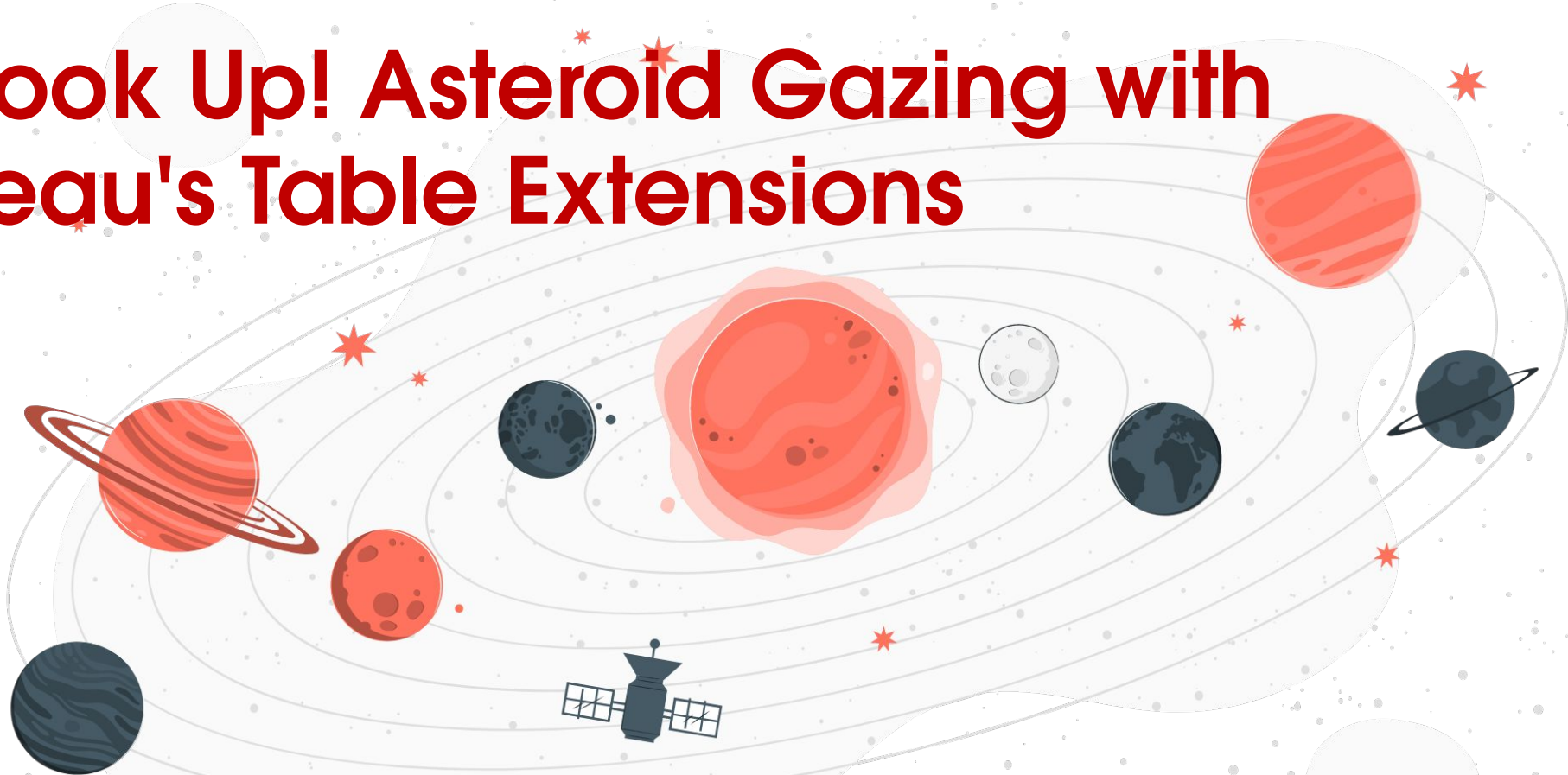




The Tableau Fringe Festival Global Tour 2022

Do Look Up! Asteroid Gazing with Tableau's Table Extensions



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What are Analytics Extensions in Tableau?

Available on:

Tableau Desktop (Tableau Server & Online)
Tableau Prep (Tableau Server only)

Dependencies:

TabPy / R Serve



Pass Python or
R scripts & data



Output Data

SCRIPT_BOOL
SCRIPT_INT
SCRIPT_REAL
SCRIPT_STR

```
New Station Name
```

Results are computed along Table (across).

```
SCRIPT_STR (  
"return [x.swapcase() for x in _arg1]"  
, ATTR([Station Name]))
```

Input Data



Interactive data visualization

Before Tableau 2022.3: Script Calculations



```
Capital: 
```

Results are computed along Table (across).

```
SCRIPT_STR('
import requests

country = 

url = f"https://restcountries.com/v3/name/{country}"

response = requests.get(url)
response = response.json()
country_info = response[0]
capital = country_info["capital"][0]

return capital
', ATTR([Selected country]))
```

The calculation is valid.

From Tableau 2022.3: Table Extensions

Available on:
Tableau Desktop (Tableau Server & Online)

Dependencies:
TabPy / R Serve

Input Data
→

The screenshot shows the Tableau interface with a 'Table Extension' window. A red box highlights the 'Script' editor containing Python code for object detection. Below the script, a table shows the mapping between input and output fields.

Input Table	Output Table
Object_detection.csv	Object_detection.csv
path	files
Image1	C:\Users\ameimand\Docum... 8.jpg
Image2	C:\Users\ameimand\Docum... 10.jpg
Image3	C:\Users\ameimand\Docum... 11.jpg
Image4	C:\Users\ameimand\Docum... 7.jpg
Image5	C:\Users\ameimand\Docum... 9.jpg

Script

Pass Python or R scripts and data

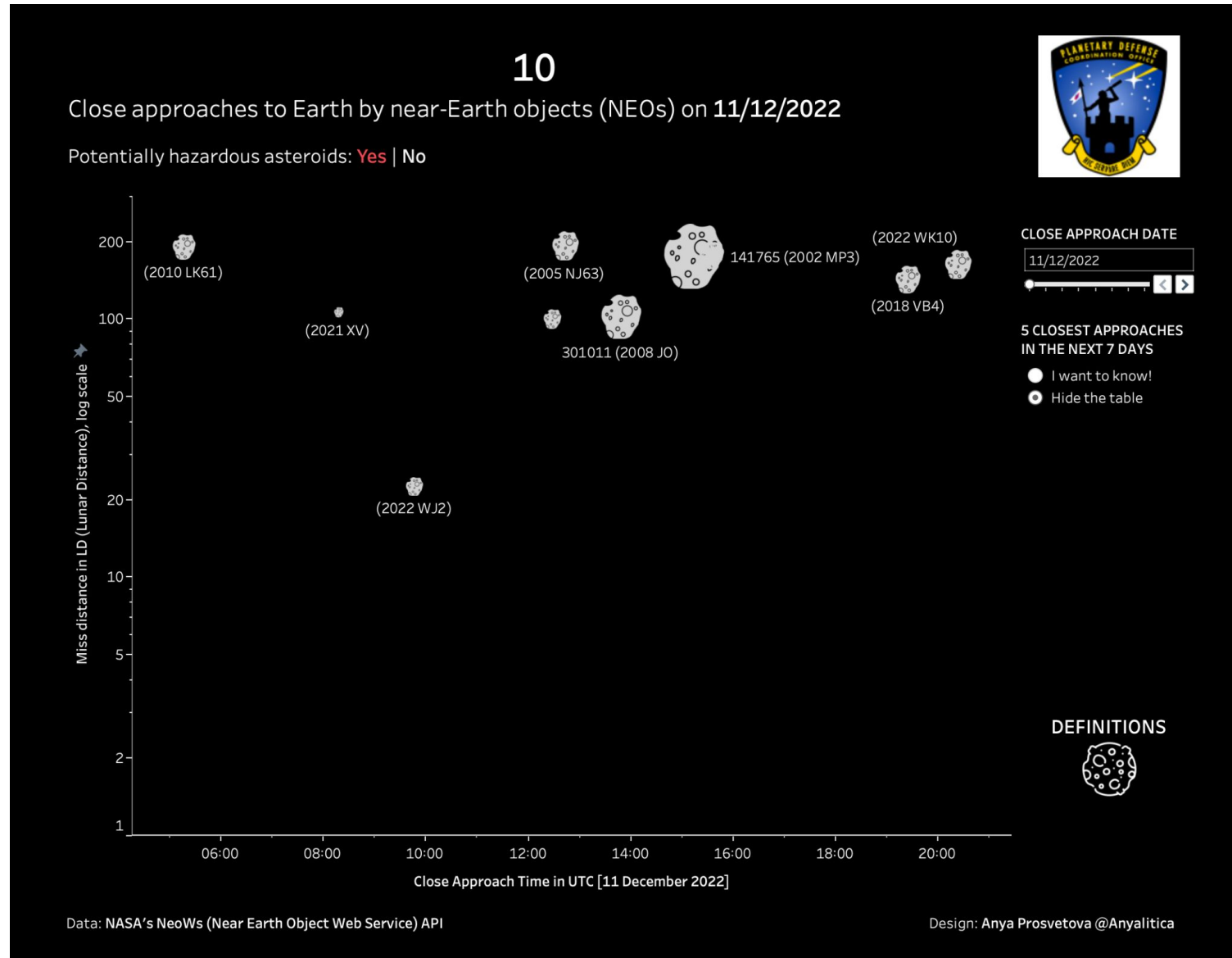


Output Data



↓
New datasource

Demo: Tracking asteroids with Tableau and NASA APIs



Demo: Tracking asteroids with Tableau and NASA APIs

Response from the API comes in a JSON format, that needs to be parsed to get a structured table with required values.

[See how it's done in Python](#)

```
},
"element_count":67,
"near_earth_objects":{
  "2022-11-26":[
    {
      "links":{
        "self":"http://api.nasa.gov/neo/rest/v1/neo/2496817?api_key=S5e
      },
      "id":"2496817",
      "neo_reference_id":"2496817",
      "name":"496817 (1989 VB)",
      "nasa_jpl_url":"http://ssd.jpl.nasa.gov/sbdb.cgi?sstr=2496817",
      "absolute_magnitude_h":19.9,
      "estimated_diameter":{
        "kilometers":{
          "estimated_diameter_min":0.2783267681,
          "estimated_diameter_max":0.6223575734
        },
        "meters":{
          "estimated_diameter_min":278.3267680719,
          "estimated_diameter_max":622.3575733667
        }
      },
    }
  ]
}
```

Potential use cases

- Tableau Server monitoring tools using Tableau's APIs
 - Data Dictionary with Metadata API
- Tracking dashboards and automation of notifications
- POC creation with new data sources

Data dictionary

Last updated: 28/11/2022 12:30:55

Hover over the icon on the right for more details. Click on the icon to go to a dashboard or email its owner.

CALCULATION NAME	FORMULA	DATA TYPE	WORKBOOK	DASHBOARD	
Owner	SPLIT([Owner Name], '@', 1)	STRING	How many workbooks I have created	Dashboard	
Sales Target	200000	INTEGER	Superstore sales	Sales	
Profit Ratio	SUM([Profit])/SUM([Sales])	REAL	Sales by state	Sales by state	
			SuperstoreEmbed	SalesDashboard	

4
TOTAL CALCULATIONS

4
TOTAL WORKBOOKS

4
TOTAL DASHBOARDS

FILTERS

Datasource type
(All)

Datasource name
(All)

Upstream Database name
(All)

Upstream Database Data Quality Warning
(All)

Workbook project
#DataDev Mini-Challenges

Workbook name
(All)

Workbook owner
(All)

Calculation name

Calculation formula

Upstream Database Data Quality Warning
 No data quality warning
 STALE

Useful resources



Read TabPy documentation
github.com/tableau/TabPy



Read about TabPy configuration and security
tabscifi.golovaty.info/



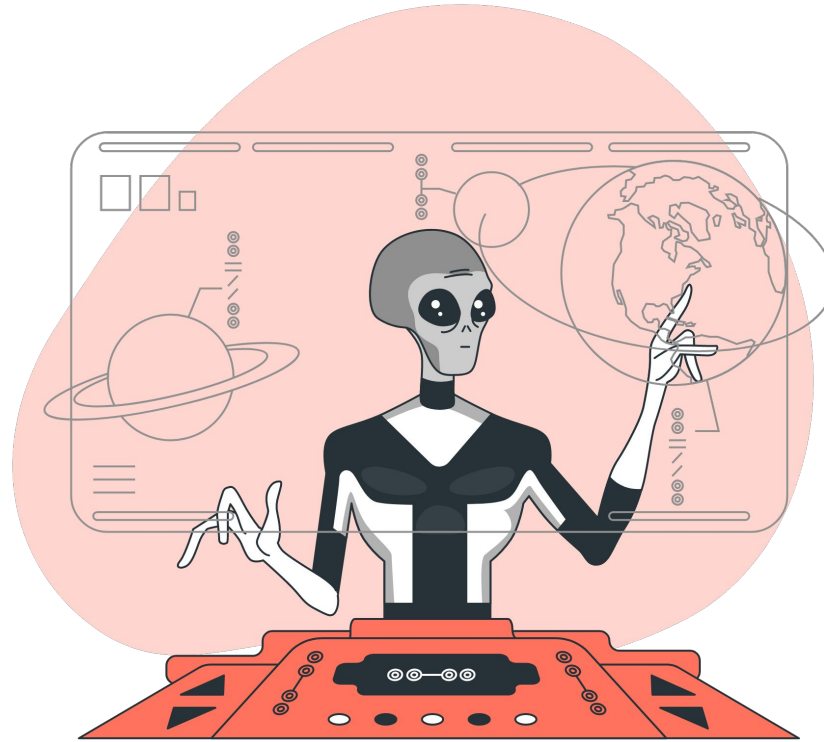
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www.tableau.com/about/blog/2017/1/building-advanced-analytics-applications-tabpy-64916



Watch videos from Tim Ngwena (aka Tableau Tim) & Amir Meimand
<https://www.youtube.com/watch?v=ATR8WVp9ovo>
<https://www.youtube.com/watch?v=zErOzr-qUPk>



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Thank You

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