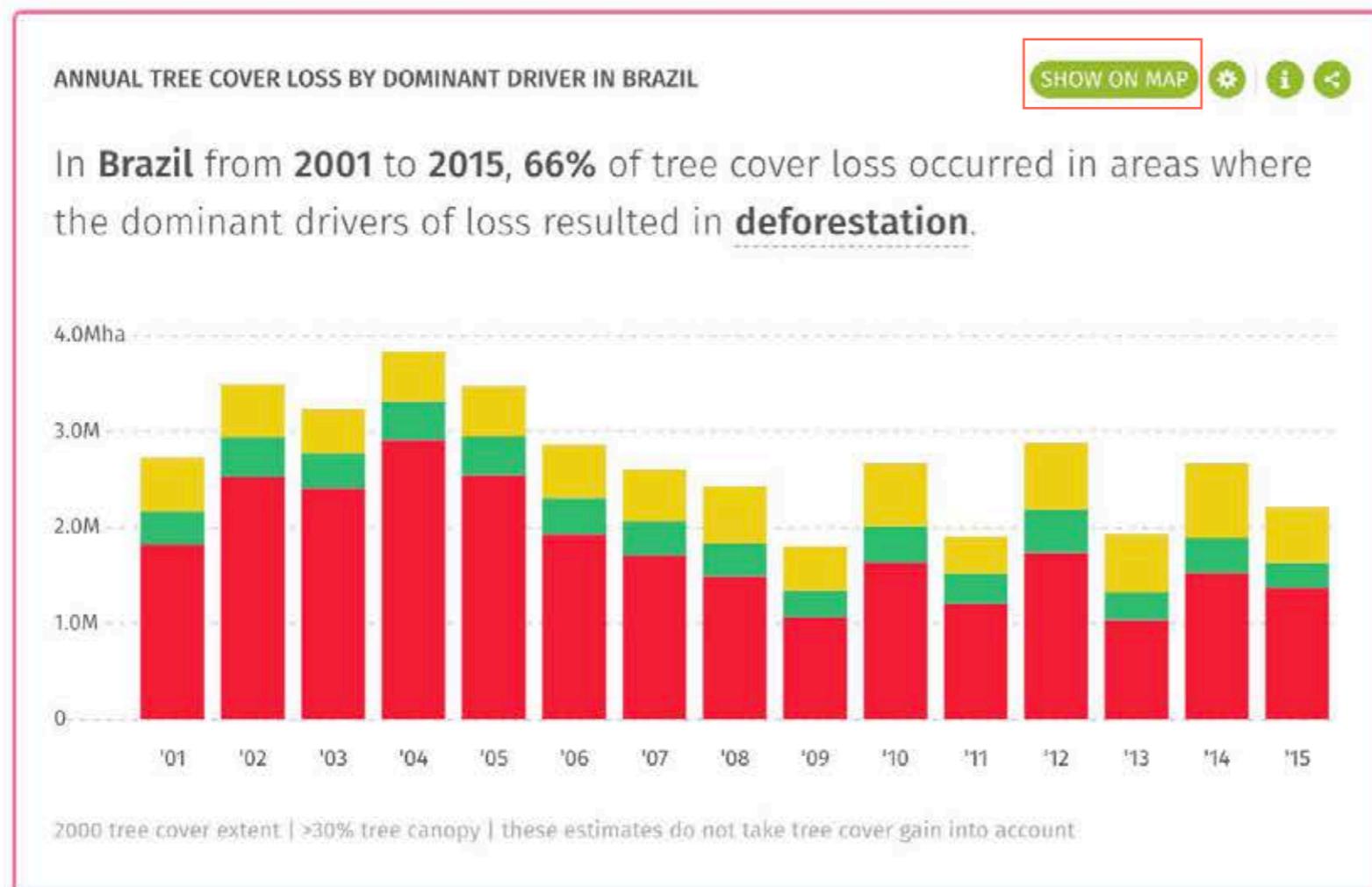


[Google](#)

Map data ©2019 Google, INEGI 500 km

Terms of Use

2010 tree cover extent | >30% tree canopy | these estimates do not take tree cover gain into account



LOCATION OF TREE COVER LOSS  
IN BRAZIL



In **Brazil**, the top **8** regions were responsible for **51%** of all tree cover loss between **2001** and **2017**. **Sergipe** had the most relative tree cover loss at **22%** compared to an average of **12%**.

1	Sergipe	22%
2	Rondônia	21%
3	Maranhão	20%
4	Mato Grosso	18%
5	Espírito Santo	18%



2000 tree cover extent | >30% tree canopy

TREE COVER GAIN IN BRAZIL  
COMPARED TO OTHER AREAS



From 2001 to 2012, **Brazil** gained **7.59Mha** of tree cover equal to **9.4%** of the **global** total.

2	United States	13.8Mha
3	Canada	9.11Mha
4	<b>Brazil</b>	<b>7.59Mha</b>
5	Indonesia	6.96Mha
6	Malaysia	2.58Mha

>50% tree canopy

FOREST COVER IN BRAZIL



LOCATION OF FOREST IN BRAZIL



Jan

Feb

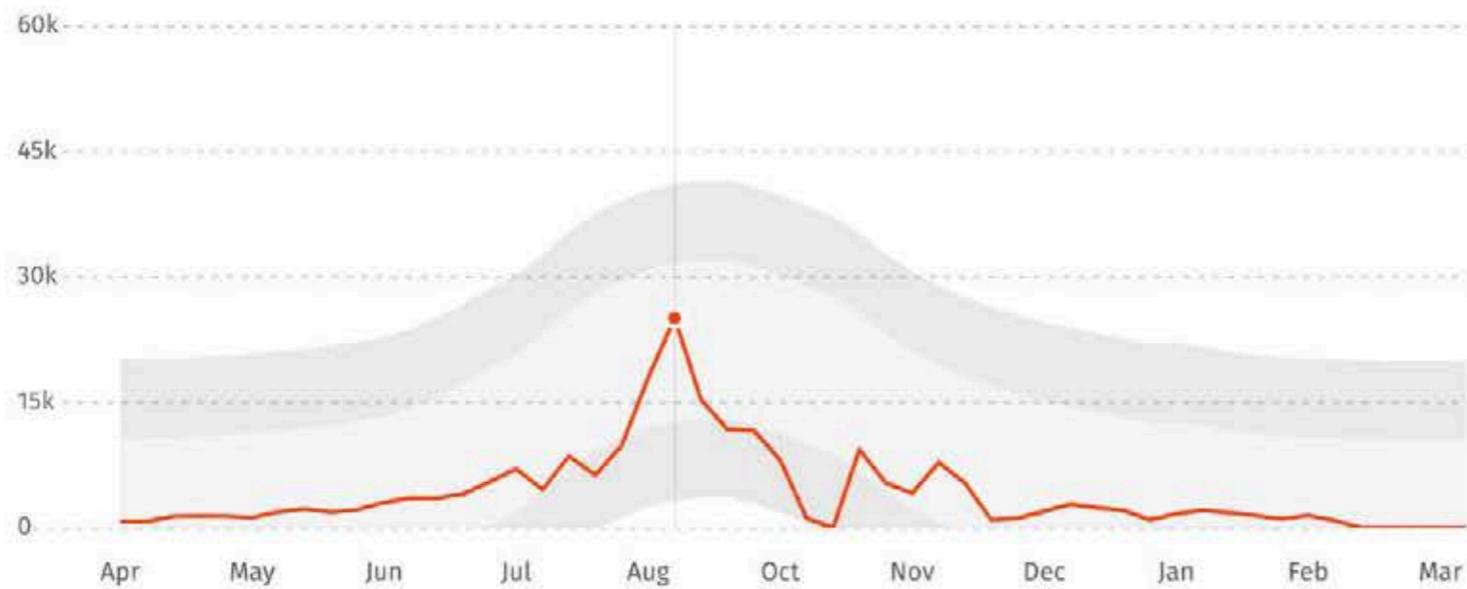
Mar

these estimates do not take tree cover gain into account.

#### FIRE ALERTS IN BRAZIL



There were **25,104 MODIS** fire alerts reported in the week of the **3rd of September 2018**. This was **average** compared to the same week in previous years.



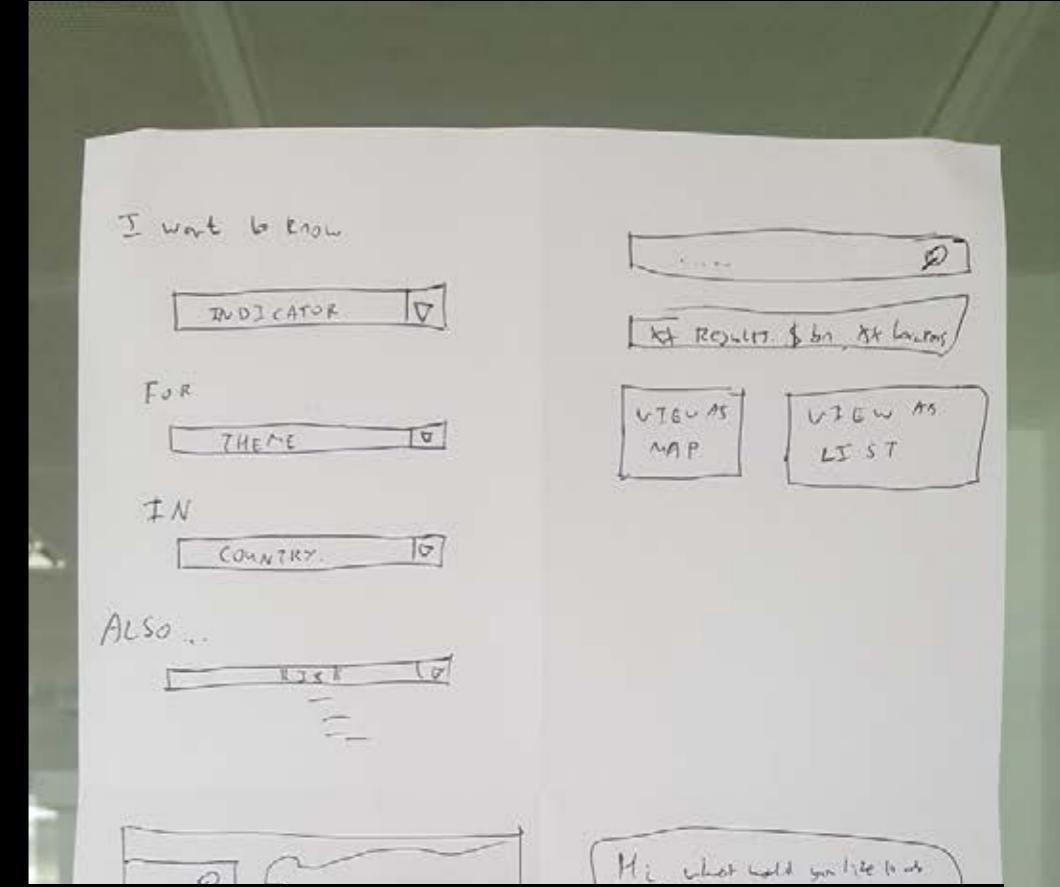
# what was the impact?

The Dashboards had twice as much time on page in 2018 compared to 2017.

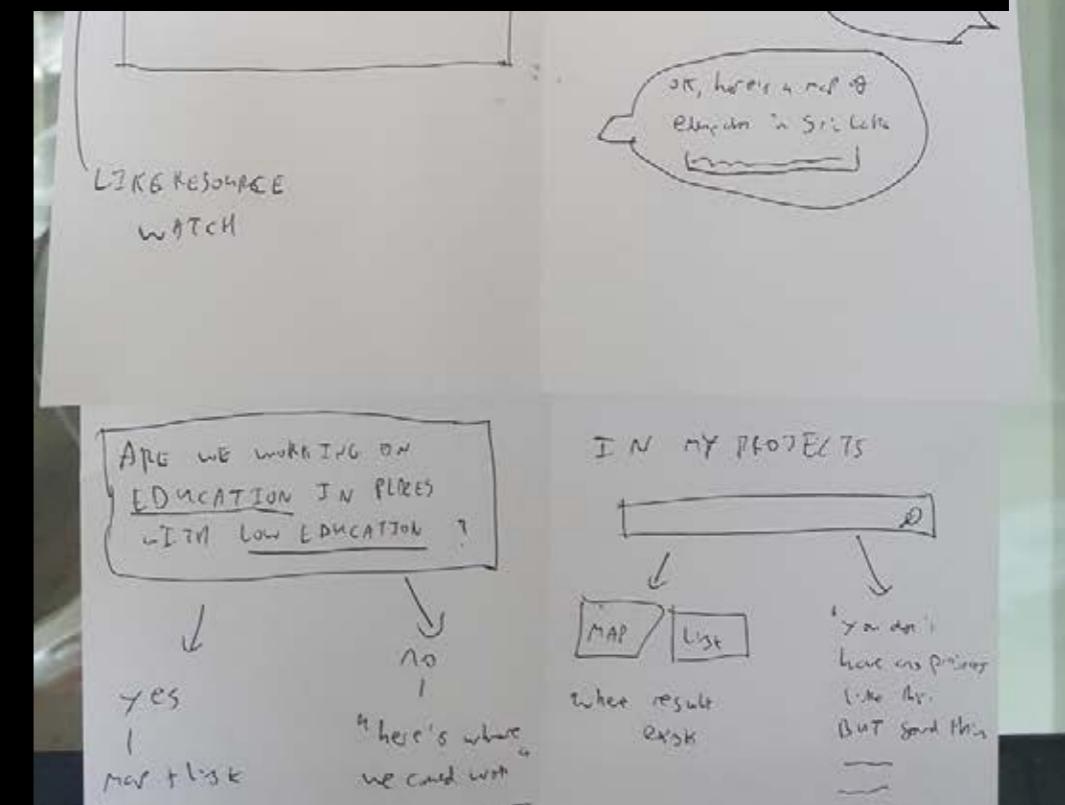
Looking at time on pages, it seems that 1/3 of time is spent on the global dashboard and country summary tabs, and the remaining time is spent on the other tabs or jurisdictions.

# still room to improve.

However there is still a relatively small proportion of people who customise the data on those pages. A lot of the customisations and interactions are concerned with the forest loss dataset.



# But we are already working on it!



# Thank you!

Twitter: [@belchior](#) | [@vizzuality](#) # Github: [simaob](#) | [vizzuality](#)

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