

WEEK 1 REPORT

Project Name: Visualizing US Natural Disasters

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Topic: Data Preparation and Cleaning in Power BI

Tool Used: Microsoft Power BI (Power Query Editor)

Week 1 Progress Report — Power BI Data Preparation

Objective

To understand Power BI fundamentals and prepare raw disaster data for analysis using Power Query Editor.

1. Introduction to Power BI

- Learned the purpose of Power BI as a business intelligence and data visualization tool.
- Understood the workflow: Data Source → Data Cleaning → Modeling → Visualization → Insights.

2. Data Loading Process

- Imported dataset into Power BI Desktop.
- Explored tables, columns, and data structure.
- Verified data integrity after loading.

3. Data Cleaning Using Power Query Editor

Performed data transformation and preparation to ensure accuracy and usability for analysis.

Cleaning Steps Performed

- Removed duplicate records.
- Handled missing values.
- Renamed columns.
- Changed data types.
- Filtered unnecessary rows.
- Split or merged columns.

Outcome

- Clean, structured dataset prepared for analysis.
- Improved data quality, consistency, and usability.
- Established foundation for building analytical dashboards in upcoming weeks.

Detailed Explanation of Data Cleaning Steps

1. Remove Duplicate Records

- Identified duplicate rows in the dataset to prevent repeated information.
- Removed duplicate entries to maintain data accuracy and reliability.
- Ensured each disaster record represents a unique event for correct analysis results.

2. Handle Missing Values

- Detected null or blank values present in important columns.
- Cleaned, replaced, or removed missing values where required.
- Improved data completeness to avoid incorrect insights in dashboards.

3. Rename Columns and Change Data Types

- Renamed columns to meaningful and standardized names for clarity.
- Assigned appropriate data types such as text, number, and date.
- Enhanced data structure for accurate calculations and visualization.