



# Life on Land

Team 1

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# Background



**How would we effectively monitor the environmental damage in Ukraine driven from the Russia-Ukraine War?**



# Target Users

- Resource managers
- Environmental specialist
- Policy makers
- Researchers
- Politicians
- Journalists



# Design Thinking Process



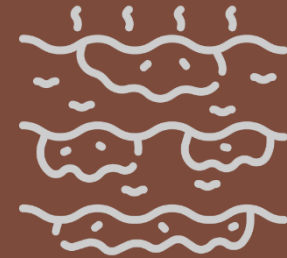
## The war

- Military bases
- Heavy machinery
- Construction
- Debris



## Destroying forests and conservation areas

- 900 areas of nature reserves (12,406.6 sq m) ~ 1/3 of Ukrainian protected areas
- 2.9 million hectares endangered conservation reason



## Environmental damage

- Forest wildfire
- Soil pollution
- Water pollution
- Threaten Birds flyways route



**No real time data for the environmental damage due to the war zones**

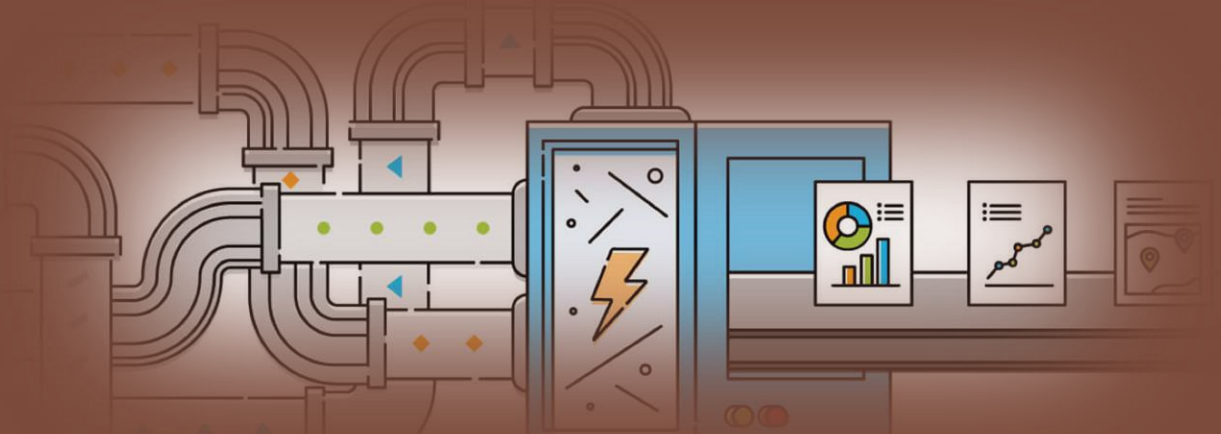


# Solution

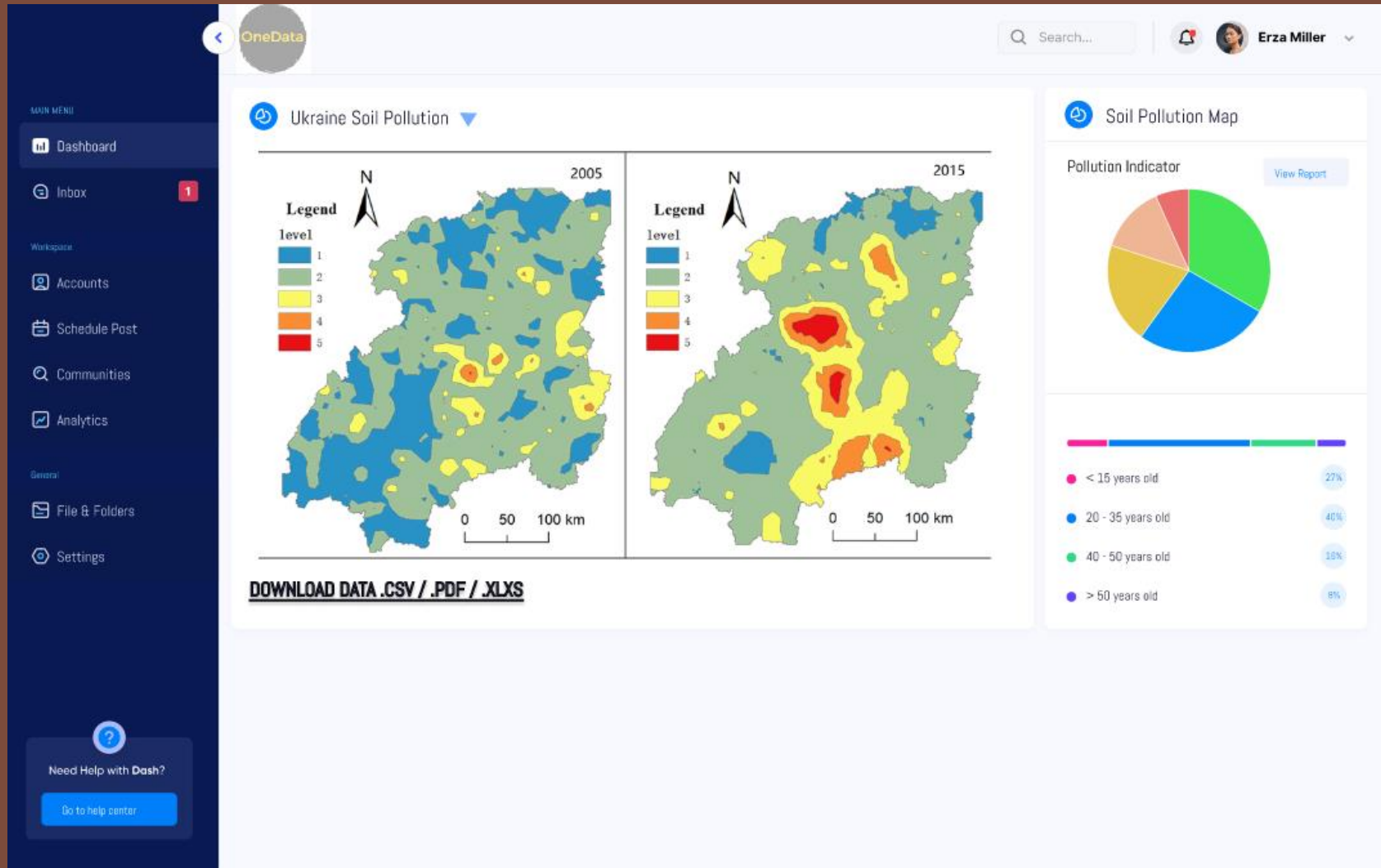
**Providing a place of integrated-data and maps about environmental damage in Ukraine with utilizing remote sensing techniques**

## Benefits of Remote Sensing

- Acquire information without making physical contact with the place
- Develop Geographic Information System (GIS)
- Help us capture, store, manipulate, analyze, manage and present all types of spatial data
- Important for future researchers especially to plan resources and environment better



# Product Overview



We focus on delivering real-time information regarding environmental damage that is currently happening in Ukraine due to the Russia-Ukraine war. All features are created to ensure that the data is accessible for everyone and can be used with ease.

# Product Overview

The screenshot displays the OneData application interface. On the left is a dark blue sidebar with a 'MAIN MENU' containing 'Dashboard', 'Saved' (with a red notification badge), 'Workspace', 'Accounts', 'Community', 'Search', 'Analytics', and 'General' (with 'File & Folders' and 'Settings'). At the bottom of the sidebar is a 'Need Help?' section with a 'Go to help center' button. The top of the interface features the 'OneData' logo, search and notification icons, and the user 'UN OSD'. The main content area shows 'User XYZ' and the project title 'Exploration and Prediction of Wildfires in Ukraine 2022'. Below the title is an 'Introduction' section with a paragraph about the dataset and a question: "Given the size, location and date, can you predict the cause of a wildfire?". This is followed by a 'Libraries' section containing a code block with the following R library loading commands: 

```
library(RSQLite)
library(dbplyr)
library(tidyverse)
library(caret)
library(rpart.plot)
library(knitr)
library(kableExtra)
```

 The 'Getting the Data' section is partially visible at the bottom.

OneData

UN OSD

User XYZ

## Exploration and Prediction of Wildfires in Ukraine 2022

### Introduction

The Inspiration section of the Overview for this dataset, asks:

*"Given the size, location and date, can you predict the cause of a wildfire?"*

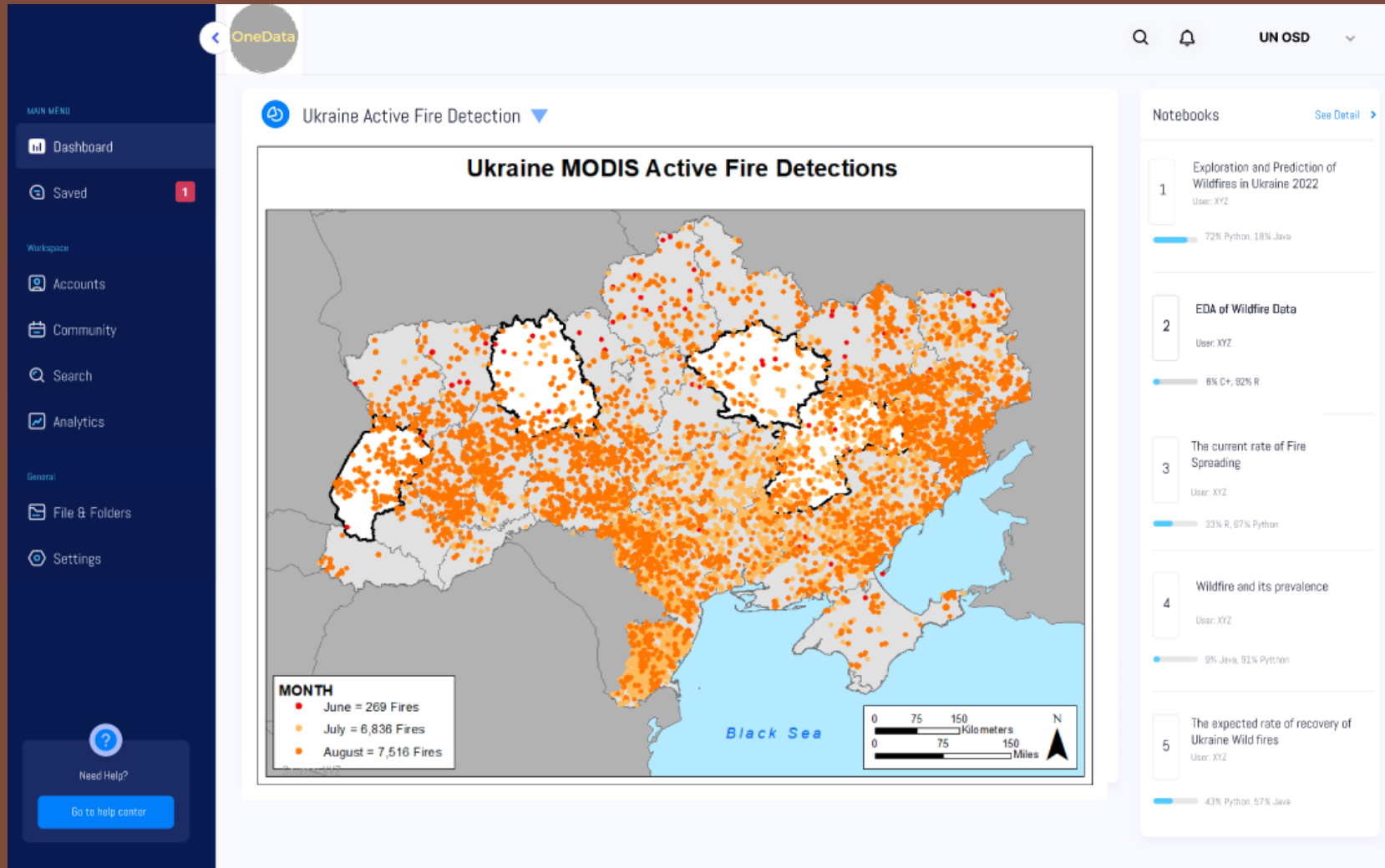
We have data on the cause of each wildfire in the database as well as numerous features on size, date, and location. Could we use Machine Learning to predict the cause of a fire? This is an interesting question that I would like to answer. Although just an academic exercise, if we were able to predict causes with an acceptable level of precision, such an algorithm might even prove useful to investigators working in the field.

### Libraries

```
library(RSQLite)
library(dbplyr)
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library(caret)
library(rpart.plot)
library(knitr)
library(kableExtra)
```

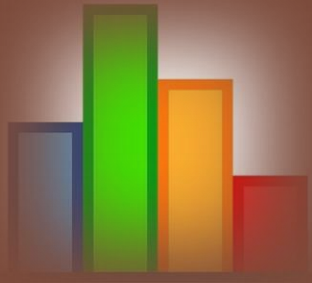
### Getting the Data

# Product Overview





# Significance of the product



- Provides detailed blueprint
- It helps organizations to track, analyze and report on relevant information
- Monitoring the damage helps us to prevent & mitigate the damage from the war afterward





# Thank You

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