

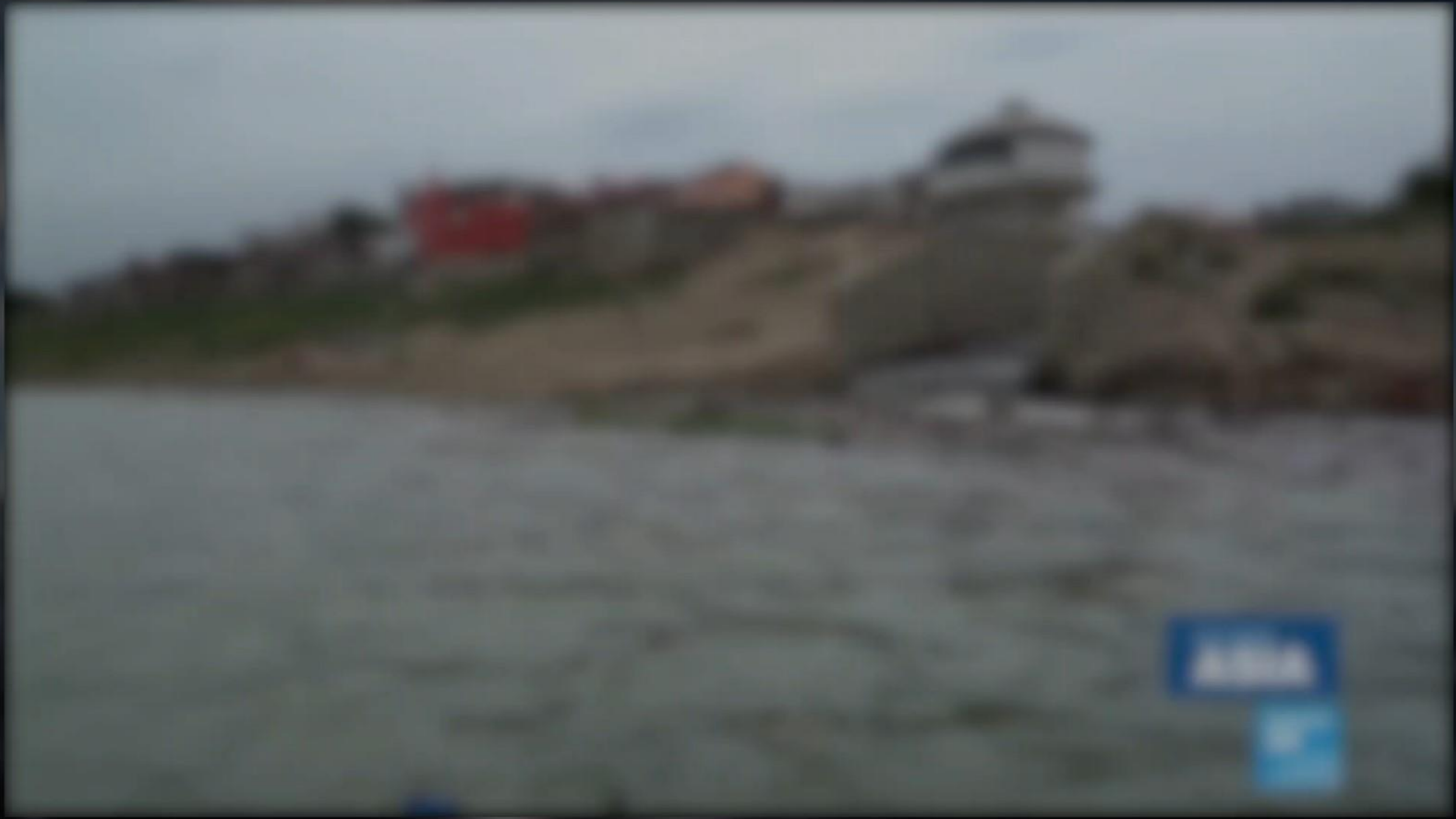
Water Pollution in California State

BEHIND THE SCENE

Hello,

We're [Chow Mein]

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Contents

- Project Design
- Data Collecting
- Data Visualization

Why we choose this topic

- Today, many people are interested in environment
- And also today water pollution problem is become hot issue
- So we wonder about people's behavior are really effect in environment

Why we made video

- We want to focus on story about our data.
- We want to visualize of fluid data
- It's hard and take many time to develop web app...

Dashboard Design

- Dashboard Visualization with Tableau
- Data Filtering with Python

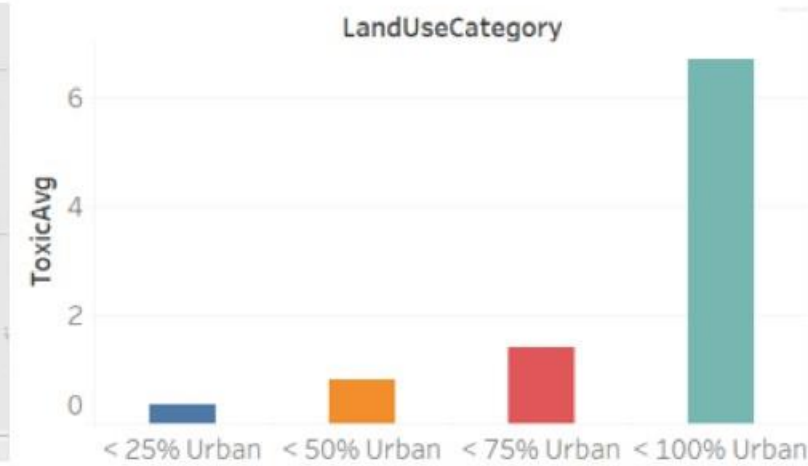


What we want to do with our data

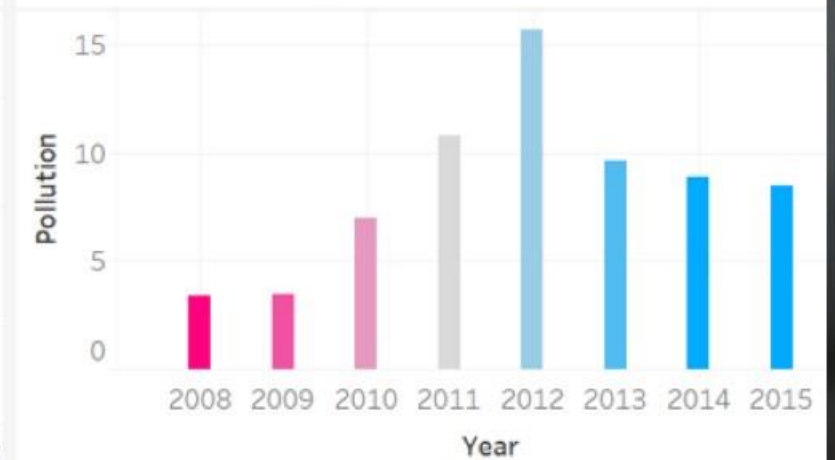
California_Place_Type



ToxicPercent_for_Urban



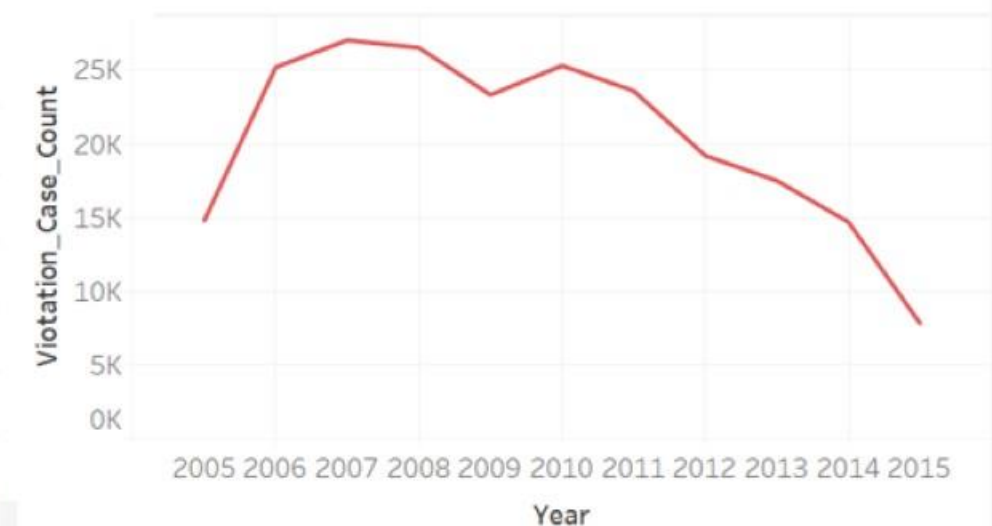
Pollution_for_year



Place_type



Violation_Case_Count



Data Collecting

- Used Tables
 - **Toxicity and Urban Land Use.csv**
=> Comparing each toxic_level from openarea to urban
 - **Sum Pyrethroid Toxic Units.csv**
=> Searching average pollution level per year
 - **Water Board Wastewater Violations, 2001-2016.csv**
=> Searching Violation Cases

Data From : <https://catalog.data.gov/dataset>

Data Collecting

- How to mine?
 - 1) Collected violation case counts from column "ViolationID"
(using **"Water Board Wastewater Violations, 2001-2016.csv"**)
 - 2) Showed the place_type using latitude, longitude
(using **"Water Board Wastewater Violations, 2001-2016.csv"**)
 - 3) Found the mean of pollution level per year (2008 ~ 2016)
(using **"Sum Pyrethroid Toxic Units.csv"**)
 - 4) Searched average pollution level per "LanduseCategory"
(using **"Sum Pyrethroid Toxic Units.csv"** and **"Toxicity and Urban Land Use.csv"**)
(Divided urban level : "< 25%" , "25 ~ 50%" , "50 ~ 75%" , "75% ~ 100%")

Data Visualization with After Effect

- There're many Visualization tool for csv files...
- But After Effect also read csv, json file
- (How it works when data meets Ae)
- Benefit: We can make MotionGraph as we want, and also make Graph beautiful more easier than python tools
- Disadvantage: We have to draw Graph by yourself. Python tools are much more easier to draw simple graph, We can't react with graph

Data Visualization with After Effect



Data Visualization with After Effect

- Sample Code in Ae

- `tempSecond = Math.floor(time);`
- `footage("pollution_for_year.csv").dataValue([2,tempSecond*4]);`
- `z = ease(time,tempSecond,tempSecond+1,past,tempSize);`
- `[value[0],z*10]`

- Expression in Ae is based on JavaScript



THANK YOU!